



Gender Reassignment Health Services for Trans People within New Zealand

Good Practice Guide for Health Professionals

April 2012



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This *Good Practice Guide* is designed to assist practitioners who are not confident or have little experience in working with trans people. By following this guide, simple trans care can be provided adequately and safely in primary care.

This guide uses the word “trans” as an umbrella term to describe gender diversity or gender variance. Simply put, a person with gender variance (sometimes referred to as gender dysphoria) identifies as a gender that is different from their phenotype. This dissonance between phenotypic and identified gender is what motivates people with gender variance to adopt methods, both pharmacological and surgical, to make their body congruent with their desired gender and, in the meantime, results in a great deal of distress and comorbidity. “Trans” will often not be the term an individual person uses to describe their gender identity, for example, male-to-female (MtF) may identify as whakawahine, transsexual, fa’afafine, fakaleiti, transgender, akava’ine or simply as female. Similarly, female-to-male (FtM) trans people may identify as tangata ira tane, transsexual, transgender, genderqueer or male. Medical terminology also continues to evolve. The medical term transsexualism was introduced in the DSM in 1980, and replaced by Gender Identity Disorder (GID) in 1994. This terminology is being debated during current reviews of the DSM and the World Professional Association of Transgender Health (WPATH) Standards of Care. This includes questioning why gender diversity is viewed as a mental disorder. [See Appendix 1: Terminology.](#)

Little is known about the true prevalence of gender variance in New Zealand, but both Māori and Polynesian society in general have a long history of gender variance, especially male to female. Recent research from the United Kingdom suggests a prevalence of 20 per 100,000 population, with a 4:1 ratio of MtF over FtM. Clinic

populations suggest the longer the clinic is in operation, the closer the ratio of MtF:FtM is to 1:1.¹

Although not all practices will see patients with issues of gender variance, general practitioners (GP) are often in a shared care arrangement with other clinicians as they take over care after a multidisciplinary workup and commencement of treatment. Trans patients often present to GPs, or are already with a GP who has suspected the diagnosis.

Trans patients put a lot of stock into having a “trans friendly” GP who treats them with dignity and respect. While this often means having a sensitive and caring approach, and addressing the person by their preferred gender, it also means being sensitive clinically and in terms of management, including the receptionist and records processes.

Trans patients require specialist input, but the GP is often at the centre of ongoing treatment and monitoring, therefore a sensitive approach is needed for such patients.

This executive summary presents a short guide to current best practice in this area but we recommend you read the full guide and appendices.

Evaluation needed for diagnosis

Initial discussions with a trans person should identify what, if any, medical support they are seeking.

The first issue to resolve is that of a correct diagnosis. Although currently there are no New Zealand-specific guidelines, internationally accepted guidelines all

¹ Reed B, Rhodes S, Schofield P., & Wylie K. (2009). *In the UK: Prevalence, incidence, growth and geographic distribution*. London, UK: COI for the Department of Health.

stipulate that before hormone prescribing can occur, a mental health practitioner (MHP) must evaluate the patient and confirm a diagnosis of gender variance.

Most MHPs would utilise diagnostic criteria from the DSM-IV-TR², or the ICD 10³ in making this diagnosis. In addition, MHPs may evaluate the course of “real-life experience” in the chosen gender and pursue individual issues around gender variance for the trans patient. This is because following a diagnosis, and before any hormone prescribing begins, persons with gender variance need to have had:

Either:

- a. A documented real-life experience of at least three months prior to the administration of hormones; or
 - b. A period of psychotherapy of a duration specified by the mental health professional after the initial evaluation (usually a minimum of three months).
- (p 13)⁴

In major centres, local sexual health services may employ MHPs experienced in trans care, or be aware of appropriate practitioners to refer to. However, in smaller centres GPs may not have experienced MHPs close by, and in this case will need to develop a list of appropriate out-of-town MHPs.

Generally, an appropriate MHP will be a vocationally trained psychotherapist or psychologist. In a small number of cases if there is doubt about the diagnosis or a concurrent significant mental health issue exists, then a referral to a psychiatrist or psychologist (doctoral level qualification) with trans experience is necessary.

Following diagnosis there is a well-recognised care pathway that can have a number of different end points. Treatments are usually commenced by specialists, prior to transition back to primary care. Most commonly, the trans patient will end up on cross-hormones. The risks for these often add the known risks of their phenotypic gender to the risks of the medication (eg both thrombotic and prostate cancer risks for trans women on oestrogens, or breast cancer and cardiovascular for trans men).

General practice care consists of the usual for their phenotype, plus that required for their cross-hormone medication and also treatment of ongoing co-morbidities (such as mood disorders). Key interventions are shown in Panel 1.

² **American Psychiatric Association.** (2000). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*. (4th ed, Text Revision ed). Washington, DC: Author.

³ **WHO.** (2007). *International Classification of Diseases and related health problems, Tenth Revision (ICD 10)*. Geneva: World Health Organization (WHO).

⁴ **Harry Benjamin International Gender Dysphoria Association Inc.** (2001). *The Standards of Care for Gender Identity Disorders*. (6th ed). Minneapolis, MN: WPATH. Retrieved 14 March, 2011, from http://www.wpath.org/publications_standards.cfm.

Key interventions (Panel 1)

- **Diagnosis** seeks help from someone local who is skilled in making the diagnosis.
- **Safety** where necessary deals with co-morbidities such as suicidality, unsafe physical environment, unsafe sex, unsafe drug use and mood disorders.
- **Multidisciplinary team** ensures specialties appropriate to the individual's needs are engaged.
- **Counselling** by someone who knows a lot about gender identity issues and can offer support through the changes of real-life experience; mostly available through NGOs and private services.
- **Hormones** GnRH analogues (blockers) until age 16. Anti-androgens (MtF) or GnRH analogues (blockers) plus cross-hormones after the age of 16.
- **Initial Operations** - for trans men in particular, chest surgery is often a relatively early step. For MtFs breast augmentation or facial surgery may be a medium term goal. These surgeries can be done in regional centres.
- **Lower surgeries** - many trans people do not have all lower genital surgeries. However orchidectomies (for MtFs) and hysterectomies (for FtMs) are more common and may be available through a local or regional DHB. Funding for a very limited number of full lower / genital surgeries is available through the Special High Cost Treatment pool. Generally the best results clinically are by those who are doing the procedures frequently.

Subsidised hormone treatments

Within New Zealand there are four types of hormone interventions that are fully subsidised (see below). We recommend these as starting points.

- **GnRH analogues “blockers” (MtF/FtM)**

These are available as leuprorelin acetate or goserelin acetate injections, which can be given three-monthly, stopping pubertal development and the emergence of masculinisation or feminisation. This can be given while the diagnosis and real-life experience are being explored because they are “fully reversible” (puberty will restart when the injections are stopped), they are low risk and do not have such a high standard of

consent. In post-pubertal patients, they induce a chemical gonadectomy (eunuchoid state).

- **Cross-hormones: oestrogens (MtF)**

Oestradiol valerate (2–8 mg per day) is a safe feminising hormone which will result in female fat distribution and breast development, as well as bone mineralisation. Its effects are only partially reversible, so a high standard of consent is required.

- **Androgen blockers (MtF)**

Anti-androgens such as spironolactone or cyproterone acetate are used in the post-pubertal MtF context to block endogenous testosterone. Side effects are rare, but a high level of consent is needed. Cyproterone acetate can occasionally cause depressed mood, so caution should be used in prescribing to trans patients with a history of mood disorder.

- **Cross-hormones: testosterone (FtM)**

Testosterone works better as a depot injection. It stops menstruation (usually), increases bony mineralisation and causes a masculinisation. Its effects are only partially reversible, so a high standard of consent is required.

Monitoring

Ongoing monitoring of the trans patient involves vigilance around undesirable side effects of hormonal medication, and regular blood tests (See Panel 2). Serum hormonal levels are usually monitored by the endocrinologist or relevant specialist, and hormone doses adjusted before handing over to shared care.

Monitoring of trans patients (Panel 2)

MtF trans patients

- Evaluate patient every three months in the first year (weight and blood pressure) and then monitor six-monthly for appropriate signs of feminisation and for development of adverse reactions.
- For individuals on spironolactone, serum electrolytes (particularly potassium) should be monitored every three months in the first year, then six-monthly.
- For individuals on cyproterone, liver function tests should be monitored every three months in the first year, then six-monthly.
- Measure full blood count, glucose and prolactin every three months in the first year, then six-monthly.
- Monitor lipids, fasting blood sugar once a year.
- Sexual health checks as appropriate.
- Cancer screening as appropriate for age.

FtM trans patients

- Evaluate patient every three months in the first year (weight and blood pressure) and then monitor six-monthly for appropriate signs of virilisation and for development of adverse reactions.
- Measure full blood count and liver function tests every three months for the first year and then six-monthly.
- Monitor lipids, fasting blood sugar once a year.
- Sexual health checks as appropriate.
- If cervical tissue is present, PAP smears should follow the normal screening recommendations.
- If mastectomy (chest surgery) is not performed, then consider mammograms as recommended by breast screening guidelines.

Further information

Online resources are shown in Panel 3, including a resource devised by trans youth patients that is also applicable for other ages. Detailed lists of resources and websites are also available in [Appendices 7 to 10](#) of this guide.

Online resources (Panel 3)

- **Department of Health (DH)** exists to improve the health and wellbeing of people within England. They have a range of free medical resources for general practice available. **Website:** <http://www.dh.gov.uk/en/index.htm>
- **Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program.** (2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline.* Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition. Retrieved 14 March, 2011, from <http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-endocrine.pdf>
- **WPATH Standards of Care:** WPATH, formerly known as the Harry Benjamin International Gender Dysphoria Association (HBI/GDA) is a professional organisation devoted to the understanding and treatment of gender identity disorders. As an international multidisciplinary professional association, the mission of WPATH is to promote evidence-based care, education, research, advocacy, public policy and respect in transgender health. This document is based on the sixth version of the WPATH Standards of Care which were due to be revised in September 2011. **Website:** <http://www.wpath.org/>
- **Trans Care Project:** In partnership with Transcend Transgender Support & Education Society, the Transgender Health Program completed the Trans Care Project in January 2006. The project aimed to create training materials and practice guidelines for clinicians in BC who are already "trans-positive" but lack the clinical knowledge necessary to effectively work with the transgender community. **Website:** <http://transhealth.vch.ca/resources/tcp.html>

This guide is not comprehensive. More details about specific events and treatments as well as other alternatives can be found in the professional literature for that subject. If the answers to your questions are not found here, the reference section and appendices will either answer your questions or point you in the direction of scientific and scholarly articles.

An attempt has been made to link the needs of the New Zealand trans community, the New Zealand health professional community and the scientific literature. Weaknesses that our process has identified are as follows:

- The trans community is diverse and the views expressed here may not represent your patient.
- The scientific literature is solid in principle but often weak in detail and so the more detail we go into, the more we rely on consensus statements, personal experiences and anecdotes and the less confident we can be in our recommendations. Having said that, there is a great deal of research going on currently and things may change every couple of years. The principles seem unlikely to change.
- The health professional community within New Zealand is not of one voice. Strengths in clinical practice are patchy in terms of geography and professional group. There is not universal agreement as to what should be paid for by the public purse, and different surgical services have different entry criteria and priorities.

No attempt is made to consider the allocation of resources or to advocate for a particular procedure or treatment to be publicly funded. This guide is for practitioners who wish to use their professional skills to the benefit of trans people whether in the public sector or the private sector.

Overview

We recommend you read the executive summary as it gives the overall plan for healthcare interventions.

Section 1: Principles of Care

This section describes working with trans people and some of the overarching principles that transcend age, gender and clinical presentation.

Section 2: Assessment of the Trans Patient

This will give you more details as to what to do before commencing medical transition.

Section 3: Hormone Treatment

This section is good for “getting started”, but your particular patient’s needs may require you to deviate from this guide because either the recommendations have not worked well enough or you have enough experience and knowledge to do something different.

Section 4: Surgeries

Some surgeries can be done locally or within New Zealand, particularly initial surgeries such as chest reconstruction or hysterectomy for trans men, or an orchidectomy for a trans woman. For lower genital surgeries generally the best results clinically are by those who are doing the procedures frequently and who are keen to work with trans people.

Section 5: Children and Young People

This gives age and development appropriate assessments and interventions. These ages are very dynamic and recent evidence indicates that early intervention gets good results. All the issues of youth development are combined with all the issues of being trans, so it is necessary to combine both.

References and Appendices

These sections contain references, some help with terminology, some specific clinical tools, websites, and publicly available resources for clinicians, trans people and their families. A list of professionals who have identified as resources for their profession is also available.

Background

The lives of trans people in New Zealand are marked by discrimination, severe barriers to equitable health services and limited legal and public recognition of who they are. One of the recommendations from the Human Rights Commission's Transgender Inquiry was to:

*improve trans people's access to public health services and developing treatment pathways and standards of care for gender reassignment services through the Ministry of Health working in co-operation with trans people and health professionals.*⁵

A key finding of the Inquiry was that both health professionals and trans people agreed on the need for the development of treatment pathways and standards of care.⁵

The Ministry of Health contracted Counties Manukau District Health Board to lead a project to help clinicians throughout New Zealand as they work with trans people.

Scope

While taking into account the political and consumer issues, this project is about enhancing clinical practices for trans people. There are several concurrent streams to this project:

- translation and adaptation of international best practice in the New Zealand context for New Zealand practitioners

- fostering a mutually supportive network of transgender health service providers across New Zealand who work with trans people
- consultation with the Humans Rights Commission
- consultation with consumers as advised and supported by the Human Rights Commission.

Methodology

1. Establish project team comprising:

- Dr Rachel Johnson (Paediatrician, CMDHB)
- Dr John Newman (Youth Physician, CMDHB)
- Dr Rick Franklin (Sexual Health Physician, ADHB)
- Lena Crawford (Information Specialist, CMDHB).

2. Review international best practices and reflect the unique qualities of New Zealand that will need to be accommodated.

3. Develop draft documents for review and consultation.

4. Identify and communicate with interested lead clinicians within various District Health Board areas.

5. Establish Reference Group comprising health professionals, trans people, the Humans Rights Commission and other key stakeholders identified through the project as it ensures appropriate clinical and consumer input

6. Use national meetings of trans people and/or health professionals where available and appropriate.

7. Produce regular updates on project progress.

⁵ Human Rights Commission. (2008). *To be who I am. Kia noho au ki tooku anoo ao. Report of the inquiry into discrimination experienced by transgender people.* Auckland: NZ Human Rights Commission.

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- **Rick Franklin** (Chairperson) Sexual Health Physician, Auckland Sexual Health Service ADHB
- **John Delahunt** Senior Lecturer in Endocrinology, University of Otago, Wellington and Consultant Endocrinologist
- **Simon Hatcher** Senior Lecturer in Psychiatry in the Department of Psychological Medicine at the University of Auckland and Liaison Psychiatrist at Waitemata DHB
- **Ruth Barnett** General Practitioner in Dunedin
- **Max Lawson** Secretary/treasurer of Genderbridge, the Auckland-based transgender support group
- **Eleanor Carmichael** Paediatrician
- **Chris McEwan** Clinical Director, Plastic Surgery Specialist, Waikato DHB
- **Mani Mitchell** Counsellor in private practice with 15 years' experience working with gender variant clients, educator and member of WPATH
- **Shannon White** transsexual MtF who works with Kaumatua Kuia/Elderly
- **Jack Byrne** Senior Policy Analyst at the Human Rights Commission
- **Cathy Parker** owner and manager of a magazine publishing company, Adrenalin Publishing, in Auckland and currently a phone counsellor
- **Amie Clisby** Project Manager for Victoria University of Wellington, currently running the University Identity Management programme of work
- **Joey McDonald** is a graduate student. I am writing my MA on pakeha FtM trans experience in New Zealand, looking at themes of embodiment, language and personhood
- **Paul Bohmer** is a public health physician working in the Planning and Funding Team at Auckland District Health Board. Paul has a keen interest in access to appropriate health services for all groups in the population.

1.1 Roles of general practitioners, counsellors, other clinicians and health professionals

1.1.1 Introduction

There are probably a few thousand trans people in New Zealand. Therefore any individual GP or health professional, unless they are sought out for their experience in this area, is unlikely to have much knowledge about the health needs of trans people. While many trans people have relatively simple health transition issues, many also do not. This is a guide to assessing and managing the health of trans people, including complications and co-morbidities.

Many health professionals are not confident about providing care to trans people. Medical care for trans people involves addressing two categories of concerns:

- general medical conditions
- those related specifically to trans issues.

Primary care providers do not have to be experts in this field to meet the health needs of most trans patients. With appropriate understanding of basic trans issues and a little experience, non-expert primary care providers can offer health maintenance, acute illness and chronic disease management, and referral to specialists.

The overall aim of this resource is to enable health professionals to respond confidently and appropriately to trans people seeking their services.

1.1.2 General principles

Clinical care for trans people should be based on good practice principles⁶ around clinical efficacy and safety

⁶ **Medical Council of New Zealand.** (2008). *Good medical practice: a guide for doctors*. Wellington: Medical Council of New Zealand.

while also emphasising patient autonomy. In particular, doctors need to make the patient their first concern. Good practice allows for the wide variety of needs among trans people and provides flexible clinical responses. It should also take into account the social and cultural context in which trans people live.

In this guide commonly recommended approaches are explained, while other options that are less usual are referenced.

Like every population, trans communities are diverse and health needs vary greatly from patient to patient. Trans people come from all communities, range in age from young children through to elderly people, and use a wide range of terms to describe their gender identity.

There is a long history of gender diversity within Māori and Pacific communities. As a result, Māori and Pacific people may be aware at an earlier age that transitioning is an option (at least socially, if not physically), and may use indigenous words such as whakawahine or fa'afafine (rather than trans) to describe who they are. Anecdotal evidence also suggests that many whakawahine, fa'afafine, akava'ine and fakaleiti are less likely to seek genital surgeries. This raises a particular challenge to ensure that there is a range of hormonal and surgical options available to trans people, and no set treatment pathway.

Care should be holistic and may involve a trans person getting support from a number of different professionals and peer support networks. Finding this support is often as much of a challenge for health professionals as it is for trans people and their families. Therefore [Appendices 7 to 10](#) provide links to relevant resources and services.

1.2 Medical roles in assessment and treatment of trans people

1.2.1 Assessment

Most general practitioners are competent to perform an initial assessment of a trans patient. Then, in line with international best practice, another opinion should be sought from a specialist colleague who is experienced with trans people. International best practice describes this colleague as a mental health professional (MHP).

In some parts of New Zealand, there is less access to publicly funded mental health services. In these cases appropriate “out of town” referrals may be necessary.

Generally, an appropriate MHP will be a vocationally trained psychotherapist or psychologist. In a small number of cases if there is doubt about the diagnosis or a concurrent significant mental health issue exists, then a referral to a psychiatrist with transgender experience is necessary. The role of the MHP is dual: firstly, to assist in diagnostic assessment of the trans person, and secondly, to commence, organise and follow-up on significant mental health issues that have been identified.

The GP should be aware of ongoing co-morbidities, particularly those relating to mental health, sexual health, and drugs and alcohol.

1.2.2 Initiating specific treatments (medical & surgical transition)

Treatment should not be initiated until there has been an adequate assessment and serious co-morbidities have been addressed.

Following diagnosis there is a well-recognised care pathway that can have a number of different end points.

Treatments are usually commenced by specialists, prior to transition back to primary care.

Blockers and cross-hormones once initiated can be managed by the GP. [See Section 3: Hormone Therapy Treatment.](#)

Referrals for surgery can be initiated by the GP but require an assessment by a MHP. Resources for health professionals are available in [Appendices 7 and 11.](#)

1.2.3 Ongoing care

The GP should take as great a role in ongoing care as is appropriate for their degree of training. General practice care consists of the usual for the trans person’s phenotype, plus that required for their cross hormone medication and also treatment of ongoing co-morbidities (such as mood disorders).

Trans people and their networks can sometimes identify “transfriendly” GPs. This is helpful in terms of engagement and knowledge but unfortunately there are many parts of the country where there are no such contacts.

1.2.4 Specific GP responsibilities

These include:

- re-prescribing at regular intervals for blockers and cross-hormones
- relevant sexual health, men’s health and women’s health checks [see Section 2: Assessment of the Trans Patient](#)
- referrals to specialists as clinically indicated
- regular labs for hormone side effects
- regular healthcare unrelated to a trans person’s gender identity.

1.3 Respect, privacy and appropriate care

Experience with transphobia and discrimination in the healthcare setting, lack of access to trans-competent providers, and (for some) discomfort with their body can lead trans people to avoid medical care altogether. Many do not tell their GP that they are a trans person. Gossip, negative stereotyping, moralising or prejudicial comments about trans people should not be tolerated in the health workplace. They may result in complaints of unlawful discrimination and/or breaches of the *Code of Health and Disability Services Consumers' Rights*⁷ or your professional code of ethics.

In order to establish a respectful working relationship, it is essential that a trans person feels that their gender identity is being taken seriously by their GP, counsellor or other health professionals. Practitioners should treat trans patients as individuals, respecting their dignity and treating them politely and considerately.⁸

- Refer to the trans person by their preferred name and pronoun, regardless of what name and sex details are on their birth certificate. Discreetly ask what name and pronoun they prefer and change clinic records as requested. This will not alter someone's unique patient identifier (NHI).
- Ensure that front-line staff members understand the importance of checking and using the appropriate details, and reassure trans people about patient confidentiality.

- Care should be taken if other family members are also practice patients. Families might not be aware of the clinical interventions and are not entitled to information without the consent of the trans patient.
- Some trans people will prefer not to wait in a crowded waiting room and should be offered fixed time appointments.
- Prior to surgery, many trans people are very uncomfortable having physical examinations such as pelvic or testicular examinations and mammograms. It is important to understand this reticence, respect a trans person's wishes about potentially sensitive physical examinations, and find out whether they are really necessary. When such examinations are necessary, discussion and explicit consent are required. It can be respectful to ask what words the trans person would prefer you to use. For example, typically a trans woman will talk about her breasts (and a trans man will use the word chest), from early on in their transition.

It is important to become familiar with commonly used terms and the diversity of identities within trans communities. See [Appendix 1: Terminology](#). This includes recognising that not all trans people identify as transitioning from one sex to another, for example from male to female. Some describe themselves as a third sex or are comfortable moving between female and male aspects of their identity.

There is no set definition of "a trans person" that someone needs to meet in order to transition. While many trans women simply want to live as women (and vice versa), that is not the goal for all trans people. Nor is it always possible for someone to "pass" in their appropriate sex (so that others do not realise they are trans). The idea of "passing" is problematic on many

⁷ **New Zealand Health and Disability Commissioner. (nd).** The Code of Health and Disability Services Consumers' Rights 1996. Auckland: NZHDC. Retrieved 14 March 2011, from <http://www.hdc.org.nz/the-act-code/the-code-of-rights>

⁸ **Medical Council of New Zealand. (2008).** *Good medical practice: a guide for doctors*. Wellington: Medical Council of New Zealand

levels and a controversial concept that some trans people do not appreciate. Therefore, the ability to “pass” is not a requirement in order to access hormone treatment.

1.4 Support required for trans people

There is a wide diversity in the type of support a trans person may request from their GP, counsellor and other health professionals.

Increasingly, trans people are obtaining valuable information about medical transition via peer support networks and online resources. Sometimes the first health professional they may contact is a counsellor or psychotherapist, to work through their own and/or others’ reactions to the prospect of transitioning. A well-informed counsellor or psychotherapist can play an important role supporting a trans person to come to their own decisions about their gender identity, whether to transition, and the next steps in that journey.

Other individuals who are questioning their gender identity may be unsure how to talk about these issues or may express their concerns as confusion about sexual orientation. Because of the stigma still attached to gender diversity, trans people may be very private or fearful of negative consequences if they disclose their gender identity. Respectful and sensitive listening is essential.

Some trans people will come to their first visit with a GP knowing exactly what support they require. This may include asking for baseline blood tests and a referral to the public health system to see a sexual health physician or endocrinologist or general physician (for hormones), a psychologist or psychiatrist (to get a diagnosis or assessment) and/or a surgeon (particularly trans men seeking breast (chest reconstruction) surgery).

Children will need access to an appropriate paediatrician or Child and Adolescent Mental Health Service (CAMHS). Others may wish to ask a GP’s medical advice about the side effects of hormones and whether they are an option given pre-existing health conditions or medications. Trans people who have transitioned may simply require a GP who can prescribe their hormones on an ongoing basis, monitor blood tests and provide general medical care including screening for any health risk factors.

GPs do not need to be experts on trans health issues to answer these questions. However they are likely to benefit from the resources in this guide, including information and contacts in the appendices. It is valuable for clinicians to circulate this information among their colleagues, especially those who may provide break or locum cover.

Other trans people who approach a GP may be extremely isolated, with no words to describe how they feel. Calmly reassure them that gender diversity is not an illness, and that there are medical options available for people who do decide to physically change their bodies. At the same time, acknowledge that it can be very hard to work through gender identity issues without information and support. Your role may include helping them to identify and find the resources they need.

1.5 Culturally competent care for Māori

The Mauri Ora Associates for the Medical Council of New Zealand have published a resource booklet, *Best health outcomes for Māori: practice implications*. See [Appendix 5: Principles of Culturally Competent Care for Māori](#).⁹ The goal of this booklet is help doctors to

⁹ **Mauri Ora Associates for the Medical Council of New Zealand.** (2006). *Best health outcomes for Māori: practice implications*. Wellington: Medical Council of New Zealand.

achieve greater awareness of the cultural diversity and the place of Māori in New Zealand, and to assist in incorporating cultural competence for Māori into continuing education activities, recertification and practice activities such as medical audits. The material provides both general guidance on Māori cultural preferences and specific examples around key issues. It is hoped that Māori-specific cultural competencies will be developed in a framework of self-awareness so that doctors will be able to recognise their own values and attitudes, as well as the impact of these on their practices.

Māori have less access to medical care compared to non-Māori. Even though Māori attendance rates to GP appointments are the same rate as non-Māori, they obtain fewer diagnostic tests, and effective treatment plans,¹⁰ and are referred for secondary or tertiary procedures at significantly lower rates than non-Māori patients.¹¹

Providers need to be aware of specific cultural preferences of their patients as culture plays an important role in their health care. This includes:

- acknowledging (and incorporating) the role of the broader whānau and other environmental factors in the patient's care
- awareness of Māori belief systems, including views on individual mana, death and dying, reliance upon the family, prayer (karakia), and traditional healing practices and providers (tohunga), practices of tapu/rāhui/noa, and communication styles

- awareness of Māori lifestyles, including diet, non-work roles, and leisure time activities
- learning about existing support mechanisms, such as kaiatawhai, whānau, kaumātua, Māori practitioners and other specialist service providers.

Not all Māori have the same cultural background or experiences and it is misleading to assume that all Māori clients will benefit to the same degree from similar cultural insights. Some will prefer to maintain a deliberate distance between culture and tikanga. Others will feel disadvantaged if assessment and treatment do not include cultural perspective and inputs. An option should at least be made available for Māori clients and their whānau.¹²

¹⁰ Crengle S, Lay-Lee R, Davis P. & Pearson JA. (2006). Comparison of Māori and non-Māori patient visits to doctors. *NatMedCa. Report 6*. Wellington: Ministry of Health.

¹¹ Gribben B. (1999). Ethnicity and resource use in general practice in West Auckland. *Experience in practice* Vol.1(1)

¹² Durie M. (2001). *Māori Mauri Ora: Dynamics of Māori health*. Auckland: Oxford University Press.

2.1 Introduction

Assessment of trans patients should be multi disciplinary. Some trans people will present for assessment during a crisis. Crises and urgent matters should be addressed first. Crises may be around mental health, life circumstances, personal safety or assault, sexual safety, relationship breakdown or deterioration in life circumstances.

2.1.1 Address safety first

Many trans people, particularly those coming out or starting a gender transition will have safety issues. Safety problems can be at home, work, school or community. Many trans people are or have been exposed to violence. Some trans people have had unsafe sexual practices or drugs and alcohol use. Suicidality is relatively common in trans people.

2.1.2 Assess co-morbidities

In addition to immediate safety issues there is a need to assess mental, sexual and cardiovascular health, as well as alcohol and drug (including tobacco) use.

2.1.3 Assess gender identity

Many clinicians will feel uncomfortable addressing gender identity. It might be easier after establishing engagement through the above process. Then the patient can be addressed along the lines of discussing masculinity and femininity and whether they want any help with that. For instance “Do you want any help with becoming less masculine or more feminine?” The Utrecht Gender Dysphoria Scale Adolescent Version¹³ asks a series of specific gender identity questions as a useful way of opening up discussions, particularly as it is a

clinical tool which can be applied without an introduction to each question. See [Appendix 3: Utrecht Gender Dysphoria Scale Adolescent Version](#). Be aware that not all trans patients will be ready for this discussion and may not wish to continue an assessment at this stage. If that is the case, then specific medical treatments for gender transition cannot proceed. It is advisable to have this discussion with the help of someone used to working with trans people, such as an experienced MHP.

Generally, an appropriate MHP will be a vocationally trained psychotherapist or psychologist. In a small number of cases where there is doubt about the diagnosis or a concurrent significant mental health issue exists, then a referral to a psychiatrist or psychologist (doctoral level qualification) with trans experience is necessary.

Specific criteria for gender identity disorder (GID) are contained in DSM-IV-TR.¹⁴ See [Appendix 2: DSM-IV-TR Criteria for Gender Identity Disorder](#).

Please note that while a diagnostic assessment should be done, the lack of a clear diagnosis should not deny access to treatment which is required in the view of an experienced practitioner.

2.1.4 Assess regular healthcare issues

Trans people often lack access to preventive health services and timely treatment of routine health problems. To improve access to primary care, we encourage trans-sensitive providers to make themselves known to appropriate community organisations.

¹³ Zucker KJ. (2005). Gender identity disorder in children and adolescents. *Annual Review of Clinical Psychology*, 1 (April): 467–492.

¹⁴ American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*. (4th ed, Text Revision ed). Washington, DC: Author.

2.2 Assessment of trans patients

Initial discussions with a trans person should identify what, if any, medical support they are seeking.

There is no fixed definition or criteria that trans people need to meet in order to transition. Increasingly, trans people are advocating for a wellness model that identifies the support needed for medical issues related to gender diversity. In New Zealand, whakawāhine have identified Te Whare Tapa Wha¹⁵ as an appropriate model for their communities.

However there are eligibility and readiness criteria linked to specific medical and surgical procedures. These are set out in the *Harry Benjamin Standards of Care (HBSOC)* and are now known as the World Professional Association of Transgender Health (WPATH) Standards of Care.¹⁶ In the New Zealand context, these “standards of care” are best described as an international best practice consensus document. The WPATH¹⁶ standards are about to be revised, with version seven due September 2011. This guide attempts to apply version six of the standards, published in 2001, to local circumstances. This includes acknowledging the specific cultural context here, the absence of gender clinics and therefore the pragmatic need to create effective networks.

2.3 Assessment prior to hormone treatment

Initial assessment prior to cross gender hormone therapy requires the assessment of an MHP.

¹⁵ Durie M. (1998). *Whaiora: Māori Health Development*. (2nd ed) Auckland: Oxford University Press.

¹⁶ Harry Benjamin International Gender Dysphoria Association Inc. (2001). *The Standards of Care for Gender Identity Disorders*. (6th ed). Minneapolis, MN: WPATH. Retrieved 14 March 2011, from http://www.wpath.org/publications_standards.cfm.

In New Zealand, there is less access to publicly funded mental health services than in countries with gender clinics. In order that this requirement does not deny trans people access to treatment, good networks of appropriate MHPs need to be encouraged and developed.

2.4 Real-life experience is not a real-life test

The WPATH Standards of Care recommends that a person has either lived in their appropriate gender (real-life experience) or undergone psychotherapy for a minimum of three months prior to starting cross-hormones. Either can help a trans person explore the implications of transitioning. However, due to safety or other issues, there may be good reasons why a trans person may wish to commence hormone treatment before changing their gender role, and this is regarded as the typical treatment pathway in the HBSOC. It is useful for the health professional to check whether a trans person feels safe to present in their appropriate gender identity and what, if any, further support they require.

There is a broad range of presentation of men and women with gender dysphoria. The initial assessment should develop a clinical pathway to address the range of social and biological concerns and include flexibility to adjust management according to the physical and emotional responses.

Sometimes medical concerns emerge regarding hormonal treatment (and/or planned surgeries). When possible, efforts should be made to try to control these issues, through behaviour/lifestyle change or medication. Two such examples are smoking and cardiovascular risk factors.

- **Cigarettes** – Because of the increased risk of blood clotting with female hormones, a brief motivational interview should be conducted with all smokers.

This should be repeated with each consultation. It may help to emphasise that stopping smoking is likely to improve surgical results and, in the case of trans women, increase breast growth from hormones. Smoking is not an absolute contraindication to hormone treatment.

- **Cardiovascular** – Assessment of cardiovascular risk factors or actual disease may influence when hormone treatment starts and actual hormone doses, particularly oestrogens for trans women. Specific assessments of weight, blood pressure, lipids and cholesterol are required. When medically recommended, support should be provided to help trans people lose weight prior to or during hormone treatment.

2.5 Laboratory tests

Both during the assessment process and ongoing maintenance there is a requirement for lab testing. If lifestyle indicates, a full sexual health screen may be indicated. If there has been poor hygiene, unsafe sex practices, intravenous drug use or sex-working, hepatitis A, B, C, D and E, syphilis, chlamydia, gonorrhoea and HIV should be tested. If there is a possibility of intersex, a karyotype will be helpful. Baseline tests for liver function and lipid profile should be obtained.

2.6 Mental health and wellbeing

It is useful to encourage trans people to identify possible forms of support, and provide referrals to counsellors, psychotherapists and peer support networks when appropriate.

It should be established who the supportive family members and friends are and who are not. The home should be both emotionally and physically safe. It is helpful if the trans person brings a partner, support person or significant supportive family member to part of

their assessment. If the trans person's transition has a significant impact on others' lives, they should be encouraged to seek separate support to work through those issues.

A trans person may choose to change their school or job as part of their transition. It is unlawful for an employer to require a trans person to leave their job or change their duties, except in extremely limited circumstances. A medical certificate with appropriate advocacy may help a trans person in their relationships with their school or employer. Transitioning in a supportive school or work environment can be very affirming and empowering for a trans person.

When appropriate, a trans patient should be assessed for depression and anxiety symptoms, for post-traumatic stress disorder (if exposed to trauma) and suicidality.

2.7 Drugs and alcohol

Some trans people have high drug and alcohol use, sometimes as a form of self-medicating. Significant use or abuse should be addressed before and during treatment, using harm minimisation and motivational approaches. During a holistic treatment programme many trans people will reduce their drug use as distressing symptoms decrease and ease of lifestyle improves.

2.8 Assessment for surgeries

Currently a diagnosis of gender identity disorder (GID) is required for someone to access genital surgery in New Zealand or overseas. This diagnosis is set out in the *Diagnostic and Statistical Manual of Mental Disorders*¹⁷. Alternatively there are the medical diagnoses of

¹⁷ **American Psychiatric Association.** (2000). *Diagnostic and Statistical Manual Of Mental Disorders (DSM-IV-TR)*. (4th Ed, Text Revision ed). Washington, DC: Author.

transsexualism described in the *International Classification of Diseases*.¹⁸ Letters of support are generally required from two MHPs for genital surgery (lower surgeries) but this is usually reduced to one opinion for non-genital (lower) surgery, such as facial surgery and breast (chest reconstruction) surgery.

2.9 Assessment of adolescents

Puberty is acutely stressful for trans adolescents. For trans girls, there is the distress associated with increasing muscle bulk, coarsening of bone structure, voice dropping, and body hair and beard growth. For trans boys, the growth of breasts and start of the menstrual cycle are often traumatic.

For adolescents, it is also necessary to assess who is best to consent for the transition process. Assessment of the competence of young people to give consent is the same as other consents and requires that they have comprehension of the issues and treatments. All adolescents should have a risk and resiliency assessment of HEEDSSS¹⁹. Appropriate adults to include in the assessment and who can support the young person will be identified through this process. Similarly, an assessment must be made as to which (if any) adults are safe and competent to consent on behalf of the young person. Specific identity issues include which personal pronoun (he/she) is preferred and which name is preferred.

In order to reduce the acute distress of puberty and to stop further unwanted feminisation or masculinisation, the patient should be assessed for pubertal

development. In particular they should be asked about which parts of pubertal development are distressing. Height, weight and Tanner staging should be done, usually through self-identification with pictures in the Tanner Charts. Assessment of GID can take place over years, but puberty can be (reversibly) stopped by the use of GnRH analogues (blockers) as part of the assessment process.

2.10 Assessment of children

All children are different and we can't expect children to always be who we want them to be.

Many children claim to be in the wrong body or to wish that they were the "other gender". They may want clothes of the other gender or to be called by a different name reflecting the other gender. They may wish to be treated as the other gender or some in between gender.

Trans issues (parents not being sure of which gender is right for a child or a child being born into the wrong gender) are not that uncommon, but we don't know how often they occur.

Most of these children (about three quarters) will not be trans adults, but many will retain some sexual preference or gender issues. Those that are most gender dysphoric as children seem to be most likely to persist as a trans person in adult life.

Being different is very distressing and often results in teasing, mocking or bullying. On the other hand, trying to act out the role of your body (rather than your personality) is often more distressing. Distress often shows as bad behaviour or anger. The distress often gets greater around puberty and may result in mental health issues and behaviour issues such as anger, self harm or self-medicating (taking drugs). Most doctors don't know a lot about this and the research is improving very rapidly. Identifying and dealing with the gender issue

¹⁸ WHO. (2007). *International Classification of Diseases and Related Health Problems*, Tenth Revision (ICD-10). Geneva: World Health Organization (WHO).

¹⁹ Goldenring JM., & Rosen DS. (2004) Getting into adolescent heads. an essential update. *Contemporary Pediatrics*, 21(1): 64-90.

rather than just focusing on the behaviour can reduce distress and improve the child's function.

During puberty, there are medical interventions called GnRH analogues (blockers) that can stop pubertal development and reduce the distress (and developing into the "wrong" adult gender). They can be started at what doctors call stage two or three puberty.

In the meantime all children need love and support for who they are. Parents who love their children for who they are will find they have a happier and better adjusted child, even if they are disappointed in whom the child is becoming. In some ways it is similar to the grief many other parents experience when their children turn out different from how they wanted or expected.

Therapy such as Cognitive Behavioural Therapy (CBT) can help manage anger or depression, and can be obtained from your local mental health service.

So these interventions are needed:

- Show love and respect.
- Let the child grow up and support that growth.
- Seek mental health support for serious mood or behaviour problems.
- Discuss and address gender issues rather than focusing on behaviours.
- At early puberty consider stopping the puberty if the cross-gender identity is getting stronger or if the problems are getting bigger. This probably needs referral to a local youth specialist or endocrinologist.

3.1 Introduction

Hormone therapy will be a desired option for many trans people. This should be initiated following the recommended assessment and diagnostic process as detailed in [Section 2: Assessment of the Trans Patient](#).

Hormone therapy is beneficial in alleviating some of the psychological distress associated with gender variance and can be an important aid in successful transition if choosing to live as the identified gender.

3.2 Consent

Before hormone therapy begins, individuals need to fully understand both the potential benefits and risks. Both verbal and written information must be given as well as allowing an adequate time period for the individual to consider the implications of the information discussed.

