

**Lower surgery for those assigned male, who
identify as trans women, trans feminine,
non-binary or non-gender**

**Transgender wellbeing and
healthcare**

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About this publication

This publication provides information about the various options for genital surgery for trans women, trans feminine, non-binary and non-gender people who have been assigned male at birth. The aim of such surgery is to improve the lives of these individuals, both psychologically and physically, by achieving a closer match between their genital appearance, their sexual function, and their self-identification. It is a guide to what can be achieved through surgery.

This information will also help sexual partners of those undergoing surgery by giving them an understanding of the range of possible outcomes, and the impact that these may have on their shared lives.

The information is not aimed at surgeons, but it may be helpful to those medical staff who are providing other aspects of care for these individuals.

The text also provides information and advice about sexual behaviours, and sexually transmitted diseases and how to avoid them.



Sarah and Janet

Genital surgery

1 Making the decision

Genital surgery is not essential for everyone. For some it is a necessary step and an end-point to the journey enabling them to live more comfortably with a body that reflects their gender identity.

This surgery is irreversible and you should give yourself enough time to be sure that this is what you want. Although some level of reversal surgery is possible, you can never have your functioning male genital anatomy fully restored once it has been removed. Bear in mind that this surgery will **not** make a change to your everyday dressed appearance. In your public life, people will not behave differently towards you because you have had this surgery. Successful social transition can be made without recourse to genital surgery, and there is no requirement to have *any* of the available surgical options in order to obtain full legal recognition by way of a Gender Recognition Certificate as long as you meet the criteria laid down by the Gender Recognition Panel.¹ So, genital surgery should not be regarded as inevitable.

However, for many, *“it is a logical and necessary part of the process of becoming a whole person. Sometimes, however, it becomes not only desirable, but an urgent and constant pre-occupation”*.²

*“I was so excited about the thought of my surgery and when I came round from my op I felt a great sense of relief and joy in spite of the discomfort. But nobody else noticed; neighbours and work colleagues still treated me exactly the same. I thought they would **know** that I was a complete woman now but, of course, I was still tall, and my voice was still a bit of a give-away; I still caught people staring at me on the street. **But I don’t regret the surgery for a second”** (anon)*

Living one’s life with genitalia that do not reflect your gender identity is certainly possible, but there are situations where contradictory genitalia can create difficulties: beaches and swimming pools, for instance. Clearly, and for some, more importantly, surgery has an impact on intimate sexual relationships. You must consider what effect surgery will have on erotic possibilities. Will it mark the end of your present relationship? Will you be seeking new relationships?

The possible outcomes are too numerous to be captured within this booklet. Here are a few:

¹ The criteria (2015) are challenged and may change over time.

² GIREs (2008) NHS Guidance for GPs, other clinicians and health professionals on the care of gender variant people. Department of Health, p 49.

You may be in an existing relationship – perhaps officially recognised as a marriage – with a woman, or you may be in a same-sex relationship – possibly a same-sex marriage or civil partnership. So the transition from a physically opposite-sex relationship may cause great difficulties for you and your partner; it may even lead to a breakdown in the relationship.

However, the binary labels: heterosexual or homosexual, and the expectations associated with these terms, enshrined in UK legislation, do not capture the reality of the situation on the ground for the variety of individuals involved. Trans, non-binary and non-gender people seeking surgery, may have intimate relationships with other people who are also planning surgery, or who have already undergone such surgery. So the interface between their sexual attraction towards, and their affection for, particular individuals may remain fluid and open to experiment and negotiation. Some people are in polyamorous relationships – involving more than just two people.

However, couples may stay together and renegotiate their sexual intimacy. But some cisgender women, for instance, have reported that even the sight of their husbands dressed in women's clothes may be enough to completely undermine any sexual feeling.

Another potential change is that some trans people who have fully transitioned find that their sexual orientation is altered to some degree.

For those who are in long term relationships and have children, the impact can be devastating on all members of the family. So, as a background to your decisions about surgery, you may also be trying to negotiate the emotional destabilisation of your family, the grief and, possibly, anger of your partner. This can be an emotional minefield, in which genital surgery is but a small part.

But there is lots of good news. Many families do weather the storm; children, especially younger ones, become accepting of the change; partners may be willing to enter into discussions about how your intimate lives may continue, or how you can remain friends in a loving but largely platonic relationship. Couples may find strength from the other aspects of their relationship upon which they can build a lasting future. You may consider some counselling, separately and/or together, to help you deal with the inevitable stress.

Talking to other couples who have successfully navigated the transition pathway can be helpful. However, you should not feel pressured by others to undertake genital surgery. You should not attempt to meet the expectations of doctors or other trans friends, nor should you feel as though you are disappointing others and that you are somehow failing to match up to their expectations.

You need to be sure that you are taking this step because it is right for **you**. The crucial question is, is this surgery essential for you to be a whole, integrated person?

