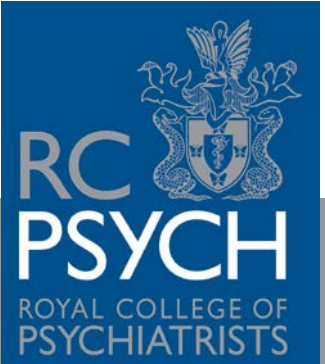


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Good practice guidelines for the assessment and treatment of adults with gender dysphoria

October 2013

April 2023 update: A review of this publication is planned and will take place in due course

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Royal College of Psychiatrists
London

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Endorsements

The following organisations have endorsed the report:

- British Association of Urological Surgeons
- British Psychological Society
- Gender Identity Research and Education Society
- Gender Trust
- Press for Change
- Royal College of General Practitioners
- Royal College of Nursing
- Royal College of Obstetricians and Gynaecologists
- Royal College of Paediatrics and Child Health*
- Royal College of Physicians
- Royal College of Speech and Language Therapists
- Royal College of Surgeons
- UK Council for Psychotherapy

*With respect only to discussion of children and adolescents, p. 20.



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Executive summary and recommendations

The provision of care for patients experiencing gender dysphoria is an excellent example of an area where multidisciplinary and interdisciplinary care is not only good practice but ensures that a wide choice of treatment pathways are offered, tailored to the needs of the individual patient. This intercollegiate document provides guidelines which we hope will optimise the clinical care pathways for patients who may need to access several medical and allied health professionals.

We herald a new approach to care which has evolved from a linear progressive sequence to multiple pathways of care which recognise the great diversity of clinical and presentation needs. Central to the new way of working for healthcare professionals is the recognition of patient-centred care that will result in flexible treatment options, hopefully increasing the likelihood of good outcomes, reduced morbidity and improved quality of life for patients. The joint participation in goal-setting and regular follow-up is crucial to winning the support of both patients and clinicians. Practitioners have a duty of care to enable individuals to make competent, fully informed decisions and choices. Providers of services have a positive duty to support this patient-centred approach which is enshrined in the UK equality and human rights legislation.

Our recommendations are clearly enshrined in the principles of accessibility of services without undue and unnecessarily long waits, the provision of high-quality services with proper cooperation and working practices between a number of clinicians, with clear recognition of the diverse needs of patients and a recognition of a variety of needs depending on the patient's particular gender transition. For some, this means helping individuals achieve real harm reduction which has caused considerable conflict between parties in the past. We strongly emphasise the establishment of clinical partnerships between both patient and clinician, and between clinicians. With this in mind, clinical governance processes must be set up in accordance with current National Health Service (NHS) good practice guidelines.

Owing to the adoption of the patient-centred recommendations within this publication we hope that patients will feel less need or inclination to avoid seeking professional medical assistance throughout their process of transition. There are already examples of good clinical practice where such recommendations are part of standard practice. The World Professional Association for Transgender Health's (WPATH) standards of care for transsexual, transgender and gender non-conforming people have informed these UK standards of care (World Professional Association for Transgender

Health, 2011). The endorsement by several medical Royal Colleges, allied medical professional societies and service user groups sends a strong signal for the adoption of these guidelines across the UK and beyond.

RECOMMENDATIONS

- 1 The principle of multidisciplinary and interdisciplinary teams and networks who work and collaborate in the provision of services for persons with gender dysphoria is paramount. These services may operate out of different venues and locations and engage in regular governance review.
- 2 A multidisciplinary team or network will have terms of engagement, rules of confidentiality and regular supervision. Patients will be consulted and involved in clinic and network decision-making and policy development.
- 3 The multidisciplinary team will usually act as a focus for a network of clinicians in a region.
- 4 The transfer of care of patients from adolescence to adulthood services should be immediate and wherever possible through joint appointment.
- 5 Transfer between services and across the lifespan without undue delay is essential.
- 6 Each team should have specific link clinicians and this would cover all disciplines including links with learning disability services, district nursing, etc.
- 7 Patients shall be expected to retain responsibility for their decisions after receiving informed advice with regard to reversible and irreversible interventions.
- 8 Persons with gender dysphoria have a right to counselling and psychotherapeutic practice as part of the overall package of care.
- 9 Adult persons with gender dysphoria should have equal access to the full range of available help and services irrespective of ethnicity, cultural background, age or disability. Services should be sensitive to a variety of ethnic and cultural needs.
- 10 There remains a paucity of research in the field. Research should be encouraged and funding set aside to offer specific grants looking at outcome and satisfaction with interventions and transition.
- 11 Service provision and clinical best practice for persons with gender dysphoria is underwritten by promoting patient autonomy and patient choice embedded in the NHS Constitution (Department of Health, 2013), and by ensuring that patients' human rights and right to equality, protected under legislation, are complied with by both decision makers and practitioners concerned with service provision and treatment.

Introduction

ESTABLISHMENT OF THE WORKING GROUP

In 2003 the Royal College of Psychiatrists established a working group with the remit of developing good practice guidance for the delivery of professional standards of care, within the UK and Ireland, for individuals whose phenotype is inconsistent with their gender identity. Because of the multiplicity of the specialist roles it was decided to convene representatives from other medical Royal Colleges and related disciplines. Representation from patient groups was invited. The group met in London and Sheffield and consulted with a large number of individuals and agencies.

The working group invited submissions from individual contributors on a number of topics, and the contents of the appendices reflect the current views or advice of the individual contributors in consultation with others, but not necessarily with the consensus of all members of the committee.

This document may be used in conjunction with commissioning guidelines prepared under the auspices of current international, national and local guidelines, including those prepared by the Parliamentary Forum on Gender Identity and the WPATH standards of care (World Professional Association for Transgender Health, 2011).

The process of treatment aims to achieve an improved quality of life. As such all procedures, including surgery, should be viewed as possible steps within a unique patient-centred process.

At the end-point of specialist treatment, which will vary depending on the needs, the individual patients will continue to be treated in primary care. It is not the remit of this document to cover this in detail. However, it is essential that primary care providers of endocrine treatment and monitoring understand that patients who experience, or have experienced, gender dysphoria must not have their endocrine treatment stopped, unless there are medical reasons for doing so. The fact that these medications are in the main not licensed for this use is not a reason to withhold this treatment. Religious beliefs or cultural mores must not be used to withhold, withdraw or denigrate treatment.

Guidance is given to ensure best practice across all NHS organisations which either commission or provide treatment and health services for individual patients. Guidance must comply with the NHS Constitution (Department of Health, 2013) and equality and human rights legislation. It must also support the rights of individuals who have been living long-term in the role that accords with their gender identity to have their current needs met without being required to repeat earlier steps in their journey, such as psychological assessment for diagnostic purposes.

DEFINITIONS

Definitions in the ICD-10 (World Health Organization, 1994) are under review.

The expression of gender characteristics that are not stereotypically associated with one's assigned gender at birth is a common and culturally diverse human phenomenon that should not be judged as inherently pathological or negative.

Non-conformity may be associated with prejudice, causing psychological distress. This distress is not inherent in being transsexual, transgender or gender non-conforming.

Gender dysphoria is the distress associated with the experience of one's personal gender identity being inconsistent with the phenotype or the gender role typically associated with that phenotype. This distress, when present, might give rise to an individual seeking clinical consultation. There are gradations of gender experience between the binary 'man' or 'woman', some of which cause discomfort and may need medical intervention; others may need little or none. There is growing recognition that many people do not regard themselves as conforming to the binary man/woman divide and that this will have an impact on their treatment. Self-descriptions include: pangender, polygender, neutrois and genderqueer. A few people who reject the gender concept altogether, and see themselves as non-gendered, may require gender-neutralising treatments from appropriate clinical services.

Any general practitioner (GP) involved in the overall care of transgender patients should usually be on the GP register of the General Medical Council (GMC) (or non-UK equivalent). General practitioners may have, or may gain, specialist interest through experience of working in the field, continuing professional development and specialist courses.⁵ All doctors registering with the GMC should follow guidance on standards of professional conduct (General Medical Council, 2013a):

- multidisciplinary working (paras. 35–38; see also General Medical Council, 2012)
- continuity of care (paras. 44–45)
- working in partnership with patients and treating them as individuals (paras. 46–52)
- treating patients fairly and without discrimination (paras. 56–64)
- being honest and trustworthy in communication with patients (para. 68).

Similarly, a specialist nurse practitioner is a registered nurse who gains experience working as part of a gender identity team either in a gender identity clinic or other gender-specialist clinical network.

TERMINOLOGY

Language in the field of gender dysphoria is constantly evolving as understanding and perceptions of these conditions change. Different usage

5. The World Professional Association for Transgender Health suggests a range of ways to enhance continuing professional development: 'attending relevant meetings, workshops, or seminars; obtaining supervision from a mental health professional with relevant experience; or participating in research related to gender nonconformity and gender dysphoria' (World Professional Association for Transgender Health, 2011: p. 22).

exists between communities and even side by side within communities. The terms transgender or trans are sometimes used as umbrella terms to cover a wide variety of atypical gender experiences which sometimes lead to a permanent change of gender role but may not necessarily lead to surgical intervention.

Throughout this document, with the exception of material contained in quotation marks (or where according to context, reference is made to 'men' or 'women'), the terms 'trans woman' and 'trans man' are used in accordance with representation made to this working group by patients and relate to those who have yet to receive a Gender Recognition Certificate or to undergo genital surgery. A pre-genital operation individual or one yet to receive a Certificate who has been assigned as a female at birth on the basis of genital appearance, but who later identifies as a man, may be described as a trans man. Similarly, a pre-genital operation individual or one yet to receive a certificate who has been assigned as a male at birth, but who later identifies as a woman, may be described as a trans woman. It is important to note that many people, after receiving the appropriate medical care, do not identify as trans, but simply as men and women. For ease of reference, an individual who has received a certificate is referred to herein as having been 'certificated'.

People who are transitioning, or who have transitioned, to live according to the gender role that is consistent with their gender identity, should be addressed according to the name and style of address (Mr, Mrs, Miss or Ms) deemed to be correct by them. If personnel, whether medical or administrative, are in any doubt, they should ask individuals discreetly how they wish to be addressed.

When the word transsexual is used, it should be as an adjective, for example transsexual individual, transsexual people or someone who is transsexual.

PREVALENCE

Gender variance is not uncommon. A survey of 10 000 people undertaken in 2012 by the Equality and Human Rights Commission found that 1% of that population was gender variant to some extent. This figure cannot necessarily be assumed to be representative of the whole population. Historically, more pre-gender surgery or pre-certificated women sought treatment than men but this difference is reducing and some gender identity clinics are reporting numbers that are close to parity.