Further guidelines to hormone therapy for trans people are included in *A guide to hormone therapy for trans people*²⁰ as well as booklets such as *Hormones: a guide for FtMs* and *Hormones: a guide for MtFs*.²¹

Written consent is recommended for cross-hormone treatment, especially as it has potentially serious irreversible side effects, such as infertility. Fertility options need to be discussed with patients. Storage of sperm should be discussed with MtF patients.

Consent forms for feminising hormones/androgen blockers or masculinisation hormones and GnRH blockers

are available. See [Appendix 4: Samples of Consent Forms](#).

3.3 Subsidised hormone treatments

There are four general types of subsidised hormone treatments fully funded and available in New Zealand.

3.3.1 Gonadotrophin releasing hormone (GnRH) Analogues – “Blockers” (MtF/FtM)

GnRH analogues act on the pituitary gland, inhibiting production of gonadal hormones. This does not affect testosterone production by the adrenal gland.

GnRH analogues can be considered a safe and fully reversible treatment and can be used in both adolescence and post-pubertal trans people. If initiated in adolescence they can be used from Tanner pubertal stage two to halt pubertal progression and the progression of unwanted masculinisation or feminisation. Because they are generally considered fully reversible, puberty will restart once the blockers are stopped. There is however a very low risk that fertility may not return so the consent process must acknowledge this. See [Section 5. Children and Young People](#) for more information on the use of blockers with young people.

GnRH analogues can be used in post-pubertal trans people to help block sex hormone production. This is particularly important for MtFs as androgens can reduce the feminising effects of oestrogen treatment, so either a concomitant androgen blocker or GnRH analogue is usually prescribed with oestrogen.

Leuprorelin is fully subsidised for precocious puberty, prostate cancer and endometriosis. This guide recommends the use of Leuprorelin (or GnRH analogues) regardless of funding status.

²⁰ **Gender Identity Research and Education Society (GIRES)**. (2007). *A guide to hormone therapy for trans people*. London, UK: COI for the Department of Health.

²¹ **Trans Care Project**. (2006). *Hormones: a guide for FtMs*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition.

For FtMs, once testosterone therapy is established, oestrogen effects are suppressed. Ongoing GnRH analogue use is not usually needed once oestradiol levels are sufficiently low (pre-pubertal levels or nearly so); however, it may be considered initially to halt menstruation.

Long-term use of GnRH analogues without cross-hormones (oestrogen/testosterone) would not usually be recommended because of the increased risk of osteoporosis, cardiovascular and other health risks.

Table 1. New Zealand subsidised GnRH analogues (blockers)

1. Leuprorelin acetate (Lucrin Depot three-month) 11.25 mg IM three monthly – **most commonly used in New Zealand**
2. Leuprorelin acetate (Lucrin Depot one-month) 3.75 mg SC depot one-monthly
3. Goserelin acetate (Zoladex 3.6 mg) 3.6 mg SC depot implant one-monthly

Side effects

Side effects generally include potential infertility, reduced bone density, vaginal dryness, loss of libido, inability to ejaculate/orgasm and hot flushes.

For further information on prescribing and full side effects information see *Guidance for GPs, other clinicians and health professionals on the care of gender variant people* (pp.59 & 66)²² and *endocrine therapy for transgender adults in British Columbia*.²³

²² **Gender Identity Research and Education Society (GIRES)**. (2008). *Guidance for GPs, other clinicians and health professionals on the care of gender variant people*. London, UK: COI for the Department of Health.

²³ **Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program**.

For further information on GnRH analogues see *A guide to hormone therapy for trans people* (pg. 20)²⁰

Consent

Samples of consent forms for GnRH analogues are in [Appendix 4: Samples of Consent Forms](#).

Monitoring on GnRH analogues

Ongoing monitoring while on GnRH analogues (without sex steroid) is most important if aiming for full pubertal suppression (ie early to mid puberty).

GnRH stimulation tests are the gold standard for confirming Hypothalamic-pituitary-gonadal (HPG) axis suppression but may be difficult to access. However, monitoring FSH/LH levels aiming for prepubertal range are a useful indicator but do not fully confirm HPG axis suppression.

If there is inadequate suppression on 12-weekly injections then reduce the time interval between injections to 10-weekly.

It is also important to monitor clinically pubertal progression including height, weight, growth velocity, bone age and physical development. In late puberty; menses cessation for trans males.

When monitoring trans females on both GnRH analogues and oestrogen, serial monitoring of testosterone aiming for suppression to female range is usually adequate.

Trans males do not usually need to be on a GnRH analogue once on Testosterone as this suppresses oestrogen levels demonstrated by menses cessation.

Because of the cost and limited experience in New Zealand at present GnRH analogue therapy would

(2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition.

normally be undertaken with specialist supervision or advice. It is important to have continuous therapy.

3.3.2 Cross-hormones: Oestrogens (MtF)

Feminising hormones are associated with potential positive effects which include female fat distribution, breast development (irreversible), reduced muscle bulk, slowing or cessation of male pattern baldness and slight reduction in genital size.

Table 2. New Zealand subsidised treatment oestradiol

1. Oestradiol Valerate/Progynova 2–8 mg po per day – usually in divided doses.
 - 1.1. Post gonadectomy 1–2 mg po once daily.
2. Oestradiol patches 100–200 mcg applied twice weekly.
 - 2.1. Post gonadectomy, 50–100 mcg patch applied twice weekly

Oestradiol is recommended as it has the best safety profile. Ethinylestradiol (including its use in the combined oral contraceptive, such as Estelle) and conjugated oestrogens, (such as Premarin) are **not** recommended as they are associated with increased risk of side effects. Oestradiol patches are lower risk than oral oestradiol and should be considered in patients who are over 40, smoker or have circulatory problems. Smoking (either cigarettes or marijuana) reduces plasma oestrogen levels and reduces the effect of oestrogen while marijuana may have additional oestrogen antagonism.

A detailed medical and family history should be taken to assess the risks of starting oestrogen, similar to be process before starting oral contraceptives.

Side Effects

Serious side effects include: thrombosis (deep venous thrombosis, pulmonary embolism, cardiovascular accident), altered liver function, eventual infertility (irreversible), oestrogen-related cancers, prolactinoma (veryrare). Less serious side effects include breast tenderness and reduced libido.

Remind patients that smoking reduces the feminising effect of oestrogen and increases cardiovascular risks. Consider counselling and treatment for other cardiovascular risk factors, obesity and hypertension.

It is important to stress there is little scientific research on the use of feminising hormones and the aim of treatment is to minimise overall health risks.

For full information on oestrogen prescribing regimes and side effects see *Endocrine therapy for transgender adults in British Columbia*²⁴.

Website:

<http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-endocrine.pdf>

Monitoring on Oestrogen

Regular ongoing monitoring of baseline BMI, blood pressure and blood tests are recommended after starting treatment.

Please note that in the case of hormone levels it is important to check your regional laboratory to find your

²⁴ **Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program.** (2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline.* Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition.

normal reference ranges (female for MtF and male for FtM).

3.3.3 Cross-Hormones: Progesterone (MtF)

Progesterones are rarely used as part of the feminising treatment plan for MtFs since they have androgenic effects, encouraging hair growth, and provide no obvious added benefits. They increase the risk of breast cancer and cardiovascular accident and may cause additional side effects. In non-trans women they are combined with oestrogen to protect the uterus from cancer.

3.3.4 Androgen antagonists – “Blockers” (MtF)

Androgen antagonists are used in post-pubertal trans MtFs to block androgen receptors and therefore testosterone effect. Side effects are rare but a high level of consent is needed. Androgen blockers can be stopped at the time or soon after surgical gonadectomy.

Table 3. New Zealand subsidised androgen antagonists

Cyproterone acetate 50–100 mg po daily
Spironolactone 100–200 mg po daily

Side effects

Cyproterone acetate is the most appropriate oral androgen blocker. Initially it needs to be prescribed by a specialist, but can then be continued by a GP. Side effects are very rare apart from possible weight gain and decreased libido. Rare complications include abnormal liver function or hepatitis, jaundice, fatigue and depression. It is best avoided in heavy alcohol users, and patients with liver impairment, malignancy or diabetes.

Spironolactone is a second choice oral androgen blocker as it is less effective. It has potassium sparing diuretic and antihypertensive effects so electrolytes must be monitored while taking this. Further side effects include liver impairment, kidney impairment, headaches and reduced clotting time.

For full information on androgen blocker regimes and side effects see *Endocrine therapy for transgender adults in British Columbia*.²⁵

Website:

<http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-endocrine.pdf>

3.3.5 Cross-Hormones: Testosterone (FtM)

Positive testosterone effects include beard and body hair growth, redistribution of body fat, muscle bulk increase and deepening of the voice. Menstruation usually ceases, together with an increased libido and irreversible infertility. The degree of clitoral enlargement is variable, with studies reporting a range of 3.5-6 cm maximal length when stretched. Long-term testosterone use causes vaginal and cervical atrophy, with decreased vaginal secretions and difficult penetration reported by some patients.

Side effects

Unwanted side effects are minimal but include polycythaemia, an increase of oily skin and or acne, abdominal pain, headache, weight gain, abnormal lipids and depression. Androgens are contraindicated in

²⁵ **Transcend Transgender Support & Education Society and Vancouver Coastal Health’s Transgender Health Program.** (2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition.

carcinoma of the breast or known or suspected carcinoma of the prostate, nephrotic syndrome and hypercalcaemia.

Table 4. New Zealand subsidised treatment testosterone

1. Testosterone Esters (Sustanon) 250 mg/ml – usual dose 250 mg deep IM every two to three weeks but this can be built up to over 2–3 injections. The medication is in an arachis (peanut) oil and benzyl alcohol solution so should not be used if patient known to have a peanut allergy.
2. Testosterone Cypionate 100 mg/ml – usual dose 200–300 mg deep slow IM two to three-weekly but this can be built up to over 2–3 injections.
3. Testosterone patches 2.5 mg. (Androderm) 2–3 patches applied every 24 hours.

For full information on testosterone regimes and side effects see *Endocrine therapy for transgender adults in British Columbia*.²⁶

Website:

<http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-endocrine.pdf>

²⁶ Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program. (2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition.

3.3.6 Monitoring on oral blockers and cross-hormones

MtF trans patients

- Evaluate patient every three months in the first year (weight and blood pressure). Then every six-months to monitor for appropriate signs of feminisation and for development of adverse reactions.
- For individuals on spironolactone, serum electrolytes (particularly potassium) should be monitored every three months in the first year and then six-monthly.
- For individuals on cyproterone acetate, liver function should be monitored every three months in the first year and then six-monthly.
- Measure full blood count, glucose and prolactin every three months in the first year and then six-monthly.
- Monitor lipids and fasting blood sugar once a year.
- Sexual health checks as appropriate.
- Cancer screening as appropriate for age.

FtM trans patients

- Evaluate patient every three months in the first year (weight and blood pressure). Then six-monthly to monitor for appropriate signs of masculinisation and for development of adverse reactions.
- Measure full blood count and liver function tests every three months for the first year and then six-monthly.
- Monitor lipids and fasting blood sugar once a year.
- Sexual health checks as appropriate.
- If cervical tissue is present, PAP smears should follow the normal screening recommendations.
- If mastectomy is not performed, then consider mammograms as recommended by breast screening guidelines.

Plasma oestradiol and/or testosterone (free and serum) can also be measured in plasma as an occasional check on the appropriateness of therapy to avoid overdose or

to assess reasons for an inadequate response. However, there can be wide variation in levels in individuals, and some tests are very inaccurate.

Fertility

It should be assumed that both masculinising and feminising hormone treatment will usually cause irreversible infertility. It is unclear as to the length of time before irreversible infertility develops so it is important to counsel about this prior to initiating hormone treatment both in terms of sexual health precautions and fertility options.

Options for alternative fertility methods should be discussed as you would with any other patient undergoing treatment that will affect their fertility. The options include sperm storage for trans women and egg collection and storage for trans men.

4.1 Introduction

Many trans patients (but not all) will go on to have surgery. Surgery should not be seen as a prerequisite for a successful gender reassignment process. Patients should not feel they need to declare an aim for eventual surgery to obtain initial therapy and may be comfortable living with suppressed rather than excised genitalia if this is their preference.

Surgery is best performed by those who are interested in trans people, specifically trained in the surgical techniques and performing these surgeries regularly.

4.2 Breast (chest reconstruction) surgery (“top surgery”)

Often the first surgery for FtM will be breast (chest reconstruction) surgery. This can be done in the private or public sector. Public sector breast (chest reconstruction) surgery will go through DHB prioritisation processes and may attract a low weighting and hence a long wait. This will vary from region to region but trans patients might expect the same access to surgery as those with other similar conditions. The access to surgery will depend on the symptoms of the patient and the severity of the disfigurement. For an FtM the degree of distress, the size of the breasts and/or the use of binding will be relevant. In both public and private sectors a mental health professional assessment needs to occur before surgery is undertaken.

For an MtF, breast augmentation can be done in the usual way by private or public plastic surgeons.

4.3 Facial surgery

Currently three public plastic surgical centres have the skills to do facial surgery for transgender clients. Again DHB prioritisation process may lead to long waits for these surgeries in many areas.

4.4 Laryngeal surgery

The only surgery on the larynx that is considered safe and efficacious is a laryngeal “shave” to reduce the bulk of the laryngeal bulge. Typically this will not result in permanent voice change.

4.5 Sex/gender reassignment surgeries

Many trans women and a small proportion of trans men have sex/gender reassignment surgery (SRS/GRS) so their genitalia align with their lived gender. The techniques for MtF surgery are well proven and have developed significantly since the 1950s. However, significant complications still exist with SRS/GRS for FtMs.

Surgery is irreversible and involves removal of some features as well as reconstruction, so it will not normally be done before 18 years of age. Most surgeons will require two psychiatrist or psychologist reports before commencing surgery. Generally the patient will need to have been living full time in their new gender for at least 12 months and some surgeons require two years. Public funding is available through the Special High Cost Treatment Pool (SHCTP) for up to three MtFs and one FtM to have SRS in each two year period. **Access to the SHCTP is made through a referral by a DHB Specialist. This should be someone knowledgeable about trans health such as a sexual health physician, psychiatrist, adolescent physician, endocrinologist or plastic surgeon.** The SHCTP application form is available from the Ministry of Health to referring DHB specialists or managers on request. The following link provides information about applying to the SHCTP:

<http://www.moh.govt.nz/moh.nsf/indexmh/special-high-cost-treatment-pool#apply>

4.5.1 MtF surgery

All SRS/GRS for MtFs involve gonadectomy and may be obtained through the public health system. There are two main techniques available. The first and by far the most common is termed penile inversion, where penile and scrotal skin is used to form the vaginal lining and labia and nerves from the glans create a sensate clitoris. The second technique utilises a section of the colon to create the vagina. This allows greater length and is self-lubricating but is more invasive surgery and has higher risks.

Both techniques result in realistic and functional genitalia with a high success rate. However, there are a number of potential complications that patients should be aware of. Generally the surgeon will discuss these with patients as part of the informed consent process.

The SHCTP funds 3 MtF GRS's every 2 years. SRS/GRS for trans women is currently provided in New Zealand. The Special High Cost Treatment Pool (SHCT Pool) does not fund surgery overseas if the surgery can be successfully carried out in New Zealand. Supported applications must be made by a DHB specialist on behalf of the patient.

Because of the number of surgeons and level of expertise, Thailand has been a destination favoured by many New Zealand MtFs in recent times, but Australia has also become a common destination. Local trans groups can put people in touch with others that have used a variety of surgeons who specialise in SRS/GRS.

4.5.2 FtM surgery

Full genital surgery for FtM typically involves two phases. In the first, the female internal organs are removed (oophorohysterectomy). This can be done by local gynaecologists but if further surgery is anticipated it may be best to contact the (overseas) surgeon first. The second phase creates a micropenis (metatoidoplasty) or

a full phallus (phalloplasty), redirecting the urethra to the tip of the new genitals and creating testicles.

Both procedures involve a series of separate staged operations and complications are very common. Neither procedure is available in New Zealand. The SHCT Pool funding pays for one FtM to travel overseas every two years for SRS/GRS. Supported applications must be made by a DHB specialist on behalf of the patient.

FtM peer support groups can also provide contact details of some renowned surgeons and clinics.

5.1 Children

Gender variance may be expressed in children from an early age and can involve alternative gender expression and/or gender identity. Gender expression is more external and may include preference to dress in ways that are more typical of the 'opposite' sex. This is common amongst many non-trans children too. In some instances children may show they are uncomfortable with their physical sex or insist they are the 'opposite' sex. Some children who express gender variance go on to identify as trans adults, however many do not. A significant proportion of trans adults expressed gender variance as a child. Creating an environment where such diversity can be expressed creates a positive foundation for a child, whatever their decision later in life.

For further information for families refer to *Medical care for gender variant children and young people*.²⁷

5.2 Young people

For children whose gender variance persists into adulthood, feelings of discomfort or distress at their physical gender usually become more pronounced during puberty. Puberty may also be the time when gender variance is first recognised in some young people. There is often a huge amount of psychological distress associated with these feelings, which can manifest as mental health issues, including depression and suicide, poor sexual health and other risk-taking activities.

It is important that young people and families have access to appropriate medical and emotional support. This usually requires referral to local paediatrician, youth health specialist or adolescent mental health team to

²⁷ **Gender Identity Research and Education Society (GIRES).** (2008). *Medical care for gender variant children and young people: answering families' questions*. London, UK: COI for the Department of Health.

begin the assessment process or *HEEADSSS*²⁸ assessment and facilitate access to hormone treatment if appropriate. However, the general practitioner may be the first port-of-call for information for either the young person or the family. Assessing the general safety of the young person within the family and community context should be a priority. This will identify any other problems that must be addressed (co-morbidities) and that may require more urgent intervention than the gender identity issues.

5.3 Assessment and diagnosis

A rigorous assessment and diagnosis process is required and based on that as detailed for adults. The Utrecht Gender Dysphoria Scale Adolescent Version is a useful tool that can aid assessment and encourage discussion around trans people feelings. See *Transgender Adolescents in BC: Suggested Guidelines* (Appendix C-16).²⁹

In addition, a risk and resiliency assessment (such as a *HEEADSSS*²⁸ assessment) is very important, and the young person must be seen in the context of the family or whānau. In some cases, a young person may be adamant they do not want their family involved, which may be on the basis of safety reasons or that they are not yet ready for this. It is important that this is respected and should not be a reason to exclude them from the appropriate health care support.

²⁸ **Goldenring JM. & Rosen D. (2004).** Getting into adolescent heads: an essential update. *Contemporary Pediatrics*. 21:64.

²⁹ **Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program.** (2006) *Transgender Adolescents in BC: Suggested guidelines*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition: British Columbia.

5.4 Consent and confidentiality

It is important to explain consent, confidentiality and its limitations with the young person and family. As previously discussed, a high level of consent is required for starting both GnRH analogues and sex hormones.

If the young person is under 16, and usually until the age of 18 (though not legally required), gaining consent from both the young person and parents/caregivers as family support is strongly recommended during the transition process. However, in exceptional circumstances if the young person is under 16 and deemed Gillick competent they alone may be allowed to consent. We would recommend this is discussed with other health professionals experienced with working with youth prior to starting treatment.

For further information on consent see Gillick competency *Medical care for gender variant children and young people* (p 27).³⁰

5.5 Psychosocial assessment

Psychosocial assessment identifies both the risks and resiliencies, especially with regards to safety issues (attention must be paid to sexual health, mental health and drug and alcohol assessment). The HEEADSSS Risk and Resiliency Assessment Tool is commonly used in New Zealand. It structures questions to maximise communication and minimize stress. The acronym expands to **H**ome, **E**ducation/employment, **E**ating, **A**ctivities, **D**rugs, **S**exuality, **S**uicide/depression and **S**afety.³¹

³⁰ **Gender Identity Research and Education Society (GIRES)**. (2008). *Medical care for gender variant children and young people: answering families' questions*. London, UK: COI for the Department of Health.

³¹ **Goldenring JM. & Rosen D.** (2004). Getting into adolescent heads: an essential update. *Contemporary Pediatrics*. 21:64.

If significant risk is identified then appropriate referral to necessary supporting health services should be made. [See Section 2. Assessment of the Trans Patient.](#)

5.6 Family

Adolescence can be a very distressing time for some families coming to terms with the young person's gender variance. Family members will often require individual time for discussion and further counselling. [Useful resources for families are listed in Appendix 10.](#)

5.7 School

For some young people transitioning while at school is a daunting and potentially unsafe situation and they may chose to defer until leaving school.

For those young people that do choose to transition or are already living as their desired gender while still in school, a high level of support is required. There are some common issues that need to be addressed and it is most helpful to identify a key person in the school who is sympathetic and able to support the young person and family as they work with the school to prepare a management plan to best support the young person.

It is often most useful for the clinician, with the permission of the young person and family, to liaise directly with the school to provide both information and practical advice.

Management will differ between different schools and should be guided by the individual needs of the young person. It should be supportive and without discrimination.

Panel 4. School: Common general areas for consideration

1. Identify the people/staff in school who do and do not need to be aware about the young person's gender variance.
2. Uniforms –It would be generally recommended that the young person is allowed to wear the uniform appropriate to their expressed gender. However, this may not be appropriate if they are continuing to attend a single sex school and identify as the opposite gender identity. Those instances would need to be negotiated on an individual basis. It might be useful to consider the uniform flexibility available to other students because of their religious beliefs or a relevant disability.
3. Toilets/changing room – safety and privacy are the key issues for gender variant young people, as they are for all students. Ideally students should be able to use a toilet that matches their gender identity. Other options might include toilets in a sick bay/health centre, unisex disability toilets or staff toilets.
4. Sports- this should not be an issue except when a trans young person has reached puberty and is playing in competitive sex-segregated sport competitions. Mixed or non-competitive sports are other good options for trans young people, enabling them to play in their appropriate sex.
5. Gender variant children and young people can be the target of bullying and violence at school. A positive school environment is one that celebrates diversity and fosters respect for others, including trans youth. The school has a responsibility to provide a safe environment and should have clear anti-bullying policies. A safe place the young person can go to during the school day if needed may be helpful, e.g. library pass, school health centre etc. A useful resource recommended for schools is "Transphobic bullying" which is listed in Appendix 10.
6. Psychological wellbeing – the school guidance counsellor or school nurse may be a good contact for a trans young person in school.

*For further information for teachers,
see Appendix 10*

5.8 Health records and names

Most trans patients want their health records to be altered to reflect the name and gender of their choice. The health practitioner should raise this subject because the patient may be too embarrassed to ask or may fear that it is not possible. The health record should record the new name and gender. The unique patient identifier (NHI) should also be altered to reflect these changes. Some patients may change their mind either about gender or name and this should also be accommodated. It is easy to check by asking "how should I address you?"

5.9 Medical treatment

5.9.1 Gonadotrophin releasing hormone (GnRH) analogues – "blockers"

Following the careful assessment process (as previously detailed), for some young people hormone blockers (GnRH analogues) will be the desired treatment. It is well recognised that young people presenting during puberty with extreme distress by the physical changes of puberty are most likely to have persisting gender variance.

Blockers are recommended not usually before Tanner stage two and are often started later in puberty. They can relieve a significant amount of the young person's acute distress by putting physical changes on hold, thus allowing more time for the young person to make decisions about their future gender. If started early enough it also prevents the development of permanent physical changes, such as beard growth, breast growth, facial changes that are very difficult to remove once established. Trans adults often have to spend a huge amount of time, money and surgery trying to correct these unwanted changes.

Therefore, it is very important, while considering the medical risks of giving blockers to an adolescent, to also

consider the risks and implications of not giving or delaying giving the blocker. If the young person changes their mind, the blocker may be stopped at any time and normal puberty will resume. Although GnRH analogues are classed as a reversible treatment and return of fertility is highly likely it cannot be guaranteed. A high standard of consent is still recommended. [See Appendix 4: Samples of Consent Forms.](#)

For further information for clinicians read *The Guidance for GPs, other clinicians and health professionals on the care of gender variant people (p59)*³² as well as the article, *Clinical management of gender identity disorder in adolescents.*³³

Prolonged use of hormone blockers without cross-hormones may lead to increased adult height and reduced bone density during a normal period of significant bone mineralisation. For this reason, growth should be carefully monitored and a bone density scan may be necessary.

5.9.2 Sex steroids

Treatment with sex steroids (oestrogen or testosterone) may be considered from about the age of 16. These are recognised as only partially reversible treatments and therefore a high level of consent is needed. Although parental consent is not required once the young person is Gillick competent, it is strongly encouraged in all young people as family support is very important during the transition period. For further detail [see Section 3: Hormone Therapy Treatment.](#)

A second opinion should be sought before commencing any treatment. In some areas this may need to be done within the private sector. However, the clinical network provides a list of clinicians with an interest or expertise in this area who are often happy to provide email or phone consultation advice. Refer also to [Section 1: Principles of Care.](#)

³² **Gender Identity Research and Education Society (GIRES).** (2008). *Guidance for GPs, other clinicians and health professionals on the care of gender variant people.* London, UK: COI for the Department of Health.

³³ **Delemarre-Van de Waal, HA. & Cohen-Kettenis, PT.** (2006). Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects. *European Journal of Endocrinology*, 155 (Suppl 1): S131-S137.

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Appendix 1

Terminology



Appendix 1: Terminology

Gender identity and its expression vary greatly and not all trans people fit neatly into one of the definitions below or their broad descriptions. These definitions are a guide only. Counties Manukau District Health Board have selected terms (below) from Human Rights Commission (2008): *To be who I am. Kia noho au ki tooku anoo ao. Report of the inquiry into discrimination experienced by transgender people.* This diversity is acknowledged and cannot be overstated. Some common terms used in Aotearoa / New Zealand include those shown here. . Having a clear understanding about the differences between the following terms can also be useful when a GP, nurse, counsellor or other health professional is discussing gender identity issues with a trans person.

Cross-dresser	A person who wears the clothing and/or accessories that are considered by society to correspond to the opposite gender.
Disorders of Sex Development (DSD)	Is a recent medical term to describe intersex medical conditions. Some intersex people and health professionals disagree with the reference to “disorders” and have proposed the alternative term Variations of Sex Development (VSD).
Fa’afafine (Samoa), Fakaleiti (Tonga), Akava’ine (Cook Islands), Mahu (Hawaii), Vaka sa lewa lewa (Fiji), Fafafine/fiafifine (Niue), Rae rae (Tahiti)	Pasifika terms used to recognise people born biologically male who embody the spirit of a woman, have female gender expressions and perform female as well as male gender roles.
FtM/trans man (female-to-male)	Someone born with a female body who has a male gender identity.
Gender	The social and cultural construction of what it means to be a man or a woman, including roles, expectations and behaviour.
Gender expression	How someone expresses their sense of masculinity and/or femininity externally.
Gender identity	A person’s internal, deeply felt sense of being male or female (or something other or in between). A person’s gender identity may or may not correspond with their sex.
Gender reassignment services	The full range of medical services that trans people may require in order to medically transition, including counselling, psychotherapy, hormone treatment, electrolysis, initial surgeries such as mastectomy, hysterectomy, orchidectomy, and a range of genital reconstruction surgeries.
Genderqueer	People who do not conform to traditional gender norms and express a non-standard gender identity. Some may not change their physical sex or cross-dress, but identify as genderqueer, gender neutral or androgynous.
Intersex	A general term used for a variety of conditions in which a person is born with reproductive or sexual anatomy that does not seem to fit the typical biological definitions of female or male. Some people now call themselves “intersex” while many prefer to simply be known as male or female.
MtF/trans woman (Male-to-female)	Someone born with a male body who has a female gender identity.

Queen	Another term for someone born with a male body who has a female gender identity.
Sex	A person's biological make-up (their body and chromosomes), defined usually as either "male" or "female" and including indeterminate sex.
Sexual orientation	Whether someone is attracted to someone of the same sex (homosexual, for example gay, lesbian or queer), "opposite" sex (heterosexual), or both/all sexes (bi/pansexual). Some people always identify with one sexual orientation, whereas others may change their primary orientation and the meaning they give it at different times through their life. When a trans person transitions, often their sexual attraction remains the same, but it is not uncommon for it to change. If a trans woman who was previously married is still attracted to women, she is likely to identify as a lesbian. Conversely, a trans man who has a long-term female partner may now be considered heterosexual by others. Given these complexities, the umbrella term 'queer' is increasingly used by trans youth to describe both their sexual orientation and sex/gender diversity.
Takatāpui	An intimate companion of the same sex. Today used to describe Māori gay, lesbian, bisexual and trans people. It refers to cultural and sexual/gender identity. Also spelt Takataapui.
Tangata ira tane	A Māori term describing someone born with a female body who has a male gender identity.
Trans person/people	An umbrella term to describe someone whose gender identity is different from their physical sex at birth. Increasingly this is a preferred, more neutral, term.
Transgender	In New Zealand it is often used as a catch-all umbrella for a variety of people who feel that the sex they were born with is a false or incomplete description of themselves.
Transitioning	The social and/or medical steps taken by trans people to live in their gender identity. Usually trans people consider they have transitioned once they live in the appropriate sex, well before they completing any medical steps they have chosen to take. Transitioning often, but not always, involves hormone therapy and may involve a range of surgeries. These include chest reconstruction and hysterectomies for trans men, breast augmentation and facial surgery for trans women, as well as genital surgeries. The latter are often referred to as sex/gender reassignment surgeries (SRS/GRS), or as sex/gender <i>realignment</i> surgeries by some trans people.
Transsexual	A person who has changed, or is in the process of changing, their physical sex to conform to their gender identity. The terms "pre-operative" and "post-operative" are used by some transsexuals to describe whether or not they have had all gender reassignment surgeries. However, many trans people do not wish to disclose their surgical status, except in the very limited circumstances when that information is necessary.
Whakawaahine, Hinehi, Hinehua	Some Māori terms describing someone born with a male body who has a female gender identity.



Appendix 2

DSM-IV-TR Diagnostic Criteria for Gender Identity Disorder

Reference: Excerpt from **American Psychiatric Association.** (2000). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*. (4th Ed, Text Revision ed). Washington, DC: Author.

Appendix 2: DSM-IV-TR Diagnostic Criteria for Gender Identity Disorder 42

A. A strong persistent cross-gender identification (not merely a desire for any perceived cultural advantages of being the other sex). In children, the disturbance is manifested by four (or more) of the following:

1. repeatedly stated desire to be, or insistence that he or she is, the other sex.
2. in boys, preference for cross-dressing or simulating female attire; in girls, insistence on wearing only stereotypical masculine clothing.
3. strong and persistent preferences for cross-sex roles in make-believe play or persistent fantasies of being the other sex.
4. intense desire to participate in the stereotypical games and pastimes of the other sex.
5. strong preference for playmates of the other sex.

In adolescents and adults, the disturbance is manifested by symptoms such as a stated desire to be the other sex, frequent passing as the other sex, desire to live or be treated as the other sex, or the conviction that he or she has the typical feelings and reactions of the other sex.

B. Persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex.

In children, the disturbance is manifested by any of the following: *in boys*, assertion that his penis or testes are disgusting or will disappear or assertion that it would be better not to have a penis, or aversion toward rough-and-tumble play and rejection of male stereotypical toys, games, and activities; *in girls*, rejection of urinating in a sitting position, assertion that she has or will grow a penis, or assertion that she does not want to grow breasts or menstruate, or marked aversion toward normative feminine clothing.

In adolescents and adults, the disturbance is manifested by symptoms such as preoccupation with getting rid of primary and secondary sex characteristics (e.g., request for hormones, surgery, or other procedures to physically alter sexual characteristics to simulate the other sex) or belief that he or she was born the wrong sex.

- C.** The disturbance is not concurrent with physical intersex condition.
- D.** The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Code based on current age:

- **302.6 Gender Identity Disorder in Children**
- **302.85 Gender Identity Disorder in Adolescents or Adults**

Specify if (for sexually mature individuals):

- **Sexually Attracted to Males**
- **Sexually Attracted to Females**
- **Sexually Attracted to Both**
- **Sexually Attracted to Neither**

Please note the *Diagnostic and Statistical Manual of Mental Disorders (DSM-V)* is planned for release in May 2013. For updates, see DSM 5 website: <http://www.dsm5.org/Pages/Default.aspx>

Appendix 3

Utrecht Gender Dysphoria Scale Adolescent Version

Reference: Cohen L, de Ruiter C, Ringelberg H. & Cohen-Kettenis PT. (1997). Psychological functioning of adolescent transsexuals: Personality and psychopathology. *Journal of Clinical Psychology*, 53: 187–196

Adolescent Version

Female-to-Male Version

Response categories are: agree completely, agree somewhat, neutral, disagree somewhat, disagree completely. Items 1, 2, 4-6 and 10-12 are scored from 5-1; items 3 and 7-9 are scored from 1-5.

1. I prefer to behave like a boy.
2. Every time someone treats me like a girl I feel hurt.
3. I love to live as a girl.
4. I continuously want to be treated like a boy.
5. A boy's life is more attractive for me than a girl's life.
6. I feel unhappy because I have to behave like a girl.
7. Living as a girl is something positive for me.
8. I enjoy seeing my naked body in the mirror.
9. I like to behave sexually as a girl.
10. I hate menstruating because it makes me feel like a girl.
11. I hate having breasts.
12. I wish I had been born as a boy.

Male-to-Female Version

Response categories are: agree completely, agree somewhat, neutral, disagree somewhat, disagree completely. Items are all scored from 5-1.

1. My life would be meaningless if I would have to live as a boy.
2. Every time someone treats me like a boy I feel hurt.
3. I feel unhappy if someone calls me a boy.
4. I feel unhappy because I have a male body.
5. The idea that I will always be a boy gives me a sinking feeling.
6. I hate myself because I'm a boy.
7. I feel uncomfortable behaving like a boy, always and everywhere.
8. Only as a girl my life would be worth living.
9. I dislike urinating in a standing position.
10. I am dissatisfied with my beard growth because it makes me look like a boy.
11. I dislike having erections.
12. It would be better not to live than to live as a boy.

Scoring and Evaluation

As can be expected most non-transsexuals score close to the minimum score, which is 12.

Most transsexuals score close to the maximum score, which is 60.

Problematic applicants in terms of eligibility for sex reassignment and in terms of treatment course tend to score in the middle range of the scale.

Appendix 4

Samples of Consent Forms Counties Manukau District Health Board and GIRES





INFORMED CONSENT FORM (FtM)
Gonadotrophin Releasing Hormone Analogists (GnRH) - Blockers **page 1**

*This form refers to the use of **GnRH analogist - blocker** eg. Leuprorelin (Lucrin) for persons in the female to male (FtM) spectrum to stop the production of the female hormones oestrogen and progesterone and halt pubertal progression in young people with gender dysphoria. While there are some risks associated with taking GnRH blockers , when appropriately prescribed they can greatly improve mental health and quality of life.*

You are asked to initial the statements on this form to show that you understand the benefits, risks and changes that may occur from taking GnHR blockers.

If you have any concerns about the information below please talk with the people involved in your care so you can make fully informed decisions about your treatment. It is your right to seek another opinion if you want additional perspective on any aspect of care.

Initial Statements	<u>Patient / provider / date /</u>
<input type="checkbox"/> I understand that GnRH blockers can be used to halt the physical progression of puberty: <ul style="list-style-type: none"> • In early puberty, this stops further breast development, onset of menstruation and growth spurt. • In late puberty, this leads to cessation of periods and atrophy of breast tissue (breasts may appear slightly smaller due to fat loss but will not disappear). 	_____ / / /
<input type="checkbox"/> I understand that the effects of the GnRH blocker are reversible once treatment is stopped and spontaneous pubertal development will resume immediately.	_____ / / /
<input type="checkbox"/> I understand that whilst taking GnRH blocker my fertility will be impaired but an alternative non hormonal form of contraception / barrier contraception should still be used.	_____ / / /
<input type="checkbox"/> I understand that my fertility should return once GnRH treatment is stopped but this cannot be guaranteed.	_____ / / /
<input type="checkbox"/> I understand that GnRH can lead to an increased adult height by stopping the fusion of the growth plates of bones so allowing longer period of bone growth.	_____ / / /



INFORMED CONSENT FORM (FtM)
Gonadotrophin Releasing Hormone Analogists (GnRH) – Blockers page 2

Risks of GnRH Analogists Blockers	<u>Patient / provider / date /</u>
<input type="checkbox"/> I understand that the medical effects and safety of long term use of GnRH blockers are not fully understood and there may be long term risks that are not yet known. However, there is a long history of their use in children with precocious puberty without any serious side effects.	_____ / _____ / _____ /
<input type="checkbox"/> I understand that there may be adverse effects associated with taking GnRH blockers that are usually reversible. These may include: Oedema Skin reactions General pain Acne Headache Hirsutism Nausea and vomiting Hot flashes CHF Thrombophlebitis Dizziness Pulmonary embolism Weight changes	_____ / _____ / _____ /
<input type="checkbox"/> I understand that there may be some effect of GnRH Blockers on reducing bone density whilst not on testosterone treatment.	_____ / _____ / _____ /

Prevention of Medical complications	<u>Patient / provider / date /</u>
<input type="checkbox"/> I agree to take the GnRH blocker as prescribed and agree to tell my doctor if I am not happy with the treatment or are experiencing any problems.	_____ / _____ / _____ /
<input type="checkbox"/> I understand that the right dose for me might not be the same as for someone else.	_____ / _____ / _____ /
<input type="checkbox"/> I understand that physical examinations and blood tests are needed on a regular basis to check for negative side effects of GnRH blockers.	_____ / _____ / _____ /
<input type="checkbox"/> I understand that ongoing assessment and discussion of my gender identity is an important part of the ongoing process whilst I am taking GnRH blockers.	_____ / _____ / _____ /
<input type="checkbox"/> I understand that should I become pregnant I should inform my doctor immediately and treatment would be stopped.	_____ / _____ / _____ /



INFORMED CONSENT FORM (FtM)

Gonadotrophin Releasing Hormone Analogists (GnRH) – Blockers

page 3

My signature below confirms that:

- My doctor has talked with me about the benefits and risks of GnRH blockers and the possible or likely consequences of this treatment.
- I understand the risks that may be involved.
- I understand that this form covers known effects and risks and that there may be long term effects or risks that are not yet known.
- I have had sufficient opportunity to discuss treatment options with my doctor. All of my questions have been answered to my satisfaction.

I believe I have adequate knowledge on which to base informed consent to the provision of GnRH Blocker therapy. Based on this:

- I wish to begin taking GnRH blocker therapy.
- I do not wish to begin taking GnRH therapy at this time.

Whatever your current decision please talk to your doctor at any time you have questions, concerns, or want to re-evaluate your options.

Patient's Signature:

Date:

Prescribing Clinician Signature:

Date:



INFORMED CONSENT FORM (MtF)

Gonadotrophin Releasing Hormone Analogists (GnRH) - Blockers

page 1

*This form refers to the use of **GnRH analogist - blocker** e.g. Leuprorelin (Lucrin depot) for persons in the male to female (MtF) spectrum to stop the production of the male hormones testosterone and halt pubertal progression in young people with gender dysphoria. While there are some risks associated with taking GnRH analogist blockers, when appropriately prescribed they can greatly improve mental health and quality of life.*

You are asked to initial the statements on this form to show that you understand the benefits, risks and changes that may occur from taking GnRH analogist blockers.