2 Outcomes: satisfaction versus regret

Historically, results of gender confirmation treatment have only been measured in terms of post-surgical outcomes. A study, undertaken in the 1990s, showed that among those who had undergone this surgery, only a very small minority – 3.8% – expressed regrets. This was often associated with the loss of support from their families although a few were disappointed with their surgical results.³ The benefits of this surgery were echoed in the more recent Smith *et al.* study (2005) which found that no patient was actually dissatisfied, 91.6% were satisfied with their overall appearance and the remaining 8.4% were neutral. A recent UK survey showed that 98% of those who had undergone genital gender confirmation surgery were satisfied with the outcome.⁴

Post-operative regrets may not be specifically linked to surgery, but can also be because of continuing employment difficulties and/or poor social lives leading to isolation and loneliness. However, where surgical results fall below expectations, this factor plays a part in undermining overall satisfaction. The possible risks and disadvantages of various approaches to surgery are discussed later in the text.

3 Choosing the surgeon

In the UK, there are few specialist surgeons who perform gender confirmation surgery. Some trans people prefer to travel abroad for this surgery. Make sure that you have learned as much as possible about the various approaches to surgery, and that you have the opportunity to ask your lead surgeon anything you are not sure about.

Ideally, your meeting with the surgeon should occur some time before the actual surgery, i.e. not on the day or the day before, although for those travelling overseas, this may not be possible. You will be required to undergo an intimate examination. This is necessary, as it is extremely important that the surgeon does not find some unexpected difficulties that affect what can be done.



Seeing the surgeon well before surgery also gives you time to consider alternatives, and to think about the opinion of the surgeon regarding likely outcomes in light of the examination undertaken and your personal health history. Each surgical team has its own technique but some surgical teams may be flexible about what surgery they will provide, and may, in any case, have to adapt their technique in individual cases, depending, for instance, on the tissue available. The differences in approach may affect preservation of sexual sensation and overall aesthetic result (that is, how it looks). The lead surgeon

³ Landén, M, Wålinder, J, Hambert, G, Lundström, B (1999) Factors predictive of regret in sex reassignment. *Acta Psychiatrica Scandinavica* 97(4):284–289.

⁴ Schonfield, S, (2008) Audit, Information and Analysis Unit: *Audit of patient satisfaction with transgender services* (2008). Project co-ordinator Mrs Carrie Gardner.

should explain the operative technique used; the likely beneficial result in terms of appearance and function (including sexual function and erogenous sensation). Surgeons should be able to show you example pictures of their work and/or refer you to previous patients for a 'reference'.

In theory, accessing surgery overseas can be funded by the NHS but, in practice, it may be hard to persuade NHS England (Specialised Services) to cover this. This is partly because, if you need further surgical adjustments, the NHS will not always be willing to provide this back-up surgery in the UK, although emergency treatment would be provided in the event of, for instance, sudden excessive bleeding. It is clearly one of the disadvantages of surgery overseas that the surgeon – or surgeons, it is often more than one – who performed the original procedure will not be immediately on hand to deal with any complications that may arise.

4 How do I qualify for genital surgery?

In order to qualify for this surgery in the UK you will need to be at least 18 years old. Irreversible genital surgeries are seldom undertaken until you have lived continuously as a woman for at least 12 months. Both these criteria are in accordance with the *World Professional Association's Standard of Care*⁵ and the *Good Practice Guidelines for the assessment and treatment of adults with gender dysphoria*.⁶ However, the length of time you are required to live in the new role is arbitrary. The so-called real life experience (RLE) was never intended to be used as a diagnostic tool. Some studies indicate that compliance with minimum eligibility requirements for genital surgery specified by the HBGDA Standards of Care is not associated with better outcomes (Lawrence, 2001; 2003)^{7,8} Some individuals may be deemed ready for surgery in a shorter time; others may not feel ready for two or three years. You should not rush this step because if you do become part of the tiny minority of people who regret surgery, your original anatomy can never be fully restored.

Two referrals, at least one of which must be from a medical doctor, supporting your clinical need for genital surgery, are usually required before a surgeon will undertake it. If you have already obtained a Gender Recognition Certificate⁹ you

⁵ World Professional Association of Transgender Health *The standards of care – version 7 (2011)*
http://www.wpath.org/site_page.cfm?pk_association_webpage_menu=1351

⁶ *Good practice guidelines for the assessment and treatment of adults with gender dysphoria* (2013).

⁷ Lawrence, AA. (2001). Sex Reassignment Surgery Without a One-Year Real Life Experience: Still No Regrets. Paper presented at the XVII Harry Benjamin International Gender Dysphoria Association' Symposium, Galveston, Texas.

⁸ Lawrence, AA. (2003) Factors Associated with Satisfaction of Regret Following Male to Female Sex Reassignment Surgery. *Archives of Sexual Behavior* **32**,299-315.

⁹ <http://www.legislation.gov.uk/ukpga/2004/7/contents>

should only be required to obtain one referral, usually from your gender specialist.

5 Informed consent: understanding the risks of surgery

Your surgeon must make you aware of any possible complications and surgical risks (see also section 13). Complications may arise, no matter how competent the surgeon. Even straightforward surgeries may require follow-up corrections. You should also be made aware of the length of time which you will need to convalesce (section 8), any specific post-operative care (section 14). You should also be advised about how and when you might 'test drive' the new equipment, although this may change if you have complications. You should also understand the impact of surgery on reproductive options (see section 6).

The most serious risks are:

- significant bleeding;
- damage to the bowel and/or bladder and/or urethra;
- pulmonary embolus;
- deep vein thrombosis (DVT)
- wound breakdown;
- anaesthetic problems; and
- infection.