Gender variant people and gender non-conforming people do not necessarily have gender dysphoria and the population shows great diversity. It would be wrong to assume that there is a typical pre-gender operative or pre-certificated woman or man. Increasing numbers of individuals now present at an earlier stage in life;⁶ equally there are many who may have lived with their dysphoria for decades before feeling confident enough (or having the opportunity) to seek to resolve their issues. Gender variance knows no social, ethnic, religious or socioeconomic boundaries but is likely to be more hidden in some cultures than in others.

6. The numbers of children attending the Tavistock Gender Identity Development Service is rising by 32% per annum (2007–2012) (K. Josha, personal communication, 2012). Those who continue to experience or present in adolescence as experiencing gender incongruence are extremely likely to require adult services.

Good practice

AVAILABILITY AND ACCESSIBILITY OF SERVICES

Patients are presumed, unless proven otherwise, capable of consenting to treatment.

Regardless of location, there should be a competent and effective gender identity service that is readily accessible within the geographic region or reasonable travelling time thereof. The waiting times for access to such services should be in line with those for other patients and tertiary clinics in the region. Although in practice patients may not wish to be treated by a gender identity service a long way from their home location, they should have the choice of accessing any gender identity service, gender specialist⁷ or surgeon in the country.

People should have direct access to primary care and be referred by their GP for secondary and tertiary health provision as is clinically appropriate, and in the same way as for any other patients. Only when the patient needs access to a gender identity service provider would the National Specialist Commissioning Group become involved. Clinical commissioning groups may also need to liaise with other commissioners to coordinate gender care.

When accessing treatments or procedures for medical conditions other than gender dysphoria, patients should be referred directly to a specialist surgeon/consultant without being required to attend a gender identity service or have compulsory psychiatric assessment. This includes referral to oncologists, gynaecologists, endocrinologists, urologists and plastic surgeons. This is not an exhaustive list but an example of frequently used services.

Where a patient moves from one commissioning area to another, funding and treatment should continue without interruption and gender-role changes undertaken by that person must be taken into account by treatment providers in the new area.

Gender consultants and specialists should recognise the expertise and opinion of colleagues in other gender identity services when a person transfers from one gender identity service provider and another. The patient may, of course, seek a separate, independent opinion.

Where people have successfully completed a verifiable long-term change of gender role and later decide to undergo surgery, for instance phalloplasty, they should not be reassessed regarding their social role or rediagnosed for gender dysphoria and, unless there are physical or

7. Gender specialists may be from many different clinical backgrounds, some specialising in mental health: psychologists, psychiatrists, counsellors or therapists, but they may also be GPs, endocrinologists, nurses, etc.

psychological contraindications, should be deemed ready for surgery. The referral by the GP should be to a specialist gender dysphoria practitioner.

Patients have the same right as other patients to private treatment in the UK or in Europe, funded by the NHS,⁸ as long as proper letters of referral are obtained and the proposed provider abroad meets contemporaneous standards of care.

COMMISSIONING

Those responsible for commissioning healthcare should ensure that the population for which they are responsible has access to comprehensive gender identity services, which include multidisciplinary input from primary care, specialist clinicians working within a team or network, endocrine and surgical specialties. In establishing specialised services (e.g. in setting up a gender clinic or primary care clinical network), it is essential to obtain appropriate patient and stakeholder representation and input into the decision-making and policy development at all stages, in conjunction with the relevant commissioners and providers. Patients must be offered a choice of clinically appropriate treatments.

Gender treatment should be established on a multidisciplinary basis and may include input from GPs, psychology, psychiatry, psychotherapy, nursing, speech and language therapy, endocrinology, dermatology, surgery, social work and other related professions. Working in cooperation with other specialist practitioners or colleagues, even if on a different site, and affiliation with peer review and supervision networks, should be the goals of all clinicians. In addition to involving patients, clinicians should facilitate or provide information about assistance available to partners and families.

Commissioning across regional boundaries should be consistent. Undue delay should be prevented and the risk of patient harm reduced. In principle, this should be achieved by offering the full range of treatment options and recognising that not all patients will request hormones and/or gender reconstructive surgery. Facial hair removal for women contributes to successful transition. Hair removal from donor sites that are relevant to genital surgery should also be funded to promote successful outcomes. Any individual with an intersex condition, including chromosomal anomalies, should be offered equal access to gender-specialist providers. Many long-term patients, especially those successfully discharged years previously from a gender identity service, are eligible and entitled to be directly referred for gender reconstructive surgery (see pp. 24–26) including chest reconstruction and hysterectomy for men.

LEGAL RIGHTS

All UK service providers are subject to the Equality Act 2010, the Human Rights Act 1998 and the Gender Recognition Act 2004. The implications

8. In the case of *Watts v. Bedford Primary Care Trust & Secretary of State for Health* [2006], the concept of 'undue delay' arises when the delay is based on an 'arbitrary time frame, rather than a medical decision'. These circumstances render the NHS funding authority liable for the cost of the treatment undertaken privately, so that the patient has to be reimbursed.

of this are that any treatment guidelines promulgated which do not have due regard for this legislation would risk being illegal in their application to treatment. Providers and commissioners of treatment in the public sector are bound by the public sector equality duty. This means that the attitudes of clinicians, the manner and timing of their service delivery and the choice of treatments offered must be consistent with that duty. The legislation requires that patients are treated with dignity and are allowed personal autonomy.

Steps must be taken to eliminate discrimination (direct or indirect), harassment or victimisation within service provision against those with 'protected characteristics', including 'gender reassignment', and also those who are perceived as being or are associated with such patients, such as partners, spouses, significant others and family members.

These aspects of the law are relevant where unfavourable comparisons with other groups of patients may be drawn without objective justification, and where matters of patient autonomy, dignity and choice are engaged. There is a positive obligation to ensure that there is fair access to clinical treatment under all circumstances. This would include the provision of alternative appropriate clinical care where indicated.

The European Court of Human Rights, in *Goodwin v. United Kingdom* [2002] and *I v. United Kingdom* [2007], (under Articles 8 and 12) gave a strong indication to the UK government and all other agencies that they are under a positive obligation to treat such patients with respect and dignity in all areas of their lives, and to accord them equal rights and status with all other citizens. In the UK, patients are protected by the Human Rights Act 1998, which derives from, and must be compliant with, the European Convention on Human Rights. The Act protects individuals against unwanted intrusion into their private lives (Article 8). In *R (on the application of AB) v. the Secretary State for Justice and Another* [2010], the court held that a pre-operative gender woman committed to a life sentence for offences committed as a man, namely manslaughter by reason of provocation and attempted rape, was entitled to be transferred to an all-female prison pursuant to her human rights.

Once patients formally change their names and style of address, all GP, gender identity clinic, hospital and NHS records should be amended to reflect this change. A Gender Recognition Certificate is not required for this change to be effected. Some patients obtain a statutory declaration or a deed poll to mark their name change, but this is not obligatory, and treatments must not be made contingent on providing this type of documentation. A simple statement of intent will suffice. The fact that a patient is intending to undergo or is undergoing treatment for gender dysphoria must not be divulged to other health professionals and colleagues outside of the treating team and only within it if strictly necessary. Establishing a relationship of trust between trans individuals and their clinicians is especially important and assurance of confidentiality and secure record-keeping is paramount. Medical necessity in order to save life is an exemption from this rule of law or where as part of a medical team there is a need to know. Caldicott procedures must be followed (Caldicott, 1997).

In the UK, individuals may apply to the Gender Recognition Panel for a Gender Recognition Certificate. Applicants applying under this process must demonstrate that they have had a diagnosis of gender dysphoria and that they have lived in the gender role that is congruent with the gender identity for at least 2 years. Once a Gender Regulation Certificate has been issued, the applicant must, in accordance with the provisions of that certificate, be identified as a man or a woman and not a 'trans man' or 'trans woman'.

The issue of the certificate does not affect things done, or events occurring, before the certificate is issued (Section 9(2) Gender Recognition Act 2004).

A Gender Recognition Certificate provides a right to marry someone of the opposite gender or to enter into a civil partnership with a person of the same gender. The Act also makes consequential changes to the law with regard to social security, benefits and pensions.

Section 22 of the Gender Recognition Act 2004 was introduced to protect the rights and privacy of transsexual individuals pursuant to Article 8 of the European Convention on Human Rights and makes it a strict liability criminal offence for a person who has acquired protected information in an official capacity to disclose that information to any other person. This information relates to a person who has made an application for a Gender Recognition Certificate and considerable care needs to be taken regarding keeping secure the notes and medical records of the individual patients. According to Section 9 of the Act, once a full Gender Recognition Certificate has been issued, the person's gender becomes for all purposes the acquired gender so that if the acquired gender is the male gender then the person's gender becomes that of a man, and, if it is the female gender, the person's gender becomes that of a woman, and the persons must be so described.

Statutory Instrument 2005 No. 635 introduced some additional exceptions to Section 22 so that it is not an offence for the disclosure to be made by a health professional if it is made for medical purposes and the person making the disclosure really believes that the individual has given consent to the disclosure or cannot give such consent. 'Medical purposes' includes the purposes of preventive medicine, medical diagnosis and the provision of care and treatment. There may still be gender-specific treatment such as that related to screening for breast or prostate cancer where surgery has not taken place. A 'health professional' means a registered medical practitioner, a registered dentist, a registered pharmaceutical chemist, a registered nurse, a person who is registered under the Health Professionals Order 2001 as a paramedic, or operating department practitioner. It also includes a person working lawfully in a trainee capacity in any of the professions specified.

REFERRAL PROCESS

Gender dysphoria services are usually provided by specialist clinicians. The support of a GP who is prepared to be proactive in supporting referrals for treatment and to enter into collaborative care arrangements is essential.

Specialist clinicians and gender clinics should provide patients and referrers with details about clinic services and protocols.

Adults with gender dysphoria should have equal access to the full range of available help and services irrespective of ethnicity, cultural background or disability, without discrimination. Certain groups will have additional specialist requirements (e.g. patients with intellectual disabilities; see Appendix 1).

Those who need NHS gender identity services for the first time should be referred by the GP, or they may be referred by a psychologist, non-specialist psychiatrist or sexual health centre via a GP to a gender service provider, for diagnosis and/or opinion about how the patient's needs may be met from a range of options. Where patients' acute needs cannot be met by a specialist service within a reasonable and safe time frame, they may be referred as an interim measure to a local endocrinologist and for mental

health support as appropriate, prior to being seen by a specialist gender identity clinic.

Those in prison should have access to both local mental health services for non-gender care and a gender identity specialist. This document may be used in conjunction with guidelines prepared by the Ministry of Justice (2011) and/or a prison's own specific guidelines.

COLLABORATIVE WORKING

Primary care continues to be central to the delivery of medical and psychological care to the majority of patients. It is desirable for a single practitioner to adopt the lead role to facilitate coordinated care. General practitioners are likely to undertake this role. Under new commissioning arrangements it is particularly important that treatments provided locally are coordinated with those provided by tertiary services. All information should be shared with the GP, and patients should be copied in to all letters between clinicians.