If you have any concerns about the information below please talk with the people involved in your care so you can make fully informed decisions about your treatment. It is your right to seek another opinion if you want additional perspective on any aspect of care.

Initial Statements	<u>Patient / provider / date /</u>
<input type="checkbox"/> I understand that GnRH blockers can be used to halt the physical progression of puberty.	_____/_____/____/
<input type="checkbox"/> I understand that the effects of the GnRH blocker are reversible once treatment is stopped and spontaneous pubertal development will resume immediately.	_____/_____/____/
<input type="checkbox"/> I understand that whilst taking GnRH blocker my fertility will be impaired but an alternative non hormonal form of contraception / barrier contraception should still be used.	_____/_____/____/
<input type="checkbox"/> I understand that my fertility should return once GnRH treatment is stopped but this cannot be guaranteed.	_____/_____/____/
<input type="checkbox"/> I understand that GnRH can lead to an increased adult height by stopping the fusion of the growth plates of bones so allowing longer period of bone growth	_____/_____/____/



INFORMED CONSENT FORM (MtF)

Gonadotrophin Releasing Hormone Analogists (GnRH) – Blockers page 2

Risks of GnRH Analogists Blockers

Patient / provider / date /

- I understand that the medical effects and safety of long term use of GnRH blockers are not fully understood and there may be long term risks that are not yet known. However there is a long history of their use in children with precocious puberty without any serious side effect.

- I understand that there may be adverse effects associated with taking GnRH blockers that are usually reversible. These may include:

Oedema	Asthenia
General pain	Weight changes
Headache	Skin reactions
Nausea and vomiting	Acne
Anorexia	Hirsutism
CHF	Hot flashes
Dizziness	Thrombophlebitis
	Pulmonary embolism

- I understand that there may be some effect of GnRH Blockers on reducing bone density whilst not on testosterone treatment.

_____ / _____ / _____

_____ / _____ / _____

_____ / _____ / _____

Prevention of medical complications

Patient / provider / date /

- I agree to take the GnRH blocker as prescribed and agree to tell my doctor if I am not happy with the treatment or are experiencing any problems.

- I understand that the right dose for me might not be the same as for someone else.

- I understand that physical examinations and blood tests are needed on a regular basis to check for negative side effects of GnRH blockers.

- I understand that ongoing assessment and discussion of my gender identity is an important part of the ongoing process whilst I am taking GnRH blockers.

_____ / _____ / _____

_____ / _____ / _____

_____ / _____ / _____

_____ / _____ / _____



INFORMED CONSENT FORM (MtF)

Gonadotrophin Releasing Hormone Analogists (GnRH) – Blockers page 3

My signature below confirms that:

- My doctor has talked with me about the benefits and risks of GnRH blockers and the possible or likely consequences of this treatment.
- I understand the risks that may be involved.
- I understand that this form covers known effects and risks and that there may be long term effects or risks that are not yet known.
- I have had sufficient opportunity to discuss treatment options with my doctor. All of my questions have been answered to my satisfaction.

I believe I have adequate knowledge on which to base informed consent to the provision of GnRH Blocker therapy. Based on this:

- I wish to begin taking GnRH blocker therapy.
- I do not wish to begin taking GnRH therapy at this time.

Whatever your current decision please talk to your doctor at any time you have questions, concerns, or want to re-evaluate your options.

Patient's Signature:

Date:

Prescribing Clinician Signature:

Date:

INFORMED CONSENT FORMS

The following forms are intended to protect both service users and clinicians by ensuring that proper information has been given to service users, and that this is fully understood, before embarking on treatment. Before signing the consent form, service users should be sure to ask about anything that they have not understood. The forms relevant to hormone treatment may be provided at the first appointment, so that service users have the opportunity to take the forms away and consider any gaps in their knowledge while waiting for basic blood tests to be done. Although hormone treatment will almost always follow, this should not be presumed to be an automatic process since tests may reveal serious contra-indications.

It is acknowledged that some service users will already be self-medicating, in which case, the doctor should bring them into a safely monitored regime as quickly as possible. If the doctor is concerned about the product and dosage being used by the service user, then a “bridging prescription” may be provided for a period of up to three months, while blood tests are done.

All service users will benefit from having the information on these forms.

The consent forms may be read in conjunction with the NHS booklet –

“A Guide to Hormone Therapy for Trans People”

available at <http://www.gires.org.uk/dohpublications.php>

INFORMED CONSENT FORMS for HORMONE TREATMENTS:

Trans woman [MtF] testosterone blocking treatment

Trans woman [MtF] oestrogen treatment

Trans man [FtM] testosterone treatment

Young person [FtM] hormone blocking treatment

Young person [MtF] hormone blocking treatment)

At the time of referring a service user for surgery, some doctors take the precaution of obtaining informed consent for the actual referral. This is to ensure that any misunderstandings on the part of the service user may be picked up at an early stage. The following forms are suggested for that purpose.

(Surgeons themselves will have their own consent forms that should be made available to the service user a few weeks before surgery, rather than at the last minute. This provides a further opportunity for the service user to consider all possible outcomes before embarking on this surgery).

Trans woman [MtF] referral for gender confirmation surgery

Trans man [FtM] referral for gender confirmation surgery

INFORMED CONSENT for TESTOSTERONE BLOCKING TREATMENT

(may be used in conjunction with NHS consent form)

Trans woman

.....

[Print name in full]

[address]

.....

.....

..... [postcode]

I agree that I have had the implications of taking medication to reduce the production of testosterone, or its effects, explained to me in full by (name of clinician). I have had this Form for at least 4 weeks.

Effect of Blocking Hormones

I identify as a **woman** and, if it is deemed necessary, I may be treated with medication to reduce the production of testosterone up to the time of the removal of my testes (orchidectomy). As a result, I expect to experience less frequent, less firm erections; these changes are usually reversible. In the longer term, the size of the genitalia will be reduced. Reproductive capacity will be limited after prolonged treatment; I understand that I may become permanently infertile.

I have been given specific information regarding local, private or NHS facilities suitable for storage of sperm. I understand that if I have not made use of those facilities before treatment is undertaken, I may be unable to do so later through irreversible infertility.

I have had the opportunity to discuss, with my clinician, the effects of the proposed medication and any side effects I may experience, and to clarify any points I did not understand.

Potential Risks and Negative Side Effects

I understand that this medication may cause: deep vein thrombosis; pulmonary embolism; damage to the liver, lethargy, hot flushes and sweating, and possibly depression.

I understand that I will be at increased health risk if any of the following pre-existing factors apply: cigarette smoking; obesity; advanced age; heart disease; hypertension (high blood pressure); clotting abnormalities; malignancy (cancer); endocrine abnormalities; alcohol and/or drug misuse.

- I understand that, I can continue taking this medication up to the time of orchidectomy.
- I agree to take this medication in the dosage prescribed by my clinician and undertake not to take additional doses as this will pose an extra health risk.
- I understand that other medication available on or off prescription may be contra-indicated whilst I am on medication to limit testosterone.
- I agree to my treatment being monitored by my clinician.
- I am over 16 years old.
- I agree / I do not agree (delete as appropriate) to take part in any anonymised surveys.

Signed date

[individual undergoing treatment]

I (Clinician) am satisfied that(patient) understands the nature of the proposed treatment and has a full appreciation of the consequences of both the treatment in terms of benefits and possible side-effects and, also, the possible consequences of not undergoing this treatment.

Signed date

(clinician)

INFORMED CONSENT for HORMONE TREATMENT - Oestrogen

(may be used in conjunction with NHS consent form)

Trans woman

.....
 [Print name in full]
 [address]

 [postcode]

I agree that I have had the implications of having **oestrogen** therapy (in conjunction with medication to reduce the production of testosterone – delete if not applicable) explained to me in full by (name of clinician). I have had this form for at least 4 weeks. I have had the opportunity to discuss the effects of hormones with my clinician, and to clarify any points I did not understand.

Effects of Oestrogen

I identify as a **woman** and will, therefore, be treated with oestrogen. As a result of taking oestrogen I expect to experience: some breast growth; some redistribution of body fat to approximate to a female pattern; decreased upper body strength; softening of skin; decrease in body hair; a slowing of the loss of scalp hair; decreased fertility and testicular size and less frequent, less firm erections. Some of these changes are reversible, but breast enlargement, which will occur slowly over a period of up to two years, will not completely reverse after treatment is discontinued. Where that is the case, the remaining breast tissue can only be removed surgically.

In the longer term, the size of the genitalia will be reduced. I may become permanently infertile after prolonged treatment. I have been given specific information regarding local, private or NHS facilities suitable for storage of sperm. I understand that if I have not made use of those facilities before treatment is undertaken, I may be unable to do so later through irreversible infertility.

I have had the opportunity to discuss, with my clinician, the effects of the proposed medication and any side effects I may experience, and to clarify any points I did not understand.

Potential Risks and Negative Side Effects

- I understand that the most likely side effects are: venous thrombosis; pulmonary embolism; benign pituitary prolactinoma (non-malignant tumour in the brain); weight gain; mood swings; liver disease; gallstones; breast cancer; high blood pressure and diabetes mellitus.
- I understand that I will be at increased risk of unwanted side effects if any of the following pre-existing factors apply: cigarette smoking; obesity; alcohol and/or drug misuse and advanced age.
- I understand that, after genital surgery, a lifelong maintenance dose of oestrogen is almost certain to be required to maintain feminisation and protect against osteoporosis.
- I agree to take the hormones in the dosage prescribed by my clinician and undertake not to take additional doses of oestrogen as this will pose an extra health risk.
- I understand that other medication available on or off prescription may be contra-indicated whilst I am on hormone medication.
- I agree to my hormone treatment being monitored by my clinician.
- I am over 16 years old.
- I agree / I do not agree (delete as appropriate) to take part in any anonymised surveys.

Signed date
 (individual undergoing hormone treatment)

I (Clinician) am satisfied that(patient) understands the nature of the proposed treatment and has a full appreciation of the consequences of both the treatment in terms of intended and possible side-effects and, also, the consequences of not following this treatment.

Signed date
 (Clinician)

INFORMED CONSENT for HORMONE TREATMENT - Testosterone

(may be used in conjunction with NHS consent form)

Trans man

.....
[Print name in full]

[address]

.....

.....

..... [postcode]

I agree that I have had the implications of **testosterone** administration explained to me in full by(name of clinician). I have had this form for at least 4 weeks. I have had the opportunity to discuss the effects of hormones with my clinician, and to clarify any points I did not understand.

Effects of Hormones

I identify as a **man** and therefore will be treated with testosterone. I understand that I can expect the following **permanent changes**: a deepening of the voice; clitoral enlargement; possibly mild breast atrophy; increased facial and body hair and male pattern baldness.

The following changes are reversible: increased upper body strength; weight gain; increased sexual arousability; and decreased hip fat. Cessation of menstruation, which normally accompanies cross-hormone administration, may or may not be reversed if hormones are ceased.

I understand that reproductive capacity will eventually be lost after treatment, although this may take several years. I have been fully informed of the options to enable me to have a genetically related child and having been given specific information regarding local, private or NHS facilities suitable for storage. I understand that if I have not made use of these facilities before treatment is undertaken, I will be unlikely to be able to do so later.

I understand that the changes outlined above will start shortly after treatment is initiated, but that the full physical impact of taking hormones may not be evident until several years of continuous treatment have been undergone.

Potential Risks and Negative Side Effects

- I understand that treatment with testosterone may cause the following side effects: acne, mood swings, increased risk of cardiovascular disease heart and polycythaemia; rarely, malignant liver tumours and/or liver dysfunction; in the longer term, skin atrophy in the genital area may be experienced.
- I understand that I will be at increased risk of unwanted side effects if any of the following pre-existing factors apply: cigarette smoking; obesity; alcohol and/or drug misuse; advanced age; high blood pressure; clotting abnormalities; cancer; endocrine abnormalities.
- I understand that, in the light of current knowledge and practice, an oophorectomy (removal of ovaries) and hysterectomy (removal of uterus and cervix) is recommended after about five years of testosterone therapy. I understand that if these are not undertaken then regular cervical smears are recommended because of the increased risk of cancer.
- I understand that a lifelong maintenance dose of testosterone is likely to be required, although a reduction in the dosage will be considered for health reasons after removal of the ovaries.
- I understand that if I stop taking testosterone, there is a risk of developing osteoporosis unless oestrogen therapy is undertaken. I understand that oestrogen therapy, itself, can produce unwanted medical and physical side effects.
- I agree to take the hormones in the dosage prescribed by my clinician and undertake not to take additional doses of testosterone as this will pose an extra health risk.
- I agree to my hormone treatment being monitored by my clinician.
- I understand that other medication available on or off prescription may be contra-indicated whilst I am on hormone medication.

- I am over 16 years old.
- I agree / I do not agree (delete as appropriate) to take part in any anonymised surveys.

Signed date.....

(individual undergoing hormone treatment)

I (Clinician) am satisfied that(patient) understands the nature of the proposed treatment and has a full appreciation of the consequences of both the treatment in terms of intended and possible side-effects and, also, the possible consequences of failure to treat.

Signed date.....(Clinician)

**INFORMED CONSENT for Gonadotrophin Releasing Hormone Analogue (GnRHa)
reversible treatments only**

(may be used in conjunction with NHS consent forms)

young person: trans boy

..... [Print name, in full, of young person undergoing treatment]

I am years & months old. Date of birth.....[dd/mm/yy]

[address]

.....

..... [postcode]

I agree that I have had the implications of medication to block further physical changes of puberty explained to me in full by (name of Clinician). I have had this form for at least six (6) weeks and have had the opportunity to discuss, with my clinician, the effects of this treatment, (or not having treatment at this stage), and to have points I did not fully understand, explained to me.

I identify as a **boy**. I understand that by taking gonadotrophin releasing hormone analogue (GnRHa), the production of oestrogen by the ovaries will be blocked and, therefore, menstruation (periods) will stop. This treatment will also reduce the progress of other effects of puberty such as breast development. If my growth has not already stopped, it will allow me to grow a little more.

- I understand that the effects of this treatment are reversible when I stop taking the medication.
- I consent to undergoing this treatment. I have not been pressured to make this decision.
- I have been given advice about the effect of treatment on my ability to have a family later. I have had the opportunity to discuss reproductive options such as egg storage which might enable me to do this, in case treatment does affect my fertility. I have also been given details of local and national, private and NHS facilities providing the storage.

Signed date

(individual undergoing hormone treatment)

If the young person undergoing treatment is under 16 years old, the form must be signed by a person exercising Parental Responsibility* for the young person named above.

I,.....(person with Parental Responsibility) agree that I have had the implications of hormone administration to block the effects of puberty, in the young person named above, explained to me in full by (name of Clinician). I have had the opportunity to discuss, with the clinician, the blocking effects of the hormones and to have points I did not fully understand, explained to me.

I consent to..... (name of young person) undergoing this treatment

Signed date

(person with Parental Responsibility)

To be completed by the Clinician:

I am satisfied that the young person named above (if under 16) is Gillick competent.*

I undertake to liaise with the adult specialist services, whether private or NHS Gender Identity Clinic, at the appropriate time, to ensure the smooth transition to these services for the continuing treatment of this young person.

Signed date

(Clinician)

*See over for Parental Responsibility and Gillick Competence➔

Parental Responsibility

A person with Parental Responsibility (PR) will include: the natural mother automatically; the natural father, if married to the mother at the time of child's birth or having subsequently married her, or having a section 4, 1a Order or 4,1b agreement (Children Act CA 1989); anyone with a Residence Order, s8 and s12, CA 89 or a Care Order, s31, s33(3) CA 89; anyone with a Special Guardianship Order, s14A, CA 89, an Adoption Order; or a Placement Order (s22 Adoption and Children Act 2002). Under a Placement Order the Local Authority and prospective adopters share PR, alongside any parents who have PR. The local authority determines the extent to which the PR of parents and prospective adopters is to be restricted (s25 Adoption and Children Act 2002). An Adoption Order will extinguish all PR held by anyone other than the adopters.

In relation to births registered from 1 December 2003, a natural father who is not married to the mother of the child but whose name was entered on the relevant child's birth certificate will automatically have Parental Responsibility. In respect of children born before 1 December 2003, a natural father may now obtain PR by being entered on the relevant child's birth certificate at a later date, with the agreement of the mother.

Step parents and 'civil partners' (Civil Partnership Act, 2004) may acquire PR under s4A (CA 89). Where step-parents and civil partners adopt their partners' children, the partner who is the natural parent retains PR (s46 3b, Adoption and Children Act 2002).

Gillick Competence and Fraser Guidelines

A young person of 16 years old is regarded in law as competent. Under the age of 16, it is a matter for the judgement of medical practitioners, whether the child has Gillick competence, which involves, "not merely an ability to understand the nature of the proposed treatment.....but a full understanding and appreciation of the consequences of both the treatment in terms of intended and possible side-effects and, equally important, the anticipated consequences of failure to treat". 'Gillick' refers to a court case, *Gillick v West Norfolk and Wisbeach Area Health Authority* [1985].

The Fraser guidelines may be applied to young people who seek medical intervention in the early stages of puberty. The following inferences are relevant:

- the young person understands the advice being given: benefits, risks, potential side effects and **the effects of non-treatment**;
- the young person will begin or continue accessing hormones (often from the internet) in an unregulated way; and without treatment the young person's physical or mental health (or both) is likely to suffer.

It is **extremely** unlikely that the issue of medical intervention for a young trans person would be undertaken without the consent of someone with parental responsibility. If this were this to be an issue, the Fraser guidelines state that treatment may be given where:

- the young person cannot be convinced to involve parents/carers or allow the medical practitioner to do so on their behalf, and
- the young person's best interests require that treatment be undertaken without parental consent.

**INFORMED CONSENT for Gonadotrophin Releasing Hormone Analogue (GnRHa)
reversible treatments only**

(may be used in conjunction with NHS consent forms)

(young person: Trans girl)

.....
[Print name, in full, of young person undergoing treatment]

I am years & months old. Date of birth.....[dd/mm/yy]

[address]
.....
..... [postcode]

I agree that I have had the implications of hormone administration to block the physical changes of puberty explained to me in full by (name of Clinician). I have had this form for at least six (6) weeks and I have had the opportunity to discuss, with my clinician, the effects of this treatment, (and of not having treatment at this stage), and to have points I did not fully understand, explained to me.

I identify as a **girl**. I understand that by taking gonadotrophin releasing hormone analogue (GnRHa), the secretion of testosterone from the testes will be temporarily arrested. This treatment will block the progression of puberty such as further facial hair growth and a deepening of the voice.

- I understand that the effects of this treatment are reversible when I stop taking the medication;
- I consent to undergoing this treatment. I have not been pressured to make this decision;
- I have been given advice about the effect of treatment on my ability to have a family later. I have had the opportunity to discuss reproductive options such as sperm banking. I have been given details of local and national, private and NHS facilities providing the storage.

Signed date
(individual undergoing hormone treatment)

If the young person undergoing treatment is under 16 years old, the form must be signed by a person exercising Parental Responsibility* for the young person named above.

I, (person with Parental Responsibility) agree that I have had the implications of hormone administration to block the progression of puberty explained to me in full by (name of clinician). I have had the opportunity to discuss, with the clinician, the effects of hormones on the young person named above, and to have points I did not fully understand, explained to me.

I consent to..... (name of young person) undergoing this treatment

Signed date
(person with Parental Responsibility)

To be completed by the Clinician:

I am satisfied that the young person named above is Gillick competent.*

I undertake to liaise with the specialist services, whether private or NHS Gender Identity Clinic, at the appropriate time, to ensure the smooth transition to adult services for the continuing treatment of this young person.

Signed date
(Clinician)

see over for Parental Responsibility and Gillick Competence →

Parental Responsibility

A person with Parental Responsibility (PR) will include: the natural mother automatically; the natural father, if married to the mother at the time of child's birth or having subsequently married her, or having a section 4, 1a Order or 4,1b agreement (Children Act CA 1989); anyone with a Residence Order, s8 and s12, CA 89 or a Care Order, s31, s33(3) CA 89; anyone with a Special Guardianship Order, s14A, CA 89, an Adoption Order; or a Placement Order (s22 Adoption and Children Act 2002). Under a Placement Order the Local Authority and prospective adopters share PR, alongside any parents who have PR. The local authority determines the extent to which the PR of parents and prospective adopters is to be restricted (s25 Adoption and Children Act 2002). An Adoption Order will extinguish all PR held by anyone other than the adopters.

In relation to births registered from 1 December 2003, a natural father who is not married to the mother of the child but whose name was entered on the relevant child's birth certificate will automatically have Parental Responsibility. In respect of children born before 1 December 2003, a natural father may now obtain PR by being entered on the relevant child's birth certificate at a later date, with the agreement of the mother.

Step parents and 'civil partners' (Civil Partnership Act, 2004) may acquire PR under s4A (CA 89). Where step-parents and civil partners adopt their partners' children, the partner who is the natural parent retains PR (s46 3b, Adoption and Children Act 2002).

Gillick Competence and Fraser Guidelines

A young person of 16 years old is regarded in law as competent.

Under the age of 16, it is a matter for the judgement of medical practitioners, whether the child has Gillick competence, which involves, "not merely an ability to understand the nature of the proposed treatment.....but a full understanding and appreciation of the consequences of both the treatment in terms of intended and possible side-effects and, equally important, the anticipated consequences of failure to treat". 'Gillick' refers to a court case, *Gillick v West Norfolk and Wisbeach Area Health Authority* [1985].

The Fraser guidelines may be applied to young people who seek medical intervention in the early stages of puberty. The following inferences are relevant:

- the young person understands the advice being given: benefits, risks, potential side effects and **the effects of non-treatment**;
- the young person will begin or continue accessing hormones (often from the internet) in an unregulated way; and
- without treatment the young person's physical or mental health (or both) is likely to suffer.

It is **extremely** unlikely that the issue of medical intervention for a young trans person would be undertaken without the consent of someone with parental responsibility. If this were this to be an issue, the Fraser guidelines state that treatment may be given where:

- the young person cannot be convinced to involve parents/carers or allow the medical practitioner to do so on their behalf, and
- the young person's best interests require that treatment be undertaken without parental consent.

INFORMED CONSENT for REFERRAL for GENDER CONFIRMATION SURGERY

(may be used in conjunction with NHS or other hospital consent forms)

Trans woman

.....
[Print name in full]

[address]
.....
.....
.....
..... [postcode]

I agree that I have had the implications of gender confirmation surgery explained to me by my doctor/ chartered psychologist(name of referring clinician). I have had this form for at least six (6) weeks and I have had the opportunity to discuss the effects of this surgery with my doctor.

I understand that the capacity to reproduce will be lost, irreversibly, unless I have taken steps to store sperm, or I am intending to undergo surgical removal and storage of testes during surgery. I have been given information about these possibilities.

I identify as a **woman** and I understand that my gender confirmation surgery may include orchidectomy, penectomy, labioplasty, vaginoplasty with clitoroplasty, that is, the removal of external genitalia and the creation of a vagina, clitoris and labia minora and majora. The aim of the surgery will be to create a female appearance, a functional vagina and to retain sexual sensation. Practices vary between surgeons and you will need to choose one that suits you, and is known to be safe.

I understand that in this operation:

- A vagina is created by making a space between the rectum and the bladder, and lining this with skin from the penis and scrotum. The erectile tissue from the penis is largely removed as are the testicles; this is completely irreversible;
- The urethra (tube carrying urine away from the body) and its opening are placed in a position to approximate to female anatomy. Labia minora and majora (lips around the opening of the vagina) are fashioned out of penile and scrotal skin;
- An innervated clitoris is fashioned from the glans of the penis.
- I understand that this is serious and extensive surgery and that there may be surgical complications requiring follow-up treatment.

Possible problems associated with surgery:

- I understand that major surgery carries risks of deep vein thrombosis, pulmonary embolism, post operative chest infections etc;
- scar tissue at the entrance to the vagina shrinks, and/or the vagina itself losses depth and width. If this cannot be overcome by dilating, then further minor surgery may be necessary;
- the urethral opening (meatus) may still be pointing upwards or forwards making it difficult to direct the stream downwards when sitting down to urinate. Sometimes there is a certain amount of spraying. These difficulties may also be overcome through additional minor surgical correction;
- some loss of erogenous sensation can occur, although this is rare as surgical techniques are designed to preserve sexual feeling. However, there may be some delay in the return of this sensation, and it may not be as satisfactory as expected or desired. The clitoris may be uncomfortable or even painful, but this discomfort usually settles down eventually;

- a recto-vaginal fistula (a leak between the vagina and the bowel) may occur, although this is relatively rare. It can be corrected through minor surgery;
- I understand that post-surgery I will need to continue oestrogen medication but, possibly at a reduced level;
- I understand that the removal of my male sex organs is, effectively, irreversible; reconstructive surgery cannot fully reinstate my pre-operative condition; I will remain infertile;
- I understand that smoking significantly increases the health risk of any surgery;
- I understand that dilation and douching of the vagina is essential after-care;
- I am over 18 years old;
- I have read this document and I consent to being referred for the surgery as outlined above;
- I agree/ I do not agree (delete as appropriate) to take part in any anonymised follow-up surveys.

Signed date
(service user)

- In referring this service user for surgery, I am satisfied that understands the nature of the proposed treatment and has a good understanding of the consequences of the treatment in terms of outcomes, risks and possible side-effects

Signed date
(referring clinician)

INFORMED CONSENT for REFERRAL for GENDER CONFIRMATION SURGERY

(may be used in conjunction with NHS or other hospital consent forms)

Trans man

.....
 [Print name in full]
 [address]

 [postcode]

I have had the implications of gender confirmation surgery explained to me in full by my doctor/psychologist (name of referring clinician). I have had this form for at least six (6) weeks and I have had the opportunity to discuss the effects of this surgery with my doctor. I understand that some of the more extensive procedures cannot be undertaken in one operation. I may be required to undergo several surgeries in order to achieve the more complex results.

I identify as a **man** and I understand that my gender confirmation surgery may include:

- chest reconstruction,
- hysterectomy, salpingo-oophorectomy (removal of uterus, fallopian tubes, ovaries), vaginectomy (delete any procedures that do not apply on this occasion).

Further surgical procedures may include:

- **metoidioplasty** (creation of micropenis),
- urethroplasty (lengthened tube carrying urine through the micropenis)
- scrotoplasty
- placement of testicular prosthesis, or
- **phalloplasty** (full sized penis requiring initial removal of skin from donor site: forearm, abdomen or thigh, for instance),
- urethroplasty,
- scrotum,
- testicular prostheses
- erectile prosthesis (or prostheses) (delete any that do not apply on this occasion).

The aim of such surgical procedures is to create an acceptable male appearance and to provide sexual sensation. The ability to penetrate during intercourse, and to urinate whilst standing is unlikely to be achieved with the metoidioplasty procedure.

Risks

As with any major surgery, there is a risk of deep vein thrombosis, pulmonary embolism, infections, and bleeding. The appearance may not be as good as you had hoped, and there may be some loss of sexual sensation.

Complications are more likely to arise with the phalloplasty procedures than with the metoidioplasty. Most problems arise with the urethra, which may develop stenosis (narrowing) or fistulae (these are leaks that may occur where tissue is joined to lengthen the urethral tube. Occasionally, some tissue dies away because the blood

supply is not adequate. This is a complication that is much more likely to occur if you are a smoker. Some surgeons will not perform these surgeries, especially phalloplasty, on people who smoke.

- I understand that the removal of my female sex organs is irreversible;
- I understand that the capacity to reproduce will be irreversibly lost unless I have taken steps to store eggs or I am intending to undergo surgical removal and storage of ovaries;
- I understand that a lifelong maintenance dose of testosterone is likely to be required, although, a reduction in the dosage will be considered for health reasons after oophorectomy (removal of ovaries);
- I am over 18 years old;
- I consent to being referred for the surgery as outlined above;
- I agree/ I do not agree (delete as appropriate) to take part in any anonymised follow-up surveys.

Signed date
(service user)

I am satisfied that understands the nature of the proposed treatment and has a good understanding of the consequences of the treatment in terms of outcomes, risks and possible side-effects

Signed date
(referring clinician)



Appendix 5

Principles of Culturally Competent Care for Māori

Reference: Excerpt from Mauri Ora Associates for the Medical Council of New Zealand.
(2006). *Best health outcomes for Māori: practice implications*. Wellington: Medical Council
of New Zealand. Retrieved March 14, 2010 at
<http://www.mcnz.org.nz/Default.aspx?tabid=269>



Principles of culturally competent care for Māori

Māori views on health take a holistic approach and embrace four cornerstones of health:⁵⁰

- te taha wairua (the spiritual dimension)
- te taha hinengaro (the mental dimension)
- te taha tinana (the physical dimension)
- te taha whānau (the family dimension).

For Māori with traditional views, the wairua or spiritual well-being is not only key to one's identity but also provides the link with one's whānau, thus connecting the individual with the larger community that provides sustenance, support and safety.⁵¹ The mental (hinengaro) and physical (tinana) health are inextricably linked with the wairua and the other elements of a healthy life, including the physical environment. The relationship between Māori and the environment (te ao tūroa) is one of

stewardship (tiakitanga).⁵¹ The environment is the continuous flow of life and constitutes an essential element in the identity and integrity of the people.⁵¹ As the Royal Commission on Social Policy wrote in 1988, "without the natural environment, the people cease to exist as Māori."⁵¹

Because of this holistic, integrated approach to health, beliefs about the nature of disease and treatment priorities for health may differ at times between Māori patients and non-Māori health providers; the Western approach emphasising personal dysfunction and socio-economic inequalities, and Māori concerns moving to wider cultural factors affecting the community as a whole.^{50,52} The key to health promotion, i.e. assisting the patient to achieve their best possible state of health, is to understand their concerns and to work with them, within their cultural framework, to obtain the best outcome.

Māori community involvement

Whānau means family, sometimes in the direct and circumscribed sense of parents and children, but more often in the sense of a wider kinship group who share a common ancestor. The whānau is the basic unit around which Māori society is organised, and the welfare of one member is of concern to all.

The extent to which a particular Māori patient will belong to a more traditional whānau structure may depend on geography, life experience, proximity to other families and kin, and maintaining active lines of communication – often between countries. Keep in mind that Māori culture is dynamic; migration, mobility, changes in birth rates and reproductive patterns are influencing Māori family structure.

Nevertheless, many modern urban Māori families will embrace the elements of connectedness, duty, obligation and benefit within their daily lives.

Dysfunctional Māori families, who are affected by drugs, alcohol, violence and/or sexual abuse, may have these problems compounded by the complex interconnections, obligations, and intricacies of wide family bonds. That is, the problems may be multiplied through generations and across family groups, and therefore interventions to address these issues need to take place at the level of that wider whānau to be effective, sustainable and acceptable.

As a result of this 'interconnectedness', it is common for Māori patients to bring family or whānau members with them to appointments, and they may need to

consult with them before accepting any treatment recommendations. Some Māori may feel more comfortable if a member of the whānau speaks on their behalf. Sometimes this can lead to a slightly longer interview so that the whānau can consult before decisions are made, but you should realise that in addition to providing greater comfort to the patient, the presence of these other whānau members can lead to improved care. For example, they can provide additional background information during the medical history, help the patient to understand your instructions, and assist the patient in carrying out treatment.

Ethnicity data collection and use

Accurate and consistent collection of ethnicity data is essential to providing the best clinical care. Without this information and similar socio-demographic data such as educational level, religious affiliation, lifestyle, marital status, and dietary habits, providers will be unable to provide individualised care – that is, care based on the background and cultural understanding that a patient brings to the encounter.

In addition to the ability to tailor care to the patient once ethnic information is known, such data collection can also benefit the health system in general, as psychiatrist Dr. Felicity Plunkett explains:

“Mental Health Services need to assess how well all population groups are served and with which disorders Māori present, compared to non-Māori. In order to answer these and other questions it is critical that clinical staff collect ethnicity and diagnostic data accurately. However the Public Health Consultancy of the Wellington School of Medicine and Health Sciences in developing a Population Needs Assessment for twelve of the provincial DHB’s noted considerable difficulties in needs assessment for Māori due to ethnicity data not being accurately and consistently corrected.”⁵³

Make it a standard part of your practice to ask every patient what their ethnic background is; do not make assumptions based upon skin colour or appearance. By asking the question, you not only reveal your respect for the patient’s individual heritage, but you also have an opening to discuss their cultural preferences. Be sure to provide all patients with an explanation of why, how and when the information will be used, and reassure them that, like all medical information, the information is treated as confidential. It is also critical that you do not argue with or challenge the patient’s view of their ethnic affiliation.

In earlier times a Māori was defined as someone who was ‘half-caste or more’. That definition has been superseded by two approaches. One is based on being descended from a Māori, the other from identifying as a Māori. Be aware that some patients may identify themselves as being multi-ethnic, while others who are descended from a Māori may choose not to identify as Māori. However, if the questions are asked in a consistent

manner, with full explanations, and the patient is given enough time to answer, it is unlikely that anyone will find a question about ethnicity inappropriate or offensive. Quite the reverse, you may find that your patients welcome the opportunity to share with you how they see their cultural heritage and their health interacting. For example, if a patient were to say, “Oh, my family’s Italian (or Tongan or Samoan or Māori), and food is such a central part of family life, there’s no way I will ever not be overweight. There’s nothing I can do about it”, you could take the opportunity to offer nutritional advice that is still culturally sensitive or propose an exercise regimen that could counteract dietary indiscretions. See Cases One and Five below for Māori examples of how knowing about a patient’s culture can help you in improving their health.

The central place of effective communications

The greatest value of cultural competence is to enhance communication between you and your patient: to ensure that the consultation is of value for both of you; that the information needed is shared between you and the patient (and perhaps their whānau); and that the desired outcome (the best possible health for the patient) is achieved.

Be aware that many Māori have a natural desire to seek a consensus – to avoid disagreements about small matters. They may defer to the authority of those in the practice team who are, after all, experts in health care, but that does not

necessarily mean they agree with what you are saying. The values of harmony and respect may be more important than expressing disagreement. Unfortunately, this desire for consensus in no way means that, once they are out of your presence, they will proceed with the treatment plan, and so it is very important to ensure that “yes” means “We have agreed upon this plan and I will do my part as we have discussed”, and not “I totally disagree and have no intention of doing what you have outlined, but I will not insult you by saying so to your face.”

Along these same lines, it is best not to take the silence of Māori patients as agreement with what is happening. In fact, silence by Māori may indicate complete disagreement with what is being proposed. In some this is stoic acceptance of treatment they perceive to be inappropriate, while others may not want to challenge the authority of the provider. A better approach is to check that patients have understood by the use of open questions. For example, you could say, “I want to be sure that I have given you all the information you need. Please tell me what you understand will happen to you, from what I have said.”

In addition, remember that each of us, regardless of background, has a personal preference for receiving information. You may need to deliver healthcare information in a number of ways to be certain that the patient has a sufficient understanding of the topic. This is a time when whānau members may be helpful in assisting you to ensure that sufficient information has been received by the

patient, and also in checking on understanding and disagreements. The role of the patient is to receive treatment, while the role of the whānau is to support the patient and negotiate with authority (i.e. you).

That said, there are also several ways to ensure that, if necessary, you can speak to the patient privately. For example, you may need to ask a question about sexual behaviour, drug use or another topic that the patient may be uncomfortable or unwilling to discuss in front of family members. In that case, it is entirely appropriate to say to the whānau, “There are a few questions that I would like to ask the patient that deal with private topics. Would you mind stepping out of the room for a few moments?” If you feel this The following examples are provided to familiarise you with type of approach would be inappropriate, you can also wait typical issues that may be important to a Māori patient; they for a time when you are alone with the patient for another are not meant to suggest that every Māori will feel the same reason and raise the question(s) at that point. For example, way about any or all of these. Always tailor your behaviour most Māori will request privacy for a genital examination, to suit the needs and preferences of the individual, whether and that can give you the chance to raise any topics they Māori or Pakeha. might be unable or embarrassed to discuss openly.

Guidance on Māori preferences

Always be guided by the individual patient and/or their whānau when it comes to customary Māori practices,

such as pressing noses (hongī) or reciting a blessing (karakia) at times of anxiety (such as before a medical procedure). If you make assumptions based on broad stereotypes, you are likely to end up embarrassing yourself and your patient, and impairing the doctor-patient relationship, rather than strengthening it.

It is important to be aware of gender issues when working with Māori whānau. As Dr Hinemoa Elder writes:

“As a Māori woman psychiatrist in training there are times when it has not been appropriate for me to engage with whānau and it has been really important for me to have a kaumātua working alongside me in order to make the process adhere to issues of tikanga. There are times when this is not possible though. Acknowledging that you know the appropriate tikanga for a situation [even if you cannot adhere to it] goes along way to helping the family feel more comfortable about what is going to happen in that particular meeting.”^{#45}

The following examples are provided to familiarise you with typical issues that may be important to a Māori patient; they are not meant to suggest that every Māori will feel the same way about any or all of these. Always tailor your behaviour to suit the needs and preferences of the individual, whether Māori or Pakeha.

Māori pronunciation and communication

Few Māori clients have access to Māori health providers and the doctor and patient’s different cultural backgrounds can sometimes hamper communications. This difficulty can be addressed by

developing your understanding of Māori language and communication. Māori language (te reo Māori) is the basis of Māori culture and is considered a gift from ancestors.⁵¹ It expresses the values and beliefs of the people and serves as a focus for Māori identity.⁵¹ For this reason, language and pronunciation are very important.

Learning how to pronounce Māori names correctly is perhaps the single greatest way to show respect to your Māori patients. In general, Māori place great emphasis on the spoken word, with words often viewed as links among the past, present and future. In particular, the proper pronunciation of names is a sign of respect, and mispronunciation of Māori names and words is jarring to Māori ears.

If you are not sure about how to pronounce a Māori name it is best to ask the Māori patient before attempting it, rather than trying to pronounce it and then asking if you got it right. Although some cultures might appreciate the fact that you made the attempt, mispronunciation, no matter how well-intentioned, will still be painful to many Māori ears. For this reason, it is better to admit to the patient your difficulties with Māori names and seek their assistance first, then, with their coaching, you can attempt their name. Doing it in this order shows you understand the importance of names in Māori culture and demonstrates respect for the individual and their heritage, as well as an interest in learning more, something the patient will appreciate.

Like all patients, Māori wish to learn the name and role of the people involved in their care. Make a point of introducing yourself and any members of your staff to your patient and their family, rather than assuming this is 'unnecessary' or a 'waste of time'. Māori culture relies heavily on interpersonal connections, and sharing names is obviously a necessary first step for such a connection to be formed.

The Māori phrase 'kanohi kitea' conveys the meaning of 'a face which is seen', and this relates to the Māori preference to speak to another in person. Written submissions are not an effective method of consultation for many Māori, and face-to-face dialogue is much more likely to result in effective communication.⁵¹ If, despite this, you choose to use written messages to convey information such as test results or medication instructions, be aware that illiteracy rates are disproportionately higher among Māori; you should thus take particular care to ensure that your patients understand their condition and your treatment plan, rather than simply relying on printed instructions.