You will be asked to sign a consent form before undergoing surgery. You should be aware of all the matters raised above so that your consent is given with a good understanding of the impact of this surgery on your health and on your life. If possible you should see a copy of this form a few weeks ahead of surgery so that you have time to ask the surgeon further questions.

6 Reproductive options

Trans women have often already fathered children. If you are in this situation, you may not wish to have any further children, but if you are not sure about this, and you have not banked any sperm in the past, this will be your last opportunity to do so. If you have been taking hormones for along time (a number of years – but it will vary from individual to individual) it may already be impossible for your sperm production (spermatogenesis) to restart. In any case, you would have to be off all hormone treatments (including hormone-blockers) for a considerable period of time to enable your testes to function again. Obviously, once you come off hormones, the emergence of male characteristics such as facial hair and male pattern baldness will resume. You may find this prospect too traumatic to contemplate.

Sperm (spermatozoa) can be banked and used later to inseminate a female partner (if the quality is good) or the sperm may be used for in vitro fertilisation (IVF). Fertilisation can also be achieved by injecting a sperm cell directly into the egg cell (ovum) with a fine needle ¹⁰ (intracytoplasmic sperm injection or abbreviated – ICSI).

Further advice and information about fertility centres offering licensed treatment in the UK can be found at the website of the Human Fertilisation and Embryology Authority (HFEA) www.hfea.gov.uk

7 Pre-operative precautions

To run the least risk of complications during and after surgery, you should be as healthy as possible beforehand: **smoking puts you at the most risk**; being overweight also heightens risk; alcohol should only be taken in moderate amounts. The fitter you are, the better your results are likely to be, so fresh air and exercise should be part of your regime. Most surgeons insist that you stop taking oestrogen about four weeks before your operation as this reduces the likelihood of deep vein thrombosis.

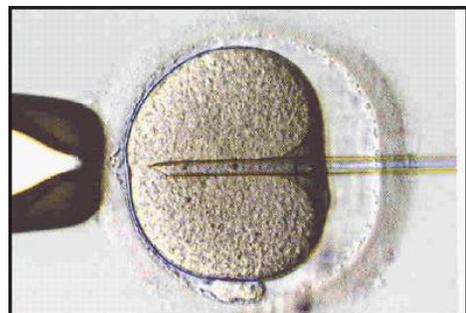
However, you may be prescribed a hormone blocker (gonadotrophin releasing hormone analogue – GnRH_a) so that you do not experience a resurgence of facial hair growth associated with testosterone. If you are already taking this, you may continue to do so. GnRH_a will usually be discontinued shortly after surgery. Oestrogen may be restarted about two weeks after surgery, as long as you are reasonably active.

If you have a sexually transmitted disease, this should be treated before you undergo genital surgery. If you are HIV positive, this does not prevent you from having this surgery (see section 19 for sexually transmitted diseases).

Pre-operative bowel preparation will be necessary. You will be prescribed a strong laxative to clear the bowel, and you will be given instructions about what you may eat, and when you should stop eating before surgery.

8 Timing

You should think ahead about how to manage family and work commitments during and after



¹⁰ UZ Gent - Afdeling Reproductieve Geneeskunde (2007) N.b. There is small increase of genetic abnormalities in children who are born after ICSI. This is not to do with the fertilization treatment, but is usually associated with abnormalities of the sex chromosomes. If your infertility has a genetic background, you will need to discuss this with a specialist doctor. Information available at www.humanreproduction.be/brochure.php?id=2

your surgery. You may not have much control over the timing of your surgery, but as far as possible, you should arrange with your employer the time you will need to be off work and the likely period of convalescence. The ‘recovery’ time given below is just a ‘ball-park’ indication; individuals react very differently to major surgery and you may need longer than this. This will be especially the case if your job involves heavy manual work. You may need to discuss this with your employer and negotiate some agreement about doing lighter work for a period of time when you first return. You may also need to take time out on a daily basis for dilating (see section 14), so this too must be taken into account. If possible, you should have some help and support at home – both physical and emotional – for a while.

Some people feel elated after surgery, but you must not be surprised if you have a period of depression. After working towards this moment, often for many years, you may experience an anti-climax. If physical discomfort persists, this too can undermine your sense of wellbeing. These are all factors that may impinge on your ability to return to work.

Remember that you will not feel able to go shopping or stand around cooking when you first return home. If you do not have a partner, friend or relative who can help you, make sure that you stock up with ready-prepared food. The following is a rough guide to timing, but it will vary according to personal circumstances.

Operation	Operation time	Hospital stay	Recovery
complete genital reconstruction	five hours	seven to eight days	six weeks

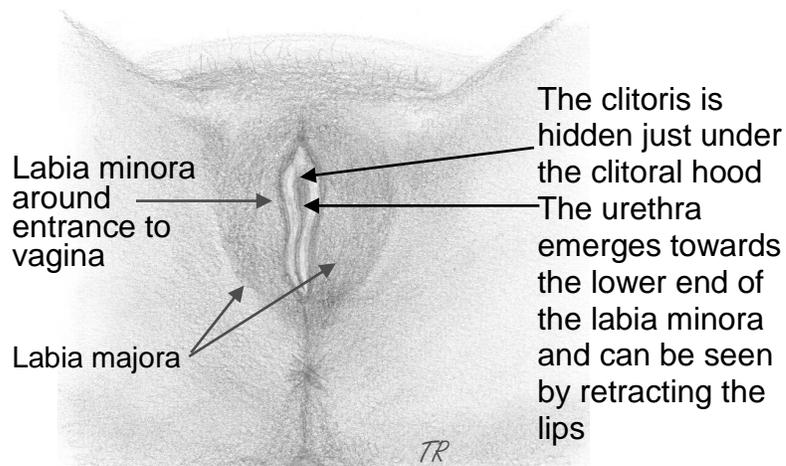
9 What does surgery aim to achieve? What does it involve?