Treatment in this field is particularly holistic in the degree to which different specialties may be involved. There is no necessity for specialists to work together under the same roof. Indeed, patients may not experience the full benefits of choice and emergent expertise if their options are constrained in such a fashion. Nevertheless, it is desirable that practitioners should establish protocols for working together.

In whatever way the multidisciplinary approach is organised, whether at a gender identity clinic or by a group of health professionals locally, the patient's choice of service provider should not be unreasonably limited, and delivery must not be unreasonably delayed.

WAITING TIMES

As a matter of good practice, service providers should take all reasonable steps to provide the patient with a realistic understanding of the time scales involved. Patients should have confidence that their treatment will progress in the agreed time scale. Service providers should also continually seek ways to help guarantee deadlines. Liability for 'undue delay' arising from non-clinical circumstances may fall on the commissioners. In such circumstances, private treatment undergone by the patient may also become the responsibility of the NHS (*Watts v. Bedford Primary Care Trust & Secretary of State for Health* [2006]).

PATIENT FOCUS AND FLEXIBILITY: INFORMED CONSENT AND OUTCOMES

The idea of empowering people to make informed choices about their own healthcare is a strong principle within modern healthcare thinking. It is embodied in the NHS Constitution (Department of Health, 2013) and throughout current health and social care legislation.

Care should be taken to respect the patient's autonomy for decision-making at all times. In law, 'informed consent' and 'competence to consent'

mean that the patient must comprehend the nature, purpose and effect of the procedure to be undertaken. Throughout all stages of treatment, the clinician has a responsibility to inform patients of the options, benefits, potential unwanted side-effects and health risks of the treatment, in terms that can be readily understood. The advantages and disadvantages of not undertaking treatment should also be discussed. Patient information documentation should be provided in a timely manner. It is in line with best practice that consent forms for treatment are signed and dated by patient and by clinician.

Treatment must be patient-centred and should recognise the individual's preferences, needs and circumstances. Treatment must not be prescriptive and should allow clinically safe choices for individuals. Patients should be accorded a substantial role in determining the kinds of treatments that are appropriate for them. This may include choices regarding pace and sequence of treatment and service providers. A relevant specialist should support the individual in making those decisions. A flexible approach to care, meeting an individual's needs, is recommended. In cases of disagreement between the clinician and the patient, there is an automatic right to the provision of an independent second opinion by another specialist working in the field.

There is growing recognition that many people do not regard themselves as conforming to the binary man/woman divide. This will affect their treatment choices. A few people who reject the gender concept altogether and see themselves as non-gendered may require gender-neutralising treatments from appropriate clinical services. Therefore, not all of these elements of treatment will be necessary or desirable in every case, nor will their sequencing conform rigidly to a standard pattern. For some people extensive surgery may not be appropriate or possible.

Treatment involving a combination of hormone administration and usually some combination of gender-confirming surgical procedures, following psychological assessment and accompanied by psychological support, is deemed to lead to good outcomes.

A study using the post-genital-surgery end-point showed only a 3.8% regret rate and indicates that regrets are few (Landén *et al*, 1998). The study revealed that regrets were more likely where there was a lack of family support. A review of more than 80 qualitatively different case studies over 30 years demonstrated that the treatment is effective (Pfäfflin & Junge, 1998). Lawrence (2003) found that the most significant factor for regret was a poor surgical outcome. Smith *et al* (2005) undertook a prospective study and found that no patient was actually dissatisfied, 91.6% were satisfied with their overall appearance and the remaining 8.4% were neutral. This study did indicate that women who had lived as heterosexual men before transitioning to live as women were at risk of fewer satisfactory outcomes. This was particularly the case where physical appearance and psychological functioning were unfavourable and the gender dysphoria experienced was inconsistent. Those with added difficulties were at greater risk of dropping out of treatment altogether and those that continue may need additional therapeutic guidance up to and even after surgery.

Factors that help to support successful outcomes are a consistent gender identity and psychological stability before and after surgery, adequate psychological preparation and transition at an early age (De Cuypere *et al*, 2006), including properly informed consent about benefits, risks and outcomes. A survey in the UK showed a high level of satisfaction (98%) following genital surgery (Schonfield, 2008). Two studies on

outcomes in women and men showed that they function well on a physical, emotional, psychological and social level (Weyers *et al*, 2009; Wierckx *et al*, 2011). Overall, there are a number of studies that report extremely high transgender patient satisfaction with genital reconstructive surgery.

CHILDREN AND ADOLESCENTS

These guidelines do not directly address the needs of children and adolescents. However, it is recommended that the transfer between adolescent and adult services is achieved through liaison between these services, so that treatments that have been initiated for adolescents may continue without interruption. Where treatment has not yet been undertaken, it may be started in a timely manner, taking account of the young person's clinical and social history.

Reversible hormone-blocking interventions (gonadotrophin-releasing hormone analogue) for adolescents in the early stages of pubertal development have now been introduced in the UK (2011) at the Tavistock Gender Identity Development Service, under a research protocol. This service works in liaison with the Paediatric and Adolescent Endocrinology Service at University College London Hospital. Some young people may be prescribed cross-gender hormones before they transfer to adult services. The British Society for Paediatric Endocrinology and Diabetes' position statement recommends that the care of adolescents should be offered within a specialist multidisciplinary team on an individual basis (British Society for Paediatric Endocrinology and Diabetes, 2009). Other publications supporting hormone-blocking intervention in early puberty include those from the Vrije Universiteit Medical Center in Amsterdam, The Netherlands, whose team pioneered this approach (de Vries *et al*, 2006; Cohen-Kettenis *et al*, 2011).

Further resources include the American Endocrine Society's clinical practice guidelines (Hembree *et al*, 2009) and the WPATH standards of care (World Professional Association for Transgender Health, 2011).

CLINICAL GOVERNANCE

Specialist gender clinics or clinical networks should operate on the principles outlined in this document. Policies and protocols are subject to official assessment of equality in their delivery of service. Clinics will be required to adhere to the principles of clinical governance, including regular clinical supervision of staff, patient satisfaction audit and continuous professional development. Patients' involvement is required at all stages of policy development. All staff should be able to demonstrate regular appraisal of their professional practice in accordance with their regulatory bodies.

Services must have transparent complaints procedures, and outcomes must be audited. Records must be made of remedial actions taken and those records must be made available.

Overview of recommended procedure

INITIAL REFERRALS, ASSESSMENTS AND SUPPORT

GP CONSULTATION AND OVERVIEW

Initial assessment, for a patient with no previous diagnosis of gender dysphoria, by a GP or any member of the primary care team should use the holistic model. The GP should take a full history, including a mental state assessment. Any distress experienced by the patient should be acknowledged during the assessment. The GP has the additional advantage of possessing a record of the patient's longitudinal medical history, which should be reviewed to aid diagnosis. Once a provisional diagnosis is reached, the GP should discuss with the patient any preference they may have for a particular way forward.

A routine general and sexual health screen should be offered. Before commencing hormones, blood tests should be done in accordance with Appendices 2–4. A full physical examination should be offered by the hormone-prescribing clinic or by the GP in collaboration with the specialist team initiating endocrine treatment. The prescribing physicians should satisfy themselves that a recent clinical examination has been recorded in the medical notes. Genital examination may cause distress to the individual and may be declined by the patient: such refusals should be respected in all cases and the matter recorded in the clinical records of both the specialist clinic and the GP.

Patients frequently find it difficult to confide their feelings of gender dysphoria to their GP, often because it is the family GP or practice, and fear of ridicule, guilt or shame as well as other pressing social factors prevent them from seeking help and treatment. These factors and the anticipated delay in obtaining treatment on the NHS have led to increasing numbers of people self-medicating. Hormones and hormone-blockers are readily available via the internet. The medical practitioner or specialist must consider the risks of harm to the patient by not prescribing hormones in these circumstances. The WPATH standards of care (World Professional Association for Transgender Health, 2011) suggest the prescribing of a 'bridging' prescription on an interim basis for a few months while the patient is referred to a gender specialist and an endocrinologist.

Individuals without any significant co-existing conditions that might amount to a contraindication, who have successfully lived as men for an agreed length of time, may be referred directly by the GP to a gynaecologist of choice to discuss hysterectomy and oophorectomy. However, the surgical method used will need to take account of any future genital reconstructive surgery, so advice should be sought from the specialist surgeon who will

provide phalloplasty, if known. It is generally advisable to avoid causing scars on the lower abdomen, in case this area later becomes a donor site for phalloplasty.

This guidance in no way prevents GPs from prescribing hormones or hormone replacement treatment to any group of patients, rather it seeks to encourage GPs to acquire relevant specialist knowledge through best practice which is required to support patients in their care.

Patients who defer surgical interventions, but who have symptomatic gender dysphoria, and who have been on hormones for 12 months or more (unless unable to take them), should not be regarded as new patients. They may be referred for surgical interventions after prompt review by a gender specialist.

A patient may present to a GP having had gender reconstructive surgery such as chest reconstruction, breast augmentation or genital surgery and they may require scar revision or nipple repair. As this type of surgery is a continuation of the original funded surgery, a direct referral to a surgeon of choice should follow. Gender identity clinic referrals or approval is not required.

INITIAL SPECIALIST ASSESSMENT

Initial assessment of patients with possible gender dysphoria includes a general medical and mental health interview, with specific attention to psychosexual history and current functioning. A record is required of lifelong mental functioning including any history of disorder. Recollections of childhood gender-typed behaviours, and childhood and adolescent cross-gender dressing with possible erotic accompaniment are elicited. Attempts to conform to cultural gender expectations are described. The current marital or other relationship status as well as extended family situation is discussed. Steps already taken are noted and acknowledged to the patient. Drug use is recorded. Information is provided to the patient.

Although some patients may be living part-time or even full-time in the new role when they first seek help from a clinician, many will not have changed their gender role. Change of role must be taken into account when endocrine treatment is being considered, but administration of hormones is not contingent on role change and patients should not have to take this step or be obliged to make a commitment to it. When gender role change is not planned at that time, there should be a clearly documented treatment plan that is regularly reviewed.

Gender dysphoria may be confirmed in different ways, for instance by engaging in a period of therapy with a counsellor, psychotherapist, psychologist or a psychiatrist. This can take place in either primary or secondary care settings.

Patients must have experienced persistent gender dysphoria in order to be eligible for endocrine treatment. Psychotherapeutic support may continue during ongoing hormone administration. Where endocrine treatment helps patients to cope in the long term with gender dysphoria, this treatment may not be withheld or withdrawn because the individual, for whatever reason, chooses not to change the gender role full-time or at all (Byne *et al*, 2012).

At first presentation, others may have already changed their social gender role, commenced endocrine treatment or had some surgery. This must be recognised and individual circumstances accommodated in the overall treatment programme. Implementation will depend on patients'

circumstances, steps taken and how successful they have been in consolidating their gender role. It is possible that no supervision of living in the new role will be required because effectively it has already taken place and is verifiable.