Māori traditionally value eloquence, and so you should not expect a 'Just the facts, please' presentation in response to your questions. In addition, many Māori, in an attempt to avoid discord, will be more 'polite' than 'honest' and often will tell you what they think you want to hear, not what really is the case.¹⁵ Pakeha in general are adept at voicing dissent. Māori, by contrast, may express consent very strongly while, as a form of courtesy, dissent is unspoken and will be taken

home for further thought and reflection, to be voiced at the next meeting.¹⁵

Also be aware that Māori are less likely to challenge treatment plans or ask questions than many non-Māori are, but their silence does not necessarily imply understanding or agreement on their part. This, coupled with the shyness which is common to many patients before a medical person, makes it imperative that you fully explain what you are doing and why; what you believe is wrong with the patient; how you recommend treating the condition; what medications you are prescribing and why (along with how they should be taken); and what results (both positive and negative) you expect.¹⁵ Do not wait to be prompted for this; make it a basic part of your discussions with the patient.

As you can see, you need to be active about soliciting feedback from Māori patients, rather than forcing them to raise any questions or concerns. You can do this in a number of different ways: through indirect questioning, via family or whānau members, or by using Māori health workers or interpreters when available. It is important to be sure that the answer you think you are getting is the one that the patient really means!

Lastly, be careful of using medical jargon with patients.⁵⁴ This not only refers to specialised terms, like 'myocardial infarction' instead of 'heart attack', 'cerebrovascular accident' instead of 'stroke' or 'adenocarcinoma' instead of 'cancer', but also – perhaps even more importantly – to ordinary words that take on specialised meaning in a medical context. Examples of these would be

‘complain’, ‘deny’, ‘report’, or ‘claim’. These words are particularly prone to be misunderstood by a patient who upon overhearing a nurse say to a doctor, “Mrs Hepi is here, complaining of a headache for the last two days” may think that the nurse is accusing Mrs Hepi of whingeing, not recognising that she is using the word “complain” in its medical sense. Similarly, a family may be offended if the doctor charts, “Family denies drug use on the part of the patient”, because they assume the term “deny” implies disbelief on the doctor’s part; if she had believed them, she would simply have written, “Patient did not use drugs.” In all of these cases, a simple explanation will avoid or address hurt feelings.

Because Māori are often less likely than other patients to ask questions or challenge a doctor whom they perceive to be acting inappropriately, it is particularly important to present yourself as open to questions, and to solicit feedback from the patient and/or whānau regularly.

Family/whānau support

Community and whānau support are a key part of Māori health. As mentioned above, the individual is defined in terms of their relationship to the whānau, and the whānau in turn has a responsibility to take care of its individual members. For this reason, it is very important that the medical team recognise that a Māori patient may wish for whānau members to be involved in all aspects of their care and decision making. This may take the form of nominating a person to speak on their behalf and/or the behalf of the

whānau, consulting on all decisions, bringing food for the patient, staying with the patient (including overnight), and attending surgical procedures. It is particularly important that visits by whānau members are permitted when a patient’s death is expected and/or imminent.⁵⁰ (See also “Death and Dying” below.)

Initial contacts and protocols

In days gone by, it was considered rude to ask someone’s name directly, because traditionally this implied that the person was not of enough importance to be known beforehand.¹⁵ Many still adhere to this convention. To overcome this, you might ask for guidance on their name’s pronunciation, enquire about their background (“Where are you from, then?”), or try to establish a connection (“I see you come from Rotorua; do you know the Douglas family?”).¹⁵ This helps to avoid any apparent (and unintentional) discourtesy and shows that you recognise the Māori tradition of identifying oneself through one’s family and connections.

On initial meetings, some Māori will expect formal introductions to take place, not unlike the powhiri, where space and time between a community and a newly arrived stranger are used to establish links and to begin cautiously to understand each other.⁵⁵

Taking time at the first meeting so that the patient (and their whānau) can learn about the practice team will lead to effective relationships. Members of the practice team should introduce themselves when they first meet a Māori

patient and explain the role they have within the practice. This includes the reception staff who, after establishing these connections, could then explain after-hours arrangements, the way to make an appointment, and how to make payment of medical fees.

Remember that the proper pronunciation of names is very important to your Māori patients, and they may expect formal introductions to all those involved with their care. They will be making an effort to learn your names, just as you and your staff are learning theirs. A minor investment of time on the initial meeting will pay off in a long-standing, close relationship with not only the patient but their entire whānau. After the first meeting, your Māori patient may still prefer face-to-face communication, to be supplemented by phone or mail contact.

Even after the initial visit establishes the relationship, expect to spend a few minutes at the start of every appointment catching up with your patient about their entire whānau. In this way, you are acknowledging those relationships, the importance they have to your patient's life, and your understanding of connections in Māori culture. You will be re-establishing and building on your own 'connection', i.e. the doctor-patient relationship, so that when you then move to the clinical part of the consultation, you can be sure that cultural barriers will not interfere with your care of the patient and the patient's acceptance of your clinical judgement.

Examining patients

While it is common courtesy in many cultures to ask permission before touching or examining a person, it is particularly important to do so with Māori. You will, of course, have introduced yourself to the patient and any whānau members present before this point, but you should, prior to beginning any physical examination, explain briefly what you will do, why you are doing it, and request permission to proceed. Be aware that, depending upon the examination, some whānau members may choose to remain with the patient. You should ask the patient and whānau what their preferences are, rather than automatically asking family members to leave the room while you make your examination.

You may notice that a Māori patient wears taonga (valuables/ heirlooms). If this is the case, only remove them if their presence poses a safety hazard. Taping them in place is generally considered preferable to removal. If they do pose a risk, to the patient or the medical team, be sure to ask permission from the patient and/or whānau before removing them, and (if possible) allow them to be the ones to remove the taonga and retain it for safekeeping.

Physical contact

In Māori culture, the head is the most sacred (tapu) part of the body. For this reason, you must be careful to ask consent before touching the head, and avoid touching it casually. As part of the tapu/noa separation, it is also important that anything that comes into contact

with the body (or bodily substances) should be kept separate from food (or items associated with food, such as dishes or tea towels). Because food is considered *noa*, you should never pass food (such as a meal tray) over a person's head, which is *tapu*. Doing so could be considered to strip the person of all personal *tapu*. Different linens can be used to ensure that items that touch the head are not mixed with those that touch the rest of the body.⁵⁰ For example, most non-Māori patients will be comfortable moving a pillow from beneath their head to under their leg (or vice versa), but Māori may view this as a violation of *tapu*. For this reason, pillowcases should be different colours, so that those used for the head can be differentiated from those used for other parts of the body.⁵⁰ Similarly, different flannels should be used to wash the head and the rest of the body.

Towels used on the body should never be used for food, and freezers used for food (or medication) should not be used for any other purpose.⁵⁰

Body language

Body language can be different between Māori and non-Māori. For example, although Māori have a preference for face-to-face communications so that each party can 'look upon the face' of the other, this is not a request for direct eye contact. Also be aware that you do not need to prolong eye contact – Māori often say that 'we listen with our ears, not our eyes'.

This is because for many Māori, looking your conversation partner in the eye

sends a signal of conflict or opposition. Furthermore, if there are more than two participants, sustained eye contact can exclude the ones not actually speaking.¹⁵ By contrast, the Māori will look at a neutral spot and thus be better able to focus on what the speaker is saying and how he is saying it, rather than being influenced by his appearance.¹⁵

Sustained eye contact can also be interpreted as a sign of disrespect, especially when this involves gazing at authority figures such as doctors and nurses in a medical practice or hospital. It may be better to avoid prolonged eye contact with Māori patients as that may make them uncomfortable, or feel like they are being scrutinised or criticised or challenged.

Keep in mind that although lack of eye contact could be a sign of respect, it could also be due to anxiety, anger, boredom, inattention, or fear, just as with any other patient. You will need to draw upon other signals from the patient (or their *whānau*) to decide which is the correct interpretation. If you are unsure about this or any other non-verbal signal, ask.

Sharing information and consent

Since many Māori consider their individual health problem as the problem of the *whānau*, they may feel threatened if their family/*whānau* members are excluded from medical interactions, consultations, decisions, or procedures. Be sure to give patients the opportunity to tell you whom they would like to have present and how much information they would like you to share with the others.

As with all things, be guided by the individual patient's preferences, rather than by general notions about overall Māori (or non-Māori) culture.

With regard to informed consent, Māori are like all other patients in needing as much information as possible, often presented in several ways. In addition, however, they may wish the information to be presented to their whānau, and to have the opportunity to discuss the matter with the whānau prior to giving consent. Remember that silence may not indicate agreement, so when obtaining informed consent, be sure to ask about the patient's understanding and solicit concerns with open-ended questions. It is in no-one's best interest for a patient, Māori or otherwise, to go into a procedure with a partial or inaccurate understanding of what is likely to happen.

Traditional medicine/Rongoa

Some, especially older, Māori may consult a tohunga before, after, or instead of, seeing a doctor.¹⁵ The tohunga is often an older relative who looks after the well-being of the whānau and will be very knowledgeable in human nature and psychology, as well as having great expertise in tapu and noa laws.¹⁵ Those Māori who adhere to the belief that illness is the result of wrongdoing or breaking of tapu may display symptoms consistent with illnesses called 'mate Māori'.¹⁵ It is therefore a good idea to ask your patients for their feelings, views or ideas of causality about their illness. Not only will this give you the opportunity to educate them about their bodies (should

that be appropriate), but if a patient believes that mate Māori is involved, you can also suggest that he visit a tohunga or minister.¹⁵ While the tohunga or minister addresses that aspect of their condition, you can provide the help afforded by Western medicine.

Some Māori may also choose to treat their illness with rongoa, or Māori medicine produced from native New Zealand plants and/or herbs. Refer to the Council's *Statement on complementary and alternative medicine*⁵⁶ for further direction. The key message is to know of any alternative medicine your patient may be using, and to ask where you are unsure.

As with any patient's beliefs, do not ridicule or belittle Māori traditions or concepts of health. Whether your patient believes that their illness is due to mate Māori, clogged arteries, misaligned chakras, or evil spirits, your role is not to challenge their beliefs but to work with them in order to help them be as healthy as possible. Of course, if their beliefs are dangerous or make successful treatment impossible, it is appropriate to share your concerns and seek a compromise, but doing so in a respectful way is much more likely to succeed than being argumentative, condescending, or patronising. See Case One (page 30) for an example of how you can effectively employ both traditional and Western medicine on behalf of a patient.

Karakia and use of cultural experts

Wairua (the spirit) is intrinsically connected to health, and many Māori regard karakia (blessings or prayer) as an

essential way of protecting and maintaining spiritual, physical and mental health.⁵⁰

Karakia should of course be interrupted if the patient's condition or the well-being of others is in jeopardy. If this occurs, or if karakia are not possible due to extreme circumstances, the situation should be explained to the patient and whānau as soon as possible. If you are not available for such a discussion (perhaps because you are providing emergency care to the patient), then have a staff member speak to the family on your behalf. It is better to offer explanations multiple times rather than not enough. Be aware that water may play a role in the karakia for the purpose of spiritual cleansing.

Designated Māori staff (kaiatawhai) whose role is to support the spiritual and/or cultural needs of Māori patients and their whānau are employed in many institutions. Including these knowledgeable people in your healthcare team is an excellent way to prevent cultural misunderstandings between yourself and your patient.

Dr Elder writes:

“Working with cultural support workers...is similar to working with any kind of specialist. In this instance, they provide knowledge, skills and wisdom which give the best opportunity for setting up a safe and appropriate context for people to express themselves so that we can hear what is going on from their perspective. I have found that often Māori patients and their whānau don't trust the services were present. Recognising this and having cultural support at hand can go along way to developing trust and therefore hope. Our

*clinical goal of formulating an empathic understanding of what is going on for a person and their whānau makes this building of trust and engagement a central platform where the work can occur. I have found time and time again that whānau won't necessarily tell you what is really going on unless you demonstrate an openness and respect for their beliefs and values.*⁴⁵

Special issues

1. Surgery

In general, Māori dislike body mutilation, and this can affect how people regard the removal of diseased body parts. For this reason, it is important that you give a very clear explanation regarding surgical procedures, including what will be done and why. In particular, when body parts or tissue will be removed and/or examined, be sure that Māori patients are consulted about the final disposal of that material.⁵⁰

In some cases, the whānau may need to discuss the options before making a decision, and time should be allowed for this to occur, unless (as in the case of an urgent amputation) this could place the patient at risk.⁵⁰ If the whānau request that the body parts, tissue or substance be returned to them, this should be done unless there is an overriding safety concern.⁵⁰ In this case, the concerns should be explained to the whānau and patient, so that it is clear the decision was not an arbitrary or unreasonable one. In every case, provide explanations on handling and disposal of the material(s).

2. Anaesthesia

In common with most patients, Māori are concerned that they will be accorded proper respect and dignity while anaesthetised in the operating theatre. At the same time, many Māori may also have spiritual concerns about the status of the wairua during anaesthesia and how the life source is being protected and preserved. They may wish for whānau members to be present or karakia to be said, in order to ensure that their spiritual as well as physical welfare is being properly looked after. Pre-operative discussions with the patient and whānau should ascertain what concerns they may have as well as how those concerns may best be addressed. As always, frank, open conversations ahead of time can, when sensitively handled, prevent many problems from developing.

3. Mental health

Mental illness remains a serious health issue for Māori, and the rate of psychotic illness among Māori has been said to indicate a “culture under siege”.⁵⁷ First admissions to psychiatric institutions are higher for Māori than Pakeha, with roughly 20 percent of all Māori admissions related to drugs and alcohol.⁵³ In addition, more Māori are committed to hospital involuntarily, under the Mental Health Assessment and Treatment Act, which increases the likelihood that the patients will consider the hospitalisation experience as punitive rather than therapeutic.⁵³ The increase in diagnosed mental illness among Māori holds for both genders. Māori women are at higher risk of alcohol and drug

abuse and of being admitted to a psychiatric facility than non-Māori women, while Māori men are more likely to be treated in a forensic care setting, to be diagnosed with schizophrenia, and to spend less than half the time in hospital for this diagnosis than non-Māori.⁵³ The psychiatric readmission rate for Māori is twice that of European New Zealanders, and Māori are diagnosed with schizophrenia at higher rates than Pakeha.⁵³ Worryingly, this may not reflect the true rate of schizophrenia among Māori, as many of these patients recovered rapidly and did not follow the longer-term course of schizophrenia.⁵³ This suggests that lack of understanding about these Māori patients, including ignorance of Māori culture, may cause non-Māori clinicians to misdiagnose major psychoses when the patient’s condition is in fact entirely different. At present, due to patchy health service data-gathering and confounding factors such as barriers to presentation, it is not known whether the true prevalence of mental illness in Māori is in fact higher or lower than that of the rest of the population.⁵³

4. Pain

Studies of pain behaviours across cultures emphasise the need to be wary of cultural or ethnic stereotypes. While there are general cultural differences, it is always important to assess each person individually.

5. Hospitals

Many Māori are reluctant to be admitted to hospital, in part because they consider them “places where people die”.¹⁵ Since

the (non-Māori) hospitals do not consider death tapu, the hospital rooms and beds may not be properly cleansed (by Māori standards), creating worry or discomfort for Māori patients. In addition, Māori are accustomed to being surrounded by friends and relations, particularly when they are ill. Hospitals that place restrictions on hours and number of visitors can make the unpleasantness of a hospital stay even worse. If limitations on visitors are necessary, be sure to explain the rationale to the patient and their whānau, and work with them to find the best possible compromise.

Hospital food is a problem for many patients, Māori and non-Māori alike. If you work with the whānau to ensure that usual foods are brought to the patient during their stay, the hospital will be less foreign and uncomfortable. If you do this, however, remember that there are many important cultural practices that relate to the consumption of food.¹⁵ It would be counter-productive to have the whānau go to the trouble to bring food, only to have it rendered inedible by inadvertent actions on the part of hospital staff, such as its being brought into contact with something considered tapu.

6. Mate Māori

Dr Durie describes mate Māori as follows:

“Mate Māori...refers essentially to a cause of ill health or uncharacteristic behaviour which stems from an infringement of tapu or the infliction of an indirect punishment by an outsider. The prevalence of mate Māori has never been recorded although there are published accounts of isolated cases of the condition and its

management. It may take several forms, physical and mental, and various illnesses not necessarily a typical in presentation may be ascribed to it.... Thus there is no single clinical presentation and clinicians need to be alert to the possibility that relatives may have considered the possibility of mate Māori. “Most families will be reluctant to discuss mate Māori in a hospital or clinic setting, fearing ridicule or pressure to choose between psychiatric and Māori approaches.

“In fact, one approach need not exclude the other; cooperation between traditional Māori healers and health professionals is now becoming acceptable to both groups. Mate Māori does not mean there cannot be a coexisting mental disorder. At best, the term is a comment on perceived causes of abnormality rather than on the symptoms or behaviour which might emerge. Yet it remains a serious concept within modern Māori society, and too many people, mate Māori sounds more convincing than explanations that hinge on a biochemical imbalance or a defect in cerebral neurotransmission”¹⁶

Death and dying

Death and dying are times of stress in any culture, and every culture has certain rituals surrounding these times. Some cultural ceremonies are more complex than others, and most, when unfamiliar, can seem odd or intimidating. For Māori, death and dying are deeply imbued with cultural significance, and it is not uncommon even for Māori who are otherwise relatively unobservant to follow very traditional practices when they or loved ones are near death. The communal nature of Māori society is particularly apparent at these times of stress, with whānau members from all

over hurrying to visit and stay with the patient. A medical team's ignorance of Māori practices could unintentionally make a difficult time for the family infinitely harder, for example by interfering with the family's need to see and speak to the deceased.⁶ For this reason, it is particularly important for the family to have familiar faces on whom they can rely. This is a time when Māori families, like most others, may be very dependent upon their GP for help in understanding their medical environment. Even if the patient's care is mostly in the hands of specialists, do not forget that the GP is likely to have the strongest relationship with the family, and for that reason should continue to be involved in the patient's care and in the discussions with the whānau. Times like this will make or break your relationship with the whānau, and your continuing close involvement can do an enormous amount to alleviate their anxiety and suffering. If you are familiar with the family's cultural preferences, or are comfortable asking about them, you can provide a much needed interface between them and other, less informed medical staff. As with all cultural practices, do not allow your unfamiliarity or discomfort with talking about issues like dying, death, handling of remains, or funeral practices prevent you from helping your patient and their family; ask respectful questions so that you can help the family work with the hospital to make the experience as painless as possible, under the circumstances.

The Māori view of dying and death is quite different from the non-Māori view, as is the Māori way of grieving for the

dead. In Māori culture, the past is considered 'in front of' us because we know about it, understand it, and our current actions are based upon it, while the future cannot be seen and is thus considered 'behind' us.¹⁵ This is completely opposite to the Western view of 'past behind' and 'future ahead'.¹⁵ To a Māori, then, the dead are the basis of one's very existence in the present and are an important part of current life.¹⁵

When old people are near to death, Māori may delay consultation until very late.¹⁵ This is not due to a lack of caring or to a misunderstanding of the condition's severity, but could be because the old person only wishes you to confirm his belief that death is imminent. He may not be seeking, expecting, or even hoping for a cure, so do not feel that you must rush to 'undo the damage' caused by the late presentation. Be clear on what the patient and whānau's wishes and expectations are. Keep in mind that whenever possible, many whānau will prefer to take a terminally ill patient home, rather than have him die in the hospital.

As might be expected, given the importance of the past and one's ancestors in Māori culture, Māori mourning and funeral rites (*tangihanga*) are important and complex. Whenever possible, it is best to ask the whānau spokesperson (or the patient) about their preferences. Māori staff or knowledgeable community members may also be able to help determine the family's preferences.

In nearly all Māori families, a death will be an occasion for family, whānau and

wider relations to gather together to perform the appropriate farewell customs. The tangihanga will be held over several days. It may take place at the deceased person's home or a family member's home, but more commonly it is held on a marae.

Māori believe that when a person dies, his body (tūpāpaku) is not vacated immediately by his spirit (wairua).¹⁵ The wairua is believed to wander at will, leaving and returning to the body for three to five days. After this, the wairua walks the path from Awanui (the southern point of Ninety-Mile Beach) to the northern point of New Zealand, then dives off and proceeds to the Underworld of Hine nui-te-po (the Goddess of Death) and then to Hawaiki or Tawhiti, the ancestral home of Māori.¹⁵

The tūpāpaku will likely be attended at all times, and visitors will talk to it, recalling his life, his good points and failings, and helping the wairua gain strength for its upcoming journey.¹⁵ This is the wairua's last days on earth, and the funeral rituals are to provide an appropriate farewell to the person and to instruct the wairua to depart.

For this reason, the whānau should be notified immediately if they are not present when a patient's death is imminent. The family will want to be present with their relative and remain with them after death occurs, so a private room should be provided. The whānau may wish to wash and dress the body themselves, so their preferences should be determined and, wherever possible, honoured.⁵⁰ Try to allow the family adequate time to grieve before

moving the tūpāpaku, but remember that food and drink must not be taken into the room with it. Everyday linen cannot be used to wrap the tūpāpaku, and the whānau should be consulted as to how the tūpāpaku should be moved, as well as whether they wish to accompany it.⁵⁰ The body should be transported feet first, and public areas should be avoided wherever possible.⁵⁰ Following the removal of the tūpāpaku from the hospital room, karakia will be performed, following which the room can be physically cleaned.⁵⁰

Because of the belief that the wairua wanders, a patient's whānau may be very upset if their loved one's body is kept in hospital over a weekend, or any other extended period of time, rather than being released to them. It means that during the vital days of the wairua's wanderings, no one from the whānau will be present to grieve for or protect the spirit, and it also places an extra burden on family members who have come to pay their respects at the funeral ceremonies by increasing the length of their visit.¹⁵

During the tangihanga, the family will host all visitors to the marae. This can be a huge undertaking in terms of both the human and financial resources needed to complete these obligations, so be aware of this when dealing with the family of a seriously ill or dying patient. Some whānau members, for example, may be thinking about or planning for the tangihanga when they ask you about the patient's prognosis or when the body can be released. The more you can understand what is going through their

minds, the more help you can be to them at this critical time.

In particular, anything that delays the tangihanga can create very strong feelings of resentment within the whānau, and it is therefore very important that you explain any necessary delays and help the family work with the hospital to minimise these delays as much as possible. As Dr Durie notes: “The doctor’s duty does not end when the patient has died, but should continue until the body has been respectfully returned to the bereaved family.”¹⁷

After the tangihanga and burial, there will usually be a substantial meal, a hakari. An official period of mourning may be observed which could extend anywhere from three months to twelve months. A headstone unveiling, the hura kohatu, will often take place within three months to two years after the tangihanga. As the doctor, you may be invited to attend some of the ceremonies, but do not feel you must wait for an invitation. You will usually be most welcome. Remember the Māori concept of kanohi kitea, ‘the face which is seen’. This concept is particularly important during tangihanga, when extended family will travel long distances so that they may be present at the tangi. In the same way, your presence at the funeral will go far towards establishing you with the whānau, as it will show that you understand the importance of attending and letting your ‘face be seen’ as a member of the community and a friend of the deceased.

Autopsies

As with all groups, Māori expect a complete and accurate explanation any time that a post-mortem is required, whether it is a coronial or non-coronial procedure. In addition, Māori may wish to be present during the procedure, and the tūpāpaku should be released to the family as quickly as possible afterwards. The removal or cutting of any hair from the tūpāpaku should be avoided whenever possible;⁵⁰ if it is necessary, an explanation should be made ahead of time to the whānau. Any tissue, body parts or fluids taken during the autopsy should be handled sensitively, with close consultation to determine the family’s preferences for return, retention or disposal.



Appendix 6

Medical Therapy and Health Maintenance for Transgender Men

Reference: Gorton R, Buth J and Spade D. (2005). *Medical therapy and health maintenance for transgender men: A Guide for health care providers.* Lyon-Martin Women's Health Services.

San Francisco, CA. Retrieved 14 March 2010 at

http://www.nickgorton.org/Medical%20Therapy%20and%20HM%20for%20Transgender%20Men_2005.pdf

Medical Therapy & Health Maintenance for Transgender Men:

A GUIDE FOR HEALTH CARE PROVIDERS

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Medical Therapy and Health Maintenance for Transgender Men: A Guide For Health Care Providers

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The Sylvia Rivera Law Project: www.srlp.org

SRLP works to guarantee that all people are free to self-determine their gender identity and expression, regardless of income or race, and without facing harassment, discrimination, or violence. SRLP is a collective organization founded on the understanding that gender self-determination is inextricably intertwined with racial, social and economic justice. Therefore, SRLP seeks to increase the political voice and visibility of low-income people of color who are transgender, intersex, or gender nonconforming. SRLP works to improve access to respectful and affirming social, health, and legal services for our communities.

Lyon-Martin Women's Health Services: www.lyon-martin.org

LMWHS was founded in 1979 in San Francisco and named in recognition of LGBTQ civil rights activists - Phyllis Lyon and Del Martin. The clinic provides high quality individualized care and support services to women and transgender people who lack access to quality care because of their sexual orientation or gender identity, regardless of their ability to pay.

Disclaimer:

Medical science is constantly evolving. New research about treatments, changes in medical standards, and diagnostic testing emerges almost daily. Definitive answers to some questions may not always be known, especially in the treatment of rare conditions such as transsexualism. The authors and publisher of this book have made every effort ensure the information provided within is accurate and up-to-date. However, as medicine is constantly changing and human errors are always possible, the authors and publisher do not warrant the information in this book is complete or accurate. They cannot accept responsibility for errors, incomplete information, or for the clinical results of using this information. Readers of this and every medical text should always confirm information from other sources before using it for patient care. In particular, as none of the medications described in this text are FDA approved for treatment of Gender Identity Disorder, readers are encouraged to consult with other sources including providers experienced in the treatment of transgender patients before using this information. Please consult the package insert for further information about doses, contraindications, and adverse effects before prescribing any medicine.

Contributions, comments, questions, and criticisms for future editions:

Substantive contributions for future editions of this work by the authors are quite welcome. Comments, whether positive or negative, are also welcome. If at all possible we will respond to questions and comments. Please address correspondence by email to: nickgorton@gmail.com. By mail: Nick Gorton; Lyon Martin Women's Health Services; 1748 Market Street, Suite 201; San Francisco, CA, 94102.

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Preface

The provision of care for transgender patients can be extremely rewarding. A knowledgeable provider can guide a transgender patient through a challenging life change and help him emerge whole and healthy in a body finally recognized as his own. Unfortunately, the knowledge necessary to care for transmen before, during, and after transition is rarely taught in medical school or residency. This information is also almost never adequately presented in endocrinology or medicine textbooks.

This book was written to fill that gap. It brings together in a single volume much of what I have found searching within the published medical research literature and in expert opinion. In essence, I wrote the book I would have loved to have, as a physician and a transman, when I began my own transition.

I hope that it will be painfully outdated within months of release by the publication of new research that begins to answer the questions I have presented in this text. However, I also hope that it will serve as a good foothold for anyone wishing to learn about the medical treatment of transgender men - whether transman, provider, or perhaps even both.

If you're reading this and you *are* both, email me. We should talk. nickgorton@gmail.com

This book while it places treatments in context, does not intend to provide definitive guidance on who should be treated. While diagnosis and readiness for treatment are briefly discussed, this book assumes a provider is already considering hormonal therapy for a patient. There are numerous opinions and sources of information on evaluating patients with regards to suitability for hormonal therapy. The interested reader is advised to begin her search with the Harry Benjamin International Gender Dysphoria Association (www.hbigda.org) as well as the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and *Treatments of Psychiatric Disorders*, both published by the American Psychiatric Association.

Nick Gorton

Chapter 1 Brief Endocrinology and Metabolism Review

Before discussing treatment of transmen, a *brief and simplified* review of endocrinology and the metabolism of androgens will be helpful.

Steroid Hormone

Steroid hormones are derived from cholesterol. They include **sex steroids** (estrogen, progesterone, testosterone,) **glucocorticoids** (cortisol, prednisone, hydrocortisone,) and **mineralocorticoids** (aldosterone.)

Androgens

The classic definition of androgen is simply a substance that stimulates the growth of the male reproductive tract. In general however, the term androgen is used to refer to sex steroids whether synthetic or naturally occurring that exert their effects primarily at the androgen receptor.

Androgens have two primary effects: **anabolic and androgenic**. Androgenic effects produce the typical male sexual characteristics. Anabolic effects primarily result in stimulation of muscle and bone growth as well as metabolic changes. While testosterone exerts both effects, certain synthetic androgens have differing relative anabolic and androgenic effects.

The majority of androgen in blood is bound to protein, chiefly Sex Hormone Binding Globulin (SHBG) with the remainder bound primarily to albumin. Only 1-2% is unbound, 'free' androgen. Androgen bound to SHBG is neither bioavailable to exert androgenic and anabolic effects nor vulnerable to metabolism.¹ In individuals with high levels of SHBG such as cisgender (non-transgender) women, the free androgen level is lower, but hormones have a longer half life.² Conversely in an individual with lower levels of SHBG more free androgen is bioavailable however, metabolism and destruction occur more rapidly. Normally, women have about twice the circulating levels of SHBG that men do.

SHBG is increased by: estrogen (especially oral estrogens) and thyroid hormone. SHBG is decreased by: obesity, testosterone, high levels of growth hormone, high levels of insulin, and high levels of glucocorticoids.³ Additionally the binding of testosterone to SHBG varies between individuals. So two patients with similar SHBG and total serum androgen levels might have very different relative androgen effects at the tissue level.⁴

Testosterone Metabolism

Cyt-P-450

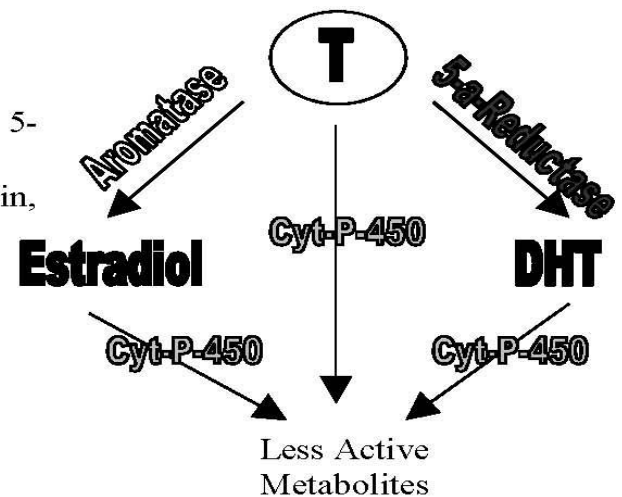
Ubiquitous hepatic oxidase.

5- α -Reductase

- Enzyme that converts testosterone (T) to 5- α -dihydrotestosterone (DHT.) Mainly found in androgen responsive tissue (brain, pituitary, skin, bone, liver.)
- Type 1 – sebaceous glands and liver.
- Type 2 – genitourinary tract, liver, facial/scalp skin, and prostate.

Aromatase

Enzyme that metabolizes ‘aromatizable’ androgens to estrogens. (Testosterone is aromatizable, while DHT is not.) Occurs mainly in adipose tissue and brain.



After testosterone is metabolized in the liver, 90% is excreted in the urine.⁵

DHT is 5-10 times more potent than testosterone. In women, DHT is more highly protein bound, with only 0.5% existing as free DHT. Testosterone is more bioavailable however, with approximately 1.4% unbound.⁶

The varied actions of androgens in different tissues are not the result of distinct androgen receptors but because of *different levels of activity of Aromatase and 5- α -Reductase* and therefore different relative levels of testosterone, DHT, and estrogens.⁷

Both androgens and estrogens are required (in differing amounts) in *both* males and females for optimal health.

Physiologically active testosterone is sometimes roughly estimated by the free androgen index (FAI). FAI is the ratio of total testosterone to SHBG. $FAI = 100 \times \frac{\text{Total Testosterone (nmol/L)}}{\text{SHBG (nmol/L)}}$. However, while used clinically by many practitioners, the utility and accuracy of the FAI in women is still debated.⁸ Additionally, in transgender men the FAI may not be as accurate or have values comparable to cisgender men. Moreover, the FAI even if accurately measured may not correlate well with end-organ effects due to the local steroid hormone metabolism that occurs in many tissues as well as the variable binding of testosterone to SHBG.^{9,10}

Normal FAI values are age and gender specific:

Male:

- 20-29 years: 30-128
- 30-39 years: 24-122
- 40-49 years: 14-126
- Older than 49 years: 18-82

Females aged 20-49 years: 0.4-8.4. Females older than 49 years: 0.4-6.6

The Illinois State Academy of Science provides an online database of normal hormone levels in humans available at <http://www.il-st-acad-sci.org/data2.html>

Chapter 2 Hormonal Therapy

Readiness for Hormonal Therapy

“If it looks like a duck, and quacks like a duck, we have at least to consider the possibility that we have a small aquatic bird of the family anatidae on our hands.”

-Douglas Adams in *Dirk Gently's Holistic Detective Agency*

The goal of this chapter is not to provide definitive guidance for providers regarding whether patients are appropriate candidates for hormonal therapy and how to determine when they are ready to begin treatment. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) published by the APA describes the diagnostic criteria for Gender Identity Disorder (GID.) The HBGDA Standards of Care provide the most widely accepted, if not evidence based, guidelines for the provision of therapy for transgender people. However, neither of these documents provides all of the information needed by the physician providing care to an individual patient. Moreover, rigid reliance on these documents is no guarantee of high quality care and they may sometimes inappropriately prevent access of patients to beneficial treatments. It should always be remembered that the goal of medicine is to *heal* and provide our patients with the highest quality and greatest quantity of life possible. So the HBGDA-SOC and the DSM should be seen as documents that provide useful guidance to clinicians wishing to provide care for *individual* patients.

The current HBGDA-SOC state that in almost all circumstances, transgender patients must have completed either a three month 'Real Life Experience' (RLE) or a period of psychotherapy (generally of at least three months) before hormones are provided. During the RLE (formerly called the real life test), patients live full time in their new gender identity. However, fulfilling these requirements may not be possible or safe for all transgender people. For patients who must pay for their own care, the cost of three months or more of psychotherapy may be prohibitive. In addition, for many transgender people, a meaningful RLE experience before treatment may not be possible given the limitations of their bodies. This RLE may place some patients at *significant* risk of violence and even death if they are discovered to be transgender. It may in fact, represent a violation of the medical ethics principle of non-maleficence to require some patients to fulfil a three month RLE as a condition of receiving hormonal therapy. Moreover, while the requirement of a three month RLE or therapy is widely accepted and held as a minimum standard of care, there has never been any medical evidence to support this practice. In fact, the only research available suggests that there may be no differential benefit or reduction in risk of regrets in patients that undergo a RLE versus those who do not.¹

Therefore, readers of the HBIGDA-SOC should bear in mind that the requirements and readiness criteria do not represent evidence-based guidelines, but rather accepted professional consensus. While careful evaluation of patients is warranted, if adherence to guidelines either places patients in additional danger of violence or prevents their access to treatment altogether because of financial barriers, the guidelines lose their value. The ultimate goal of improving patient health and welfare is paramount and decisions on who should be treated should bear this in mind.

Overall, testosterone therapy is far more successful at producing desired secondary sex characteristics in transmen than hormonal manipulations are in transwomen. This is due to the fact that in general, the biological plan for the human body is 'Eve' and adding testosterone, whether endogenous or exogenous, will produce significant reversible and irreversible changes to a person's body. With regards to secondary sexual characteristics, going from Eve to Adam is relatively easy, but as transwomen are painfully aware, once you arrive at Adam, going back is difficult if not impossible. So while testosterone is effective and very helpful for transmen, it also represents a more significant commitment to permanent assumption of the male gender role than does estrogen in transwomen. Fortunately, many people with only mild gender dysphoria, who might have regrets if treated, select themselves out and never present requesting hormonal therapy. The additional effect of careful evaluation of candidates readiness makes real regrets in treated transgender patients a true rarity.^{2,3,4}

Many transgender men seeking medical therapy will have recently been evaluated and approved for treatment by a mental health professional. However, in some circumstances this will not be the case. While two decades ago, provision of therapy to such patients would not have realistically been considered by primary care physicians, this is not always the case today. In some circumstances patients may not actually require mental health evaluation other than by their primary care provider. Moreover, as some providers who advocate the harm reduction model are aware, often the provision of hormones represents the least harmful and potentially most helpful way to address patients' concerns.

The goal of any evaluation for a patient requesting therapy is to determine whether the patient is transgender and whether he is psychologically appropriate and ready for therapy and its consequences. Moreover, screening for coexisting mental health issues is also appropriate in this population as these may affect and be affected by the physical and psychological effects of hormonal treatment. In some instances, to definitively determine the answers to these questions, a mental health professional should be involved. However, in others when a primary care provider, familiar with diagnosis and treatment of transgender men, is presented with a readily apparent diagnosis in an otherwise very emotionally stable and appropriate patient, further evaluation may not be necessary.

It is important to remember when considering waiving additional evaluation by a mental health professional that there is a long and unpleasant history of distrust and antagonism between the medical community and transgender patients. This is largely due to the historical abuse of power and failure to respect transpatients' autonomy by the medical community. For example, in the past the decidedly homophobic medical and psychiatric community denied sexual reassignment treatment to homosexual transmen (those with a male affectional preference.) In this homophobic paradigm, sexual reassignment was erroneously seen as a 'cure' for certain 'homosexuals' (i.e. heterosexual transpeople.) Faced with this kind of judgmental rejection, it is not surprising that many homosexual transgender men resorted to fabrication and deception in order to bypass the medical gatekeepers that hindered their access to treatment that was for some, the only perceived alternative to suicide. As a result, it remains the (unfortunately in some cases still accurate) perception by some in the transgender community that if they stray from presenting the 'typical transgender historical narrative' that they will be denied care.

Fortunately, this adversarial and unhealthy situation is gradually changing. One of the authors of this text observed a recent discussion in a group for transgender men about this topic. One member suggested to a relatively new member of the group that it might be necessary that he deceive his psychologist and present the typical transgender narrative in order to approve for hormones and surgery. The reaction of the other members of the group was impressive both in its intensity and its consistency. The new member of the group was advised to be truthful, and if his provider was transphobic, intolerant of non-traditional transmen, or unnecessarily rigid in his interpretation of the HBGDA SOC, the solution was to find a new therapist rather than lie to his current provider.

The transgender community now knows that there are understanding providers in the medical and mental health fields. The perception is that these providers are highly desirable *precisely because* transgender people can safely be honest with these therapists and receive not just the coveted 'letter' to get hormones, but to actually establish a positive therapeutic environment. It is now up to the medical and mental health fields to similarly seize on this opportunity to heal the rifts between providers and transgender patients that were formed by the previously rigid, homophobic, transphobic, and adversarial attitudes and policies of the medical community.

However, while it is ludicrous and unproductive to assume that every history presented by a transgender patient was regurgitated from the 'acceptable trans-narrative' familiar to every transgender person with access to the internet, this problem can also not be ignored. In order to both assure that an individual transgender patient feels he can be honest about his history as well as work toward eliminating the belief in the trans community that such

deception may be necessary, *complete honesty and transparency* from the provider is crucial.

A provider considering primary evaluation for hormones must indicate to her patient that he will not be judged based on his sexual orientation, degree to which he has participated in a checklist of specific sex-stereotypical activities, desire for retaining his reproductive capacity, or his decision whether to pursue certain types of surgeries or treatments. The true goal of such evaluation should be shared with the patient: to ensure that whatever therapy is provided will leave him happier, healthier, and a more whole person.

Patients should be evaluated with respect to the duration and constancy of their gender identity, overall mental health, readiness for therapy, presence of other coexisting mental health problems, and understanding of treatments, as well as their risks and limitations.