This surgery aims to provide you with a genital appearance that is virtually indistinguishable from other women. It is worth bearing in mind that there is no uniformity of appearance in non-trans women. Crucially, surgeons are seeking to retain erotic (sexual) sensation so that you can have a full and satisfying sex life. You should have the ability to be penetrated during sex and to reach orgasm. However, some trans women choose not to have a vagina created, and opt for a ‘dimple’ that gives the appearance of the entrance to the vagina.

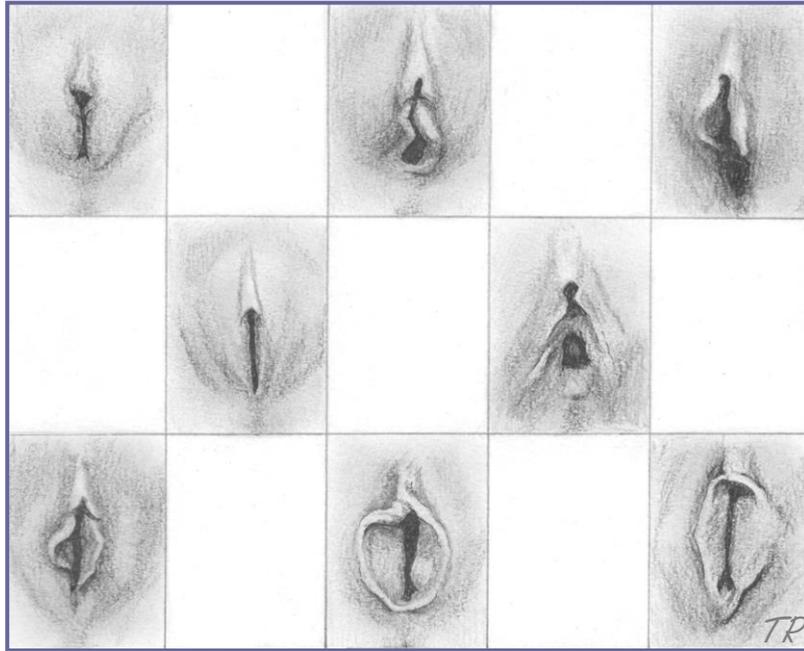
The following is a list of procedures that may be undertaken in gender confirmation surgery. The detail of surgical procedures may vary slightly depending on your anatomy, your preferences, and the practice of your surgeon. Everyone is different, so the fact that you know someone who has undergone a particular procedure under a particular surgeon does not necessarily mean that it would be suitable for you.

- penectomy (removal of the penis)
- orchidectomy (removal of the gonads testicles)
- vaginoplasty (creation of a vagina)
- clitoroplasty (creation of clitoris)
- labioplasty (creation of labia, the 'lips' of the vagina)
- repositioning of the urethra (the tube you urinate through)

The surgeon will remove your male genitalia, and use these tissues to construct: a vagina using skin taken from the penis and/or scrotum and sometimes the urethra (depending on the surgeon's technique); a clitoris that is made from the tissue at the tip of the penis (the glans); labia majora (outer lips), and the labia minora (inner lips) that surround the entrance to the vagina; and a shortened and slightly repositioned urethra to facilitate peeing in the sitting position. This will emerge within the labia minora so will not be immediately visible from the outside.

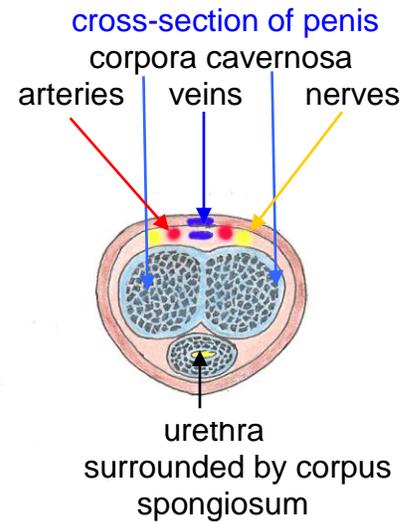
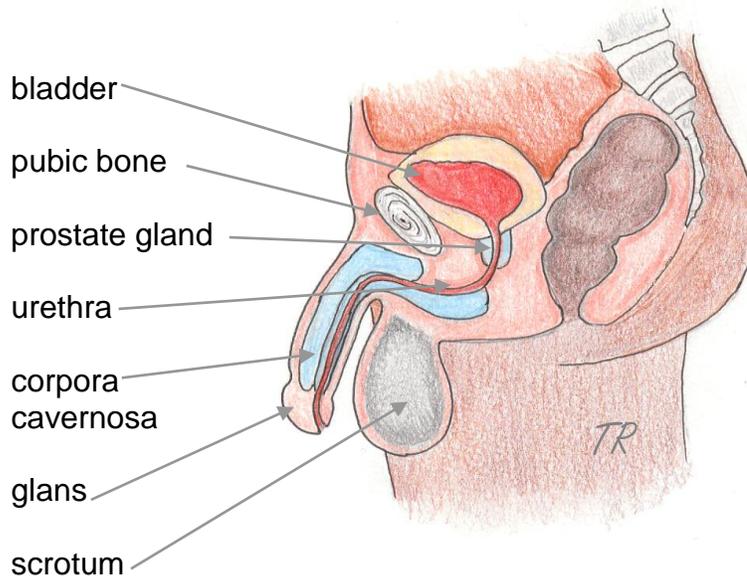


As mentioned above, you should bear in mind that the appearance of the genital area in non-trans women is extremely variable, as the images below demonstrate, so you should not expect to look exactly the same as anyone else.