Men whose breasts are causing them distress and who have a diagnosis of gender dysphoria or have a Gender Recognition Certificate may need to have chest reconstruction around the same time as the change of gender role. Breast binders may be worn, but this can be painful and problematic. Binders restrict breathing and may have significant physical consequences. Damage to the breast tissue is also caused, so that chest surgery may be more complicated and less successful. Balanced against early surgery, the administration of testosterone for 6 months may improve the outcome of surgery.

COUNSELLING/PSYCHOTHERAPY

The role of counselling or psychotherapy by the counsellor, psychotherapist, psychologist or psychiatrist should be to facilitate the process of exploration for the patient. Psychological therapies should be available to be used as part of the patient's treatment programme. It should enable people, through a variety of approaches, to be clearer about their gender identity including whether they want to commence, continue or reverse treatment.

THERAPEUTIC SUPPORT

In the following situations it is desirable to provide psychological or psychotherapeutic interventions for patients.

- Assessment prior to gender transition, hormone and surgical treatment should include a psychological assessment and formulation including a development history, an account of psychological attitudes to gender and sexuality, and an understanding of any other psychosocial issues that may be responsive to psychological interventions.
- People wishing to consider gender transition but hampered in the decision-making process should have the opportunity for psychological exploration either directly with a gender identity specialist or independently through a consultation with a psychological therapist.
- Some patients with gender dysphoria may have psychological issues beyond gender identity. Such individuals may require in-depth exploration of these wider issues. If these are related to a mental health diagnosis, they may need treatment prior to or, more usually, in parallel with, the gender treatment process. Cessation or suspension of gender treatment by the treating team can only occur where there is evidence that a mental health condition is giving rise to a misdiagnosis of gender dysphoria or renders the patient untreatable until their condition is reasonably well controlled.
- In the course of gender treatment, patients may become depressed or have to face psychosocial issues in reaction to external factors. As with any other individuals, they may benefit from psychological interventions in any of a number of different models of psychotherapy.
- At any stage of treatment, patients may need to explore their gender identity issues within a psychotherapeutic process. This may be

provided outside a gender identity service, and this is especially valuable when it can be accessed locally on a frequent, regular basis. The gender identity clinic may request the GP to make a local referral.

- Post-operatively, people may wish to have emotional support or psychotherapy. Some people experience depression post-operatively. In these circumstances, support should be offered and may be provided within a gender identity service or in another psychotherapeutic setting.

THE CHANGE OF GENDER ROLE

The progression from one gender role to another usually requires input from specialist services to support changes in social, family, domestic and work life.

A verifiable period of time, usually at least 12 months, living in a gender role that is congruent with the gender identity is a requirement for those who seek genital surgery. Some people have already changed their gender role before seeking medical help. Others may wait until they have been on hormones for a few months or sometimes years (Byne *et al*, 2012). Where people can demonstrate that they have already been living in role, this must be taken into account by clinicians.

The quality of life in the new role is assessed through discussions about the patient's ability to function in areas such as employment, voluntary work, education and training or some other stable, social and domestic lifestyle, and to adopt a gender-appropriate first name.

Clinicians require verifiable documentation or evidence of the gender role change. However, care should always be taken to avoid breach of confidentiality in this regard.

Patients should be given the opportunity to discuss which surgical options would be best for them. This can be achieved by an appropriate referral during this time to consult with a specialist surgeon. Where possible, patient choice should be taken into consideration. To avoid unnecessary delay, the consultation may occur before the required period of living in the new role is achieved. This also provides an opportunity to determine the outline of donor site hair removal which promotes good outcomes. Some surgery such as facial feminising surgery and thyroid cartilage reduction may be undertaken at any time.

USE OF MEDICAL OPINIONS

OPINIONS AND ELIGIBILITY CRITERIA FOR GENDER TREATMENTS

Opinions are required at the crucial stages of commencing hormone therapies and referral for surgical procedures. The following apply to all medical and surgical intervention:

- persistent and well-documented gender dysphoria
- capacity to make fully informed decisions and to consent to treatment
- if significant medical or mental health concerns are present, they must be reasonably well controlled.

ENDOCRINE TREATMENT

The decision to proceed with endocrine treatment will usually involve a single opinion from a member of the gender identity team or network. Patients should have a written copy of this decision. However, the GP or other medical practitioner involved in the patient's care may prescribe 'bridging' endocrine treatments as part of a holding and harm reduction strategy while the patient awaits specialised endocrinology or other gender identity treatment and/or confirmation of hormone prescription elsewhere or from patient records.

SURGERY

It is important that surgeons responsible for major, irreversible operations do not merely rely on referrals but, in addition, satisfy themselves that this is an appropriate proposed procedure for the person concerned (see 'Genital surgery for men', p. 30, for donor site hair removal).

Best practice expects that opinions and recommendations given by a gender identity clinic or consultant in one area of the country are portable and accepted by other gender identity clinic providers, surgeons and consultants elsewhere in the country.

If the person has an interim or full Gender Recognition Certificate, they have, by definition, lived in the gender role that is congruent with their gender identity for at least 2 years, and have satisfied the Gender Recognition Panel that they intend to do so for the rest of their lives. They are therefore eligible to proceed with surgery, including genital surgery, subject to a single medical opinion from a physician who has long-term knowledge of the patient, on the basis of informed consent.

SURGERY APPLICABLE TO MEN ONLY

- Chest reconstruction requires a single opinion from a gender specialist. Patients should have a written copy of the referral letter.
- Hysterectomy and/or salpingo-oophorectomy requires two opinions, usually from members of the gender clinic team or network (one letter may have two signatories). The second opinion may also be from a GP with a special interest or the patient's own GP. Patients should have a written copy of the decision and referral letter(s). Eligibility criteria are as listed on p. 24, plus:
 - 12 months' continuous endocrine treatment as appropriate to the patient's goals (unless the patient has medical contraindications or is otherwise unable to take hormones). (None of these criteria would apply to medical conditions requiring advice, opinion or treatment from a gynaecologist or oncologist where direct referral is appropriate.)
- Vaginectomy, urethroplasty, phalloplasty, metoidioplasty, testicular prosthesis and/or scrotoplasty requires two opinions, usually from members of the gender clinic team or network (one letter may have two signatories). The second opinion may also be from a GP with a special interest. Patients should have a written copy of the decision and referral letter(s). Eligibility criteria are as on p. 24, plus:
 - 12 months' continuous endocrine treatment as appropriate to the patient's goals (unless the patient has medical contraindications or is otherwise unable to take hormones);

- at least 12 months' living continuously in a gender role that is congruent with the gender identity.

SURGERY APPLICABLE TO WOMEN ONLY

- Augmentation mammoplasty requires a single opinion from a gender specialist or GP with a special interest. Patients should have a written copy of the referral letter. Eligibility criteria are as listed on p. 24, plus:
 - it is recommended that patients have 18 months of a therapeutic level of feminising hormones (see Appendices 2 and 4) prior to breast augmentation surgery, to maximise breast growth and to obtain better aesthetic results.
- Penectomy, orchidectomy, vaginoplasty, clitoroplasty and/or labiaplasty requires two opinions, usually from members of the gender clinic team or network (one letter may have two signatories). The second opinion may also be from a GP with a special interest. Patients should have a written copy of the decision and referral letter(s). Eligibility criteria are as listed on p. 24, plus:
 - 12 months' continuous endocrine treatment as appropriate to the patient's goals (unless the patient has medical contraindications or is otherwise unable to take hormones). It is desirable for the patient's circulating hormone levels to be the same before surgery as will be the case afterwards;
 - at least 12 months' living continuously in a gender role that is congruent with the gender identity.

FACTORS CONDUCIVE TO SUCCESSFUL OUTCOMES

PEER SUPPORT AND MENTORING

Societal prejudice can impair overall health and well-being, whereas peer support can reduce social isolation and distress. Peers can play an important role in providing support and encouraging the use of helpful organisations and resources. Because many people may be more comfortable talking to those who have been through similar experiences, they are more likely to trust their help and accept their advice. Clinicians should provide information on local and national resources.

FAMILY SUPPORT

There is evidence that for many people, family support is an important aid to successful transition. Clinicians should provide information about accessing family support. Regional clinics could facilitate setting up family workshops (see Appendix 5).

HAIR TREATMENTS

Facial and body hair removal, hair transplantation and provision of hairpieces where appropriate will prevent risk of harm and help a woman live more successfully (see Appendix 6).

IMAGE IN THE NEW SOCIAL GENDER ROLE

It is important for those experiencing gender dysphoria to have confidence in their ability to succeed in the new social gender role. The chances of success, especially during the early stage of gender role adjustment, will be considerably reduced where there is a poor self-image. This factor may have a negative impact on decisions about future treatment. Continual fear and exposure to risk of harm affects self-image and should be minimised and reduced by best practice throughout service provision.

SPEECH AND LANGUAGE THERAPY

Speech and language therapists working with people aim to develop voice and communication skills that are congruent with age, physical appearance and consistent with the expectation of both the individual and society for that person's gender identity. Speech and language therapists may be involved in the care of both women and men (see Appendix 7).

FACIAL FEMINISATION SURGERY

Facial feminisation surgery is considered by some to be an essential part of the transition process by women. This procedure involves cranial surgery and, depending on the amount of work undertaken, can take anything from 5 to 12 hours. Surgery can encompass scalp advancement, brow repositioning, removal of brow bossing on the forehead, re-contouring the orbital rim, cheek surgery, rhinoplasty, upper lip lift and the re-shaping of the jaw and chin.

GUIDELINES FOR HORMONE INTERVENTIONS

Hormone prescribing in this field, according to the principles below, and under the guidance of a specialist service, has been shown to be safe and can be undertaken mainly in primary care. Accepting the desire for the guidelines to be evidence based, there is a great paucity of such evidence. Hormone support is based on traditional patterns of treatment.

Only recently are treatment programmes being introduced based on the care of patients with endocrine gonadal disorders unrelated to gender dysphoria. In some people experiencing gender dysphoria, the changes associated with endocrine treatment may be sufficient and the person may not proceed to make other social changes or undergo any surgery.

Hormone support should be carried out as part of the care from a team or network that includes a clinical endocrinologist or using clearly developed protocols (see Appendices 2–4), with access to an endocrinologist if necessary. Endocrinologists involved should be conversant with the management of patients with gonadal disorders not due to gender dysphoria such as is encountered in patients with chromosomal, pituitary, adrenocortical or gonadal diseases.

Full discussion of fertility issues should precede endocrine treatment. There should be no differentiation between gamete storage in patients and the general population (see Appendix 8).