We would certainly not advise evaluation by a novice primary care provider for a nineteen year old patient with coexisting untreated significant mental health problems, an unstable home life, and whose decision to transition was made in the past month. However, an experienced provider presented with an otherwise stable and mature patient who has a durable male gender identity could likely make the determination with confidence that such a patient is an appropriate candidate for hormonal therapy.

Perhaps most telling however, is the experience of the authors of this text with this more progressive harm reduction model of treatment. Willingness to provide hormonal therapy based on assessment of individual patients needs, history, and situation with an overriding goal of *achieving the best possible outcome for patients* rather than rigidly adhering to arbitrary rules has been successful. Not only does it demonstrate to *all* patients that their provider's primary concern is their health and well being, but it helps those patients who may *genuinely need* further evaluation and treatment to understand that a mental health referral is not simply to ensure the patient fulfill the requirements of the HBGDA Standards of Care. Moreover, if transmen see their providers as partners rather than adversaries or gatekeepers, it allows for a more productive, satisfying, and honestly *healing* relationship for patients and providers.

In summary, like any other problem that a primary care provider addresses, some patients require further testing and perhaps consultation with a specialist to determine an accurate diagnosis. However, like the quote at the beginning of this section suggests: if it looks like a duck, walks like a duck, and quacks like a duck, an astute clinician does not always need a tail feather biopsy to rule out goose.

Androgen Therapy – Contraindications

Various authors and clinicians report contraindications for androgen therapy.^{5,6,7,8,9,10,11} Below is an *inclusive* summary of those recommendations although no single author lists all of these as contraindications:

Absolute Medical Contraindication in Transgender Men

- Pregnancy or breast feeding.
- Active *known androgen sensitive* breast cancer (evidence suggests in general, androgens may be protective with regards to the stimulating effect of estrogens on breast tissue and may have apoptotic and antiproliferative effects on many but not all breast cancer cell lines.)¹²
- Uncontrolled coronary artery disease.
- Active endometrial cancer.

Relative Medical Contraindications

- Androgen sensitive epilepsy.
- Migraines.
- Severe obstructive sleep apnea.
- Polycythemia (may be due to prior non-medically supervised androgen use.)
- Heart failure, renal failure, or severe hypertension due to the salt retaining effects of testosterone.
- Active substance abuse (Some consider this an absolute contraindication.¹³)
- Tobacco abuse.
- Significant hepatic disease.
- Severe acne.
- Controlled coronary artery disease or significant family history of CAD.
- Hyperlipidemia.
- Personal or significant family history of breast cancer (especially if known androgen sensitive.)
- History of uterine cancer.
- Bleeding disorders (for injected testosterone only.)
- History of DVT.
- Significant history of violent behavior.

Androgen Therapy Overview

The half-life of testosterone in blood is approximately 70 minutes, so it is necessary to deliver a continuous supply of the hormone for masculinization. In general parenteral formulations have more consistent pharmacokinetics in a broad range of patients and are able to deliver higher serum levels of androgens.¹⁴ Parenteral forms may be preferable for patients in the early stages of transition who may require greater serum levels than those who are undergoing maintenance therapy. However the most commonly used and least expensive parenteral formulations, testosterone esters, are not ideal and may cause difficulties due to high peak and low trough serum levels of testosterone. Dosage must be individualized and may be lower in post-oophorectomy patients.

The ideal testosterone formulation for transmen would approximate normal male physiologic production of testosterone (4-9mg/day), provide reasonably consistent levels of serum androgens, possess an excellent safety profile, be inexpensive and readily available, and be convenient to use and user friendly. Unfortunately, no currently available testosterone formulation perfectly meets all these criteria. Decisions regarding the best method for testosterone therapy should be individualized with regard to patient preference, likelihood of compliance, cost, and safety.

Testosterone formulations in the US are DEA controlled (schedule 3) primarily due to the risk of diversion and abuse by athletes. All formulations are pregnancy category X.

Prices are estimated based on retail pharmaceutical sales. Some compounding pharmacists are able to make testosterone (including depot, transdermal, and pellet formulations) for a substantially lower cost. The International Academy of Compounding Pharmacists (IACP) (<http://www.iacprx.org/index.html>) has a referral service for providers or patients searching for local compounding pharmacists.

Types of Therapy

Injected

“Depot” drug formulations are created by mixing a substance with a medicine that slows its release and prolongs the action of the drug. The two commonly used injected testosterone esters in the US are testosterone cypionate (Depo-Testosterone) and testosterone enanthate (Delatestryl) which are almost interchangeable therapeutically. Enanthate is purported to be slightly better with respect to even testosterone release, but this is probably more of a concern for body-builders who abuse the drugs at higher doses (250-1000 mg/week) than the replacement doses used by transgender men (50-150mg/week.) The two formulations are mixed with different oils, so some patients may tolerate one formulation better than the other. Enanthate costs more than cypionate and is more typically the one prescribed for hypogonadal males in the US. Cypionate is more popular in the US than elsewhere (especially amongst bodybuilders) and costs approximately \$100-125 for a 10 cc (2000mg) vial. Depending on dosing a vial may last from 3-10 months making cypionate the least expensive option overall. Because of its relatively low cost, cypionate is often preferred by transsexual men who must frequently pay out of pocket for care. Other parenteral formulations exist but are more difficult to obtain in the US. For example, Sustanon is a formulation that mixes shorter and longer acting testosterone which gives more even levels of testosterone release with injections required only every third week. A newly marketed formulation of injected testosterone, Nebido (testosterone undecanoate in oil) provides significantly improved testosterone delivery with far less variation outside the eugonadal range and with injections required only four times yearly.¹⁵ However, each quarterly dose requires injection of 4ml, which may require multiple simultaneous injections. In addition, Nebido is significantly more expensive and currently unavailable in the US.

With cypionate and enanthate, peak serum levels are achieved within 2 to 5 days after injection, and return to baseline after 10-14 days.¹⁶ The adverse effects of injected testosterone are often associated with high peak levels in the first few days after an injection. Moreover, with injected testosterone esters given every two to three weeks, serum levels of testosterone may be outside of the eugonadal range between 45-55% of the time. These significant changes in serum levels can result in unpleasant fluctuations in mood, energy, and sexual function.¹⁷ Some adverse effects may be ameliorated by using a shorter dosing interval (weekly or every ten days instead of twice monthly.)¹⁸ 100 mg weekly gives much lower peak and higher trough levels of testosterone than does 200 mg every two weeks, while still maintaining the same total dose of androgen. This benefit must be

weighed by the patient and provider against the risks and inconvenience of doubling the number of injections.

Injected testosterone is started at a range of doses (25 – 125 mg/week depending on the patient and clinician) and titrated upwards based on clinical effects and trough levels.^{19,20} If lower doses are used initially, titration should probably be considered more frequently. After several cycles, trough level around the mid-normal eugonadal range for men of 500 ng/dl is sought. (Normal range for a biological male is 290 to 900 ng/dl.) However, clinical effects *not* specific lab values are the target of therapy. If a transgender man achieves cessation of menses and satisfactory masculinization at relatively low serum levels, titration upwards to reach 500 ng/dl or higher is unwarranted.

With any self-administered parenteral therapy, proper technique is essential. It is imperative for the provider to either teach this skill herself, or arrange for patient instruction to avoid preventable complications such as infection, nerve injury, pain, and inadvertent intravenous injection. The dorsogluteal, ventrogluteal, or anterolateral thigh are the preferred locations as each readily accommodates 1-4ml injections. Patients should be taught either the z-track or air bubble method to decrease seepage. There is some evidence that the air bubble method may be superior.²¹ In addition, if patients are self injecting, the air bubble method may be easier to perform. Several excellent websites exist with instructional information for transmen about self-injection. However, this should be supplemental to instruction and preferably initially direct observation to ensure patients are using proper technique. (www.forge-forward.org/handouts/injection.pdf). Providers should also assess how patients are disposing of biohazardous sharps. Local and state laws governing sharps disposal vary. If in doubt, the local public works or sanitation departments can provide guidance. Some hospitals and pharmacies have sharps return programs. In addition, there are commercial companies who provide relatively inexpensive sharps mail-back services where patients purchase a sharps container and mail it back when full.

Transdermal

Both testosterone patches and gel are available. Both approximate normal physiological levels of testosterone better than the higher peaks and troughs associated with injection of testosterone esters. Both can cause local skin irritation, however the effect is much more pronounced with patches (about 2/3 of patients) due to substances that increase transdermal absorption, than with gel (about 1/20.)²² Both also have a risk of inadvertent exposure to others who come in contact with the patient's skin. This is probably most important for patients whose intimate partners are pregnant or considering pregnancy or those who are parents of young children as both of these groups are more vulnerable to the masculinizing effects of androgens. Case reports of significant virilization of young children

after exposure to topical androgen preparations (both prescription and 'supplement' products) used by their caregivers demonstrates the very real risk for interpersonal transfer.²³ Additionally, an unpublished study cited in the product literature by the makers of AndroGel[®] (Unimed Pharmaceuticals) reported that the female partners of males using 10mg/day of AndroGel[®] had serum testosterone levels greater than twice baseline after fifteen minutes daily of vigorous skin to skin contact 2–12 hours after application of AndroGel[®] by their partners. This transfer was completely eliminated by covering the application area with a tee-shirt.²⁴

Delivered doses of both patches and gel are generally in the range of 5–10 mg/day. Unfortunately, in some patient's inadequate absorption through the skin occurs.²⁵ This may make transdermal testosterone less effective, especially during the first few years of cross-gender hormonal therapy. However, these preparations may be useful during maintenance treatment after adequate masculinization has already occurred or in post oophorectomy patients who often require less overall androgen.^{26,27}

Testosterone gel is absorbed quickly when it is applied and produces a temporary drug depot in the skin which diffuses into the circulation, peaking at 4 hours and decreasing slowly over the rest of the day. A steady state is reached within days.²⁸ Cost is about \$160–210/month in the US. Typical dose is 2.5–10g of 1% gel applied daily but must be individualized for each patient.²⁹ Each gram of the 1% gel contains 10mg of testosterone, of which only 9–14% is absorbed.³⁰ So if 5 g of gel is applied daily, 9–14% of the 50mg (4.5–7mg) should be systemically available. Genitals should be avoided when applying testosterone gel because a greater proportion of testosterone applied to genital skin is converted to DHT. Applying the gel over a larger surface area may produce a small to moderate increase in total absorption and mean serum androgen levels when compared to application over a smaller surface area.³¹

Because of the risk of interpersonal transfer, consistent hand washing after use and avoidance of skin to skin contact with vulnerable persons after application should be emphasized to patients. If inadvertent exposure happens, the manufacturer of AndroGel[®] recommends washing the area immediately with soap and water. Testosterone gel should only be applied to clean intact skin. Showering or swimming should be avoided for at least one hour but ideally six hours after application to prevent adverse effects on absorption. In addition, skin to which testosterone gel has been applied should not be covered with clothing until complete drying has occurred.³²

Two commercial formulations are available in the US AndroGel[®] and Testim[®]. A single small study reported somewhat increased serum levels and bioavailability of testosterone with

Testim[®] when compared to AndroGel[®].³³ However, the clinical significance of this is unknown, and both formulations are used successfully.

Patches (2.5 and 5mg size) slowly diffuse testosterone through skin and are replaced daily. Cost is about \$120-200/month in the US. Dosages range from 2.5-7.5mg daily.³⁴ Because of skin irritation, rotation of sites is probably more important with patches than with gel. Irritation is more severe when patches are applied over bony prominences or areas that are exposed to prolonged pressure.³⁵ A small open label study demonstrated that skin irritation can be alleviated by applying a tiny amount of 0.1% triamcinolone cream onto the site prior to application.³⁶ Caution must be taken by patients that their intimate partners (especially female bed partners and young children) not be inadvertently exposed to displaced patches. After removal of the occlusive patches, residual testosterone may remain on the skin temporarily and transfer may occur with skin to skin contact.

Subcutaneous Implants

Testosterone pellets were one of the first effective forms of testosterone replacement in men in the 1930s. Multiple pellets are inserted under the skin with a trocar every three to six months. This must be done in a physician's office, but is a relatively minor procedure done under local anesthetic. The only brand name pellet available in the US is Testopel[®] (75mg) which cost \$15-20 each. The trocar kit sold by the manufacturer (Bartor) costs approximately \$150. Other pellet formulations are available in the US through some compounding pharmacies and pellets as large as 200 mg are often used. Absorption approaches zero-order kinetics regardless of pellet size. Three 200mg pellets are therapeutically equivalent to six 100mg pellets.³⁷ Three to six 200mg pellets (600-1200mg) should provide physiologic testosterone levels for approximately four to six months, with each 100mg of pellet inserted delivering approximately 0.65mg of testosterone daily.³⁸

Total cost to patients may be greater than injected testosterone when the cost of the physician visit, supplies, and procedure are included but may be less than or comparable with transdermal. The primary advantages of pellets are that they give a much more constant blood level of testosterone than injections yet require attention at most four times yearly. Each insertion is associated with a transient peak of testosterone lasting 1–2 days. However this does not exceed the peak associated with each injection of bimonthly testosterone esters.³⁹ Pain or local irritation can occur and occasionally the pellets can extravasate.⁴⁰ This procedure is performed by some gynecologists (the pellets are inserted in the same manner as estradiol pellets.) Providers unfamiliar with the procedure may wish to refer patients to a gynecologist who is familiar with it. In addition to periodic pellet insertion, transgender men may benefit from an established relationship with a gynecologist sensitive to their medical needs who may help improve compliance with

gynecologic screening. The major disadvantage of testosterone pellets is that if need arises for urgent cessation of testosterone, reversal is difficult and requires an invasive procedure.

Oral

Oral testosterone is rapidly absorbed and shunted to the liver via the portal circulation. This testosterone is rapidly degraded by the liver and results in a minimal amount of androgen reaching the systemic circulation. In addition these high levels reaching the liver also increase the likelihood of some of the potential adverse effects of testosterone including lower SHBG levels, hepatotoxicity, and lower HDL levels. Esterification of testosterone or addition of fatty acids decreases the hepatic first pass metabolism, so oral formulations are generally modified in this manner.⁴¹ Moreover if taken with fatty acids, first pass metabolism is decreased which results in increased serum levels.

The 17-alkyl androgens (danazol, fluoxymesterone, oxandrolone) are inherently hepatotoxic and should be avoided.⁴² The safest of the oral formulations is Andriol[®] (testosterone undecanoate.) This drug avoids significant first pass metabolism and much of the hepatotoxicity of oral testosterone by preferentially being absorbed through the lymphatics due to the addition of a long aliphatic chain.⁴³ Unfortunately, testosterone undecanoate is not currently available in the US, but is licensed in Canada and Europe.

For this reason, oral testosterone is infrequently used in the United States. Serum levels of testosterone are ten times higher when testosterone undecanoate is taken with fatty food when compared to the fasting state.⁴⁴ Therefore, patients should be instructed to take the drug with food (preferably with some fat) to achieve best possible effects. Noncompliance with this instruction may be the cause of sub-therapeutic testosterone levels and inadequate masculinization.

Oral testosterone provides less fluctuation in serum levels than injected, however the first pass effect of the liver may result in testosterone levels too low to provide satisfactory masculinization and suppress menses.⁴⁵ In addition to lower testosterone blood levels, relatively *higher* DHT levels are often found with testosterone undecanoate.⁴⁶ Typical dose for testosterone undecanoate is 160-240 mg daily divided bid-qid. Cost is higher than injected, GI upset may occur, and compliance may be an issue due to necessity of multiple daily doses.⁴⁷

Sublingual/Buccal

In 2003 the FDA approved a buccal form of testosterone (Striant[®].) Sublingual testosterone can also be made by some compounding pharmacies. Price for Striant[®] is slightly higher than transdermal testosterone (\$180-210/month.) Absorption of sublingual or buccal

testosterone through the oral mucosa avoids the first pass hepatic metabolism of oral testosterone as the venous drainage of the oral mucosa is directly into the superior vena cava. Striant[®] lozenges can cause gum irritation, taste changes, or headache. However the majority of side effects diminish after two weeks. The lozenge is 'mucoadhesive' and will soften but not dissolve completely. It must be removed from the mucosa when the next lozenge is applied. Levels of testosterone peak within hours and remain in the eugonadal range achieving a steady state within 24 hours with consistent twice daily dosing.⁴⁸ Serum testosterone levels are reported above the lower limit of normal for males approximately 80-100% of the time with Striant[®].^{49,50,51} Total testosterone delivered is comparable with or greater than transdermal testosterone.^{52,53} However dosage titration is not possible with Striant[®] (available in a single 30 mg dose) for transmen who may require more or less testosterone. Difference in efficacy and tolerability in transgender males is unknown, and studies in cisgender (non-transgender) males may not be generalizable.

Approximate Cost Comparison

This is based largely on non-compounded prices quoted in late 2004 by several US retail and internet pharmacy chains. Compounded formulations may well be substantially less. The cost for Testopel[®] is based on the manufacturers information and does not include physician procedure fees.⁵⁴

Formulation	Dose	Approximate Monthly Cost (USD)
Androgel [®]	5mg/day	160-210
Androderm [®]	5mg/day	120-200
Testopel [®]	5 pellets plus trocar kit q3months	80-90
Injected Enanthate	100mg/wk	35-50
Injected Cypionate	100mg/wk	25-35
Testim [®]	5mg/day	160-210

Non-Testosterone Hormonal Therapy

Depo-Provera[®]

Generally after the first cycle, menses are greatly reduced or eliminated. This may be useful for transgender men prior to initiation of testosterone therapy to reduce or eliminate vaginal bleeding which may be a source of distress for some transmen. Depo-Provera[®] is relatively inexpensive, readily available, and also prevents unintended pregnancy in sexually active bisexual and homosexual transmen. In November 2004 however, the FDA issued a black box warning for Depo-Provera[®], which states that prolonged use can result in decreased bone density. The FDA warning states that a woman should use Depo-Provera[®] long term (greater than 2 years) only if no other birth control methods are adequate. Physicians and patients must weigh the risks and benefits of this treatment, however short term use may be reasonable as a temporizing measure until full hormonal transition is begun.

Andro 'Pro-hormones'

These drugs are available in the US without a prescription as 'dietary supplements.' Androstenedione, 4-androstenediol, 5-androstenediol, 19-androstenediol, and 19-norandrostenediol are purported by their advocates to increase serum testosterone, increase muscle mass, decrease fat, elevate mood, and increase sexual performance (i.e. many of the effects transgender men seek with androgen therapy.) Unfortunately, there is no robust evidence that the pro-hormones do any of these things in cisgender men.^{55,56} However, **there is evidence** that ingestion of these substances can cause elevated estrogen levels and decreases in HDL cholesterol.⁵⁷ In women, oral androstenedione does cause increases in serum androgens, however, increases in SHBG and estrone are also demonstrated.^{58,59,60} Additionally, in women with polycystic ovarian syndrome (PCOS,) the oral administration of the supplement dehydroepiandrosterone (DHEA) results in increased DHT due to increased peripheral 5-a-Reductase activity when compared to normal women.⁶¹ Transmen have an increased prevalence of PCOS, and patients with this disease may possibly increase their DHT levels with use of DHEA. However, in general, DHEA acts as a pro-hormone for metabolites with predominantly *estrogenic* effects.⁶² Therefore the effects that DHEA will produce in any particular transgender man are unpredictable.

In women, DHEA has been shown to result in improvements in libido and sexual function, mood and well being.⁶³ The effect of DHEA on CAD risks are inconsistent and point to no definite conclusions.⁶⁴ However, regardless of purported efficacy, the safety of all of these dietary supplements in long term treatment has not been determined, *especially* in the unique population of transgender men. Moreover, as with all dietary supplements in the United States, there is little or no government regulatory oversight with regards to safety and actual content of dietary supplements. Supplements may not contain the substances

listed on the label, may contain different amounts of the substances than listed, and may even contain other substances not listed. A study of the content of several DHEA dietary supplement products showed a wide variation in drug levels. Products ranged from no measurable DHEA to 149% the package's stated content.⁶⁵

One useful reference that may be presented to transmen who consider taking dietary supplement pro-hormones is a 2004 Consumer Reports' article on dietary supplements. Androstenedione was specifically cited as one of the "twelve supplements you should avoid."⁶⁶ While the medical literature can sometimes seem daunting, unfamiliar, and contradictory, Consumer Reports' is a respected and familiar publication that many patients trust.

In summary, providers should be aware of the use and availability of these 'dietary supplements' and counsel patients about the risks of taking these unregulated drugs. Often, transmen use these as an alternative to testosterone out of desperation because they are unable to access medically supervised cross-gender hormonal therapy. Provision of appropriate and medically monitored therapy may decrease patients' use of these alternatives which are of questionable safety and efficacy.

GnRH Agonists

It is increasingly recognized that gender identity disorder is not only a disorder of adults. While GID in children often does not result in transgender identity in adulthood, transgender adolescents generally have a stable gender identity that will persist as it does in transgender adults. Therefore, while somatic therapy could not be recommended in children, adolescents are increasingly presenting with requests for treatment. Moreover, early treatment has notable advantages with regards to final outcome. While treatment in adults in many ways seeks to undo the pubertal changes previously experienced by patients, treatment in adolescence could theoretically prevent some of these changes. In addition the desperation, suffering, and intense feelings of isolation experienced by transgender youth going through a puberty alien to their gender identity might be partially ameliorated. However, cross-gender hormonal therapy will produce irreversible changes in adolescents before they are able to make informed decisions and fully consent to treatment. Therefore therapy to delay puberty may aid in treatment of transgender youth to delay this decision to a later time.

In both sexes, the hypothalamus releases GnRH (Gonadotropin Releasing Hormone) to stimulate the pituitary to produce LH (luteinizing hormone) and FSH (follicle stimulating hormone,) which in turn signal the gonads to produce sex steroids. In transgender adolescents of either sex, GnRH agonists may be considered to delay puberty which will make subsequent therapy in adulthood more effective.^{67,68} GnRH agonists initially over-stimulate the pituitary then rapidly desensitize it to the effects of GnRH. Over a period of weeks, gonadal steroid production is greatly reduced. The most significant problems with

this therapy are the *very* high cost, the medical and psychological risks associated with a developmental delay in children who would otherwise be pubertal, and a risk of local reactions to injected forms (occasionally severe.) An additional benefit for transgender boys treated for years with GnRH agonists may be the potential for a modest (about 1cm/year of treatment) increase in final adult height.⁶⁹ However, in studies of children treated with GnRH agonists to induce growth, a delay in puberty may be associated with impaired bone development which may predispose to later osteoporosis.^{70,71}

Depo-Lupron®, the most frequently used GnRH agonist in the US has been found effective in 95% of children with central precocious puberty (pathologically early pubertal maturation in children due to increases in LH and FSH released by the pituitary) who were given 11.25 mg depot preparation every 3 months.⁷² The lowest price found in a recent web search for Depo-Lupron® at this dose was \$870. (www.e-DrugsCanada.com) Using this price, the cost for treating a pubertal transgender child from age fourteen to eighteen would be approximately \$14,000. However, some physicians are beginning to advocate treatment of very select adolescents with cross gender hormonal therapy at an earlier age.^{73,74} Unfortunately, little has been published to date regarding this treatment. This early cross gender hormonal therapy would, in the case of transgender adolescents, be significantly less expensive than GnRH agonists. In addition, it would allow transgender adolescents to experience a more normal puberty appropriate to their gender identity.

HBIGDA is currently evaluating the provision of care to adolescents and it is expected that version seven of the SOC will provide more guidance for the treatment of transgender youth.

Other Uses for Androgen Therapy

- At low doses, testosterone is increasingly used to improve sexual function, muscle and bone mass, and energy levels in post-menopausal women. This is especially the case in those who may have a relative deficiency of androgens such as after bilateral oophorectomy or adrenal failure.^{75,76}
- AIDS wasting in men and women (for the anabolic rather than androgenic effect.)
- Hypogonadal men – whether from disease or age related changes.⁷⁷
 - In healthy men there is a normal age related decline in testosterone levels.
 - This decline is generally gradual rather than the abrupt decline in hormonal activity found in menopausal women.

- This decline is not as universal or profound as menopause, with many elderly men having normal testosterone levels.
- Only some older men who have low testosterone levels will have clinical symptoms of testosterone deficiency.

Chapter 3 Risks of Non-Provision of Hormonal Therapy to Transgender Patients

Transsexual patients who present for treatment are almost universally highly motivated and often anxious to pursue medical and surgical sexual reassignment. By the time a transgender man seeks medical care to pursue hormonal therapy, he has often acquired a great deal of information from reliable as well as possibly more dubious sources. Often he has seen a psychotherapist who may or may not have diagnosed him with Gender Identity Disorder (GID) and referred him for therapy. Occasionally he may have already begun non-medically supervised hormonal therapy with its increased risks.

The provider approached for hormonal therapy therefore must have a frank and open discussion with her patient with regards to his knowledge, expectations, and previous use of androgens. It is critical to discuss this with a non-judgmental attitude as patients may be less than forthcoming if they feel their access to hormones may be jeopardized by full disclosure.

In some cases providers may feel a patient is unready for social, medical, or psychological reasons to undertake hormonal therapy. If this is the case, it is *critical* to discuss this honestly with patients and to fully disclose provider concerns. It is also imperative to indicate the steps that the provider and patient may take to rectify the provider's concerns to meet the patient's ultimate goal of satisfactory and safe sexual reassignment.

Providers must however, consider not only the adverse effects of providing hormones but the adverse consequences of *denying access* to medically supervised hormonal therapy.

Patients unable to access medically supervised therapy may use 'dietary supplements,' buy hormones on the street, and may share prescriptions for hormones as well as needles for injection. The risks of blood borne infections can be substantial in some transgender populations.¹ If illicit use is known, providers may counsel against such use. However, even if the provider does not wish to prescribe hormones, provision of clean needles to patients is one harm-reduction option available. This will help assure the patient both that he may feel safe disclosing his practices and that his provider's primary desire is to protect his health. Moreover, patient honesty regarding non-prescribed hormonal use may allow providers to more appropriately provide medical screening which will be described later. As is the case with patients who are non-compliant with other recommended health behaviors (smoking cessation, safe sex practices, diet, etc.) care and monitoring should still be provided to minimize the adverse consequences of *actual* patient choices and behaviors. Just as a patient with diabetes mellitus would not be denied appropriate prevention, screening, and treatment despite non-adherence to an ADA diet, patients who choose to use non-prescribed hormones should be monitored and treated appropriately based on the hormonal therapy they *are actually using*.

Moreover, in addition to the purely medical risks of unsupervised hormonal therapy, non-treatment of transgender patients can result in significantly worse psychological outcomes. Suicide rates are significantly lower in treated transgender patients than in non-treated. Untreated transsexual patients have suicide rates as high as 20% while treated transmen have suicide rates of less than 1%.^{2,3} Interestingly, while in the general population, cisgender females attempt suicide more than twice as frequently as cisgender males, studies of transsexual patients show a higher number of suicide attempts in transgender females rather than transmen.⁴ It appears that in this psychological variable, transsexual women more closely resemble cisgender women and transsexual men more closely resemble cisgender men.

Transgender patients, by virtue of their gender identity are also at significant risk for harassment and hate-related violence.⁵ Unlike many transgender women, some transmen report a decrease in such dangers of interpersonal harassment and violence when they transition as the effects of testosterone make them more readily able to 'pass' in society.

Another concern sometimes expressed by providers as a reason for hesitating to provide hormonal therapy is the possibility that patients will be unhappy with the results of sexual reassignment and will regret having undertaken such treatment. This is especially a fear in transmen due to the efficacy of testosterone in producing dramatic and sometimes irreversible male secondary sexual characteristics. However in actual practice, the vast majority of patients are satisfied with therapy and true regrets are quite rare.^{6,7,8}

In summary, providers should realize that while there may be some risks for patients who undertake hormonal reassignment, there are *probably far greater* risks associated with non-provision of such care. While the dictum *primum non nocere* is important, it is crucial to consider the entire quote from Hippocrates' *Epidemics*: "As to diseases, make a habit of two things **-to help**, or at least do no harm." Inaction due to an unrealistic fear of *possible* adverse events may actually harm the patient more than the proposed treatment itself.

Therefore the personal feelings of reticence individual providers may have toward prescribing cross gender hormonal therapy as 'altering' a normal healthy body should be examined. For a transman, a female body is *neither normal nor healthy* and failure to address this may have disastrous consequences for the patient. No provider would hesitate to offer a largely safe and effective treatment that *decreases the relative risk of a life threatening outcome by 2000%*! Yet providers do hesitate to offer androgen therapy to transsexual male patients despite a decrease in suicidality from approximately 20% to less than 1%. (Absolute risk reduction ~ 20%, relative risk reduction ~ 2000%.)

Simply because a disease or patients with that disease challenge societies norms or may engender personal discomfort in us, this does not relieve us of our responsibility as health care providers: to provide our patients with the care that offers them the best quality and

quantity of life possible. Indeed, it is these situations precisely that allow us to perform the service for which most providers initially entered medicine: healing.

Chapter 4 Informed Consent

Testosterone therapy causes permanent physical changes as well as a risk of possible adverse effects. As such, informed consent is imperative. With hormonal therapy for sexual reassignment, the physician's task may be complicated by the pre-existing knowledge that many transgender patients bring with them. This knowledge can be both a benefit and a detriment to ensuring that patients make a truly informed decision. Many patients have read extensively about hormonal therapy and may already have a significant understanding of testosterone use (occasionally surpassing their provider's!) However, their sources of information may not have been entirely accurate or may have downplayed the possible adverse effects while suggesting unrealistic expectations for outcomes.

In addition, some patients who believe they are well informed may perceive a discussion of risks, benefits, and alternatives as unnecessary, intrusive, and occasionally even offensive. However, while this may complicate the provider's task, it does not obviate the need for such a discussion. Moreover, while some patients might be less than appreciative of provider education, many transmen report that they would prefer more knowledgeable providers who can inform them of the risks, benefits, and alternatives of testosterone therapy.

The following is an example of an informed consent form that might be utilized to start this discussion with patients. Additional examples of informed consent information for transgender patients has been previously published.¹

Patient Informed Consent Information

Testosterone treatment will cause some permanent and many reversible changes in your body. Some of these changes you may want (like facial hair and a deeper voice) but some you may not (like baldness.) Before you start taking testosterone, it is important that you have a good understanding of these effects as well as the risks involved in taking testosterone. If while reading this form you have any questions, make sure you discuss them with your health care provider so you have a realistic expectation of what **will** happen and what **may** happen.

It is also important that you understand that testosterone is not the only way that all FTM transgender patients choose to be treated. Just as chromosomes and genitals do not define your gender identity; neither does which hormones are in your body or what surgeries you choose to have. So it is important that you decide what goals you would like to achieve in your treatment and discuss these with your health care provider. Deciding not to take testosterone, to delay taking testosterone, or to take a lower dose than others does not make you 'less trans.' Gender identity can only be determined by you based on how *you feel inside*, not the choices you make about your medical care.

Permanent Changes

These will not go away if you stop taking testosterone

Will Happen:

- Increased facial and body hair. Not just on your face, chest and stomach. You may also get hairs on your back, buttocks, and even in your ears.
- Deepened voice.
- Clitoromegaly (enlargement of the clitoris to an average of 4-5 cm after 1-3 years).

May Happen:

- If you have not finished puberty, you might have a growth spurt and closure of growth plates.
- Male pattern baldness (may be partially treatable with certain medicines).
- Changes in your ovaries that may make it difficult or impossible for you to produce eggs or get pregnant even if you stop taking testosterone.
- Possible but uncertain increases in risks of ovarian or uterine cancer.
- Changes in your uterus (like fibroids) or ovaries (like cysts) that may make hysterectomy (removal of uterus) and oophorectomy (removal of ovaries) more difficult if you eventually choose to have these surgeries.
- Rarely, benign or malignant liver tumors or other liver disease (mostly with transmen who take testosterone pills by mouth.)
- Possible but uncertain increase risk of developing osteoporosis (thinning and weakening of bones) that may become worse after oophorectomy or if you stop taking testosterone.

Reversible Changes

These occur with testosterone treatment but generally will go away if you stop taking testosterone:

- Increased libido (sex drive) and changes in sexual behavior.
- Increased muscle mass (especially upper body strength.)
- Redistribution of fat to a more typical male pattern (to the stomach instead of the hips and thighs.)

- Interference with other medications that you may take.
- Increased sweat and changes in body odor.
- Increased appetite, weight gain, and fluid retention.
- Prominence of veins and coarser skin.
- Acne of the face, back, and chest, especially in the first few years of treatment (which if severe, may cause **permanent** scarring.)
- Emotional changes (both good and bad.)
- Worsening of blood cholesterol levels which might increase your risks of heart attacks and strokes.
- Increase in red blood cell count (which rarely, if severe and untreated can make you more likely to have strokes, heart attacks, or blood clots.)
- Stopping menstruation (periods.) This may take several months or may be immediate.
- Vaginal dryness and itching that may even occasionally cause pain with vaginal penetration.
- Worsening of or increased chance of getting certain diseases. If you think you have or are developing these diseases, it is important to tell your doctor. They can be treated and having them doesn't necessarily mean you have to stop taking testosterone.
- Type 2 diabetes
- Liver disease
- High blood pressure
- High cholesterol
- Heart disease
- Migraine headaches
- Sleep apnea
- Epilepsy (seizures)

Consent

I have read and understand the above risks and benefits of testosterone therapy. I have had a chance to discuss this with my health care provider, _____ and to ask and have answered any questions I might have.

I understand that there are very few total number of transgender patients who have been treated with testosterone and that because of this, the long term effects are not well-studied or fully understood. There may be important risks or benefits that are not listed above that medical science does not yet know.

I identify as having a male/masculine gender identity and therefore wish to be treated with testosterone.

I understand that testosterone treatment may make it necessary that I have more health care screening tests than other female-bodied people my age.

I understand that taking testosterone does not make me immune to, and in fact may possibly increase my risk to develop certain gynecological problems including cancer. I understand that even if I have a hysterectomy (removal of the uterus) and oophorectomy (removal of the ovaries) I must still continue yearly gynecological exams and screenings (either with my provider or another provider of gynecological care who is aware of my transgender status.)

I have discussed with my provider options for retaining my fertility. I understand that being transgender does not necessarily preclude future reproduction and/or parenting.

However I understand that pursuing hormonal therapy may make it more difficult or even impossible for me to have a genetic offspring in the future. I have discussed my desires and choices with my provider and feel comfortable that I have made an informed decision about my future reproductive options.

I understand that fertility (ability to become pregnant) will not immediately cease when I start testosterone. I understand that it is imperative that if I have vaginal sex with men, I must use a barrier method until my periods stop for at least two months. I understand this is because testosterone can cause major birth defects if I become pregnant while taking it.

I understand that testosterone is a DEA controlled substance (like narcotic pain medicines and some sedatives) and that it is illegal to share these medicines to other people. I also understand that sharing needles with anyone can place me at risk for blood borne diseases like HIV/AIDS and hepatitis.

I understand that an open and honest relationship with my health care provider is essential to keeping me healthy and safe. I agree that I will share with my provider any physical problems or side effects that I may develop especially if I think they are caused by testosterone. I understand and expect that I will never be penalized for my honesty about my body.

Signed _____

Printed Name _____

Date _____

Witness _____

Printed Name _____

Date _____

Chapter 5 Surgical Summary

It is not the goal of this text to provide detailed information about the surgical procedures that transgender men may choose. However, the following brief description of some of the more common procedures will provide a background from which providers may seek further information.

It should be remembered that not all transgender men may be candidates for, may choose to have, or may be able to afford any or all of these procedures. What medical and surgical therapy a transgender patient has or will undertake should neither cast doubt on the veracity of his diagnosis nor suggest that he is not 'yet' a male. A transgender man who is unable to afford a desired mastectomy is no 'less trans' or 'less male' by virtue of his socioeconomic status than is a diabetic 'less diabetic' because he cannot afford medications. Moreover, as with any diagnosis, a patient who chooses not to have surgical intervention because for him the risks outweigh the benefits should not generally have his diagnosis subjected to further scrutiny. Just as with any other medical condition, patient autonomy and right to make a truly informed decision is paramount.

Of all surgical procedures, the most common is some form of chest reconstruction to provide transgender men with a more normal appearing male chest. Many transmen also choose to have some form of gynecological surgery to remove female reproductive organs. Only a minority due to personal preference, medical constraints, or financial difficulty are able to have some form of true genital reconstruction.

Chest Reconstruction Procedures

Mastectomy, Bilateral Periareolar

This procedure involves the removal or reduction of the breasts by making a small incision around the nipple and removing most of the tissue and fat from under the skin. This results in a chest shape that appears more masculine but does not completely approximate the male chest in that nipple size and position may be more female in appearance. This is often not feasible for transmen with breasts larger than A or B cup or breasts that are significantly ptotic, and in general the larger and more ptotic the breast, the worse the outcome. Subsequent procedures to alter the location and contour of the nipple may be needed.

Mastectomy, Bilateral Complete with Nipple and Areola Reconstruction

This procedure involves removal of the breasts by making incisions below the breasts, performing a complete mastectomy, resizing the nipple/areola complex (NAC) and grafting it into a more typical male position. Compared with periareolar mastectomy, there are larger scars, more damage to sensation of the chest (and permanent loss of sexual sensation in the nipples,) and more danger of losing the grafted nipple permanently due to subsequent necrosis and sloughing. The result, while less aesthetically pleasing because of scars more closely resembles a true male chest in contour, nipple size and location. This procedure may be done on transmen with even quite large and ptotic breasts and may afford them the best aesthetic result overall.

Mastectomy, Bilateral Complete with Nipple Pedicle

This procedure is similar to the bilateral complete mastectomy with NAC reconstruction however, instead of removal of the NAC, it is left in place via a stalk of tissue, and is threaded through the chest at a more normal position. This is a more complex technique and may not give as ideal cosmetic results as reconstruction of the NAC, but it may allow for preservation of sexual sensation to the nipples.

Mastectomy, Scar Revision

While the scars created by a patient's first surgery may be large because of the necessity of other components of the procedure, these scars may be electively revised later when healing is complete from the first surgery (generally after at least six months to a year.) While the goal is creating scars that are cosmetically less apparent, complete removal of scars is never possible.

Genital Reconstruction and Related Procedures

Metoidioplasty

This procedure involves the creation of a very small penis (neo-phallus) by extending and repositioning the clitoris that has been enlarged by testosterone therapy. The skin and tissue around the clitoris is modified so that the clitoris can extend from the pubic region and appear as a small penis. Liposuction in the pubic area may help create a more male appearance by making the neo-phallus appear more pronounced. Some surgeons also augment the size of the neo-phallus by bulking it up with other tissue. The resulting penis is however, significantly smaller than the smallest adult male penises and its use in penetrative sexual intercourse is severely limited. However it is felt by many patients that with this procedure, the greatest amount of sexual function and pleasure is preserved for the transman. Additionally, unlike a phalloplasty, the resultant penis is generally able to gain erections naturally.

As with any genital surgery however, the risk to sexual function is significant and this or any genital surgery may rarely result in complete or near complete genital sexual dysfunction. Additionally, this surgery cannot be performed until the individual has been on hormonal therapy for two or more years and the clitoris has enlarged sufficiently to produce the largest possible penis for the patient. Of genital reconstructions, this is probably the most common and the least expensive for transmen who undertake genital surgery.