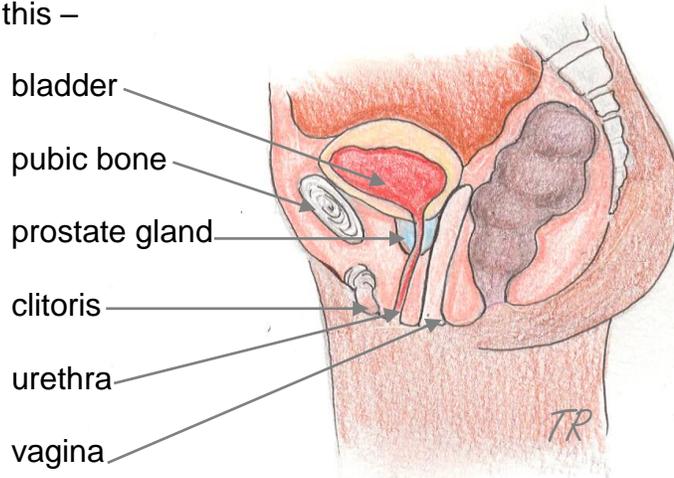


Diagrammatic representation of surgery

Basically, you will go from this –



to this –



This is complex surgery, and secondary surgery to make corrections and adjustments are very common so you should not feel that this necessarily the fault of your surgeon.

The benefits are:

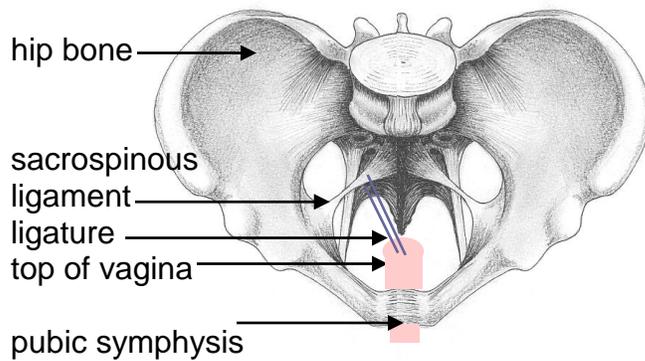
- as you no longer have gonads (testes) producing testosterone, you will not need to take any hormone-blocking medication, although sometimes this is continued for a short period following surgery. Also, you may need less oestrogen than before but hormones must be taken to preserve bone density (see section 16) and general wellbeing;
- although you will still have a prostate gland, the chances of developing cancer of it are significantly reduced (but it can happen and the symptoms may be harder to spot);
- social and leisure pursuits which involve changing rooms or wearing a swimming costume become much easier; and
- most importantly, you may feel better about yourself.

10 Formation of the vagina

The formation of the vagina depends on the technique of your surgeon and, sometimes, on the amount of tissue available. For example less skin will be available in a circumcised person and one who has been taking female hormones for some time. The donor tissue almost always includes skin from the penis; this can be supplemented by use of scrotal skin, a urethral flap or, in cases where insufficient tissue is available from these sources, a section of colon (bowel) may be used. Some surgeons prefer to use scrotal skin only to create the vagina. The tissue used may remain attached to the body at one end – a ‘pedicle’ flap, or it may be completely separated from its original site and reconnected in its new site – a ‘free’ flap (or graft).

The penis is disassembled into its various parts but most of these will remain attached to the body so that nerve and blood vessel connections are preserved. However, the erectile tissue is removed from the shaft of the penis and either side of its base. If too much of this tissue remains, it may swell during sexual activity and close the opening of the vagina and prevent penetration.

A wide, deep pocket is created in the area behind the root of the penis, projecting up into the pelvic cavity between the urethra and bladder in front, and the bowel behind. The newly-formed vagina will be inserted into this space. Some surgeons prefer to connect the upper end of the vagina to one of the ligaments that run from the spine outwards to the rim of the pelvis; this helps to prevent the vagina from prolapsing downwards.



The pelvis (viewed from above) is a bony ring which forms (almost immobile) joints with the base of the spine (sacrum). This ring is strengthened by fibrous ligaments. The top end of the vagina is sometimes attached to one of these ligaments to hold it in a more-or-less upright position (top of vagina and ligature are shown diagrammatically).

Creating the vagina using penile tissue alone

Where the amount of penile skin is adequate, it may be used on its own to create the vagina. It may be used as a free flap, but it is more likely to be a pedicle flap. As it is not completely separated from the body, it retains its own blood and nerve supply. Where the pedicle flap is used, the upper aspect of the penile skin remains attached to the lowest part of the abdomen; two holes will be made in the front of this flap, to allow the clitoris to emerge through the skin, and the urethra to have an opening (meatus) through which to pee. The skin of the penis is turned inside-out so that the outside surface of the penis becomes the inside surface of the vagina and the base of the tube will lie between the urethral and bowel openings.