There should be awareness of the recently described complications of excessive and prolonged gonadal steroid replacement in menopausal women

especially if given in excessive amounts (Marjoribanks *et al*, 2012). Wherever possible, physiological end organ response should be the aim of any endocrine treatments. This should be based on management of circulating hormone levels to allow accurate and individual dose titration together with suppression of the hormone effects associated with the undesired gender. Treatment should be flexible and patient-led as far as is consistent with clinical safety and with the agreement of the prescriber, accompanied by a full explanation of the principles behind the treatment regimen and taking account of the individual's views of their needs.

Close liaison between the specialist clinician and GP should be maintained at all times. Physical assessment and ongoing haematological, endocrinological and biochemical monitoring is essential, preferably under agreed collaborative care protocols. As with all women, patients taking oestrogen therapies should be advised about breast awareness.

All patients receiving hormone therapies should be regularly reviewed to ensure that clinical well-being is maintained.

Choice of hormone preparation, method of delivery and dosage should be in line with current understanding of minimum health risks and maximum efficacy. The endocrine treatment protocols outlined in Appendices 2–4 are designed to deliver optimum results in the safest way, and should be suitable for the majority of people.⁹ Additionally, research in this area is limited, and since the aim is to achieve greater comfort for the person, clinicians should respond flexibly to the individual's reaction to treatment, and it may be necessary to vary products and dosages accordingly. If necessary, this may be under specialist care.

Some patients may obtain hormones from the internet or other agencies. The clinician should discourage patients from using such sources but may offer monitoring and advice on the effects of such agents. The clinician should assist patients in obtaining hormones from properly authorised sources. A harm-reduction approach should be taken. Accordingly, hormones should not be stopped. A bridging prescription may be appropriate, and blood tests and health checks are undertaken to screen for contraindications.

When patients move between clinical services, appropriate endocrine treatment should continue to be offered.

For women the mainstay of therapy is oestrogen therapy and suppression of androgen secretion and action (see Appendix 2). For men, the mainstay of therapy is androgen therapy and suppression of oestrogen secretion and action (see Appendix 3).

Where androgen endocrine treatment results in high haemocrit and/or high haemoglobin or red blood cell levels, often called secondary polycythaemia, the man must not be denied androgen treatment. This is especially important when the man has had a hysterectomy or salpingo-oophorectomy. Polycythaemia is generally easily manageable by venesection or the alternative response may be to titrate and reduce the androgen dosage and/or the androgen peaks by using a short-acting topical androgen.

9. When prescribing an unlicensed medication, the GMC advise doctors that they must: be satisfied that there is sufficient evidence or experience of using the medicine to demonstrate its safety and efficacy; take responsibility for prescribing the medicine and for overseeing the patient's care, monitoring, and any follow up treatment, or ensure that arrangements are made for another suitable doctor to do so; and make a clear, accurate and legible record of all medicines prescribed and, where you are not following common practice, your reasons for prescribing an unlicensed medicine (General Medical Council, 2013b: paras. 67–70).

AFTERCARE

Long-term monitoring should be offered once the patient is stabilised at the agreed end stage of the gender transition. Monitoring of the endocrine treatment should be directly available to the patient, without psychiatric or psychological involvement unless requested. A summary of commonly used preparations is listed in Appendix 4.

SURGICAL INTERVENTIONS

GENITAL RECONSTRUCTIVE SURGERY

This is also termed gender reassignment surgery, sex reassignment surgery, gender realignment surgery and gender reconstructive surgery.

It is the surgeon's responsibility to determine that a referred patient's physical and mental well-being is sufficiently robust to undergo such a major irreversible procedure. The surgeon must see a copy of the opinion(s) confirming that genital or chest surgery should be offered in the circumstances specified in 'Opinions and eligibility criteria for gender treatments', pp. 24–26. A single opinion may suffice for a person with a Gender Recognition Certificate or of equivalent standing. If surgeons have doubts about the appropriateness of the surgery, they should consult with the referrer(s) before undertaking any procedure.

ROLE OF THE NURSING TEAM

The role of the nurse working with patients with gender dysphoria includes pre- and post-operative care. Ideally, contact would be made prior to surgery to establish a professional relationship between both parties. Information should be shared on aftercare.

Post-operative care consists of wound and physical care. Support to the patient, relatives, friends and carers may be offered. This may only be necessary for a short period of time until the patient has recovered both mentally and physically, and ready to resume normal life.

It is important that the nurse has knowledge of the needs of patients with gender dysphoria and of the surgery that is involved. It is desirable for the nurse to be able to liaise with the other disciplines.

It is essential that the hospital-based nursing team makes appropriate referral to the community team prior to discharge.

GENITAL SURGERY FOR WOMEN

Within the UK, feminising vaginoplasty (penectomy and bilateral orchidectomy with construction of a sensate clitoris, labia majora and vaginal formation) is in most cases performed as a single-stage procedure using tissue obtained from the penis and scrotum. When there is insufficient skin available (e.g. micropenis or more commonly, long-term endocrine treatment), the vagina may be constructed from bowel segments, usually the sigmoid colon. Patients who lack sufficient functional depth following an inversion penile scrotal skin vaginoplasty may also be candidates for salvage colonic vaginoplasty (see Appendix 9).

Hair removal from the donor site may be needed in many types of gender reconstructive surgery and will need to be undertaken well before surgery.

GENITAL SURGERY FOR MEN

Patients may request genital surgery as the final stage of reassignment. There are many options that can be tailored according to the patient's request. Patients who wish to have penetrative intercourse will need a total phalloplasty to house a penile prosthesis. Some patients do not wish to have a urethra and are content to sit to void, and this will reduce complications and the number of operations required.

Patients should have an in-depth discussion with regard to the current techniques. They should be shown photographs of typical results and, if possible, be able to speak to individuals who have had the desired operation. Patients should have the opportunity to choose any of the clinically appropriate techniques even if this means referral to another centre either in Europe or elsewhere (see Appendix 10). Currently, the Belgian technique for the forearm phalloplasty is a single-stage technique, whereas the British technique requires two shorter admissions several months apart. Both techniques defer implanting prostheses to an additional stage about a year after the original phalloplasty.

Hair removal from the donor site may be needed in many types of genital surgery. The surgical team will advise about the areas to be epilated which will depend on the surgical practice and the available tissue. This takes time and should be initiated well in advance of the proposed surgery.

CHEST SURGERY FOR WOMEN¹⁰

Surgery is usually undertaken as a day case, under general anaesthetic. The incision is either placed submammary or in the axilla and a saline or silicone gel prosthesis is inserted into a submuscular pocket, or sometimes subglandularly if there has been a good response to hormone therapy. Implants are designed for a female chest and therefore tend to be rather narrow for the broad male chest. Also, males tend to have their nipples rather lateral in position compared with females.

The principal complication is encapsulation or hardening around the prosthesis which occurs in one in ten cases.

CHEST SURGERY FOR MEN¹⁰

In small-breasted patients who have good, thick skin on their breasts, mastectomy can be achieved through a periareolar incision. Using this procedure it is difficult to achieve the correct amount of reduction. In some, an over-reduction is achieved which in most cases cannot be corrected as a secondary procedure.

For most patients, however, a more extensive reduction is required, removing the breast as an ellipse and trying to place the scar in the submammary groove – the nipple is repositioned as a free graft. Although

10. Written by Mr Dai Davies, Royal College of Surgeons.

this gives a more obvious scar it is an easier and more predictable operation to undertake and patients, on the whole, are happier with this approach.

The operations are usually done with a one-night stay, as there is a slight risk of haematoma, and then managed on an out-patient basis after that. Follow-up usually continues to 6 months when a decision may be made as to whether any small adjustments are required. These are usually done under local anaesthetic. If a patient requires phalloplasty then there is an argument for undertaking mastectomy at the time of the phalloplasty, as the spare skin can be used to resurface the forearm when a radial forearm free flap is undertaken.

FOLLOW-UP AND GENERAL MEDICAL CARE

Men and women should be offered information on breast awareness and screening as advised by current national guidelines.

Women should be offered advice as appropriate in relation to prostatic disease as prostatectomy is not part of genital reconstructive surgery.

Men should be offered ongoing screening for cervical disease (if relevant) as advised by current national guidelines and remain on the cervical cytology recall service.

The risk of developing ovarian carcinoma if the ovaries remain *in situ* once androgen therapy commences is unknown but unlikely to be different to that of nulliparous women whose lifetime risk is slightly greater than that of women who have been pregnant. Endometrial cancer is a high risk for men who have a uterus while their body is aromatising 'unopposed oestrogen' derived from testosterone. In this respect it is assumed that they will have the same negative response as natal females with a uterus who have the same 'unopposed' oestrogen exposure. It is generally recommended that men consider hysterectomy after 4–5 years on testosterone due to this increased risk. Some men in this situation, and also those with a familial history, may request a hysterectomy much sooner due to increased risk.

In view of increased risk of reduction of bone mass secondary to treatment, bone densitometry should be offered as appropriate, as advised by current national guidelines.

Access to all other medical services should be on an equitable basis with those offered to all other individuals in similar circumstances.

Patients should continue to be seen by psychological and surgical specialists for as long as necessary. The opportunity should be provided for direct referral back to specialist clinicians or clinics at any time in the future if requested.

Appendix 1 The needs of people with intellectual disabilities who have gender dysphoria*

Within this section, the needs of people with an additional diagnosis of intellectual disability will be identified. For clarification, an intellectual disability will be defined as having an IQ of 70 or below, as outlined in ICD-10 (World Health Organization, 1994) or where a health or social care learning disability service has recognised the need for involvement.

This document has clearly outlined the process required for assessment and access to treatment for individuals requiring gender reassignment treatment. However, the needs of people with intellectual disabilities are often greater, not only in accessing services but in understanding that the condition, treatment and consequences can be difficult, as outlined by the Department of Health (2001), and such individuals often require additional support to access treatment by learning disability services. Individuals referred should have the opportunity for the following.

- A person-centred plan implemented by the learning disability service which would outline their holistic needs including the gender need.
- Access to counselling/psychotherapy prior to referral to a gender clinic, with further counselling/psychotherapy provided if not accepted for treatment.
- Access to counselling/psychotherapy will be required if accepted for treatment. This may not need to be a constant service. However, it would be needed prior and during the real-life experience, prior to and at the start of hormone treatment, and pre and post any surgical treatment.
- Counselling/psychotherapy should be provided, where possible, by a professional who has experience of both intellectual disability and gender identity issues. Where this is not possible, supervision should be sought from a suitable source where the experience is available.
- A support network will be required for the individual which might be identified from the person-centred planning group to support the individual throughout the gender treatment process. This support network should include a community learning disability nurse and/

*Written by Mr Daniel Wilson, CONSENT (Consultancy, Sexuality Education and Training).

or social worker and an advocate support worker. This support will be provided during the entire gender reassignment process.