Metoidioplasty With Urethroplasty

This procedure is a metoidioplasty as above with the additional of an extension of the urethra through the neo-phallus which is generally created from harvested vaginal mucosal tissue. This procedure is performed so that patients may gain the additional frequently desired functionality of urinating through the neo-phallus while standing. Risks include fistula formation, incontinence, and recurrent urinary tract infections with resulting risk of damage to the entire urinary tract.

Abdominoplasty

An abdominoplasty (tummy tuck) may also be desired either prior to or concurrently with a metoidioplasty in order to make the neo-phallus appear larger by decreasing the visual effect of the protruding abdomen.

Free Flap Forearm Phalloplasty

This procedure involves construction of a neo-phallus from non-genital tissue of the forearm and attaching it in the appropriate position to approximate a male penis. The neo-phallus is generally formed from tissue taken from the inner forearm skin (on the patient's nondominant side) as well as vaginal tissue to form the neo-urethra. The forearm tissue

including nerves and vasculature are grafted after the neo-phallus is formed into a tube around a catheter. The neo-urethra is attached to the native urethra and allows for urination while standing. The nerves of the clitoris are sometimes attached to the grafted cutaneous nerves and hopefully will grow into the neo-phallus after surgery allowing for some retention of sexual arousal and gratification. Some surgeons, however, leave the clitoris intact beneath the neo-phallus or within the constructed neo-scrotum so that it can be stimulated independently of the neo-phallus. Advantages include a larger neo-phallus that may more closely resemble the normal male penis. However phalloplasty often requires multiple surgeries and up to a year of recovery. Moreover, the significant scarring and risk to function of the forearm and hand (as well as the risks of any genital surgery for sexual dysfunction and urinary complications) make the procedure unacceptable for many transgender men. Lastly, in general, phalloplasty is significantly more expensive than metoidioplasty so it may not be an option for many transmen even if it is the procedure they may prefer.

Abdominal Pedicle Flap Phalloplasty

This procedure is similar to the forearm flap technique except that the donor site is tissue on the abdomen or waist. The tissue is rolled into a tube and, over a period of up to two months, is progressively shaped and separated from all of its original blood supply except for the small pedicle that attaches it to the lower abdominal wall. Later, when the phallus has developed a reliable blood supply, it is further detached to hang in the groin area and subsequently shaped to look more like a typical male penis. Complications are similar to those with forearm flap phalloplasty, but sensation is often considered to be inferior. The main advantage is trading a more readily apparent forearm scar for a less visible scar on the abdominal wall. Again multiple procedures are required and recovery can be prolonged. This is probably the least common of the currently used genital reconstructions for transsexual males in the United States.

Penile Erectile Prosthesis Implantation

Often techniques like those used in impotent cisgender men, can be performed after completion and full healing from phalloplasty to achieve erectile function in the neophallus. While these techniques do not reproduce erections in genetic men or improve sexual sensation, they do allow for penetrative intercourse. Complications can include component failure, device erosion or migration, sizing problems, and auto-inflation. Infection occurs in approximately 2-3% of primary implant surgeries and may require removal of the prosthesis and result in significant scarring of the neo-phallus.

Scrotoplasty with Insertion of Testicular Expanders

This procedure produces a male appearing scrotum from skin and soft tissue of the labia. Subsequent insertion of testicular expanders that can be enlarged slowly over months

increases the size of the neo-scrotum until it can accommodate typical male size scrotal implants. This is an additional procedure to either phalloplasty or metoidioplasty but frequently is performed with them in transgender males who pursue genital reconstruction.

Colpectomy (Vaginectomy)

This procedure removes the vagina to approximate a more male appearing perineum. The principal risks of this procedure are significant blood loss, damage to the bladder, and damage to the rectum even in the hands of an experienced gynecologist. Blood loss requiring transfusion is not infrequent and carries all of the attendant risks. Additionally, the blood loss itself may pose a more serious surgical risk to people with other medical problems, making this a less frequently performed procedure. When undertaken, it is sometimes performed in conjunction with scrotoplasty.

Colpoplasty (Vaginoplasty)

This is a newer procedure to reconstruct the perineum that involves closure of the perineal opening of the vagina while opening the cervical end of the vaginal vault into the abdominal cavity. This results in an 'inversion' of the vagina and has less operative risk than full vaginectomy. This is a more recently developed technique and may come to replace colpectomy as the procedure of choice for transsexual men who require reconstruction of the perineum. However, unlike a colpectomy, residual vaginal epithelium exists- now as part of the abdominal cavity. This should not result in any increase in malignant transformation, however it would prevent easy surveillance for vaginal cancer by pelvic exam and PAP smear. Moreover, unlike cervical cancer, vaginal cancer is more multifactorial in etiology. Known risk factors include HPV infection, history of cervical neoplasia, immunosuppression, radiation and chemotherapy, infection with herpes simplex virus or *Trichomonas vaginalis*, and tobacco abuse. However, some women with vaginal cancer have no known risk factors, so there is no female-bodied person (transman or cisgender woman) who can be thought to have zero risk.¹ Moreover, while fortunately primary vaginal cancer is much more rare than cervical cancer with an incidence of 0.1-0.2 per 100,000 women², this is likely in part due to detection while at the stage of VAIN (VAginal Intraepithelial Neoplasia) from surveillance PAP smears. A colpoplasty that leaves residual vaginal tissue that is not available for surveillance would almost certainly increase the risk of *progression of* vaginal carcinoma if it developed in a transman.

Colpocleisis

A third alternative to perineal reconstruction is colpocleisis. In this procedure, the mucosa of the vagina is ablated and the muscular walls of the vagina are fused together. This procedure is generally performed in older women who are no longer sexually active as a treatment for severe vaginal vault or uterine prolapse. Even in the frail elderly patients in whom this procedure is generally performed, there is a low complication rate. The

advantage to this procedure is that it has much less risk of damage to pelvic organs or of blood loss significant enough to warrant transfusion as in colectomy. In addition, little or no vaginal mucosa inaccessible for monitoring remains as it does with colpoplasty.

Other Transgender Related Surgical Procedures

Hysterectomy with Bilateral Salpingo-Oophorectomy

This is essentially the same procedure performed in cisgender women which involves removal of the uterus, both ovaries, and both fallopian tubes. While not required for most transgender men to have a functional external male presentation and male hormonal milieu, some transmen find that this surgery is 'emotionally necessary' (they feel uncomfortable as males who have female internal genitalia.) In addition, removal of these organs decreases (but does not eliminate) the risk for subsequent gynecological tumors. Since transgender males historically have had difficulty securing adequate and sensitive gynecological preventative care, removal of these organs may be the only way that the risk of advanced ovarian, uterine, or cervical cancer is acceptably decreased. Risks include incontinence, injury to bladder or bowel, formation of abdominal adhesions (and the subsequent risks of chronic pain and bowel obstruction that come with any abdominal surgery.) Additionally, with oophorectomy any chance of further reproduction (even with assisted reproductive technology) is completely eliminated unless ovarian tissue banking or embryo banking is used.

Notably, if patients plan further eventual genital reconstruction, it would be advisable to consult with their planned genital surgeon first, as hysterectomy technique may effect future surgical outcome. Consultation in advance with the gynecologist performing the hysterectomy may improve subsequent reconstruction outcome.

Liposuction to Reduce Fat in Hips, Thighs, Buttocks

While testosterone therapy alters body fat composition and fat location, with some transmen, this process is not adequate to produce a sufficiently male body contour. Liposuction can be done to improve body contour but this procedure is more often than not, unnecessary.

Chapter 6 Health Maintenance for Transgender Men

The following is a theoretical *ideal* health monitoring schedule for transmen *in addition to* other age-appropriate health maintenance.^{1,2,3,4,5,6} It represents the *sum* of all recommendations from a number of different sources. No single author has included all of these and it should *not* be assumed that these are all a requirement for provision of quality, safe cross gender hormonal therapy. It is presented to help providers consider the spectrum of monitoring possibilities when deciding which regimen she will ultimately select for her patients. At the end of this chapter, the authors' own preference for clinical monitoring will be presented as an example of what we choose to undertake in actual clinical practice.

In general, it is probably safest to assume that patients should be screened according to whichever sex has the greater risk for the disease being considered. For example, with osteoporosis transgender men should be assumed to have the risk of a woman, for cardiovascular disease that of a man.

The monitoring suggested for transgender men on testosterone therapy is often more extensive than that suggested for cisgender males receiving the same medications in the same doses.^{7,8,9,10,11,12} This is likely due to two motivations on the part of providers. First, the evidence for the safety and efficacy of testosterone therapy in transgender men is minuscule when compared to studies of testosterone replacement in cisgender males. This is due to both the fact that transmen are a much smaller target population as well as the fact that studies of transgender patients may be inadequately supported or funded.¹³ While evidence of safety for testosterone replacement in cisgender males is reassuring, there is a real possibility that these results may not be completely generalizable to the transgender male population. The second motivation for providers to perform more intensive monitoring is that testosterone is considered largely a 'foreign' hormone for female-bodied patients.

Providers are aware that men have shorter life expectancy and are at greater risk of developing certain health problems. The most obvious systemic difference between men and women is the difference in sex steroids, so it seems logical to attribute the increase risk in cisgender males to the ongoing effect of sex steroids. Therefore providers may see testosterone therapy for female-bodied patients as an *inherent* risk that may jeopardize the principle of *primum non nocere*. Naturally a provider, when using a therapy she perceives as inherently risky or potentially harmful, will tend to advocate more intensive monitoring to detect any adverse effects that may be caused by the therapy. (If a provider cannot 'do no harm' she would at least like to detect any harm as early as possible!) However, the increase risk in cisgender men may be a correlation rather than a causation, and studies have actually demonstrated *decreased* cardiovascular risk in cisgender males with testosterone levels at the higher end of the normal range.¹⁴ So the *post hoc ergo propter hoc* assumption may be invalid in this case.

Unfortunately, a simple definitive answer to these questions is not known. However these uncertainties are presented here so that providers will understand that these suggested screening schedules are often a cautious 'best guess' of professionals in the field rather than truly evidence-based screening recommendations.

There are however, some recommendations that are reasonably consistent between both the literature regarding transmen as well as cisgender men. They represent the *minimum monitoring* that has been advocated for *any* population treated with testosterone (in addition to other appropriate health maintenance screening based on individual risk factors.) These include: follow-up assessment every 3-6 months during the first year or two and yearly or biannually thereafter, assessment of symptomatic response to therapy at each visit, monitoring clinically for signs and symptoms of diseases that may be unmasked or made worse by testosterone therapy (like obstructive sleep apnea,) as well as possible interval monitoring of hematocrit (especially in older patients.)^{15,16,17,18,19,20} If the list presented below is the sum (maximum) of all recommendations, these are the consistent recommendations included by almost all sources, that is the bare minimum.

Lastly, providers should remember that the bulk of recommendations for health maintenance and screening are *irrespective of the sex of the patient* and are based on guidelines that are appropriate to both men and women whether or not they are transgender.

Costs

It is important for providers to be aware that their patients frequently pay for part or all of their transgender related care out of pocket either because they lack insurance or their insurance plan refuses to pay for transgender related care. Providers should be sensitive to this when deciding what tests patients should undergo. Moreover providers may be called upon to advocate for patients with regard to insurance reimbursement if patients request this. While some insurance providers may reject out of hand payment for a PAP smear for a patient who is listed as male on his insurance policy, a letter from the patient's provider explaining the circumstances may help. Some patients, however, prefer this information withheld from their insurance providers because of sometimes realistic fears that they will lose some or all of their coverage. So individual patients should be consulted regarding preference. Patients are justifiably cautious about such revelations because transmen have historically experienced significant discrimination from health insurance providers when transgender status was disclosed. While many insurance companies deny payment for 'transgender related care,' some have in the past taken this to mean *any* care for a transgender patient. For example, transgender people have been denied care for bronchitis, shoulder bursitis, and extremity lacerations simply because these illnesses occurred *in a transgender patient*²¹.

Fortunately, this medical-insurance based discrimination toward transgender patients is gradually being successfully challenged. Several countries now include transgender related care within national health insurance plans. Medi-Cal (the California Medicaid program) now pays for transgender related care and Medicaid exclusions in other states are being challenged currently.^{22,23} In addition, recently a large US insurance provider (Aetna) concluded that the scientific evidence supported the medical necessity and safety of transgender related care and has changed their corporate policy of excluding transgender related care from all insurance policies.²⁴ Kaiser has also amended their policy and pays for some transgender related treatments.

However, most transgender patients in the US still pay out of pocket for some or all of their medical costs. Therefore, it is important that providers balance appropriate screening with reasonable expenditures for their patients. Patient autonomy, safety, confidentiality, and the adverse consequences of non-treatment or non-medically supervised treatment must be carefully weighed when making these choices. Decisions are not easy and should always be individualized.

Before Initiation of Testosterone Therapy

- Complete History - including social, occupational/educational, sexual, family, and gender history. Emphasis should be placed on the potential effects of testosterone therapy on each of these areas. Includes assessment of prior hormone use (especially non-medically supervised treatment.) If patients have not yet had complete psychological evaluation, particular attention should be paid to psychological history as dual diagnosis is not uncommon in this population. The emotional and mental toll of longstanding gender non-conformity in a society that infrequently condones such behaviors can cause or exacerbate many other psychological illnesses. Family history should include: familial gynecologic and breast cancer syndromes and premature atherosclerotic disease as well as its risk factors such as hypertension, hypercholesterolemia, and diabetes. Use of tobacco, alcohol, and other drugs of abuse should be documented and appropriate counseling provided.
- Complete Physical - Physical exam must be approached with patience and sensitivity as patients may be uncomfortable revealing or even acknowledging some gendered aspects of their body. Exam should include palpation of the liver, clinical breast exam, pelvic exam (if not recently performed by another provider,) and assessment for pre-existing masculinization. Notably if a clinical chaperon is used for gynecologic or breast exam, when possible the patient should be consulted as to his preference for gender of chaperon. The assumption that transmen would prefer a female chaperon for gynecologic exam is sometimes wrong. Particular attention should be paid to diagnosis of polycystic ovarian syndrome (PCOS), as this disorder is much more prevalent in transgender men. Pre-existing masculinization may be due to PCOS, prior use – possibly unsupervised – of androgens, or rarely an undiagnosed intersex condition such as non-classical congenital adrenal hypertrophy. The prior use of androgens should be approached non-judgmentally as it is more likely to do with delay, desperation, and a lack of reliable providers than a preference for the patient to take hormones unsupervised.
- Informed Consent.
- Weight and Blood Pressure.
- Fasting Lipid Profile if indicated.
- Fasting Glucose or Hgb A1C
- If sexually active with men, pregnancy test (if positive, testosterone therapy is **absolutely contraindicated** until the pregnancy is completed or terminated.)
- +/- Kidney Function (with or without urinalysis.)

- +/- Liver Function Panel (or ALT.)
- +/- Hormonal or Genetic Studies – possibly including estradiol, testosterone, prolactin, cosyntropin stimulation test, and LH (if indicated by history and physical.)
- +/- PAP and STD Screening (if not recently performed and/or if indicated by history and physical.)
- Mammography for pre-mastectomy patients if indicated according to general guidelines for females.
- Sleep study to assess for sleep apnea if this diagnosis is suggested by history and physical.

3–4 Months Follow Up After Initiating Testosterone Therapy

- Directed History and Physical again including social, occupational/educational, sexual, and gender history. Emphasis on the positive and negative effects that have occurred in these areas and any anticipated future problems. Gynecologic history should assess effects on menstruation. Assess for signs/symptoms of adverse effects of testosterone: fluid overload, sleep apnea, hyperglycemia, etc. Particular attention should be paid to the integument exam as acne is one of the most common adverse consequences of testosterone therapy.
- Weight and Blood Pressure.
- CBC or Hemoglobin/Hematocrit (to rule out polycythemia.)
- Fasting Lipid Profile.
- Trough Testosterone Level.
- Liver Function Panel (or ALT.)
- Fasting Glucose or Hgb A1C.
- Consider testosterone dose titration.

Every 6–12 Months

- Directed History and Physical which should include yearly pelvic exam if not performed by another provider. Breast/chest exam should also be included.
- Weight and Blood Pressure.
- PAP (if not otherwise eligible for less frequent screenings.)
- If pre-mastectomy, mammography based on standard guidelines for females.
- Once on appropriate stable dose for 6 or more months, if masculinization is inadequately progressing - LH level. (*It is not necessary to test if adequate masculinization occurs or if LH is found to be adequately suppressed on a stable regimen.*)
- Hemoglobin/Hematocrit
- Liver Function Panel (or ALT.)

- +/-Trough Testosterone
- +/- Lipid Panel (depending on age, risk factors, and previous results.)
- +/- Glucose or Hgb A1C (depending on age, risk factors, and previous results.)
- Consider dose titration as needed

Endometrial Ultrasound

Every 2 years prior to hysterectomy or if any bleeding occurs after cessation of menses. (Endometrial biopsy is also indicated if performed to evaluate bleeding after cessation of menses.)

Bone Density

DEXA (Dual Energy X-ray Absorptiometry) scan within two years after oophorectomy and if indicated by prior results or by assessing risk factors every 1-3 years thereafter.

Hepatic Ultrasound

Every 3-5 years²⁵ to assess for hepatic tumors. This is probably only important for patients taking oral testosterone and is probably not necessary in patients on parenteral, transdermal, or buccal/sublingual testosterone.

Authors' Recommendations

While the above enumeration of possible monitoring and testing options was intended to encompass every possible suggestion made in the literature, it is not a standard recommendation for actual patient monitoring in clinical practice. Even in medical fields where there is a large body of clinical evidence there are often significant disagreements about optimal monitoring between clinicians and between professional organizations. Therefore, the above *inclusive* list was presented so that providers have an idea of the debate surrounding monitoring of patients.

This book is however, designed as a practical guide for clinicians seeking to treat transmen. Therefore, we present the following summary of health screening that the authors use in clinical practice. We believe this is a reasonable screening guideline in our population of transgender men who often pay out of pocket for most trans related care. Of course it must be recognized that this is intended to guide monitoring for the average transgender patient. Transmen with other significant medical problems or risk factors may require more intensive monitoring.

Initial visit: Generally a clinical evaluation only - complete history and physical. Labs only if indicated based on history and physical (including assessment of pregnancy risk.)
Gynecologic referral if no evaluation in the past year. Mental health referral if indicated.

Start on dose of 100-150 mg every two weeks. It should be noted that the reason we do not screen for lipids and fasting glucose at the initial visit is that documentation of the development of hyperlipidemia or glucose intolerance after instituting testosterone therapy may be used by insurers as a reason to deny payment for treatment of those illnesses as 'transgender related.' We only perform lab evaluation of patients who present a clinical reason for such testing.

1–2 months: Telephone or if necessary, in person follow-up. If no significant adverse effects, consider increasing dose to 150-200 mg every two weeks. If significant side effects occur consider *increasing frequency and lowering dose while maintaining same total administered amount of testosterone*. We suggest 50-75 mg per week instead of 100-150 mg every two weeks and plan to reevaluate the patient after 4 weeks on his new dose.

2–3 months: Clinical reevaluation – directed history and physical. ALT, fasting glucose, lipid profile, CBC. Consider titrating dose (generally with an ultimate goal of 100mg per week in most transmen.)

3 months after stable and effective dose achieved (generally 5-6 months after initiating therapy): Clinical reevaluation – directed history and physical. Trough testosterone level, sometimes LH level, ALT, fasting glucose, CBC, and if indicated by other risk factors – serum lipids.

Yearly thereafter: Clinical reevaluation – screening history and physical with special attention to systems affected by testosterone. ALT, fasting glucose, CBC, if indicated by other risk factors – serum lipids.

Yearly thereafter: Gynecologic evaluation or referral.

Chapter 7 Testosterone Effects

Cardiovascular

Testosterone is often presumed to produce adverse cardiovascular effects because people with higher endogenous testosterone levels (men) have a higher risk of early cardiovascular disease than people with lower endogenous levels of testosterone (women.) However, whether this is causative or merely a correlation is the important question when considering the risks and benefits of testosterone therapy (for both transgender men as well as cisgender men with hypogonadism.) It may be that other biological sexual dimorphisms or differences in environment and behaviors account for the increases in morbidity and mortality in cisgender men. Indeed, in the few small studies in the literature of castrated males (mostly institutionalized males and Castrati – singers castrated before puberty) there was no significant decrease in cardiovascular disease mortality when compared to non-castrate males.¹

In biological men, testosterone levels that are *either significantly above or below normal* are associated with increased cardiovascular risk.^{2,3} A single retrospective study in the medical literature of 293 transmen treated with testosterone (range of 2 months to 41 years) by the Amsterdam Gender Dysphoria Clinic from 1975 to 1994 showed no increase in cardiovascular mortality or morbidity when compared with the general female Dutch population.⁴ *However the absence of evidence is not evidence of absence.* A small to moderate detrimental or even advantageous effect is quite possible, though a very large effect is unlikely.

In cisgender men, androgen therapy (especially with oral testosterone or with supraphysiologic doses) *can* adversely affect the blood lipid profile by causing decreases in HDL, increases in LDL, and increases in triglycerides and homocysteine levels. However, these effects are less significantly and consistently found with normal replacement doses of testosterone and with non-oral formulations. Studies have even shown decreases in LDL or total cholesterol with non-oral testosterone therapy.⁵

The definitive answer is unknown however. In transgender men, testosterone may cause negative changes in lipid profile which is a known risk factor for cardiovascular disease. Androgen therapy also, while tending to decrease overall body fat, redistributes fat toward the typical male pattern of abdominal obesity⁶, which is associated with worse cardiovascular risk than fat carried on the buttocks and hips. Cross gender hormonal therapy is also associated with an increase in visceral fat mass in transmen,⁷ which is a known risk factor for CAD. In addition, androgen therapy can cause weight gain and decreased insulin sensitivity (worsening any predisposition to develop Type II diabetes.)⁸ Androgen administration in transgender men has also been associated with an increase in

plasma homocysteine, which is a known independent risk factor for CAD.⁹ Endothelin levels have also been shown to increase in transgender men on androgen therapy.¹⁰ Endothelin is a potent proinflammatory vasoconstrictor that is associated with increased risk of CAD and pulmonary arterial hypertension. Serum adiponectin levels also decline with testosterone use.¹¹ Adiponectin is a hormone secreted by fat cells that regulates glucose and lipid metabolism and exerts an anti-inflammatory effect on vascular endothelium. Higher levels are associated with a decreased risk of coronary artery disease. A small study demonstrated that vascular reactivity assessed by peripheral vascular response to a vasodilator measured by ultrasonography is impaired in transmen after androgen treatment.¹²

Moreover, supra-physiological levels of androgens (generally due to steroid abuse in athletes) may be associated with *significantly* increased risks of cerebrovascular accidents and heart attacks even in young otherwise healthy patients.^{13,14,15,16} Unfortunately the only published literature about supraphysiologic androgen levels and vascular accidents in otherwise healthy adults are case reports. As the denominator consisting of all individuals who abuse anabolic steroids is unknown, a meaningful determination of true incidence and relative risk is not possible. However, the more than a dozen published cases of vascular catastrophes in otherwise *exceptionally* healthy young athletes abusing androgens suggests a link may exist. So it is critical to emphasize to patients that with regard to androgen therapy, *more is **not** better and may be significantly more risky!*

Androgens are not necessarily entirely detrimental though. Acutely testosterone causes dilation of the coronary arteries,^{17,18} and in men with testosterone levels *within the normal physiological range*, higher levels may actually be associated with a slight *decrease* in cardiovascular disease.¹⁹ In a recent review, of thirty nine papers in the medical literature studying the association between testosterone levels and CAD in men, none found a positive association, 23 showed no association, and 16 showed an association between lower serum testosterone levels and higher rates of CAD.²⁰ In older hypogonadal men, testosterone replacement (at doses comparable to doses prescribed to transgender men) demonstrated no evidence of increase in risk for cardiovascular disease.²¹ Moreover, the decrease in HDL cholesterol seen with testosterone therapy may not reflect an actual increase in atherogenesis. It may be that this reflects an accelerated reverse cholesterol transport producing a net anti-atherogenic effect.²²

One interesting hypothesis but unstudied however is that if present, any increases in CAD risk in transmen may not be due entirely to androgen administration, but in fact may be due to pre-existing increased risk conferred by the very mechanism that may result in or be associated with transgenderism. It has been suggested that FTM gender identity disorder is due to prenatal androgen influences that imprint the brain causing a male differentiation of the CNS.²³ It has also been suggested that prenatal androgen imprinting causes other sexual dimorphisms that predispose to increased CAD.²⁴ In addition, transgender men have a much

higher incidence of Polycystic Ovarian Syndrome and the resultant pre-existing androgenization.^{25,26} PCOS in turn has a much higher incidence of hypertension, glucose intolerance, and dyslipidemia.²⁷ The very mechanisms that may promote development of a male gender identity in transmen may be the actual cause of any increase in CAD incidence.

For health maintenance and screening it is probably safest to be conservative and assume that transgender males cardiovascular risk is greater than that of a biological woman of similar age and health status but probably no worse than that of a male of similar age and health status. Because of this possible additional risk with androgen therapy, improving modifiable cardiovascular risk factors becomes more important. The most important modifiable risk factor for many transmen is **tobacco abuse**. However, smoking cessation should not be presented as an absolute requirement for hormonal therapy as this not only disregards patient autonomy but will increase the likelihood that patients will feel the need to conceal information from providers. As with any other patient, persistent education, encouragement, and assistance are the best path to the ultimate goal of improving health behaviors.

Other modifiable risk factors that should also be discussed with patients include: diet, exercise, and control of hypertension, hypercholesterolemia, and diabetes. Discovery of hypertension, hypercholesterolemia, or diabetes should be treated as with other patients, and should not reflexively require cessation or even a significant decrease in testosterone dose. A physician treating a middle-aged cisgender male who develops diabetes would not consider testosterone deprivation to treat her patient's illness, nor should this necessarily be the case with a middle aged transman.

Providers may have an additional advantage however when counseling transgender men on healthy lifestyle behaviors when compared to other patients. With relief of lifelong dysphoria, transmen may have a newly kindled desire to improve diet and exercise. Once the patient's body image becomes one that is more comfortable, he may find himself more motivated to improve that body image. One of the authors of this text had a substantial and sustained weight loss of approximately 40 kg after finally being treated for lifelong gender dysphoria.



Pre-transition 5'10" ~ 125kg Post-transition ~ 85kg

Integument

Hair

The androgenic effect on hair follicles of the face and scalp is mainly due to the more potent androgen, DHT. However, testosterone alone is sufficient to stimulate male pattern growth of axillary and pubic hair.²⁸ Testosterone is irreversibly converted (within hair follicles) by Type II-5-a-Reductase to DHT. With androgen therapy in transmen as with cisgender men, genetics primarily determines how much hair will develop (and where) as well as whether androgenic alopecia (male pattern baldness, MPB) will develop. Thinning of scalp hair is related to duration of testosterone therapy and is present in approximately fifty percent of transmen after thirteen years on hormonal therapy.²⁹

Propecia[®] (finasteride) is a Type-II 5-a-Reductase inhibitor that works by blocking the conversion of testosterone to DHT. Type-II 5-a-Reductase is present in facial and scalp hair follicles as well as prostate tissue. Because of the distribution of Type-II 5-a-Reductase finasteride's primary therapeutic use is for prostatic hypertrophy and MPB. In facial hair follicles, DHT increases hair growth while in the scalp DHT decreases hair growth in susceptible individuals. Males with congenital deficiency of Type-II 5-a-Reductase have little or no beard growth and do not develop MPB. Inhibiting the enzyme in transmen would therefore be expected to both decrease hair loss in the scalp *and* slow or stop facial hair growth (although growth that has occurred should not regress.) It is important to discuss this effect with patients as they may begin to develop MPB prior to achieving the quantity of facial hair they desire. If further beard growth is desired, treatment of MPB might be delayed, although this risks suboptimal results with finasteride. Alternatively, topical minoxidil might be used while awaiting sufficient beard growth.

Gynecomastia occurs in patients taking finasteride, however it was observed in less than 2% of patients taking 5mg daily (the dose for prostatic hypertrophy) for four years. Similarly, at

the 5 mg dose, reductions in libido were found in 6–7%, however this tended to resolve over time in the majority of patients.³⁰ In addition to local tissue effects, finasteride also decreases serum DHT levels by as much as 65%.³¹

Finasteride is sold as 5mg tablets as Proscar[®] for prostatic hypertrophy. As of late 2004, it is approximately \$2.40/pill in the US (or \$0.60/day if quartered to take approximately 1.25 mg daily.) As Propecia[®] it is \$1.60/1 mg tablet (\$1.60/day to take 1mg daily.) Providers should be aware of and discuss the cost difference with patients when prescribing this medication. Patients should be warned however, Proscar[®] tablets are not scored and are somewhat challenging to equally divide.

Finasteride is not approved for use in women, has not been studied with respect to long term safety, and is teratogenic in pregnancy. However it has been studied and used off label to treat hirsutism in women.³²

Rogaine[®] (Minoxidil – available without prescription) is sold as 2% and 5% solutions. The 5% solution is not recommended for use by women because it may cause the adverse effect of unwanted facial hair growth in a small minority of patients. However this hair is finer and may not resemble normal male facial hair, so it may not be advantageous to transmen desiring a beard. Minoxidil may cause skin irritation and itching. 1 cc is applied twice daily to the scalp (predominantly in the areas where hair loss is greatest.) It may take several months to show effects and may cause a slight paradoxical worsening of hair loss initially (which does eventually recover.) Minoxidil does not work by the same mechanism as finasteride, so it should not have adverse effects on beard growth.

With either minoxidil or finasteride, the beneficial effect will be lost within months upon ceasing use of the drug. With both, best results occur when they are started *before* significant hair loss has occurred.

In addition to using finasteride as a treatment for male pattern baldness, it may also be useful in some transmen with very hirsute male relatives who are concerned about too brisk facial hair growth with testosterone therapy. Every transman does not necessarily desire to have heavy facial hair (just as not every adolescent boy who develops it is happy with it.) A desire to avoid facial hirsuteness or MPB is not, however an indication that a transman is not 'really transsexual,' but rather that like all people, he has preferences and desires for his own ideal body image.

With testosterone therapy new hair growth will gradually occur on the face and torso, but hair number and thickness will also increase on the arms, legs, and genital area. Facial hair growth should follow the typical pubertal pattern of development. One interesting finding about hair growth comes from research on women given physiological (low dose) androgen replacement. In women receiving low-dose androgens who developed hirsutism, almost all had *decreased levels of SHBG* (and thus increased free testosterone levels.)³³ This might

suggest that transgender men who are not experiencing adequate hair growth (as expected when compared with their male relatives) in the face of adequate serum levels of testosterone might have decreased bioavailable testosterone due to higher levels of SHBG. This would be reflected by a lower FAI. However this has not been directly studied.

Transgender men not infrequently report dissatisfaction with facial hair growth when starting testosterone. It is important to counsel them that beard growth normally occurs very gradually. From the onset of adolescence to the time when a young man can produce a full adult beard may be as long as 8–10 years. After two years on testosterone it is not unusual for transmen to have facial hair reminiscent of what one would find on a fifteen or sixteen year old boy. In addition, due to genetic factors, some men will never grow a dense beard.

One helpful suggestion to transgender men in the early phases of therapy or even those not yet on testosterone therapy is to actually strive to maintain a 'close shave.' The soft downy 'peach fuzz' type hair that is present before testosterone is not cosmetically unapparent, but rather suggests that the wearer is either a prepubescent boy or a female. A sparse growth of facial hair similarly suggests that the individual is an early pubescent male. This may contribute to the often unpleasant experience that many transmen report of being perceived as much younger than their actual age. One of the authors was in medical practice during his transition and found that simply shaving again halfway through a twelve hour clinical shift significantly lessened the number of inquiries: 'Are you *old enough* to be a doctor?'

Skin

Increased activity of oil and sweat glands stimulated by testosterone will result in increased sebum production. Some transgender men also report a change in body odor – less sweet and musky, more metallic and acrid. This may not be viewed by all patients as an adverse effect. If severe odor is a problem, washing with an antibacterial soap like Hibiclens[®] (chlorhexidine) in the axillae may help by decreasing skin carriage of odor causing bacteria. After 1–2 weeks of daily cleansing, a noticeable decrease in odor should occur. If ineffective, topical antibiotics like clindamycin or erythromycin may also be of help.

Most transgender men will develop at least some physiologic acne on the face and frequently back. More severe clinical acne will develop in a smaller minority.³⁴ Acne is generally worse the first few years of testosterone therapy (mimicking a second puberty) and can be treated with standard acne therapy. Initial treatment is with increased cleansing (at least twice daily) with an anti-acne or oil reducing scrub like Cetaphil[®]. If this does not improve acne, more aggressive therapy as would be offered to any patient, including systemic antibiotics, is warranted *before* permanent scarring occurs.³⁵ Some physicians who treat transgender men see severe clinical acne as a contraindication to increasing

testosterone dose. However, this should only be a consideration after other medical treatments for acne have been exhausted and changing the route and/or frequency of testosterone administration is unsuccessful.³⁶ One of the authors of this text's clinical acne was rapidly reduced to mild physiologic acne by changing from 200mg of testosterone cypionate every two weeks to 100mg weekly.

Fortunately, acne in adult transgender men should be less severe than in adolescents because they do not have other physiologic inducers of acne such as the elevated growth hormone levels found during puberty.³⁷

Wound Healing

There is some evidence that testosterone exerts a negative effect on wound healing.^{38,39} However, just as anti-androgen therapy or estrogen supplementation is not recommended for cisgender males undergoing surgery, testosterone therapy need not necessarily be suspended for SRS. Moreover the effect of cross gender hormone therapy may actually be overall a positive one in transmen facing surgery. Testosterone is anti-thrombotic and may decrease risks of other serious post-surgical complications like deep venous thrombosis which have been shown to be increased in transwomen on hormonal therapy.⁴⁰

Gynecological Effects

Menses

Menses cease due to anovulation caused by the suppression of the hypothalamic-pituitary axis by testosterone.⁴¹ Menses may cease after the first testosterone injection, however many patients may have one or more periods before complete amenorrhea occurs. All patients should be amenorrheic within five months of treatment.⁴² If bleeding continues past five months with otherwise adequate testosterone dose, gynecologic and possibly endocrine evaluation may need to be undertaken. Typically it requires 200mg of parenteral testosterone esters every two weeks to stop menses. However, patients may require from 100–400mg every two weeks to achieve amenorrhea.⁴³ If doubt exists whether continued bleeding is due to insufficient testosterone dose versus pathological bleeding, testosterone levels, endometrial biopsy, and LH levels may clarify the cause. Although LH levels are quite variable throughout the day, very low levels generally indicate that testosterone dose is adequate to fully suppress the pituitary-gonadal axis and suggest that bleeding is not due to inadequate testosterone. However, failure of complete suppression of LH, when occurring in transgender men on typical doses of testosterone who are experiencing adequate masculinizing effects and have complete suppression of menses does not indicate a need for an increase in dose. Occasionally, especially in patients with lower serum testosterone levels, the addition of a progestin such as medroxyprogesterone acetate 5 to 10 mg may be required to induce complete cessation of menses.^{44,45}

Gonadal Hormone Production

In non-oophorectomized transmen, testosterone may not completely suppress estradiol, LH, and FSH levels even with adequate dosing to induce satisfactory masculinization and cessation of menses.⁴⁶ Moreover, the suppression of gonadal steroidogenesis is neither the goal nor actually necessary for successful masculinization. In addition, higher estrogen levels may be beneficial. They are protective against acne by decreasing sebum production⁴⁷ and may be more protective than testosterone alone against osteoporosis. Clinical evaluation is more important than laboratory values and treatment must be individualized.⁴⁸ As was stated above, while complete suppression of LH indicates adequate dosing of testosterone, failure to completely suppress LH *does not necessarily indicate inadequate dose*. The goal of treatment is satisfactory masculinization and suppression of menses, so clinical evaluation is paramount.

One additionally useful application of a completely suppressed LH in the authors' clinical practice is patient reassurance. Transgender men may be impatient for the salutatory effects of hormonal therapy and may erroneously believe that 'more is better' or will cause a more rapid response. If a patient has a completely suppressed LH level, they can be reassured that their testosterone levels are adequately filling tissue receptors to the greatest extent that can be reasonably expected. Further increases in dose and serum levels

are unlikely to increase desired clinical effects but may come at the cost of far greater side effects. This reassurance may decrease the likelihood that patients will choose to surreptitiously increase their doses without provider knowledge or approval. However, LH levels may be expensive, especially if patients must pay out of pocket for treatment and they are less frequently used in transmen than transwomen.⁴⁹

Clitoral Development

Clitoromegaly occurs, and frequently reaches its apex within 1–3 years of therapy. Sizes generally range from 3–7 cm with 4–5 cm being about average.⁵⁰ In a minority this may be sufficient to engage in penetrative intercourse with a partner.⁵¹ This is genetically influenced, but some physicians advocate topical clitoral testosterone cream as an adjunct to growth before metadioplasty (surgical reconstruction of the hypertrophied clitoris to more closely resemble in structure, location, and function a penis.)⁵² There is no definitive evidence for this practice, but anecdotally it seems to be effective for some patients. However, this testosterone is absorbed and should be calculated into a patient's total regimen. In addition, a greater proportion of testosterone absorbed through genital skin will be converted to DHT than if applied elsewhere. This may produce stronger masculinization as well as an increase in adverse effects. Patients should be counseled that higher parenteral dosages of testosterone have not been shown to significantly increase clitoral size in individual patients when compared to more normal dosing.⁵³ Like other effects of androgens, time and genetics seem to be the primary determinants.

Increased clitoral sensitivity and responsiveness to stimulation is expected and may predate any noticeable clitoromegaly. Occasionally transgender men, especially in the initial phases of testosterone therapy, have reported clitoral discomfort. This may be due to increased sensitivity from hormonal effects alone or may represent abrasion or minor trauma from the increased sexual activity that may result from androgen therapy which is discussed further below.

Ovarian Effects

After long-term androgen therapy, ovaries may develop PCOS (Polycystic Ovarian Syndrome) morphology.^{54,55} Untreated PCOS is associated with an increased risk of endometrial cancer, an uncertain increase in risk of breast cancer, and a possible increase in the risk of ovarian cancer, as well as decreased fertility.^{56,57} In both PCOS and transgender men treated with testosterone there is a significant up-regulation of androgen receptors in the ovaries.⁵⁸ In addition to any effects of exogenous testosterone, a significant proportion of transgender men may have hirsutism and menstrual irregularities prior to initiation of testosterone therapy and as many as half of these men may have preexisting PCOS.^{59,60} This contrasts with an incidence of approximately 6% in the general adult female population.⁶¹ However, interestingly, self-identified lesbians also have higher rates of PCOS that are intermediate between heterosexual women and pretreatment transgender men.⁶²

It is unknown whether the risk of ovarian cancer is increased, decreased, or unchanged in transgender men compared to the general female population. Unfortunately it will probably never be known since ovarian cancer is a relatively rare disease with an overall lifetime risk in women of only 1/70, with a median age of onset of 60 years.⁶³ Because ovarian cancer is uncommon, the overall population of transgender men is very small as well as currently relatively young, and even within the transmale population many patients are at decreased risk due to prior oophorectomy, it would be virtually impossible to do the appropriate epidemiological study to definitively answer that question. However, ovarian cancer has been reported in transgender men (Robert Eads as well as two other transmen reported in the medical literature.)⁶⁴ Particularly worrisome about these cases is that in *all three*, the malignancy occurred in younger transmen. Eads was 52 years old at his death, and both cases in the literature were reported in transmen under age 50. Moreover in both cases described in the literature, a family history of ovarian cancer was not present. Because of this uncertain but possibly increased risk, *it has been recommended by some physicians that transgender men have a hysterectomy and oophorectomy within 2-5 years of starting androgen therapy.*^{65,66} In addition, this may also be advisable because some transmen find it difficult or may be reluctant to access appropriate and consistent gynecological care.