It is recommended that you have pre-operative electrolysis to the area around the base of the penis to avoid subsequent problems with hair adjacent to the clitoris. This may require several sessions over a few months. Your surgeon will advise about the area from which hair needs to be removed.

Advantages:

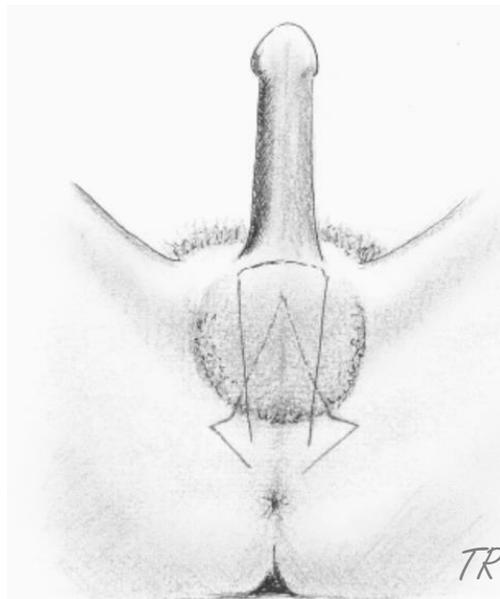
- The skin of the penis itself is hairless, so you would have no problems with pubic hair growing inside the vaginal cavity.
- The skin is reasonably elastic and less likely to contract (shrink) than scrotal tissue so, although ongoing dilatation is necessary (see section 15), the process is less time-consuming;
- As the flap is a pedicle, not a free flap, some of the existing blood and nerve supply continues so there is much less likelihood of any tissue dying (necrosis) and sensation is preserved in the tissue that forms the new vagina..

Disadvantages:

- If you have a small penis, or your penis has shrunk under the influence of oestrogen hormone therapy, you may have insufficient penile tissue to create a vagina of adequate width and depth;
- Scar tissue forms where the free part of the flap is attached to the new entrance created for the vagina. This may shrink and become tightened over time, and impede penetration of the vagina (see section 15 for dilating).

Creating the vagina using penile and scrotal tissue:

To overcome the shrinkage of scar tissue at the entrance to the vagina, and to provide extra tissue where penile tissue is insufficient, a combination of penile and scrotal tissue may be used. A section of scrotal tissue, continuous with the underside of the penile skin, is used to supplement the tissue available for creating the vagina. The scrotal tissue may be a pedicle flap, so that both the front flap of penile skin (as above) and the back flap of scrotal skin retain nerve and blood supply. In both this technique and the one described above, the clitoris may be too exposed and therefore cause discomfort. This can be overcome by creating a clitoral 'hood', using tissue from the foreskin (see Formation of the clitoris, section 9)



The underside of the scrotum may be used, as a pedicle-flap, to form the lower back aspect of the vagina. The position of the incision will vary depending on the technique of your surgical team. Two possibilities are shown in this image. In addition to removing hair around the base of the penis, this area of the scrotum also must have all hair removed prior to surgery, otherwise it will regrow within the vagina.

Advantages:

- This provides extra length and width to the vagina;
- It can be used to provide a 'break' in the entrance to the vagina, so that a continuous ring of scar tissue is not present and, therefore, shrinkage around the entrance to the vagina does not occur.

Disadvantages:

- Scrotal skin is hair-bearing, so careful removal of the hair around the base of the penis and underneath the scrotum should be undertaken before the operation, otherwise it will continue to grow inside the vagina and this can cause ongoing difficulties.
- The clitoris may be rather exposed and prone to discomfort.
- The entrance to the vagina can appear rather transverse if a wide scrotal flap is used.

Using penile and urethral tissue

The urethral tube may be split down its length and opened out into a flat pedicle flap. It retains its nerve and blood supply. It may be inserted to form part of the wall of the vagina, and is joined along its sides to the penile flap. This technique may include using the lower part of the glans to form a cervix (see below)

Advantages

The urethral tissue remains sensate and moist.

Disadvantages

The procedure is more complicated and takes longer. More complicated procedures have greater potential to develop post-operative complications, but these are rare with an experienced team.

Using scrotal tissue only:

The technique of using scrotal tissue without using penile tissue is the preferred technique of the lead surgeons in Thailand, but is not performed this way in the UK. The scrotal tissue has all hair removed during the operation; this is done by punching out the hair follicles. The tissue is a free flap (not attached to the body) that is shaped and stretched over a mould. It is re-attached in a continuous ring

around the entrance to the vagina, sometimes with an intervening ring of separate tissue around the vaginal entrance.

Advantages:

- Compared with other methods that use some scrotal tissue, this technique ensures that there can be no regrowth of hair inside the vagina;
- It leaves the penile tissue free so that it can be utilised to construct the labia minora (inner lips) surrounding the entrance to the vagina.

Disadvantages:

- scrotal tissue is more inclined to contract than non-scrotal tissue; and
- the entrance to the vagina may shrink and close the vagina.

Therefore, it is necessary to dilate more vigorously and for longer periods to prevent shrinkage of the vaginal cavity and the entrance to the vagina. This usually overcomes the tendency of this tissue to shrink.