- Where learning disability services are involved, the individual's capacity to consent to treatment should be considered and assessed by the multidisciplinary team. Lack of capacity to consent is not a reason to stop the referral process. However, a decision to act in the individual's best interests should be considered.
- Gender clinics that have concerns about an individual having an intellectual disability and their ability to understand and consent should refer the individual to their local learning disability service for assessment of intellectual disability. If diagnosed with an intellectual disability, the services described earlier should be implemented.

Appendix 2 Guidelines for hormone therapy for gender dysphoria in trans women and post-genital operation or gender recognition certificated women*

SUPPRESSION OF TESTOSTERONE SECRETION AND PROVISION OF OESTROGEN THERAPY

It has been traditional to use the androgen receptor-blocking drug cyproterone acetate or the potassium-retaining diuretic spironolactone, which has similar effects, to suppress the effects of circulating androgens such as testosterone, dihydrotestosterone, androstenedione and dehydroepiandrosterone (DHEA). There may be problems, however, with the use of cyproterone acetate, which is, at least in part, dose dependent. High doses of cyproterone acetate are associated with glucocorticoid effects, although this is more apparent in children and adolescents than adults. Hepatotoxicity is recognised in animal models on long-term therapy and indeed hepatic tumours occur in rats. Although this has not clearly been seen in humans, hepatic dysfunction does occur rarely. The Medicines and Healthcare products Regulatory Agency has issued a warning of potential risk of (multiple) meningiomas (Medicines and Healthcare products Regulatory Agency, 2009). Cyproterone can also cause depression. Spironolactone causes elevated potassium and low sodium levels in the blood. There are alternative and preferable ways of suppressing secretion of endogenous androgens and their effects.

Instead of using cyproterone acetate, a more effective alternative is to use depot injections of analogues of the gonadotrophin-releasing hormone. Examples of this would be depot goserelin or leuprorelin. A usual dose of goserelin would be the use of a subcutaneous implant of 3.6mg once every 4 weeks or 10.8mg every 3 months. This produces reversible 'chemical gonadectomy'. By super-stimulation of the pituitary, the gonadotrophin-releasing hormone receptors on the pituitary are downregulated and the pituitary rapidly becomes unresponsive, leading

*Written by Professor Mike Besser, Royal College of Physicians.

to cessation of secretion of the gonadotrophins. Leuteinizing hormone and follicle-stimulating hormone levels fall to hypopituitary levels and testosterone and dihydrotestosterone levels decline to very low levels equivalent to a post-gonadectomy state. If the treatment is stopped, the receptors regenerate and gonadotrophin secretion resumes. There is therefore a state of reversible hypogonadism. Gonadotrophin-releasing hormone therapy may be continued until gonadectomy. Secretion of the circulating adrenal androgens, androstenedione and DHEA is not suppressed but they have low androgen potency but may be converted to testosterone and dihydrotestosterone. If necessary, their effects may be mitigated by the use of finasteride, a drug which inhibits the conversion of testosterone to the much more active dihydrotestosterone. In the rare event of persisting effects of androgenisation, a low dose of cyproterone or spironolactone could be introduced since these compounds block the androgen receptor. Suppression of the levels of androgens and their effects given this way allows the full effect of administered oestradiol to become apparent without the use of excessive dose. Circulating levels of testosterone and, ideally, dihydrotestosterone levels should be monitored to ensure they are suppressed to well below the normal male range.

Oestradiol therapy should normally be used in association with suppression of androgen secretion.

Oral doses of oestradiol 1–6mg/day are commonly required. Circulating oestradiol levels should be monitored to make sure that appropriate levels are achieved and that the dose given is not excessive – levels at 24h after a dose of oestradiol should be in the upper half of the normal follicular phase serum oestradiol levels. It is wise to check circulating lipid levels and liver function tests since some patients experience obstructive hepatotoxic effects of oestradiol. Blood pressure should be monitored. If surgery is to be undertaken, it is usual to stop oestrogen replacement therapy 4 weeks prior to surgery.

Oestrogen replacement therapy has traditionally been given using oral equine oestrogen mixtures or ethinyloestradiol. Neither of these is physiological for the human and there is a major problem in that they cannot be measured effectively in relation to physiological human circulating levels of oestrogen. These adverse features are avoided if oestradiol is used. Oestradiol is a physiological hormone in women and the physiological levels in the circulation are well established. Different patients require different doses to achieve the female physiological level of circulating oestradiol in the upper half of the normal follicular phase of the normal menstrual cycle (e.g. anything from 1mg to 6mg per day by mouth). Different laboratories report different normal ranges for hormonal assays depending on the methods used. Clinicians should use their local laboratory normal range for follicular phase serum oestradiol levels – a representative range for the upper half of the follicular range is 300–400pmol/l or 80–140pg/ml. Levels higher than this may be associated with the established side-effects of excessive oestrogen, particularly thromboembolism, hypertension and myocardial infarction. Physiological levels should be able to produce the desired phenotypic changes, particularly if the circulating androgen levels and their effects are suppressed. Transcutaneous oestradiol using 50–150mcg patches two or three times a week can be used and monitored serum levels of oestradiol at 48h after application of a patch should be in the upper half of the normal follicular range. Oestradiol gel (two or three measures daily) can also be used and serum monitoring should occur at 24h.

BIOCHEMICAL AND HAEMATOLOGICAL MARKERS

See Appendix 4.

PHYSICAL ASSESSMENTS

Before commencing hormones, a full physical examination should be offered by the GP or hormone prescribing clinic. The prescribing physician should satisfy themselves that a recent clinical examination has been recorded in the medical notes.

Genital examination may cause individual distress and may be declined by the patient: such refusals should be respected in all cases.

Routine screening for prostate malignancy should be offered in accordance with current good practice guidelines and specifically where persistent urinary symptoms are reported.

Five-year monitoring for breast cancer should be undertaken. Breast awareness information should be offered by the prescribing unit.

If gonadectomy is carried out, then the use of a gonadotrophin-releasing analogue must cease.

Appendix 3 Guidelines for hormone therapy for gender dysphoria in trans men and post-genital operation or gender recognition certificated men*

SUPPRESSION OF OESTROGEN SECRETION AND PROVISION OF TESTOSTERONE THERAPY

The use of a long-acting analogue of a gonadotrophin-releasing hormone such as goserelin as detailed in Appendix 2 will rapidly but reversibly suppress leuteinizing hormone, follicle-stimulating hormone and ovarian function.

Testosterone replacement therapy can be started at the same time. It has been usual to use depot testosterone injections such as testosterone enantate or the mixed testosterone esters preparation Sustanon® 250mg intramuscularly every 2–3 weeks. Sustanon® 250mg has been approved for the supportive treatment of men. This dose may need to be increased and most patients are maintained well on 500mg every 3–6 weeks. A more recently introduced depot intramuscular preparation of testosterone undecanoate can be given (Nebido® 1g every 3 months). The basis of the dosage regimen should rely on the measurement of circulating testosterone levels just before an injection is given. The idea is to achieve a circulating testosterone level just prior to an injection at or below the lower end of the normal adult male range so that accumulation does not occur.

An alternative medication involves the use of a transdermal gel, which is applied daily in a dose of 5g, rubbed usually on to the shoulders or loins after a morning shower or bath. Transdermal patches of testosterone can be used but are frequently poorly tolerated and may induce a reaction to the medication in the patch. Another alternative is oral testosterone undecanoate, but the dosage cannot be monitored effectively by using serum testosterone. This is because this preparation is absorbed across the gut into the lymphatic system and does not undergo 'a first pass' effect

*Written by Professor Mike Besser, Royal College of Physicians.

in the liver. Since the gut wall contains high levels of the enzyme 5-alpha-reductase, testosterone is converted to the much more biologically active dihydrotestosterone in the gut. Circulating testosterone levels are often at or below the normal male range, whereas dihydrotestosterone levels are supraphysiological for men on this preparation. Sometimes the oral preparation is preferred to transdermal or intramuscular administration and if this is the case, monitoring of the dosage should be based on circulating dihydrotestosterone levels in blood obtained 3–4h after a dose. The doses of testosterone undecanoate vary from 40mg three times a day to 80mg twice daily.

Men treated with androgens should have monitoring of haemoglobin and haematocrit since high haemoglobin levels may be induced with high doses. It is unusual to get liver dysfunction on these preparations.

If gonadectomy is carried out, then the use of a gonadotrophin-releasing analogue must cease.

BIOCHEMICAL AND HAEMATOLOGICAL MARKERS

See Appendix 4.

PHYSICAL ASSESSMENTS

Before commencing hormones, a full examination should be undertaken. The prescribing physician should satisfy themselves that a recent clinical examination has been recorded in the medical notes.

Genital examination is not necessary if a pelvic ultrasound is undertaken. This should ideally be done transvaginally but may be transabdominal if the patient objects to the former.

Breast monitoring should continue in accordance with current good practice guidelines.

Appendix 4 Hormonal treatment: a suggested collaborative care protocol

Endocrine normal ranges differ between different laboratories as methods of assay are not always the same. Clinicians should use their local laboratory ranges when interpreting results as reported. Levels quoted here are indicative only. Monitoring should normally take place in a primary care setting.

WOMEN

MONITORING TESTS

Patients should be encouraged to stop smoking, take regular exercise, have a sensible diet and consume no more than 14 units of alcohol per week.

BASELINE

Blood pressure, full blood count, urea and electrolytes, liver function tests, fasting blood glucose, lipid profile, serum free thyroxine T4, thyroid-stimulating hormone, testosterone, oestradiol (less than 100pmol/l) and prolactin (50–400mU/l).

MONITORING

On a 6-monthly basis for 3 years and then yearly depending on clinical assessment and results. Provision of prescription is contingent on patients understanding the risks and benefits that may result due to the need to take the following tests: blood pressure, full blood count, urea and electrolytes, liver function test, fasting glucose, lipid profile, testosterone, serum oestradiol 24h after a tablet or 48h after a patch (levels should be in the upper half of the normal follicular range, 300–400pmol/l) and prolactin (less than 400mU/l).

MEDICATION

In the first instance, a specialist clinician will provide the prescription or, if the GP is in agreement with collaborative care prescribing and the patient

attends a gender specialist service, this will be supervised by the gender specialist who has obtained valid consent. Typical prescriptions would be for:

- oestradiol (1–6 mg orally daily)

OR

- oestradiol gel (two to four measures daily) or patches (50–150 mcg, two to three times per week), particularly for patients over 40 years (lower risk of thrombosis). Dosage of oestrogen depends on the results of monitored circulating oestradiol levels (see p. 34);
- goserelin 3.6 mg implant subcutaneously once every 4 weeks or 10.8 mg implant once every 12 weeks, or an alternative gonadotrophin-releasing hormone agonist – inhibits secretion of pituitary gonadotrophin and testosterone secretion.