Another advantage of oophorectomy is that testosterone dose can then frequently be decreased, often by as much as 50%.⁶⁷ Caution should be taken when decreasing dose however, because if lowered too much it may precipitate vasomotor symptoms.⁶⁸ However, in oophorectomized transmen, vasomotor symptoms may develop even without changes in testosterone dose. This is likely due to the abrupt decrease in circulating estrogens. Altering route, dose, or intervals of androgen treatment may relieve these symptoms. It is generally not necessary to add-back estrogen after oophorectomy because like cisgender men, transgender men should produce some estrogen by aromatizing testosterone.

If prophylactic oophorectomy is undertaken, it is important to remember that, especially in transgender men who are at increased risk for ovarian cancer (such as those with BRCA mutations, hereditary site specific ovarian cancer, and Lynch Syndrome II) removal of the ovaries alone does not *completely eliminate* risk. In cisgender women with high risk for ovarian cancer, removal of the fallopian tubes and even total hysterectomy is often recommended in addition to oophorectomy as the risk of cancer of the fallopian tube and the uterine stump of the fallopian tube is also increased. In those transmen with congenital predisposition to ovarian cancer, this may be used as a justification to encourage insurers to cover the costs of surgery.

Transmen, like all female-bodied people should be screened regarding both maternal *and paternal* family history of malignancies that may indicate familial cancer syndromes. BRCA1 and BRCA2 mutations are suggested by an increased prevalence of malignancies (especially at a young age or when two primary cancers develop in a single individual) of the breast - especially in males, ovaries, and pancreas. BRCA mutations are also more prevalent in

certain ethnic groups such as Ashkenazi Jews. Lynch Syndrome II is suggested by an increased prevalence of non-polyposis colon cancer (especially right sided) as well as increases in endometrial, ovarian, and other genitourinary malignancies.⁶⁹

Endometrial Effects

Some of the uncertainty of the relative risk for ovarian cancer holds true for endometrial malignancy in transgender men. Endometrial cancer is known to have a three times greater risk in patients with PCOS.^{70,71} Androgen receptors have been detected in endometrial carcinomas.⁷² Moreover, high serum androgen levels are associated with an increased risk of endometrial hyperplasia and cancer. However, this increase may not be directly due to androgen effects and might be due to associated elevated estrogen levels.⁷³ A high prevalence of endometrial hyperplasia has been noted in a small study of transgender men undergoing hysterectomy.⁷⁴

In particular, it is important to remember to educate patients who retain their uterus that frequently the first sign of endometrial cancer is bleeding in post-menopausal women. Transmen with *any bleeding* after the cessation of menses with adequate uninterrupted androgen therapy *must* have an endometrial biopsy (and generally an ultrasound) done to rule-out endometrial cancer. *Like post-menopausal women, any bleeding in transmen on continuous testosterone therapy who have previously ceased menstruation should be considered cancerous until proved otherwise.* While malignancy is not the only cause of such bleeding, it *must* be ruled-out.

Some sources recommend endometrial ultrasounds every two years until hysterectomy is performed.⁷⁵ Testosterone typically causes atrophy of the endometrium. However, endometrial hyperplasia has been reported in some patients.⁷⁶ Any transgender man with endometrium that is not thinned on ultrasound after several months or more of adequate dose testosterone therapy should have an endometrial biopsy to evaluate for endometrial dysplasia and may require progesterone to cause sloughing of the endometrium. Vaginal bleeding from progesterone may be unpleasant for a transman, but the consequences and risk of endometrial cancer should be emphasized to the patient. Timing of such progesterone induced bleeding can however be discussed with the patient so that it can be planned for a time when it is least disruptive for him.

Uterine Effects

With the cessation of menses, some transmen who previously suffered dysmenorrhea may experience a relief of symptoms as menstruation eventually ceases. In addition, there is evidence that prostaglandin metabolism may be enhanced in hormonally treated transmen. The principle prostaglandin metabolizing enzyme found in myometrium, 5-hydroxyprostaglandin dehydrogenase (PGDH,) is significantly up-regulated by testosterone administration in transgender men.⁷⁷

Cervical Screening

It goes without saying that any patient with a uterus/cervix should ideally have yearly pelvic exams with Pap smears. The only exceptions to this is in patients over thirty with either three consecutive normal Pap smears or negative Pap and HPV-DNA testing as indicated by the 2003 ACOG guidelines.⁷⁸ A few transgender men have never had penetrative vaginal sex, and may therefore be at decreased risk of cervical cancer due to minimal if any exposure of the cervical epithelium to human papilloma virus. In this population it may also be reasonable to perform pap smears only every 3 years.⁷⁹ However, even if a Pap smear is not required, ACOG still recommends yearly pelvic exams for any adult female-bodied person. This need for screening should be emphasized to transmen who have historically been reticent to seek out appropriate gynecologic care. However, rigid adherence to guidelines in the face of patients who suffer significant physical or emotional discomfort with exams may have the reverse of the desired effect. It should be remembered that the goal is to preserve patient health and well-being. A pap smear and pelvic exam done regularly every 2–3 years is far superior to no preventative examinations at all.

Providers unable to provide gynecologic well-checks should assist patients by referring to sensitive providers in their area. These referrals should be discussed in advance with the gynecologic provider to ensure that she and her staff are comfortable providing care for transgender men and will be sensitive to their individual needs.

Vaginal Effects

Especially after oophorectomy, transgender men may experience vaginal atrophy and dryness, which may result in dyspareunia for those patients who desire to have penetrative receptive vaginal intercourse. This can sometimes be alleviated as it is in post-menopausal women with topical vaginal estrogen. Also like in post-menopausal women, this estrogen is absorbed systemically. However, depending on the formulation and dosage, this amount is far less than with oral estrogens prescribed for postmenopausal HRT (which is lower still than the levels normally found in reproductive age women.)⁸⁰ Especially in transmen who have already achieved satisfactory hormonal transition this is unlikely to represent a significant problem, but it does carry with it the risks and benefits of *any* estrogen therapy.

Breast Effects

Some transgender men report a decrease in breast size with androgen therapy. However, no histological changes were found when this was studied and likely it is due to loss of fat in the breasts.⁸¹

Although there may be no ultrastructural alterations in breast tissue, there is evidence for biochemical changes after long term androgen therapy. The female breast is second only to the prostate in tissue concentration of prostate specific antigen.⁸² (Originally named prostate 'specific' because older, less sensitive assays only detected PSA in the prostate

which has orders of magnitude higher concentrations than other tissues.) PSA levels increase up to twenty fold after prolonged androgen therapy in transmen but fall by about half after mastectomy, hysterectomy, and oophorectomy. Breast tissue is likely the source of elevated levels of PSA in hormonally treated transgender men when compared to cisgender women. It has been suggested that the residual breast tissue (including the nipple) is the source for this persistently elevated PSA in post-surgical transmen.⁸³ Moreover, in women with breast cancer, some studies point to elevated tissue PSA as a positive prognostic indicator, although this remains controversial.⁸⁴ However it should be noted that even though serum levels in hormonally treated transmen are significantly increased compared with baseline levels, PSA levels in transmen remain significantly lower than those in cisgender men. PSA screening levels in cisgender men are reported in *nanograms/mL*, while the elevated levels found in transmen are in the range of 35–45 *picograms/mL*.⁸⁵

Breast cancer risk is likely significantly lower in the transgender male population simply because many transmen have bilateral mastectomies which decreases (but does not eliminate) the amount of breast tissue in which malignancy can potentially develop. Moreover, the effect of testosterone may be protective in contrast to the stimulating effect of estrogen and progesterone on breast tissue. Testosterone may also have apoptotic and antiproliferative effects on many but not all breast cancer cell lines.⁸⁶ Additionally, in women with PCOS (who have higher circulating androgen levels,) the incidence of breast cancer is no greater (and may be lower) than the general female population.⁸⁷ One retrospective observational study of testosterone in postmenopausal women suggested that testosterone supplementation may be protective against breast cancer even when co-administered with estrogen/progestin.⁸⁸ However, no mastectomy can completely remove all breast tissue and patients must understand that their risk of breast cancer, while much lower, is not zero. It should be emphasized to patients that any suspicious lumps must be evaluated by a health care professional. In addition, a portion of administered testosterone will be aromatized to estrogen. This estrogen may have stimulatory effects on breast cancer cells. So this is yet another point that may be presented to patients as a reason not to take higher than appropriate doses testosterone, as excess testosterone may also lead to higher amounts of circulating estrogens.

Transmen who do not choose to have mastectomies should have breast self exams, clinical breast exams, and screening mammography according to appropriate age and family history based guidelines for cisgender women. As with gynecologic screenings it is a general dictum that screening *should continue until the patient no longer has the screened organ*.

Sexual Function

Natural testosterone levels peak in women just before ovulation which may account for the mid-cycle increase in libido many women experience. Studies of women with high normal testosterone levels across the menstrual cycle have shown more sexual gratification and

less depression than women with low normal levels of testosterone.⁸⁹ Moreover, numerous studies over the past five decades of low dose androgen supplementation in women (especially oophorectomized women) report improvements in sexual desire and gratification.⁹⁰

Almost all transgender men report a *significantly* increased libido with testosterone therapy. This is often one of the first noticeable changes and is, in many ways, comparable to the increased sexual drives experienced in pubertal males. However, while these significantly elevated libidos are almost expected in teenage boys, they may be unexpected and even unwelcome in educated, mature, adult males. Some of the distress that such elevated sex drives may cause patients can be alleviated by reassurance that this is a normal response. Some transmen report that this effect decreases somewhat after several years of therapy – much like the changes seen with completion of normal puberty in cisgender males.

Patients sometimes also report feeling changed as a sexual being and sexual relations may become more intense and frequent. Patients have occasionally even reported and expansion of their sexual attractions. It is not rare for patients with exclusive sexual attraction to one sex to report an unexpected additional new attraction to the other sex.⁹¹ Some female partners of heterosexual transmen may become anxious or distressed if they are unprepared for the significant increase in their partner's libido. Office counseling including anticipatory guidance may be helpful for *both* patients *and* their partners.

Urinary Tract Effects

In addition to the gynecologic effects of testosterone, urologic effects may be seen. The muscles of the lower urinary tract, especially the levator ani and urethral sphincter contain large numbers of androgen receptors and are sensitive to this hormone. Women with stress incontinence have lower levels of urinary androgens than matched controls without incontinence, and treatment with androgens has been suggested as a therapeutic option for these women.⁹² Urodynamic studies have shown that higher androgen levels are related to larger residual bladder volume and this suggests androgens may be involved in increasing bladder relaxation.⁹³

Fortunately the most worrisome genitourinary risk from testosterone therapy is not relevant to transgender men. The greatest concern for most men is the possible stimulation of prostatic malignancy. Transgender men need not be concerned about this, so it is possible that testosterone therapy in transgender men actually carries less of an overall risk than similar replacement therapy in hypogonadal men.

One case report in the literature describes a patient accidentally taking double the prescribed dose of testosterone who developed persistent dysuria and hematuria.⁹⁴ On evaluation he was found to have hypertrophy of the periurethral glands which appeared to

be the source of his symptoms. Biopsy specimen of the glands showed a remarkable similarity to prostatic tissue, and stained heavily for prostate specific antigen. This supports the long-standing hypothesis that the female periurethral glands are homologous to the prostate. This suggests also that this is an androgen responsive tissue that may be positively or adversely affected by androgens.

Reproduction

As the age at which transgender people begin therapy decreases, retention of reproductive potential becomes more important. However, preservation of reproductive capacity for transmen may be more challenging than for transgender women for whom sperm banking is readily available and relatively inexpensive. Future reproductive capability and plans should be discussed with all transgender patients before the initiation of medical but especially surgical therapy. Particular attention should be paid to younger and nulliparous transmen. Some transgender patients (and their physicians) have historically felt that sterility is the 'price to pay' for transition. However, it is important for providers to inform patients that transsexualism is not mutually exclusive with retaining reproductive potential.⁹⁵ Moreover, provider sensitivity to reproductive issues in transpatients has historically been at best neglectful, at worst antagonistic.⁹⁶ Unfortunately, in the experience of one of the authors, when questioned about preservation of reproductive potential, many transmen report little or no discussion by their providers and a few are even surprised to learn that preservation of reproductive potential is possible.

To complicate matters, some jurisdictions unfortunately require surgical sterilization to alter identity documents (especially birth certificates.) This legal practice, while obviously detrimental to patients, must be understood as a possible motivation for some transgender men to seek hysterectomy and oophorectomy. Due to this practice, it is appropriate for providers to both press for change in these governmental policies as well as serve as individual patient advocates in efforts to change identity documents while (if desired) preserving reproductive capacity.⁹⁷

If a transgender man has not undergone oophorectomy, he *may* regain fertility on cessation of testosterone. If a patient has not had a hysterectomy, pregnancy may be possible and transmen have successfully given birth to children after hormonal transition was started. However, with the ovarian changes produced by long-term androgen therapy it may require months of cessation of testosterone and possibly assistive reproductive technology to regain fertility and if desired, become pregnant. For transgender men desiring pregnancy, testosterone *must* be withheld prior to and for the duration of pregnancy. With patients desiring pregnancy, particular sensitivity in obstetrical care should be taken and the patient's primary providers should educate other providers and staff with regard to the pregnant transman's unique needs. Labor and delivery nurses used to referring to intrapartum and postpartum patients as 'Mommy' should be sensitive to the fact that the transgender patient may consider himself 'Daddy.'

If a transgender man is planning on having a hysterectomy/oophorectomy, future reproduction may still be preserved, and should be discussed with patients at length before irreversible sterilization is undertaken. Options for preserving fertility include⁹⁸ :

- Oocyte banking – hormonal stimulation to induce hyper-ovulation with transvaginal oocyte harvest for freezing. With current technology, there is very poor survival of banked oocytes, and this method is not recommended outside of research protocols.⁹⁹
- Embryo banking – oocyte harvest as above with immediate fertilization and banking of the embryo. Best survival of all techniques, but the sperm donor (whether known or anonymous) must be chosen before oophorectomy.
- Ovarian tissue banking – probably the most flexible option for many transmen especially those unsure of future reproductive desires, but still experimental and performed in only certain centers. Ovarian tissue is cryopreserved after oophorectomy. Even after long term androgen therapy, ovaries usually retain usable follicles. Eventual use of frozen ovarian tissue will likely require replantation into the transgender man for stimulation and harvest, but may eventually be possible in a lab as techniques for tissue culture improve. This technique has been successfully used to preserve fertility in cisgender women undergoing therapy for cancer.¹⁰⁰ Moreover in a proof of concept trial, after cryopreservation of ovarian tissue from a transman who had been on testosterone for a year, secondary and pre-antral follicles were induced after thawing, transplantation, and FSH stimulation in SCID mice.¹⁰¹

Voice

Voice changes are frequently one of the most desired effects sought by transgender men. For some patients a feminine range voice may often be *the* major impediment to assuming full male gender role. Fortunately decreases in vocal pitch are also one of the more rapid and reliable effects of androgen administration, with noticeable changes generally present by 6-8 weeks.¹⁰²

Patients should be warned however that like pubertal males, their voice will often experience cracking and squeaking as it deepens to its final male pitch. This may present unexpected and embarrassing difficulties for transmen, both personally and professionally. Occasional transmen may, like adolescent males, experience transient throat pain or vocal weakness during transition. Additionally, professional or amateur singers and speakers should be warned that frequently voice changes occur that may be significantly detrimental to vocal performance. These changes are both unpredictable and irreversible. Like transwomen, those patients with significant speaking or singing concerns may be helped by speech therapy as well as singing or vocal coaching.

Musculoskeletal

Bone is not static. It is constantly being reabsorbed and generated. Osteoporosis results when bone formation occurs at a rate less than bone reabsorption. Androgens and estrogens exert significant influences on bone mineral density (BMD) in both sexes. In adolescent and premenopausal women, higher androgen levels are associated with higher BMD.^{103,104} Women with complete or near complete androgen insensitivity syndrome have lower bone mass than either male or female patients even when compliance with estrogen replacement is adequate.¹⁰⁵ Moreover lower SHBG levels (indicating greater bioavailable testosterone) is associated with a higher BMD in premenopausal women. Similarly in males, higher BMD is associated with higher serum estrogen levels.¹⁰⁶ Additionally, males deprived of estrogen exhibit greater biochemical evidence of bone loss than when testosterone deficiency is induced.¹⁰⁷ So while naturally occurring in different relative proportions, estrogens *and* androgens are necessary in both males and females for optimal bone health.

Specific Sex Steroid Hormone Effects on Bone

Estrogen is the predominant sex hormone that slows bone loss (even in men.) Both estrogen and testosterone stimulate bone formation (especially at puberty in the case of testosterone.) In one study, testosterone caused an increase in cortical bone thickness in transgender men, however this does not necessarily translate to greater mechanical stability.¹⁰⁸ This is consistent with evidence that testosterone stimulates while estrogens depress periosteal bone formation.¹⁰⁹ A second more recent study in transmen demonstrated that after two years on hormone therapy that was sufficient to elevate

testosterone levels to upper normal male ranges and suppress estradiol levels to near menopausal ranges, a clinically and statistically significant increase in BMD was found.¹¹⁰

However, specific effects of androgens and estrogens on bone have been difficult to study. Much of the significant salutatory effect that testosterone was originally assumed to have on bone in studies of androgen replacement in hypogonadal men has been demonstrated to be largely due to aromatization to estrogens.¹¹¹ While androgens certainly exert important effects on bone metabolism, the magnitude is less than that of estrogens. In transmen therefor, the salutatory effects of testosterone on bone should be considered to be due to both the androgen effect as well as estrogenic effects from both the aromatization of testosterone as well as residual ovarian production.

Hormone Effects after Oophorectomy

In menopausal women (which may more closely represent the situation in oophorectomized transmen with corresponding extremely low serum estrogen levels) the association between androgen levels and BMD is less definite. Some studies of post-menopausal women show a protective effect of higher androgen levels, while others show no effect. This lack of protection from osteoporosis may be due however, to lower levels of estrogen rather than differing levels of testosterone. In osteoporotic women treated with hormonal therapy, *combined* estrogen and androgen therapy has been shown to be more effective than estrogen therapy alone.¹¹² In cisgender women, androgens may therefore be protective *in the presence of sufficient estrogen*, but may be insufficient alone. However, this comparison may not be completely direct as there is some evidence that transgender men, even prior to hormonal therapy, tend toward a more typical male body shape which may represent pre-existing differences in hormonal milieu.¹¹³

The idea that testosterone is protective in the presence of sufficient estrogens is supported however, by a study of post-oophorectomy transmen which demonstrated that testosterone alone was insufficient to completely retard bone loss. In this study researchers demonstrated that elevated LH levels correlated to lower BMD. This suggests that LH might be a useful indicator of adequacy of hormonal replacement in transmen who are post-oophorectomy, with elevated LH indicating increased risk of osteoporosis.¹¹⁴

Taken together current research suggests that pre-oophorectomy *in an environment of higher estrogen levels*, testosterone may have protective effects. These effects may be decreased after sterilization when estrogen levels may drop precipitously.

Estrogen Supplementation

Transgender men who have been oophorectomized *must* continue some hormonal therapy to avoid premature osteoporosis. Estrogen supplementation should theoretically not be necessary in normal transmen for prevention of osteoporosis because some of the administered testosterone will be aromatized into estrogen sufficient to maintain bone (as it is in cisgender men.)¹¹⁵ However if accelerated bone loss is detected in post-oophorectomy transmen, low dose estrogen may be one possible means to slow such loss. However, just as in cisgender women, estrogen therapy carries risks which must be considered when choosing therapy. As in post-menopausal women, if the only indication for estrogen supplementation is bone loss, other treatments such as bisphosphonates may have a superior risk-benefit profile. If estrogen replacement is prescribed, transdermal therapy is preferred because oral estrogens cause a significant elevation in SHBG and therefore lower free androgen levels.^{116,117} Daily calcium supplementation is probably a good idea for most transmen as it is for most cisgender women, but it is even more important after oophorectomy. Vitamin D supplementation may also be beneficial for many transmen.

Monitoring

Some physicians advocate a DEXA scan at the time of oophorectomy and periodically thereafter to diagnose osteoporosis in the pre-symptomatic stage when it is more easily treated.¹¹⁸ Providers should be sensitive to cost however as many transmen pay out of pocket for transgender related care. (In 2005, cost for DEXA in the US ranged \$150-400 depending on the center.)

Muscle Effects

In addition to the relationship between decline in BMD and likelihood of some of the adverse outcomes from osteoporosis (fractures from falls in the elderly,) there may be an additional effect due to loss of muscle mass following menopause. Elderly patients with lower muscle strength may be more prone to falls. Additionally, the load muscle exerts on bone has a significant (if not greater) effect on BMD than does gravitational loading.¹¹⁹ So the increased muscle mass gained with testosterone therapy in transgender men may itself be protective. Therefore, resistance training should be encouraged in transmen because it may have significant protective effects against loss of BMD in addition to both the overall health benefits and the gender confirming effect of producing a more masculine body habitus.

Hematologic

Erythrocyte Effects

Polycythemia in transmen is generally from marrow overproduction stimulated by high serum testosterone levels. Testosterone increases renal erythropoietin production, which in turn induces increased marrow production of red blood cells. This stimulatory effect on erythropoietin induced RBC production is the reason that testosterone was used prior to the advent of epoetin alfa (and sometimes even today) to treat anemia from bone marrow failure.¹²⁰

A transgender man's hematocrit should only be judged high when compared to normal values for *men*. While levels vary with altitude, normal male hematocrit is generally 40.7 - 50.3% (Female normal levels are 36.1 - 44.3%.) However, not all transmen will achieve normal male range hematocrit, so evaluation of anemia should only be triggered by either a hematocrit lower than normal for women or a significant decline in the patient's previous stable level.

Polycythemia is a greater concern for older transmen as the tendency to become polycythemic worsens with age. Moreover, the adverse consequences of polycythemia are more worrisome in the elderly. Higher blood viscosity produced by polycythemia is more likely to cause unfavorable outcomes in patients with preexisting vascular disease found more often in older populations. Severe polycythemia predisposes to both venous and arterial thrombosis. Low dose aspirin therapy may decrease the risk.¹²¹

Polycythemia is more frequently found in patients receiving parenteral testosterone (predominantly injected esters but to a lesser extent with pellets.) It is likely related high peak testosterone levels (especially in the few days after intramuscular injection) as opposed to the more consistent but lower levels produced by oral, buccal, or transdermal.^{122,123,124} This complication may be alleviated either by changing patients to an alternative non-parenteral testosterone formulation or by decreasing both the dose and interval of injected testosterone. Decreasing dose and increasing the frequency will lower the peak testosterone levels without decreasing the total testosterone administered. For example, a patient receiving 200mg of testosterone cypionate every two weeks might be changed to 100mg weekly. With more frequent administration of lower doses, peaks and troughs will vary less from normal levels but the AUC should be roughly equivalent. However, if dosage adjustments are not possible or effective, traditional therapy for polycythemia via scheduled phlebotomy may be helpful.

While hematocrit increases, no statistically significant difference in plasma iron, total iron binding capacity, and serum ferritin were detected in transmen before and after androgen therapy.¹²⁵

Leukocyte Effects

In addition to the stimulatory effect on RBCs, testosterone also increases granulopoiesis. In a study of transmen treated with testosterone, there were statistically significant increases in granulocyte count as well as lactoferrin (a transferrin like protein released by neutrophils.)¹²⁶ Though, while statistically significant, this amounted to a difference that would be clinically insignificant in healthy transmen. However, while small increases in leukocyte counts may be clinically insignificant, there is evidence that cellular level alterations in leukocyte androgen receptors (AR) and hence cell function occur which may be clinically significant. It is theorized that some of the sex related alteration in risk for inflammatory disorders (including atherosclerotic cardiovascular disease) may be due to alteration in leukocyte function. In an elegant study of the effects of endogenous and exogenous androgens on leukocyte function comparing transmen, hypogonadal males, engrafted genetically female leukocytes in male bone marrow transplant recipients, and normal males, a markedly different effect of exogenous versus endogenous androgens on AR expression in leukocytes of *both* men and women was demonstrated. That is, both male and female leukocytes have higher leukocyte AR expression with endogenous androgens, but both have a down-regulation of AR with exogenous testosterone (whether in hypogonadal cisgender males or transgender males.¹²⁷)

Thrombocyte Effects

Androgen receptor transcripts are also present in platelets. In an ex vivo study of human megakaryocytes, androgen receptors mRNA was upregulated by low testosterone concentrations, but were suppressed by higher concentrations of testosterone.¹²⁸

Coagulation System Effects

Testosterone increases the anticoagulant effects of warfarin. It suppresses clotting factors II, V, VII, and X.¹²⁹ Patients who require concomitant anticoagulation may need lower doses of warfarin. Additionally, with warfarin therapy, intramuscular injections should be avoided.

Neurological/Psychiatric

Obstructive Sleep Apnea

OSA may be worsened or unmasked by androgen therapy.^{130,131} Risk is greater in patients who are obese, smoke, or have chronic obstructive pulmonary disease. In addition, OSA is more common in Polycystic Ovarian Syndrome patients.¹³² So transmen with preexisting androgenization and PCOS may be at higher baseline risk. Untreated OSA may have significant negative effects on the heart, blood pressure, and mood, as well as possibly unmasking or worsening headache and seizure disorders.

Patients should be informed of the symptoms of OSA: noisy sleeping (snoring,) excessive daytime sleepiness, morning headache, personality changes, and problems with judgment, memory, and attention. These symptoms should be elicited on follow-up evaluation, especially in transmen with predisposing medical conditions or illnesses that could potentially be exacerbated by untreated OSA.

Patients with OSA may develop a reactive erythrocytosis which can be mistaken for polycythemia from testosterone. Any patient with abnormally elevated hematocrit should be screened for possible sleep apnea.¹³³ Sleep studies are indicated if OSA is suspected as a complication of androgen therapy. While cessation, reduction, or alteration in dose, route, and frequency of androgen therapy may be effective, other modalities to treat OSA are also effective and may allow continued and appropriate hormonal therapy.

Epilepsy

Some seizure disorders are sex-steroid-dependent. These may be improved, worsened, or (*very rarely*) unmasked with androgen therapy. The effect of testosterone on any given epilepsy patient is not readily predicted.¹³⁴ Overall, the effect of androgens and progesterones is *anti*-epileptogenic, while estrogens are epileptogenic.^{135,136} Moreover there is a positive correlation between estrogen:progesterone ratio and seizure frequency. In women with catamenial epilepsy there is evidence of a relative progesterone deficiency in the luteal phase of the menstrual cycle.¹³⁷ However, indirect effects of sex steroids on the hepatic metabolism may also be responsible, as lower antiepileptic drug levels are found around the time of menses in women with catamenial seizures.¹³⁸

Sleep deprivation also worsens many seizure disorders, so concurrent OSA unmasked or exacerbated by androgen therapy may also be responsible for worsening seizure control.

Headaches

Known androgen sensitive migraines are a relative contraindication for testosterone therapy.¹³⁹ However like epilepsy, the effect that androgens will have on any given patient with a headache syndrome is unpredictable. A small case control study showed a non-

significant trend toward lower levels of testosterone in post menopausal women with migraines compared with those without.¹⁴⁰ In addition, two limited open label studies of testosterone in the 1950s suggested that testosterone may actually prevent migraine.¹⁴¹ As migraines are often associated with changes in hormone levels around menses and as a putative causal relation between estrogens and migraines is accepted, this would suggest that some transmen with migraines might actually have an improvement of their symptoms on testosterone. However as described earlier in this text, it should be remembered that testosterone therapy sufficient to suppress menses and masculinize patients may not fully suppress ovarian steroidogenesis. So the effect of continued estrogen and progesterone production by the ovaries as well as the estrogen:progesterone ratio may have unpredictable effects on any individual patient's migraine syndromes. Even more so than the case of epilepsy, the role of androgens in headache syndromes is not well elucidated and research is sparse.

Peripheral Nervous System Effects

In addition to the effects on the central nervous system, there is evidence that sex steroids exert effects on the peripheral nervous system.¹⁴² Generalized paresthesias are reported as adverse reactions from testosterone.^{143,144} Anecdotally transmen have reported this as a side-effect after institution of hormonal therapy.¹⁴⁵ In addition to generalized symptoms, injected testosterone has been reported as a cause of an isolated peripheral neuropathy after intramuscular injection.¹⁴⁶ This may have been due to either direct neurotoxic effects of the drug or pressure on the nerve following intramuscular injection. For patients who self-inject, the importance of good technique in appropriate and safe areas must be stressed to avoid such adverse effects.

Mood and Psychiatric Issues

Historically, transgender people have been perceived to have higher rates of other mental illness than non-transgender people. This may have been at least partially due to the trauma of experiencing discrimination and abuse by living in a society that is often unaccepting of gender non-conforming behavior. However, more recent studies suggest that this may not be entirely true, or may be true to a much lesser extent than it was previously thought.^{147,148} This may be due to increasing societal acceptance of transgender people in recent years resulting in decreased development of co-morbid psychiatric disease as a result of discrimination and transphobia.

Some transgender men report mood swings, increased anger, and increased aggressiveness after starting androgen therapy (similar to the effects reported with body builders who abuse androgens.) Androgen administration in transmen has been associated with a reported increase in aggression proneness.¹⁴⁹ However, it has also been associated with an overall decrease in affective intensity (both for positive and negative emotions.)¹⁵⁰

Increases in anger or aggression that may occur should be less severe however than the 'roid rage experienced by athletes engaged in illicit use because with transgender men the more significantly supraphysiologic levels associated with abuse are generally not present. Moreover, in a research study in which biological men were given supraphysiologic doses of 600mg per week, more than four fifths experienced no or minimal psychiatric symptoms.¹⁵¹ So while providers should be aware of the possibility of adverse psychological reactions, the actual risk for clinically significant effects is likely small. Additionally in a larger study, during and after reassignment, transmen showed more contentment, greater extroversion, and less somatization than pretreatment.¹⁵²

Many transgender men actually report *improved* mood, decreased emotional lability, and a *lessening* of anger and aggression. Likely this is not entirely a physiologic effect but also due to the alleviation of psychological distress from long-standing gender dysphoria. Overall this is best reflected by the decrease in depression and suicidality found in treated transgender patients than in non-treated patients.¹⁵³ While testosterone may have some risk of adverse psychological consequences, overall, treatment of transgender patients results in improved psychological health.

Providers should be alert for the infrequent complication of significant affective and/or psychotic symptoms that are rarely possible with androgen therapy.¹⁵⁴

In the authors' experience, the partners and emotional intimates of transgender patients can often provide useful information about mood changes and adjustment to gender role. Patients should be encouraged to feel comfortable bringing their partners or close intimates with them to appointments. When adverse mood changes occur these can often be managed by in office counseling and reassurance. If more significant difficulties arise, appropriate referral to a mental health professional should be made.

Alterations in mood are also sometimes reported by some transmen using injected testosterone during the few days before their next injection or the first few days after an injection. This may be the result of subtherapeutic or supraphysiologic testosterone levels respectively. Changing dosing, interval, and/or route may be effective in alleviating many of these symptoms.¹⁵⁵

Cognitive Effects

Interestingly when studying the effects of testosterone on cognitive function, researchers found a significantly improved spatial ability in transmen that, after prolonged androgen therapy approximates cisgender male scores. A possible decrease in verbal fluency has been reported but not replicated.^{156,157,158} A study comparing transgender men with cisgender women (as opposed to comparing transmen pre and post androgen therapy) revealed lower verbal memory performance (typical of cisgender males) in transmen than in cisgender women. However the authors of the study suggested this was possibly due to prenatal brain

organization alterations which may reflect the biological etiology of transsexualism rather than any effect of testosterone.¹⁵⁹

Gastrointestinal

Hepatic

There is a theoretical risk of developing liver injury or malignancy with all testosterone formulations, but this is minimal with all forms except oral or unless very high doses are administered. Typically, yearly (or even more frequent) monitoring of LFTs is recommended for transmen. However, a recent literature review in the *New England Journal of Medicine* suggests that unless oral forms are used or supraphysiologic doses are administered, periodic monitoring of LFTs is unnecessary in hypogonadal males on long term testosterone replacement.¹⁶⁰ Unfortunately, this has not been studied adequately in transgender men, so this conclusion may not be generalizable to this population. If an initial LFT profile is normal and a transgender patient has no other risks for hepatotoxicity, it is probably reasonable to limit further monitoring to periodic ALT only.

If elevations of transaminases are discovered, it may be prudent to temporarily discontinue testosterone therapy while this is further evaluated – *especially* in patients taking oral testosterone. However, in patients taking normal doses of non-oral testosterone, LFT abnormalities (especially when large) should only be attributed to testosterone when other causes of liver pathology have been excluded. If testosterone is determined to be the cause of mild hepatotoxicity, permanent cessation of androgen therapy is not necessarily indicated. Cautiously reintroducing testosterone at a lower dose and with different frequency and/or route of administration may provide a safer means of hormonal reassignment.¹⁶¹

In addition, health care providers who treat transgender patients should remember that some members of this population may be at increased risk of acquiring blood borne pathogens. Therefore, viral hepatitis should be considered as a cause when evaluating elevated transaminases.¹⁶² Because of this increased risk, patients who have not been previously vaccinated should be offered hepatitis immunization.

Metabolic

Weight

Testosterone generally increases appetite and body weight. Appetite increases may be due in part to a decrease in serum leptin levels that occur in transgender men treated with androgens.¹⁶³ While testosterone tends to decrease the total body fat mass¹⁶⁴, in an individual patient the form that any weight gain will take depends on diet, exercise, and genetic factors. Because of testosterone's anabolic effects, gain of lean muscle mass will be easier than it was previously for transgender men. Moderate amounts of exercise will produce larger gains in muscle mass and may ameliorate some of the adverse metabolic consequences of testosterone.

Anecdotally some transgender men report an increased energy level, decreased need for sleep, and increased alertness after starting testosterone therapy.

Insulin Resistance

Elevated levels of *either* androgens or estrogens are associated with decreased insulin sensitivity in women. The elevations of sex steroids found during puberty, during pregnancy, and even during the luteal phase of women's menstrual cycles are all associated with a reduced glucose tolerance.¹⁶⁵ Additionally, in *both* male and female transgender patients, a decreased insulin sensitivity has been demonstrated after cross-gender hormonal therapy was administered for four months.¹⁶⁶ A study of nontransgender women given exogenous testosterone also demonstrated the development of insulin resistance even in the short term.¹⁶⁷

In biological men, *abnormally high or low* levels of testosterone are both associated with insulin resistance. So mid-normal levels of testosterone are the target for androgen therapy in any patient. However treatment of non-insulin dependent diabetes mellitus (NIDDM) that appears before or after androgen therapy need not necessitate cessation or even a significant decrease in dosage of androgen therapy. (Providers would not consider androgen deprivation as a reasonable treatment for cisgender men.)

Treatment of Impaired Glucose Tolerance and Diabetes

While therapeutic trials specific to transgender men who develop insulin resistance have not been published, the experience with PCOS patients may be applicable both because PCOS and androgen treated transmen share common physiological features and because a large proportion of transmen may have pre-existing PCOS. Among women with PCOS, 40% have impaired glucose tolerance and 10% have frank NIDDM by the fourth decade.¹⁶⁸ Metformin is the agent most widely used and studied to treat insulin resistance and NIDDM in PCOS patients, and may be a good initial choice for transmen with impaired glucose

tolerance. However the salutatory effects that metformin has on other pathogenic changes in PCOS may not occur (or be desired) in transgender men. Metformin is associated with a decrease in serum androgens and an increase in SHBG in PCOS patients as well as clinical improvements in acne, menstrual irregularities, and infertility.¹⁶⁹ However, in transmen exogenous androgens would not decrease with metformin so changes in ovarian morphology and acne would likely remain unchanged.

Although studied less extensively in PCOS patients, the thiazolidinediones have been shown to improve metabolic abnormalities and hyperandrogenemia.¹⁷⁰ However, these drugs are significantly more expensive, have a shorter history of use in clinical practice, and at least one member of this drug family (troglitazone) has been withdrawn from the market due to hepatotoxicity.

Uncertainties

Testosterone may not have an entirely deleterious effect on glucose tolerance however. In contrast to cisgender women, the relationship between sex-hormone levels and insulin sensitivity is less clear in men. Lower testosterone and higher SHBG levels have been associated with *impaired* glucose tolerance in men.¹⁷¹ However this effect may not be an independent association with androgen levels, as increased adiposity itself is associated with lower testosterone levels and higher SHBG levels in men.¹⁷²

Moreover, it should be emphasized, especially to patients with pre-existing overweight or obesity that any deleterious effect that testosterone may have on metabolic profile would likely be overshadowed by improvements through diet and exercise. With NIDDM, PCOS, and obesity, weight control through exercise and diet remain a cornerstone of therapy.

Thyroid Effects

Testosterone may decrease levels of thyroxine-binding globulin (TBG), resulting in decreases in total T4 levels and increases in T3 and T4 resin uptake. However despite these alterations in lab values, changes in free thyroid hormone levels and clinical thyroid dysfunction do not occur.¹⁷³

Athletic Performance

Elite athletes must be advised that testosterone therapy will very likely result in disqualification for competition (at least within the female category.) Androgens will usually disqualify participants even if they have a physician's prescription for these medications. Recently though some transgender athletes have been successful in their attempt to compete in their post-transition gender. However, transgender men, if allowed to compete in male sports may not remain as competitive. Androgen administration certainly increases muscle mass – especially with resistance training.

It also raises hemoglobin levels which improves athletic performance. However, when hormonally treated transgender patients were compared at one year, the mean muscle mass of the FTM group remained lower than that of the MTF group though the gap had narrowed considerably.¹⁷⁴ Moreover, unless treated before the end of puberty and closure of the physes, transgender men remain shorter and have a lower bone mass than cisgender men which is often a competitive disadvantage.

Drug Interactions

Testosterone (like all sex steroids) is metabolized by the Cytochrome P-450 enzyme system in the liver (specifically CYP3A.) There are numerous drugs that increase or decrease the activity of this enzyme. This change in P-450 activity may cause increased or decreased levels of sex steroids as well as other drugs metabolized by this system.

- Cyt P-450 Inducers – May cause decreased levels of testosterone (and other sex steroid) levels: Phenobarbital, Dilantin, Rifampin, and *Alcohol* are examples. · Cyt P-450 Inhibitors – May cause increased levels of testosterone: Serzone,
- Prozac, Paxil, Sporanox, Diflucan, and other ‘azole’ antifungals, Tagamet (which can cause gynecomastia in men because of this effect.) Biaxin and other macrolide antibiotics, and protease inhibitors.

The above listed drugs are a **small** example of the drugs that cause these effects so as when prescribing any new drug, interactions should always be considered.