Intestinal transplant

An intestinal transplant (using the colon, that is, bowel tissue) is seldom the first choice of tissue for creating a vagina. However, if insufficient tissue is available from the options mentioned above or, earlier surgery has not succeeded in providing a vagina of adequate length and breadth, then bowel tissue may be used to augment to available tissue.

Advantages:

- this source of tissue will always provide adequate length;
- the texture and appearance are close to that of a natural vagina; and
- the lining has natural lubrication

Disadvantages

- Major abdominal surgery is necessary with its attendant risks;
- the mucus secreted can accumulate at the upper end of the vagina;
- the tissue is more vulnerable to sexually transmitted diseases than other tissues that may be used to create the vagina; and

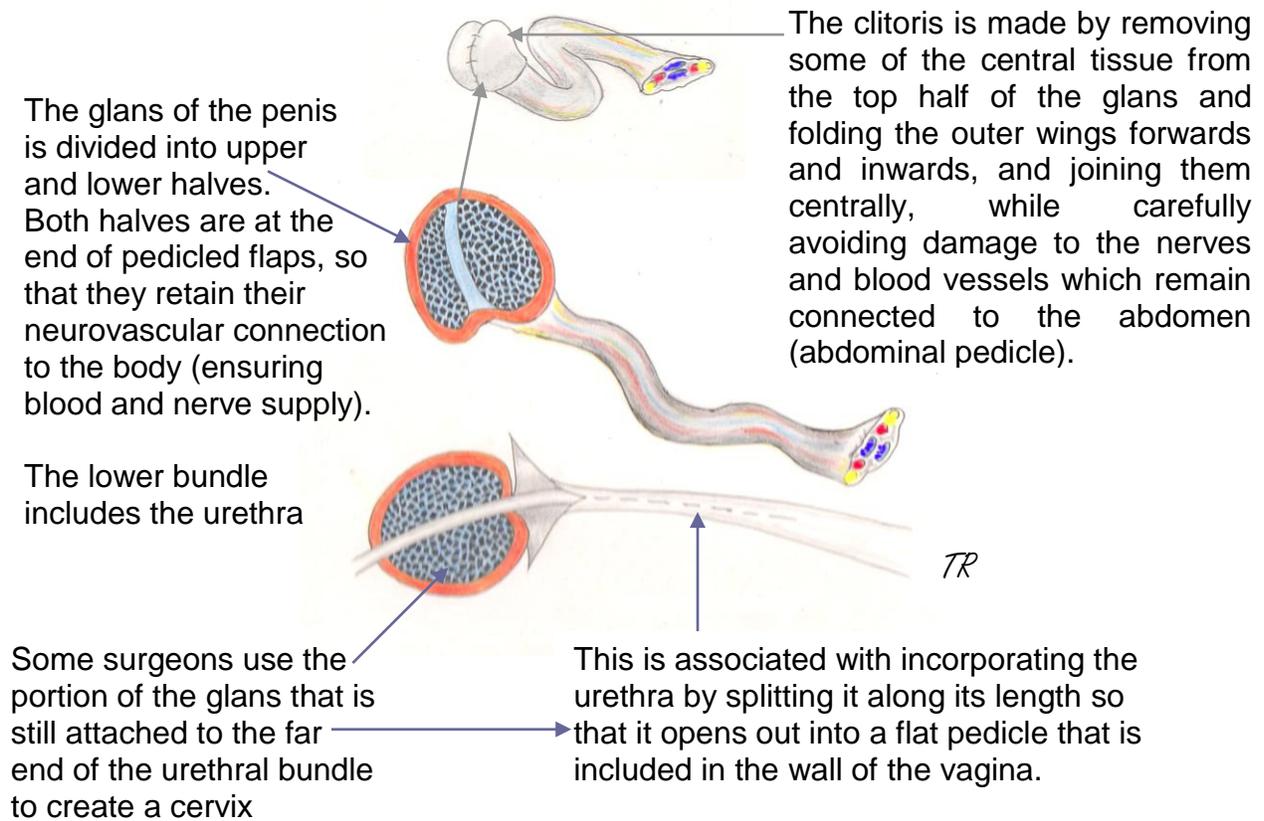
- many potential difficulties can arise in the intestine itself, on the site of the removal of the donor tissue;
- if used on its own (without, for example, a pedicle scrotal flap) the ring of scar tissue at the entrance to the vagina may be inclined to shrink.

11 Formation of the clitoris

As with the formation of the vagina, there are different approaches to forming the clitoris and to ensuring sexual sensation, but all will use tissue from the glans of the penis with its attached blood supply and nerve connections. The glans is divided from side to side; the front/upper part is refashioned and made smaller, usually retaining a small amount of corpus spongiosum (see diagram below) and is positioned superficially just in front of, and slightly below, the pubic bone; it will be accessible through an opening made in the penile flap (where that technique is used to make the front wall of the vagina). The nerve and blood supply that, pre-operatively, runs the entire length of the penile shaft, is separated from the other tissues (corpora cavernosa, see diagram in section 9) and left entirely intact. This extra length is tucked away to one side and buried under the skin.