Additional therapies, which may be helpful, include:

- cyproterone acetate¹¹ (50–100 mg orally daily) – it is much less satisfactory than goserelin;
- Dianette® (1 tablet daily for 21 days; repeat after 7 gap days), which contains cyproterone acetate and an oestrogen;
- spironolactone¹¹ (100–400 mg orally daily) may be required for additional androgen receptor blockade – long-term use associated with liver dysfunction and possibly hepatoma risk (animal data);
- progesterone is not usually indicated since no biologically significant progesterone receptor sites exist for biological males. Medroxyprogesterone acetate (100 mg orally twice daily) or dydrogesterone (10 mg orally twice daily) has been used;
- finasteride (5 mg orally daily) – blocks conversion of testosterone (which may derive from adrenal androgens in the absence of secreting testes) to the more active dihydrotestosterone. It can discourage male pattern hair loss and testosterone-dependent body hair growth.

SURGERY

- Stop hormones 4 weeks before surgery and cover with a single dose of subcutaneous goserelin 3.6 mg. Hair regrowth can occur when the effects of goserelin wear off after approximately 4 weeks.
- Hormones should be resumed 4 weeks post-operatively if there are no complications, namely oestradiol tablets or patches for patients over 40 years (see above).
- Anti-androgen usually not required but androgens may still be significantly derived from adrenals – finasteride can be prescribed if androgen effects are still of concern after approximately 6 months.
- Monitoring for osteoporosis, breast and prostate carcinoma required.
- Medication and tests needed for life on 6-monthly basis for 3 years, then yearly if well (see p. 39).

11. Cyproterone and spironolactone are not recommended for long-term therapy unless there are no good alternatives, as side-effects may occur (see p. 34).

MEN

MONITORING TESTS

Patients should be encouraged to stop smoking, take regular exercise, have a sensible diet and consume no more than 14 units of alcohol per week.

BASELINE

Blood pressure, full blood count, urea and electrolytes, liver function tests, fasting glucose, lipid profile, serum free thyroxine T4, thyroid-stimulating hormone, prolactin (less than 400mU/l) and serum oestradiol and testosterone.

MONITORING

On a 6-monthly basis for 3 years and then yearly if well, depending on clinical assessment and results. Provision of prescription is contingent on patients understanding the risks and benefits that may result due to the need to take the following tests: blood pressure, full blood count (haemoglobin and haematocrit), urea and electrolytes, liver function tests, fasting glucose, lipid profile, serum oestradiol (for adequacy of suppression less than 70pmol/l) and prolactin (less than 400mU/l).

Serum testosterone should be at or below lower end of normal range (<10nmol/L) just before next dose is due to avoid accumulation or inadequate dosage. If on oral testosterone, measure dihydrotestosterone levels 3–4h after a dose.

MEDICATION

- Goserelin 3.6mg implant subcutaneously once every 4 weeks or 10.8mg pellet subcutaneously once every 12 weeks.
 - Testosterone enantate or Sustanon® (mixed testosterone ester) 250–500mg intramuscularly two to six times weekly depending on serum testosterone levels (see above).
- OR
- Testogel® (50mg/5g gel once daily – occasionally two doses are required), rubbed into the shoulders or loins after shower or bath.
- OR
- Testosterone undecanoate 120–160mg/day orally or 1g intramuscularly every 3 months.

SURGERY

- Hormones do not need to be stopped pre-operatively.
- Androgen (testosterone) should be continued for life if there are no contraindications.
- Monitoring for osteoporosis, cervical and breast carcinoma is required.
- Medication and tests needed for life on 6-monthly basis for 3 years, then yearly if well (see p. 41).

Appendix 5 Family support*

Transsexualism within a family often puts huge strains on relationships, creating a high risk of rejection of the individual, just when support is most needed. Poor support from the family is a recognised prognostic factor for a person's experience of regret following gender reconstructive surgery.

Family members themselves experience complex emotions of shock, grief, anger, bewilderment, fear, guilt, denial and embarrassment. Partners and spouses, in addition, have to face the disruption to their sexual relationships. There may be mutual accusations of selfishness as the individual, sometimes after years of delay, focuses on achieving all transitional goals as quickly as possible, while the family grapples with an entirely unanticipated situation, and may seek to delay, or even prevent, transition. The denial of contact between people and their children causes great suffering, but it is not unusual, despite the research indicating that such contact is not harmful to a child, whereas loss of a parent is.

Support and education for families in the early stages of transition can often prevent deterioration of, or lead to significant improvements in, relationships by mitigating the experience of pain and loss. Family acceptance is an important, sometimes vital, ingredient in the successful rehabilitation of the individual in the new gender role. Engagement with the family should, therefore, form a part of the care package offered to individuals. However, this should only be implemented if and when the person is entirely comfortable with family involvement, and should not be a precondition to treatment.

Family support may best be provided by someone other than clinicians. A formula may be based on the workshops run by the Gender Identity Research and Education Society (www.gires.org.uk), assisted by Depend (www.depend.org.uk) and Mermaids (www.mermaidsuk.org.uk). The team leading the workshop should include parents, partners, a man and a woman. Families need an informal, caring and absolutely confidential setting in which to explore and share their emotions and fears with others in the same situation. The aims of the workshops are to encourage optimism about the future, to promote open discussion of the many difficulties faced by people, to lessen the tension between them and their families, and to enable families to support them.

*Written by Mrs Terry Reed, Gender Identity Research and Education Society.

Appendix 6 Hair treatment*

Androgens stimulate the conversion of fine vellus hair into large terminal hair in many regions of the skin following puberty. The growth of pubic and axillary hair is stimulated by low levels of androgens, probably of adrenal origin. Higher levels of gonadal androgens are needed to stimulate hair growth on the beard area, trunk and limbs and, in these sites, terminal hair growth is dependent on the potent androgen dihydrotestosterone, which is derived from circulating androgens (principally testosterone) by the action of the enzyme type II 5-alpha reductase. These changes are most pronounced in men but they also occur in some women, particularly those with hyperandrogenism. Paradoxically, androgens are also responsible for the progressive miniaturisation of hair follicles on the scalp that cause balding.

Men castrated before puberty do not show these androgen-dependent changes in hair growth. In men castrated post-puberty, some reversal may be seen. The degree of reversal appears to depend on the age at androgen ablation – in young men terminal hair growth may be fully reversed by gonadectomy but with increasing age the degree of reversal becomes progressively less (Hamilton, 1958). Limited studies in male castrates suggest that androgen ablation in men aged over 30 reduces terminal hair growth by less than 50%. The same considerations apply to male balding (Hamilton, 1942). These observations indicate that androgens alter gene expression in androgen-dependent hair follicles, which is not fully reversible in the absence of androgens. This view is supported by numerous studies on the treatment of female hirsutism with anti-androgens.

We may expect, therefore, that androgen ablation, either chemical or surgical, will produce a substantial degree of androgen-dependent hair growth reversal in young men, although there is likely to be interindividual variation in the response. Women may also be taking oestrogens. In other species, oestrogens inhibit hair growth but very little is known about the effect of oestrogens on human hair growth and we cannot assume that oestrogen therapy influences terminal hair growth. Where terminal hair growth is well established, androgen ablation will, at best, result in only partial reversal and other methods of hair removal may be needed. Methods such as shaving and waxing are widely used but their effect is, of course, temporary. To date there are only two methods of hair removal which have the potential to be permanent – electroepilation (electrolysis) and laser hair removal, neither of which is readily available on the NHS.

*Written by Professor Andrew Messenger, Royal College of Physicians.

ELECTROEPILATION

This is practised mainly by beauty therapists. It involves the insertion of a fine needle into each hair follicle individually; the follicle is then destroyed by thermal and/or electrolytic forces by the passage of an electric current through the needle. Electroepilation is slow and tedious, typically requiring repeated treatments over many months or years, but good results can be obtained if done by an expert. It is most suitable for treating small areas of unwanted hair growth, such as the chin or moustache area. It is not appropriate for treating hair growth over extensive regions of the skin, such as the chest or limbs.

LASER HAIR REMOVAL

Light energy from the laser source is absorbed by melanin in the hair roots and converted to heat, which then destroys the hair follicle. The laser source is applied to the skin surface and several follicles can be treated simultaneously, meaning it is a much more rapid treatment than electroepilation. Laser hair removal is most effective in those with dark hairs and fair skin, but modern lasers are also able to treat those with racially pigmented skin. It is not suitable for treating non-pigmented hairs. Laser hair removal is expensive and treating large areas of skin is still a major undertaking. Permanency is not guaranteed and, like electroepilation, repeated treatments may be needed. Side-effects include scarring, pigment changes in the skin and, rarely, increased hair growth. Effective treatment may require access to more than one type of laser.

TOPICAL AGENT

A topical agent containing the ornithine decarboxylase inhibitor called eflornithine is available. It has recently been licensed in the UK for treating facial hirsutism in women. There are no published peer-reviewed studies but data presented at academic meetings suggest that it reduces hair growth by about 20%. There is no information on its use in men. Continued treatment is needed to maintain the response.

Appendix 7 Speech and language therapy*

REFERRAL

- Speech and language therapists should ideally work as part of a recognised multidisciplinary team, with established links to its members, especially psychotherapist colleagues.
- Only after a confirmed diagnosis of gender dysphoria has been established will a patient be assessed for suitability for voice and communication therapy.
- A referral to a speech and language therapist should only be accepted if the therapist is clinically competent in this specialised area.

ASSESSMENT AND READINESS FOR THERAPY

- Therapeutic intervention will be mindful of the physical limitations of the patient's vocal anatomy enabling change without causing vocal abuse/damage (Dacakis, 2002; Adler *et al*, 2006).
- Intervention will be timely and take into account the person's ability to participate in therapy (Söderpalm *et al*, 2004).
- It will be consistent with current research/agreed expert opinion.
- Any pre-existing voice difficulty will be treated before voice modification (Taylor-Goh, 2005).
- Regular therapy will usually commence when the patient is 'living in role' or transition is imminent in order to maximise voice/communication changes.
- Case history will include a detailed voice assessment to gain values of both perceptual and objective measures where facilities are available.

*Written by Ms Jane Thornton, Royal College of Speech and Language Therapists.

THERAPEUTIC INTERVENTION (GENERAL)

- The amount of therapy required will be variable and take into account the patient's own expectations, their natural vocal ability and their commitment to therapy.
- Therapy contracts between therapist and patient are commonplace and can be re-negotiated at any point in the patient journey.
- Therapy may be offered on an individual basis or in groups (Chaloner, 2000), with use of biofeedback to support therapy. Different communication styles and situations will be addressed.
- Therapists will regularly evaluate progress in line with clinical practice guidelines.
- It is recognised that in some locations it may be the speech and language therapist who offers advice on style and appearance. Counselling/psychotherapy should be provided by appropriately trained team members.

THERAPY WITH WOMEN

The introduction of female hormones will have no effect on the male voice. Therefore, other factors known to mark the difference between male and female voices have to be enhanced to give the individual a more 'feminine' voice. Research has highlighted (Oates & Dacakis, 1997; Gelfer & Tice, 2013) key communication areas where males and females differ, for example voice quality, pitch, intonation, prosody, rate, articulation, resonance, language and non-verbal communication.