Testosterone can also alter the effects of certain drugs:

- Increases the anticoagulant effect of Coumadin.¹⁷⁵
- Decreases the effectiveness of propranolol.
- Increases the hypoglycemic effect of oral diabetes medicines and can decrease the insulin requirement and predispose to dangerous episodes of hypoglycemia.¹⁷⁶

Chapter 8 Emergency Medical Care Issues

Introduction

In our society the emergency department is the one place where we all expect care will be available regardless of time, type of medical condition, or person seeking care. It is seen as a refuge where patients will have some measure of safety and protection. Emergency personnel are expected to be professional, non-discriminatory, and knowledgeable about a variety of medical conditions. Unfortunately, for many transgender patients, a trip to the emergency department is often a source of unusual anxiety. While many transgender people are able to establish ongoing relationships with providers who are both knowledgeable about transgender issues and sensitive to the special needs of their patients, and estimated 30-40% may not have a primary care provider and rely upon emergency departments and urgent care facilities for care.¹ When seeking care at an emergency departments, patients have no guarantee that they will find a provider who is respectful or knowledgeable about transgender issues. Indeed, anecdotal stories related by transgender patients in emergency departments have been anything but reassuring.

Compounding the concern faced by any patient with a rare diseases that the provider they encounter in an emergency department may be unfamiliar with their illness, transgender patients face an even greater worry. While transsexuality has a higher incidence than Wegener's Granulomatosis, SCID, and Ewing Sarcoma, patients with those diseases could reasonably expect a physician has received at least some minimal formal education about their illness and would be able to refresh her memory relatively easily by consulting common medical texts. Even a patient with bubonic plague with a yearly worldwide incidence of about 1:2,000,000 could more readily expect a physician to be able to understand at least some of the etiology, pathophysiology, and treatment of his illness. However, unfortunately few if any medical schools or residency programs offer any formal education in the care of transgender patients.

In addition to any knowledge deficit, transgender patients also justifiably fear they may encounter transphobia from providers and staff in the emergency department. While certainly there are numerous caring and open-minded physicians and nurses in emergency medicine, transgender patients have reported blatant and egregious discrimination while seeking emergency care. So it is not surprising that transgender patients often avoid seeking emergency care out of the real concern that they will experience discrimination, humiliation, and even substandard treatment from providers who are ignorant of or insensitive to transgender issues. Transmen have reported everything from subtle forms of discrimination such as refusal to use proper pronouns and lack of respect from office staff to frankly inappropriate

treatment such as outright refusal of care, inappropriate questioning of sexual behavior, performance of genital examinations that were not indicated, questioning why patients had 'mutilated' their bodies, and even public ridicule by inappropriate discussions with other health care providers. Unfortunately, these sorts of experiences are not of only historical interest but are reported by transmen as having occurred within the past several years. So it is no surprise that many transgender individuals express *significant* anxiety at the prospect of seeking care from any other than trusted providers. This fear and refusal to seek care has resulted in fatalities. For example, in 1989 Jazz musician Billy Tipton died of an untreated ulcer that eventually caused exsanguinating gastrointestinal hemorrhage. After Mr. Tipton's death, it was discovered that he had a female body though he had lived for decades as a man.

Fortunately there are specific actions that providers can take to make emergency care more accessible and less frightening to their transgender patients. In general, prior planning for urgent and emergent medical problems can help transmen stay healthier and safer.

Specific Emergency Problems

Genitourinary

Transgender men who experience gynecologic emergencies may be extremely reticent to seek care in the emergency department. This underscores the need for continued ongoing gynecologic care for every transman. An established relationship with a gynecologist will not only help prevent the need for emergency gynecologic care, but provides patients an established provider with whom they have already developed a comfortable relationship.

Just as some emergency problems can be prevented, there are other common problems for which advance planning can be instituted. Patients with a history of occasional urinary tract infections or yeast vaginitis can be prescribed prn short course antibiotics and antifungals to have at home in case they develop symptomatic infections when their provider is unavailable. This will both prevent delayed treatment as well as perhaps prevent the need for a late night or weekend trip to an emergency department.

In addition, it is even more important for transgender patients that they be aware of the health care facilities with which their primary care provider and/or gynecologist is affiliated. While some emergencies are so acute that the closest available facility must be accessed, in the vast majority of cases patients have a choice of hospitals.

Surgical Complications

Because patients may need to travel in order to receive surgical treatments from experienced transgender surgeons, many patients may not be completely healed by the time they return home. Primary care providers or emergency physicians may therefore be visited by patients with post-operative issues who normally would seek evaluation from their surgeon. As with all post-operative patients, many problems can be adequately treated by primary care providers, if needed in telephone consultation with the patients surgeon. However, problems may occasionally arise that require more urgent surgical expertise. Ideally primary care providers should have in mind one or more local general and gynecologic surgeons who would be open to providing consultation and assistance should the need arise. Discussing this in advance with a colleague may allow both for the education of that college about transpatients' special needs and help ensure that patients receive competent and respectful care.

Navigating the Emergency Department

Registration and Identity Information

Even the process of registering and providing insurance information in the emergency department can be a daunting task for some transmen. Not infrequently, patients have identity documents and even insurance cards with names and gender markers that are not congruent with their appearance and gender identity. This may prove awkward for patients to explain to triage and registration personnel especially if registration or triage is in a relatively public area. (Fortunately with the advent of the HIPAA law, these privacy issues are becoming less prevalent as hospitals and emergency departments develop increasing sensitivity.) This also underscores the need to address cultural sensitivity and respect issues not just with physicians, PAs, NPs, and nurses, but also with other hospital staff and even emergency medical service personnel.

One helpful technique that may be employed by patients in this situation and others is a 'carry letter.' This is a letter from the patient's primary provider or psychotherapist that identifies the patient as a transman. The letter should be general and identify the patient by both his original name as well as his current correct name and gender. Presenting such a letter from a physician may serve as a buffer for patients that will make mistreatment by hospital staff somewhat less likely. It will also serve to answer questions that the patient may find awkward or unpleasant to answer.

In addition to providing assistance when accessing emergency care, this letter may also be helpful in other situations. For example, a patient who has difficulty assessing sex segregated facilities or who encounters the police may find such a letter useful. Society often places great weight on evaluation and diagnosis by health care providers, and such an 'official' letter on the provider's stationary may, in the eyes of people unfamiliar and perhaps even antagonistic toward transgender issues, grant legitimacy to patients' status.

The following are two examples of such letters. Letter for patient currently/newly transitioning and/or living full time as male without fully changing all identity documents or insurance:

To whom it concerns:

[Patient's full chosen name] is a patient under my care. Mr [surname] is transgender and is undergoing medical treatment in order to reassign his sex to match his true psychological gender identity, which is male. As part of this process, Mr [surname] is living in an appropriate male gender identity full time.

The process of changing one's sex both medically and legally is complex and sometimes may take up to several years to complete fully. Because of this, Mr [surname] may have identity documents which may not all reflect his true gender identity or name. Mr [surname]'s prior name was [former full name.]

As part of this medical process, Mr [surname] is expected to live full time in his true psychological gender role. This includes using the appropriate male facilities such as restrooms.

Thank you in advance for affording Mr [surname] assistance and understanding as he carries out his medical sex reassignment. Your efforts are integral in the treatment of this complex condition.

If you have any questions regarding Mr [surname,] please feel free to contact me at the number below.

Letter for patient who is well into transition and/or has changed gender marker and name on most or all documents:

To whom it concerns:

[Patient's full chosen name] is a patient under my care. Mr [surname] is transgender and has completed treatment in order to reassign his sex to match his true psychological gender identity, which is male. With the completion of this process, Mr [surname] should be considered male for legal or identification purposes.

If you have any questions about Mr. [surname,] please feel free to contact me at the number below.

Sincerely,

Mary Smith, MD, FACP Office address and phone.

Patient Advocates

Patients should also be advised that bringing an advocate with them when they visit the emergency department can be very helpful. It is sometimes easier for persons who are not directly affected by discrimination and transphobia to object to inappropriate treatment.

In addition, the advocate may not feel disempowered due to illness, injury, or simply being in the patient-role. Ill or injured patients sitting on a gurney wearing only a thin hospital gown may not feel as confident in demanding appropriate and respectful treatment as an accompanying advocate.

Additionally, most people who are transphobic, like those who are racist, sexist, or homophobic, may be less willing to overtly express their discriminatory beliefs if friends or family are present.

Consultation with Emergency Providers

Primary care providers may be called by emergency providers with questions about their transgender patients who do seek care in the emergency department. Just as other providers caring for patients with relatively rare illnesses, availability of providers well versed in transgender care can be an important resource for emergency providers. So availability of primary care providers for consultation is critical.

In addition, if providers are aware in advance that their patients will be seeking care in an emergency department, a short call ahead to emergency providers may help

prevent problems before they develop. Interacting with another physician who understands that transsexuality is simply a rare illness that can be successfully treated with appropriate interventions may make providers unfamiliar with transgender medicine more accepting and understanding. Transphobia may often result from lack of knowledge rather than actual intent to harm, and providing anticipatory information may prevent this type of reaction on the part of providers.

Education and Awareness

In addition to provider contact, the ideal prior preparation and education for emergency medical providers, nurses, and other personnel should take place well ahead of any actual need for emergency care. Especially if a provider cares for numerous patients in a community that may be otherwise unfamiliar with transgender issues, provider education may be very helpful. A short discussion at an ED staff meeting may raise awareness that transgender patients live in the community and may present to the emergency department. This information might also be addressed as part of a larger sensitivity or awareness continuing education program for ED staff. Contacting the nurse-educator for the hospital or emergency department may be helpful in determining the best method for this information to be presented.

Ideally this sort of education should provide brief information about transsexuality as a medically treatable diagnosis as well as specific suggestions for how to sensitively and respectfully care for transgender patients. The unfamiliar and unknown seem odd and even sometimes threatening to all of us. Providing even a small amount of familiarity with transgender medicine may therefore significantly impact the way patients are treated in the emergency department.

A valuable resource for these discussions can be transgender patients themselves. Some transpatients may be willing to accompany their provider to an educational session such as this. This valuable resource can help put a human face on the issue and demystify it for providers and staff.

Intervention After Emergency Department Visits

In addition to addressing problems before they occur, patient experiences in emergency departments can serve as events that may help change care in future. If transpatients experience sub-standard, insensitive, or frankly discriminatory care in an emergency department, providers should address this deficiency directly with the department or hospital administration. While patient complaints – especially in municipalities where discrimination based on gender identity is illegal – are taken very seriously by hospitals, *provider* complaints can be even more effective in bringing about positive changes.

Perhaps even more importantly however, letters of compliment for care that is sensitive, respectful, and clinically competent can have an immeasurable effect on future care. While people respond very well to positive reinforcement, unfortunately complaint letters generally outnumber complimentary letters by several fold in any public service field. So a letter of commendation for appropriate and sensitive care in an emergency department may be even more noticeable and may help ensure such treatment becomes the standard in one's community.

Patient Privacy and Disclosure

Because of possible drug interactions as well as other health related problems specific to transgender patients, it should be emphasized to every patient that in general he should inform any provider that treats him that he is on androgen therapy (and any other medication or supplement that he may be taking.) However, patients may not feel comfortable revealing to every provider that he is transgender (especially for non-trans related care.)

If a patient expresses this concern, it may be helpful for him to inform other providers he is on testosterone for primary hypogonadism. While not entirely truthful, this will at least allow the patient to inform other providers that he receives testosterone therapy. Transmen have also successfully stated that they had surgery for gynecomastia to explain chest scars. Paradoxically, provider ignorance of transgender issues may actually assist patients in this regard as transsexuality may not even be considered as a possible explanation for surgical scars or medication. One transman reported that he was evaluated for blunt abdominal trauma in an emergency department after a motor vehicle crash. *A digital rectal exam was performed by his physician*, but his transgender status was only discovered when the radiologist subsequently read the CT as incongruent with the reported gender of the patient. Cognitive dissonance can sometimes work to a patient's advantage in these situations. However, the ultimate solution to this problem is to eliminate transphobia and ignorance of transgender health issues from the medical community. The task of provider education to ensure sensitive and quality care for transgender people seems massive. However, it is hoped by the authors that this book will be a small step toward that goal so that transgender patients never again have to face the tragic results of such ignorance.

Chapter 9 Medical Documentation for Legal Name and Gender Changes

Introduction

The legal status of transgender people is gaining increased attention, and significant changes are being made currently. Over the last decade, numerous jurisdictions, including the states of Minnesota, New Mexico, Illinois, Rhode Island, and California,¹ have added protection against discrimination on the basis of gender identity to their anti-discrimination laws. Additionally, many changes have occurred and are occurring with regard to the rules for changing name and sex designation on various identity documents. Finally, increasing challenges to exclusions of transgender health care from state-supported care (Medicaid programs, health care for foster youth, youth in juvenile justice, and adults in state custody) are being brought, often with success.

In most realms of transgender law, medical evidence is still a central component of making out any legal claim or applying for any adjustment in sex designation. For this reason, a health care provider who is treating transgender patients should be prepared to be asked for letters confirming her patients' gender identity or documenting their treatment protocol for various legal purposes. This section is designed to help in drafting those letters, giving providers an understanding of what information is most helpful to the clerks, administrators, and judges who may be reviewing the medical information from providers with substantially less understanding of the transgender health than providers or their patients have. This section will provide a basic understanding of the most useful medical evidence in the areas of identity documentation and state support of transgender health care, and provide model letters for use in clinical practice.

Name Changes

When applying for a name change in most jurisdictions, a patient should not be required to document his medical status. The general legal approach to name change is that name changes should be permitted by courts unless the petitioner is seeking to change their name to defraud someone (usually creditors). Transgender name change petitioners are not seeking to defraud anyone, just to have a name that better suits their identity. However, some courts have erroneously viewed transgender name change petitioners as fraudulent and required medical evidence from them. Cases in several states have confirmed that this higher evidentiary standard for transgender name changes is not in keeping with the law.² However, many judges have not researched the issue and may still ask patients for this information, or a patient or his lawyer may decide to submit an affidavit from a

provider with the application for name change just to avoid any delays in case the court is going to request it. Hopefully, as time passes more judges and lawyers will become informed that this evidence is not necessary, and providers will have less of these requests to meet.³

For now, however, providers may be asked to write such an affidavit. Ideally, this should be a basic affidavit supporting a patient’s application for a name change. Below is some sample language that may be useful in guiding providers in drafting such a affidavit.

Civil Court of the City of New York

County of New York

-----X

In the Matter of the Application of		
		AFFIDAVIT
CURRENT LEGAL NAME		
		Index No.
for Leave to Assume the Name of		
REAL/PREFERRED NAME		

-----X

DOCTOR’S FULL NAME being duly sworn, testifies and deposes that:

- I have been licensed to practice medicine in the State of New York since ___(year)___ and have been a board-certified family physician in the State of New York since ___(year)___.
- I began working as a physician at _____(hospital)_____ in ___(year)_____.
- Since ___(date)___, CURRENT LEGAL NAME has been my patient. This patient is popularly known as “REAL NAME” as (s)he feels uncomfortable being known by his legal female name. In his professional and personal life, he has been using consistently and habitually the name REAL NAME.
- It is my medical opinion that REAL NAME is a transsexual. Under my medical supervision, REAL NAME is undergoing hormone therapy for his transsexualism.

- In my professional opinion, REAL NAME's desire to change his name from an identifiably female name to an identifiably male name is completely consistent with his male gender, and I strongly feel that it is in his best interests to allow this change.
- By adopting the male name "REAL NAME" in place of the female name "CURRENT LEGAL NAME," REAL NAME will be able to retain the name he has used consistently and habitually, while eliminating the very significant embarrassment and bias he experiences when forced to disclose his legal name, which currently does not match his gender identity or physical appearance. For these reasons, his name change will not be a fraudulent act, but a true expression of his gender identity.

DOCTOR'S FULL NAME

Sworn to before me this ____ day of _____ 2005

Notary

Identity Documents

Obtaining identity documents that match the new gender identity and name is an essential step in transition for a transgender person. Without basic ID that comports with gender identity, obtaining employment, applying to educational programs, getting medical care, or even getting a speeding ticket or buying alcohol can become a context for discrimination or even violence. Most people believe that each of us has a specific “legal” gender that the government recognizes, and many transgender people and their providers initially think that there is one simple step to changing that sex designation. However, in reality, each agency that issues identity documents (the Social Security Administration, the Passport agency, Departments of Motor Vehicles, Medicaid programs, public assistance programs, Bureaus of Vital Statistics, Immigration Services, etc.) has their own standard and method for changing sex designation. Worse yet, they are very inconsistently applied (usually depending on what clerk a transgender applicant ends up seeing) and also frequently change.

For this reason, the overall approach that medical providers should use is a generally worded letter. No matter what kind of treatment a patient has undergone, if a provider believes he is at the point in his transition where his well-being or safety would be benefited by having identity documentation that comports with his gender identity, providing a general letter will likely be of most help to him at the various agencies he must visit and contend with.

Why is a generally worded letter so useful? First of all, at most agencies a patient approaches for sex designation change, the front line workers will not know the agency policy for sex designation change, and they are also likely to know very little about transgender health care. In my experience, when clients approach these agencies with letters detailing specific medical protocols, the agency clerks often see this as an indication that they should evaluate the sufficiency of the medical care the applicant has undergone to determine if it is “enough” to merit a change of sex designation.⁴ The lack of knowledge that most clerks have about transgender medical care, combined most times with lack of familiarity with their agencies policies regarding these applications (especially as the policies are changing frequently) results in routine denials. In my experience, my clients who have applied for sex designation change with more generally worded letters, especially when seeking a driver's ID, passport, Social Security, Medicaid, or public assistance sex designation change, have had the greatest success. The focus of the letter should be less upon the details of the medical treatment, and more upon the fact that a provider considers his patient to be the new gender. Sample language is below:

Dear Sir or Madam:

I am Dr. _____. I am a licensed _____ in [State Name]. [Insert 2-4 sentences about provider qualifications, institutional affiliations, etc.]

Mr. John Doe is a patient in my care. I have been treating him for the past [number of months or years]. In my medical opinion, Mr. Doe is a transsexual man. I have determined that his male gender predominates and have given him appropriate sex reassignment treatment.

As a result, Mr. Doe has now successfully undergone all necessary medical procedures to fully transition from female to male. Mr. Doe should be considered male for all legal and documentation purposes, including on his passport, driver's license, and social security records. Indicating his gender as male is accurate and will eliminate the considerable confusion and bias Mr. Doe encounters when using identification that does not reflect his current true gender.

Sincerely,

Dr. _____

In some instances, particularly birth certificate sex designation change, such a letter may not be useful, although in any situation starting with such a letter and seeing if the agency making the sex determination asks for further detail is a good approach. This general wording, if read by someone who knows very little about transgender health care, will usually be sufficient, whereas providing details about hormone therapy or other treatment will only open up questions if they've never heard of the treatment and decide to investigate. Providing a general letter, in my experience, is likely to expedite the process because it prevents people without much medical knowledge from getting bogged down in details they are not qualified to assess. Also, because the standards regarding what treatment, specifically, is required are inconsistently applied and change frequently, this general wording will usually avoid confusion.

Other Uses of Medical Evidence in Legal Contexts

Identity documents and name changes are probably the most common areas in which transgender patients will request supportive documentation for legal recognition of their new gender. However, medical evidence has often also been a central issue in many other areas of transgender law. When determining whether a transgender marriage is legitimate for immigration or estate purposes⁵, when determining the child custody rights of a transgender parent,⁶ when assessing whether discrimination has occurred in a workplace or place of public accommodation,⁷ and in many other contexts, courts incorporate medical evidence into their assessment of transgender people's rights. Attorneys frequently use medical experts to help a court understand what transsexuality is, what transgender health care entails, and what mental health effects transgender identity can have on a transgender person's family members. Working with transgender rights attorneys on cases like these, either as a treating physician when an individual provider's patient is involved in a case, or as an expert on transgender health care generally, can be an important way to contribute to improved understanding of transgender people and transgender health care.

These issues are becoming increasingly important as the issue of the legitimacy of transgender health care comes to the fore in many contexts. Private health insurance companies, Medicaid systems, prison systems, juvenile justice systems, and foster care systems are all being pushed by transgender advocates to recognize the legitimacy and medical necessity of transgender health care and to allow for access and insurance coverage for this care. The push for this reform is happening with varying degrees of success in courts, legislative arenas, and administrative negotiations. Medical professionals who administer transgender health care can be an important part of these processes, dispelling myths that transgender health care is "cosmetic" or "experimental" and supporting updated understandings of this care in insurance companies and government agencies.

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Chapter 8

- 1 Feldman J, and Bockting W. "Transgender health." *Minn Medicine.* 86(7):25-32. 2003.

Chapter 9

- 1 For updated information about the most current anti-discrimination legislative initiatives, go to the Transgender Law and Policy Institute website, www.transgenderlaw.org, or the National Gay and Lesbian Task Force Transgender Civil Rights Project, <http://www.thetaskforce.org/ourprojects/tcrp/index.cfm>.
- 2 See *Matter of McIntyre*, 715 A.2d 400, Pa.,1998; *Matter of Eck*, 584 A.2d 859, N.J.Super.A.D.,1991, *In Re Guido*, get cite
- 3 The Manhattan Civil Court recently invited one of the authors (DS) to train the Civil Court judges about this and other transgender legal issues, and currently uses *In Re Guido* to train all new judges on the issue of transgender name changes. Hopefully other courts will soon follow suit in working to raise awareness amongst judges about transgender legal matters that come before them and prevent unfair rulings.
- 4 This is often especially true in the birth certificate context. Birth certificate sex designation change remains one of the most difficult areas for transgender rights.

Forty-seven states currently allow transgender people to change sex on a birth certificate, but the majority require evidence of sex reassignment surgery in order to make such a change. What constitutes sex reassignment surgery, especially in the case of FTM's, remains hotly debated, and inconsistently applied. See [Ala.Code, § 22-9A-19 \(2002\)](#) (order of court of competent jurisdiction and surgery required); [Ariz.Rev.Stat. § 36326 \(2001\)](#) (change may be made based on sworn statement from licensed physician attesting to either surgical operation or chromosomal count, although registrar may require further evidence); [Ark.Code Ann. § 20-18-307 \(2002\)](#) (order of court of competent jurisdiction and surgery required); [Cal. Health & Safety Code. § 103425, 103430 \(2002 Supp.\)](#) (court order and surgery apparently required); [Col.Rev.Stat. Ann. § 25-2-115 \(2002\)](#) (same); [D.C. Code Ann. § 7-217 \(2002\)](#) (same); [Ga.Code Ann. § 31-10-23 \(2002\)](#) (same); [Haw.Rev.Stat. § 338-17.7 \(2002\)](#) (physician affidavit and surgery required; registrar can require additional information); [410 Ill. Comp. Stat. 535/17 \(2002\)](#) (same); [Iowa Code § 144.23 \(2002\)](#) (physician affidavit and surgery "or other treatment"); [La.Rev.Stat. Ann. § 40:62 \(2002\)](#) (order of court of competent jurisdiction and surgery required); [Mass. Ann. Laws ch. 46, § 13 \(2002\)](#) (same); [Mich. Comp. Laws § 333.2831 \(2002\)](#) (affidavit of physician certifying sex reassignment surgery); [Miss.Code Ann. § 41-57-21 \(2001\)](#) (registrar may correct certificate that contains incorrect sex on affidavit of two persons having personal knowledge of facts; not clear whether restricted to initial error in certificate or includes gender change); [Mo. Rev. Stat § 193.215 \(2001\)](#) (order of court of competent jurisdiction and surgery required); [Neb.Rev.Stat. § 71-604.1 \(2002\)](#) (affidavit of physician as to sex reassignment surgery and order of court of competent jurisdiction changing name required); [N.J. Stat. Ann. 26:8-40.12 \(2002\)](#) (certificate from physician attesting to surgery and order of court of competent jurisdiction changing name); [N.M. Stat. Ann. § 24-14-25 \(2002\)](#) (same); [N.C. Gen.Stat. 130A-118 \(2001\)](#) (affidavit of physician attesting to sex reassignment surgery); [Or.Rev.Stat. § 432.235 \(2001\)](#) (order of court of competent jurisdiction and surgery required); [Utah Code Ann. § 26-2-11 \(2002\)](#) (order of Utah District Court or court of competent jurisdiction of another State required; no specific requirement of surgery); [Va.Code Ann. § 32.1-269 \(2002\)](#) (order of court of competent jurisdiction indicating sex has been changed by "medical procedure"); [Wis. Stat. § 69.15 \(2001\)](#) (order of court or administrative order) *cited in Matter of Heilig*, 2003 WL 282856 (Md.). See also, Lambda Legal Defense and Education Fund's chart at <http://www.lambdalegal.org/cgi-bin/iowa/documents/record?record=1162>.

- 5 See *In re Estate of Gardiner*, 42 P.3d 120 (Kan.2002); *Littleton v. Prange*, 9 S.W.3d 223, 224 (Tex.Ct.App.1999); *M.T. v. J.T.*, 140 N.J.Super. 77, 355 A.2d 204, 205 (N.J.Super.Ct.App.Div.1976); *Anonymous v. Anonymous*, 325 N.Y.S.2d 499 (N.Y. Sup. Ct 1971); *In re Ladrach*, 513 N.E.2d 828 (Ohio App. 1987).
- 6 See *In re V.H.*, 412 N.W. 2d 389 (Minn. Ct. App. 1987); *In re D.F.D. and D.G.D.*, 261 Mont. 186 (1993); *In re T.J.*, Minn. App. LEXIS 144 (1988); *Kantaras v. Kantaras*, Florida 2/21/03 see NCLR website for cite (finding a transsexual father to be legally male, his marriage to be valid, and awarding him custody of his children, after a three-week trial with extensive medical evidence); But see *Christian v. Randal*, 516 P.2d 132 132 (Co. Ct. App. 1973).
- 7 See e.g., *Goins v. West Group*, 635 N.W.2d 717, 87 Fair Empl.Prac.Cas., Minn. (1999); *Oiler v. Winn-Dixie Louisiana*, 2002 WL 31098541 (2002); *Doe v. Bell*, 2003 WL 355603; *Doe ex rel. Doe v. Yunits*, 15 Mass.L.Rptr. 278 (2001).



Appendix 7

Resources for Clinicians



Useful Resources

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual Of Mental Disorders (DSM-IV-TR)* (4th ed, text revision). Washington, DC: Author. **DSM 5 Website:** <http://www.dsm5.org/Pages/Default.aspx>

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Franklin R & Newman J. (2009). Stepwise guide to transgender care. *New Zealand Doctor*. 18(Nov): 9.

Gender Identity Research and Education Society (GIRES). (2008). *Guidance for GPs, other clinicians and health professionals on the care of gender variant people*. London, UK: COI for the Department of Health. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_084919

Gorton R, Buth J & Spade D. (2005). *Medical therapy and health maintenance for transgender men: A Guide for health care providers*. San Francisco, CA: Lyon-Martin Women's Health Services. http://www.nickgorton.org/Medical%20Therapy%20and%20HM%20for%20Transgender%20Men_2005.pdf

Human Rights Commission's Transgender Inquiry focus is on implementing the Inquiry's recommendations and other suggested actions. This requires work by the Human Rights Commission, government agencies, trans people and the wider community. **Website:** <http://www.hrc.co.nz/human-rights-environment/action-on-the-transgender-inquiry/resources/health/>

Lev, Arlene Istar. (2004). *Transgender Emergence: therapeutic guidelines for working with gender-variant people and their families*. Binghamton, NY: Haworth Press.

21 Ways to be an Ally to your Trans Client. This is an American resource developed by Aidan Dunn, Brooklynne Thomas and Simon Knaphus for the Youth Gender Project. ©2004 Youth TIES.Youth TIES (previously the Youth Gender Project). **Website:** <http://www.youthgenderproject.org>

Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program. (2006). *Transgender adolescents in BC: Suggested guidelines*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition. **Website:** <http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-adolescent.pdf>

Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program. (2006). *Transgender primary medical care: Suggested guidelines for clinicians in British Columbia*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition. **Website:** <http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-primcare.pdf>

Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program. (2006). *Endocrine therapy for transgender adults in British Columbia: Suggested guideline*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society, and the Canadian Rainbow Health Coalition. **Website:** <http://transhealth.vch.ca/resources/library/tcpdocs/guidelines-endocrine.pdf>

Useful Websites

Human Rights Commission's Transgender Inquiry webpage includes links to more community organisations. **Website:** <http://www.hrc.co.nz/human-rights-environment/action-on-the-transgender-inquiry/>

Trans Care Project: In partnership with Transcend Transgender Support & Education Society, the Transgender Health Program completed the Trans Care Project in January 2006. The project aimed to create training materials and practice guidelines for clinicians in BC who are already “trans positive” but lack the clinical knowledge necessary to effectively work with the transgender community. **Website:** <http://transhealth.vch.ca/resources/tcp.html> Includes:

- Surgery: A guide for FTMs
- Surgery: A guide for MTFs
- Hormones: A guide for FTMs
- Hormones: A guide for MTFs

WPATH Standards of Care: WPATH, formerly known as the Harry Benjamin International Gender Dysphoria Association (HBI/GDA) is a professional organisation devoted to the understanding and treatment of gender identity disorders. As an international multidisciplinary professional association the mission of WPATH is to promote evidence-based care, education, research, advocacy, public policy and respect in transgender health. **Website:** <http://www.wpath.org/>

Appendix 8

Resources for Trans People



Useful Resources

Gender Identity Research and Education Society (GIRES). (2007). *A guide to hormone therapy for trans people*. London, UK: Department of Health.

This booklet was produced by a team of doctors and trans people. This publication gives trans men (female to male individuals) and trans women (male to female individuals) straightforward information about the benefits of hormone therapy and the risks and side effects. Simple information on cross-sex hormones and common side effects (does not include re blockers).

Website: Department of Health (DH)

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081580

Goodrum AJ. (2005). *Gender Identity 101: a transgender primer*. Arizona: Southern Arizona Gender Alliance.

This information will provide the reader with a basic understanding of the transgender community and the issues faced by those within it, as well as an opportunity to learn more about this vibrant and diverse community. It is not intended to be the final word in this multi-faceted and ever expanding story – there are many voices within the transgender community that reflect our rich diversity and some of them contradict and even conflict with each other.

Website: Southern Arizona Gender Alliance - SAGA

http://saqatucson.org/saga/index.php?option=com_content&task=view&id=42&Itemid=94

Useful Websites

Agender New Zealand: We are an organisation that provides support and lobbying services for the transgendered community in NZ. **Website:** <http://www.agender.org.nz/>

Department of Internal Affairs has collated information for transgender applicants together on one page on their website. This covers changing sex details on a birth certificate, passport, citizenship or evidentiary certificate. **Website:** http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Service-s-Births-Deaths-and-Marriages-Information-for-Transgender-Applicants?OpenDocument

FtM Aotearoa is Wellington-based one-on-one peer support and mentoring for FtMs, friends and whānau. **Website:** <http://ftmaotearoa.tripod.com/>

Genderbridge is based in Auckland and meets the second Tuesday of every month in Ponsonby and operates a toll free support line, 0800 TG HELP (0800 844 357). **Website:** <http://www.genderbridge.org/>

Gender Identity Research and Education Society (GIRES) is a British-based website created to inform people about the issues surrounding gender identity and transsexualism. **Website:** <http://www.gires.org.uk/>

New Zealand Human Rights Commission's Transgender Inquiry webpage includes links to more community organisations. **Website:** <http://www.hrc.co.nz/human-rights-environment/action-on-the-transgender-inquiry/links/>

Trans Care Project: In partnership with Transcend Transgender Support & Education Society, the Transgender Health Program completed the Trans Care Project in January 2006. The project aimed to create training materials and practice guidelines for clinicians in BC who are already “trans positive” but lack the clinical knowledge necessary to effectively work with the transgender community. **Website:** <http://transhealth.vch.ca/resources/tcp.html> Includes:

- Surgery: A guide for FtMs
- Surgery: A guide for MTFs
- Hormones: A guide for FtMs
- Hormones: A guide for MTFs

Transgender.co.nz has been set up to help bring the transgender community closer together and to offer mutual support and help. **Website:** <http://www.transgender.co.nz>

Appendix 9

Resources for Young People



Useful Resources

Simpson A J & Goldberg JM. (2006). *Trans Care Youth: Let's talk Trans*. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society and Canadian Rainbow Health Coalition. This booklet was produced as part of the Trans Care Project, a joint effort of Transcend Transgender Support & Education Society and Vancouver Coastal Health's Transgender Health Program. **Website:** <http://vch.eduhealth.ca/pdfs/GA/GA.100.L569.pdf>

21 Ways to be an Ally to your Trans Client. This is an American resource developed by Aidan Dunn, Brooklynne Thomas and Simon Knaphus for the Youth Gender Project. ©2004 Youth TIES. Youth TIES (previously the Youth Gender Project). **Website:** <http://www.youthgenderproject.org>

Trans Youth Group for Sci:Identity, Gendered Intelligence & GALYIC. (2007). *A guide for young trans people in the UK*. United Kingdom: Department of Health.

This booklet by a group of young trans people aged between 15 and 22, in conjunction with Gendered Intelligence, aims to offer information to young people who know they are trans or are confused about or questioning their gender in any way, so as to help clarify some of their questions and offer them language to express themselves. **Website:** http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_074258

Useful Websites

Curious: A national queer youth development initiative between New Zealand AIDS Foundation and Rainbow Youth. Curious is a resource for young people to share feelings and experiences about sexuality and gender identity with the aim of enhancing connectedness and supporting them to promote diversity in their communities. **Website:** <http://www.rainbowyouth.org.nz/queer-youth/txt-support>

Forge A network for trans and gender diverse youth in Christchurch and Dunedin, which meets in Christchurch. **Email:** forge.south@gmail.com

G-IQ (Gender Identity Quest) is an Auckland social support group for youth questioning or unsure about their gender identity. G-IQ is part of Rainbow Youth and is a supportive environment that affirms youth regardless of how they identify. **Website:** <http://www.rainbowyouth.org.nz/groups/rainbow-youth-groups/gender-quest>

Rainbow Youth is an Auckland-based organisation support for trans and queer young people and their families. Can provide contact details for trans-inclusive youth groups in other parts of the country. Also has a drop-in centre. **Website:** <http://www.rainbowyouth.org.nz/>

Same Difference is a Dunedin queer social support group for people aged 20 and under that is very trans-inclusive. You can contact Same Difference on **email:** youthlinecommunity@youthline.co.nz

SPINZ: We are a national information service, run by the [Mental Health Foundation](#), and our main role is to provide high quality information to promote safe and effective suicide prevention activities. **Website:** <http://www.spinz.org.nz/page/5-Home>

Transgender Youth Clinic LA Transgender Harm Reduction Project. **Website:** <http://www.transyouthla.com/index.html>

TRANZform is a Wellington group for young people who identify as transgender, genderqueer, non-gendered, questioning and their allies. **Website:** <http://www.brooklynnemichelle.com/tranzform/>

Appendix 10

**Resources for Families
and Schools**



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Useful Resources & Websites for Families

Gender Identity Research and Education Society (GIRES). (2008). *Medical care for gender variant children and young people: answering families' questions.* London, UK: COI for the Department of Health.

This publication provides answers to the questions typically asked by parents of gender variant children and young people (up to the age of 17). It helps families to understand about gender variance and gives some suggestions about how to respond. **Website:** http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082976

Gender Identity Research and Education Society (GIRES). (2009). *Transgender experiences: information and support.* London, UK: Department of Health.

This leaflet has been produced to help trans people and their families understand about the experiences of trans people, their rights and their choices. It also helps healthcare staff to understand about their role when caring for trans people. **Website:** http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_097169

Human Rights Commission Transgender Inquiry webpage includes links to more community organisations. **Website:** <http://www.hrc.co.nz/human-rights-environment/action-on-the-transgender-inquiry/resources/children-young-people-and-their-families/>

Pride & Prejudice/Central Toronto Youth Services (CTYS). (2006). *Families In TRANSition: A Resource Guide for Parents of Trans Youth.* Toronto: CTYS. This booklet addresses the needs of parents and families supporting their Trans children. It summarises the experiences, strategies, and successes of a working group of community consultants, researchers, counsellors, parents advocates and as well as trans youth themselves. It provides stories of parents and youth along with practical and sensitive parent-to-parent and professional therapeutic advice. **Website:** <http://www.ctys.org/programs/prideprejudiceparents.htm>

TransKids Purple Rainbow. (2008). *10 Most commonly asked questions.* Florida: TransKids Purple Rainbow Foundation. This resource answers commonly asked questions by families with a child expressing gender variance. **Website:** <http://www.transkidspurplerainbow.com/pdf/10questions.pdf>

True Colours represents young people who experience transsexualism and a network of their parents, families and supporters throughout Australia. **Website:** <http://www.truecolours.org.au/index.html>

Useful Resources & Websites for Schools

Gender Identity Research and Education Society (GIRES). (2008). *Transphobic bullying in schools: could you deal with it in your school.* London, UK: Home Office. This guides schools on effective ways to support and protect transgender pupils and staff. It addresses the needs of parents and families supporting their trans children. A useful guide for schools with explanations and potential safety issues that may arise and advice on management. **Website:** <http://www.gires.org.uk/transbullying.php>

Family Planning NZ. (2007). *The Family Planning Affirming Diversity* resource is a training resource to help schools be more accepting of diversity. **Website:** http://www.familyplanning.org.nz/resource_shop/order_online/teaching_resources

Qtopia provides a social support group for queer youth that affirms and appreciates the diverse qualities of participants. By providing a safe and interesting space for queer youth to meet others, q-topia aims to provide an environment where those who attend the group can safely explore issues and be supported in having pride in who they are. **Website:** <http://www.qtopia.rainbow.net.nz>

Rainbows Youth's drop-in centre in central Auckland is open every weekday. Come along, hang out, meet new people, surf the web, check out our library of books and DVDs, and talk to our friendly staff. There is also a range of classroom resources and list of school support groups. They provide support for trans and queer young people and their families. Can provide contact details for trans-inclusive youth groups in other parts of the country. **Website:** <http://www.rainbowyouth.org.nz/>

Safety in Schools: NZ AIDS Foundation, Rainbow Youth, Outthere. 2005. An action kit for Aotearoa New Zealand schools to address sexual orientation prejudice. This is available via **SPINZ Website:** <http://www.spinz.org.nz/resourcefinder/index.php?c=listings&m=results&topic=113>

Transtastic: Trans resource for schools (draft) produced by Rainbow Youth (supported by HRC). They aim to have it completed by June 2011. **Website:** <http://www.rainbowyouth.org.nz/transtastic>

Appendix 11

List of Professionals



Name	Contact Details
John Newman (Youth Physician)	24A Williamson Ave, Grey Lynn Mobile: 021 629 067 Email: johnnewman.nz@gmail.com
Rachel Johnson (Paediatrician)	Kidz First Hospital & Community Health Centre for Youth Health Counties Manukau DHB Private Bag 93311, Otahuhu 1640 Website: http://www.healthpoint.co.nz/default,23135.sm Phone: (09) 261 2262
John Delahunt (Endocrinology Specialist)	Capital & Coast DHB Endocrine Service Wellington Hospital - Nga Puna Waiora Wellington Hospital Private Bag 7902, Wellington South Phone: (04) 806 2140 or Phone: (04) 358 5999
Antony Felin (National Executive Officer)	NZ Association of Counsellors Website: http://www.nzac.org.nz/ Phone: (07) 834 0220 Email: execofficer@nzac.org.nz