THERAPY WITH MEN

The introduction of male hormones in men will lower the pitch of the voice, although the degree and rate of change is variable (Van Borsel *et al*, 2000). Therapy may be offered at this time to help stabilise the voice and laryngeal support musculature that will have been physically altered by the male hormones. However, it is not simply lowering the pitch that will make the voice appear more masculine (see above). Other aspects of the voice/communication will determine 'maleness' to the listener and these should be addressed during assessment.

SURGICAL INTERVENTION

WOMEN

- Pitch-changing surgery may be offered but this should only occur after speech and language therapy intervention and should be decided jointly by the consultant ear, nose and throat surgeon, psychiatrist, speech and language therapist and patient (Matai *et al*, 2003; Parker,

2008). There are various procedures of which, currently, the most preferred for women is cricothyroid approximation. This may precede or follow other types of gender-change surgery and should be followed by further voice-therapy review to optimise surgical results (Antoni, 2007). Objective results are variable at present (Wagner *et al*, 2003), although personal satisfaction rates are high (Kanagalingam *et al*, 2005).

- Thyroid chondroplasty may also be offered to reduce the prominence of the thyroid cartilage for cosmetic appearance (Sandhu, 2007).

MEN

Pitch-changing surgery for men is not as well developed. There have been attempts to lower the pitch further with surgery (e.g. Isshiki type III thyroplasty), but both subjective and objective results are not favourable at present.

SUPPORT MECHANISMS AND CONTINUING PROFESSIONAL DEVELOPMENT

- Adults with gender dysphoria are likely to form a small part of a voice therapist's case-load unless the therapist is attached to a gender clinic. It is therefore essential that access to specialist colleagues and national support networks is available.
- Regular updating of clinical skills is advised through designated courses, study days and individual learning opportunities.

DISCHARGE

Discharge will be at the discretion of the speech and language therapist following discussion with the patient. Reasons for discharge may include any of the following:

- successful completion of the therapy aims and objectives
- no further progress deemed possible
- patient is unable to commit to therapy/practice required to achieve therapy goals.

Appendix 8 Storage of gametes*

If a person seeks advice on storage of gametes then they should be put in touch with a fertility centre offering licensed treatment. A list of centres in the UK can be found at the Human Fertilisation and Embryology Authority's website (www.hfea.gov.uk).

Gametes can only be stored if the provider has given appropriate informed consent. The implications of the storage of sperm or eggs will require careful counselling/psychotherapy. The provider will have to undergo testing for blood-borne viruses including HIV, hepatitis B and C. A support infrastructure, including hepatology services, should be available to deal with screening positive individuals.

The normal maximum storage period of gametes is 10 years. However, in the case of the transsexual individuals this can be extended up to a maximum of 55 years. Centres will normally contact all individuals with gametes in storage on an annual basis to ensure that continued storage is desired. It is the responsibility of the gamete provider to ensure that the clinic is aware of the individual's contact details for this purpose. The clinic may be required to destroy stored samples if the provider fails to keep in touch with the clinic.

Gametes can be stored only after appropriate consent has been given. The centre offering storage will be required to register with the Human Fertilisation and Embryology Authority the fact that sperm or eggs from the named provider have been stored in accordance with statutory guidance. Gametes can be stored for use in the treatment of a named individual, in the treatment of others (sperm/egg donation) or for research. If the specimen is to be used for treatment subsequently, then further counselling/psychotherapy and consent issues will have to be addressed before treatment can take place, including reference to the welfare of any child that might result from treatment.

Hormonal therapy has the potential to disturb the endocrine control of gametogenesis. It is advisable for individuals who wish to store gametes to stop therapy before provision of sperm specimens or undergoing treatment to procure eggs.

STORAGE OF SPERM

Providers of sperm will be expected to produce five to ten ejaculated semen samples over a period of several weeks. If sperm quality is satisfactory this

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will allow the samples to be split and stored in separate straws or vials, allowing for 10–15 cycles of opportunity for conception through artificial insemination in the future. If sperm quality is poor then discussion may be required regarding the use of assisted reproduction procedures such as *in vitro* fertilisation in the future. Should the individual be unable to ejaculate, the clinic may be able to offer alternative methods of obtaining sperm through surgical sperm retrieval or electro-ejaculation.

STORAGE OF EGGS

Egg quality, unlike sperm quality, is greatly influenced by the age of the female. Female fertility in the late 30s and beyond tails off dramatically and even *in vitro* fertilisation techniques are associated with poor success rates. In younger individuals the use of assisted reproductive technology techniques can be considered. Providers of eggs would be required to undergo a cycle of controlled ovarian stimulation leading to egg recovery in order to obtain a reasonable number of eggs for storage. The process of stimulation can take as long as 5 weeks to complete and involves injections of gonadotrophins to stimulate the ovary to generate multiple follicular development. Under ultrasound guidance and with sedation, vaginal oocyte retrieval can be performed. On average, between 8 and 12 eggs can be obtained in this way. Egg storage as a technique is not as reliable as sperm storage and pregnancy rates through the transfer of embryos derived from cryopreserved eggs are as low as 2% per egg frozen. If the egg provider has a male partner, consideration can be given to fertilising the eggs with his sperm. The generation of embryos in this way would offer the possibility of transfer of the embryos into a surrogate host. Embryo cryostorage is more reliable than egg storage and pregnancy rates of up to 20% per embryo transfer cycle can be anticipated with frozen embryos. Consent of the sperm provider for storage or use of embryos derived from his sperm is obligatory. Surrogacy raises further complex ethical questions, which require the input and expertise of counsellors trained in the field.

STORAGE OF OVARIAN TISSUE

Freezing of ovarian tissue is experimental at present and it is unlikely that this will be available as a clinical service in the near future.

CHANGING OR WITHDRAWING CONSENT

Any consent relating to the use and storage of gametes or embryos can be changed or withdrawn at any time by the person who gave the original consent as long as the gametes or embryos concerned have not already been used in treatment or research. The right to change or withdraw consent is an important part of effective consent in ensuring that clinics adhere to the wishes of the provider. Any consent for storage that is given to a clinic should include a statement of what should happen to the gametes or embryos in the event that an individual becomes mentally incapacitated or dies.

Appendix 9 Genital surgery for trans women or certificated women*

There is no level 1 or 2 evidence (Oxford levels) supporting the use of feminising vaginoplasty in women but this is to be expected since a randomised controlled study for this scenario would be impossible to carry out. A useful review of the evidence of the benefits and adverse outcomes of feminising vaginoplasty in female transsexuals is reported by Peter Day. In his report '593 possibly relevant articles in abstract form were identified of which 70 articles were retrieved in full text. Ten studies were selected for appraisal after the application of the inclusion and exclusion criteria. The study designs of the included studies comprised one systematic review, one prospective controlled study, one retrospective cohort study and seven quasi-experimental studies' (Day, 2002: p. 6). He concluded that 'gender reassignment surgery may benefit some carefully assessed and selected transsexual people who have satisfied recognised diagnostic and eligibility criteria, and have received recognised standards of care for surgery. More research is required to improve the evidence base identifying the subgroups of transsexual people most likely to benefit from sex reassignment surgery' (p. 7).

Positive outcomes in the non-controlled studies were reported in areas of cosmetic appearance, sexual functioning, self-esteem, body image, socioeconomic adjustment, family life, relationships, psychological status and satisfaction. However, these 'benefits' were not validated. Significant morbidity can include urethral stenosis or swelling from retained corpus spongiosum, vaginal stenosis or loss of vaginal depth due to necrosis of the penile skin flap, vaginal prolapse, lack of clitoral sensitivity or painful clitoral sensation, necrosis of labial flaps, patient concerns regarding cosmetic outcomes, thromboembolic events including deep venous thrombosis and pulmonary embolism which may be fatal, haemorrhage, and rectal injury requiring faecal diversion (Goddard *et al*, 2007). Rarely, a patient may request reversal of the genitoplasty.

Current retrospective short- and intermediate-term follow-up studies suggest about 80% of patients undergoing feminising vaginoplasty are pleased with the function and cosmetic outcome of their operation (Krege *et al*, 2001; Goddard *et al*, 2007; Tugnet *et al*, 2007). The remainder are pleased that they underwent surgery but report that their pre-operative expectations have not been met with post-operative reality. The majority of these patients may benefit from secondary surgery. It is clear therefore

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that the vast majority of patients, at least in the short and intermediate term, derive important benefits from feminising vaginoplasty at a low risk of serious complications (Krege *et al* 2001; Lawrence, 2003). Other researchers have reported excellent outcomes from feminising vaginoplasty when stringent selection criteria are used and a good surgical result obtained (Green & Fleming, 1990; Eldh *et al*, 1997). However, the long-term surgical, psychological, social and sexual benefits/hazards remain unquantified. As such, it is important to undertake high-quality, multicentre, prospective, long-term studies to determine the risks/benefits of feminising vaginoplasty. Such studies should be restricted to specialist centres with a proven track record in gender reassignment surgery and standardised protocols for patient selection.

Appendix 10 Genital surgery for trans men or certificated men*

The current options available in the UK are listed below. Patients must be warned that all of the surgeries involve multiple stages, and complications may occur. Consent forms and information sheets, explaining all expected outcomes, including potential complications and risks, must be provided several weeks in advance of surgery.

METATOIDOPLASTY

This involves releasing the clitoris and bringing the urethra to its tip, thus forming a micropenis. The scrotum is fashioned and testicular prostheses inserted at a second stage. Patients will be able to stand to void but only 50% will be able to use a male urinal as the micropallus is too small. Otherwise it is a simple one- or two-stage operation, but penetration for sex is usually not possible due to phallus size.

TOTAL PHALLOPLASTY

PUBIC PHALLOPLASTY

A good-size phallus is fashioned from lower abdominal wall skin that has had laser hair removal prior to the initial operation. Alternatively, patients can use depilatory creams or shave the phallus. The urethra is formed from labial hairless skin in two stages but often the opening is 1–2in from the tip of the phallus. All scars are low down on the abdomen and below the underpants line.

FOREARM FLAP PHALLOPLASTY

The phallus is fashioned from the depilated skin of the forearm with a urethra incorporated within. The vessels and nerves of the forearm skin are divided and joined to vessels and nerves in the genital area. The phallus is sensate, is cosmetically realistic, and the patient can void from the tip of the phallus. The main disadvantage is the unsightly resulting scar on the arm that has been skin-grafted. Once the total phalloplasty has been completed and urethral continuity established, patients are offered testicular and penile prostheses and the formation of a glans. Often hysterectomy and oophorectomy can be performed at the same time as one of the stages, either by open or laparoscopic techniques.

*Written by Mr David Ralph, Royal College of Surgeons.

Appendix 11 Supplementary reading

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