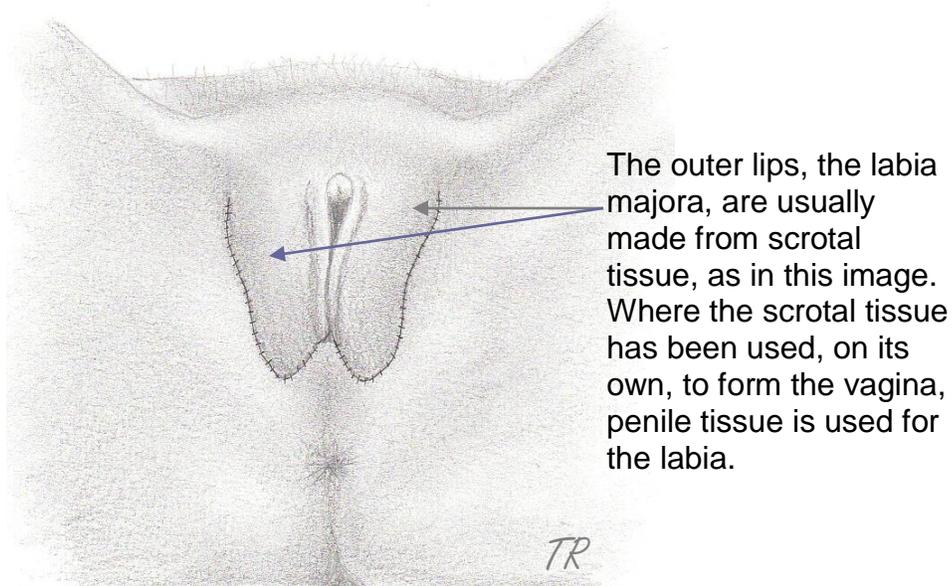
As shown in the diagram below, some surgeons also use the back/lower part of the glans (which is at the end of the bundle of nerves and blood vessels that supply the urethra and this part of the glans) to form a cervix at the upper end of the vagina.

Diagram to show the role of the glans, the urethra and their neurovascular bundles, in the re-fashioned clitoris and vagina.



12 Formation of the labia minora and majora

The labia are the lips which surround the clitoris and the urethral opening. The tissue used to create the inner lips (labia minora) is often taken from the scrotum and sometimes from the lower part of the penis as well. The flattened-out urethra may also be used. As mentioned above, a clitoral hood may be made from the foreskin; this will be positioned at the upper end of the labia minora, and will be partially covered by them.



13 Post-operative complications associated with genital surgery

As mentioned in section 5, all major surgery involves some risk. Post-operative complications, which are specific to this surgery that may arise, are:

- scar tissue at the entrance to the vagina shrinks, and/or the vagina itself loses depth and width. If this cannot be overcome by dilating, then further minor surgery may be necessary;
- the urethral opening (meatus) may still be pointing upwards or forwards making it difficult to direct the stream downwards when sitting down to urinate. Often there is a certain amount of spraying in the early post-operative period. Usually this self corrects after a while, or it may be overcome through additional minor surgical correction;

- some loss of erogenous sensation can occur, although this is rare as surgical techniques are designed to preserve sexual feeling. However, there may be some delay in the return of this sensation, up to about 18 months, or it may not be as satisfactory as expected or desired. The clitoris may be uncomfortable or even painful (this is usually overcome by creating a clitoral hood).
- A recto-vaginal fistula (a leak between the vagina and the bowel) may occur, although this is relatively rare. It can usually be corrected through minor surgery. Rarely, this complication may lead to the need for colostomy which is usually reversible.

14 Post-operative dilating and douching

After your surgery while you are still in hospital you will have a catheter in the urethra and 'packing' in the vagina. Practices vary slightly, but you may be in bed for 4 – 5 days with the packing in place, after which it is removed and the routine outlined below for dilating and douching will commence. The catheter is likely to be removed from the urethra, the day following the removal of the packing.

Post-surgical care, as with any major surgery, may require the services of a district nurse. Trans women have to use dilators to ensure that the vaginal tissue does not shrink. Surgeons usually give their own instructions regarding dilating and douching because these may depend, to an extent, on the surgical techniques and the tissue used to create the vagina. Those whose vagina has been created with scrotal tissue only (as is done in Thailand) will have specific and longer dilating regimes, although a method that has now been introduced called 'dynamic dilating' requires a shorter time, but is quite uncomfortable; you will be given very explicit instructions as to how to do this. If this, or any other dilating regimen is found to be too uncomfortable, a product such as Lidocaine – an ointment that numbs the tissue – may be helpful.¹¹ Otherwise, the following is a suggested regimen that may be adapted by the individual to her own personal needs and circumstances:

As mentioned above, the vagina is 'packed' for a few days during which time you will remain in bed. Once that pack is removed:

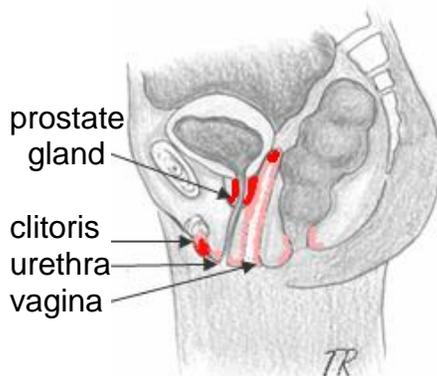
- twice-daily baths, or washing in a bidet, may be commenced;
- dilating two or three times daily with a 25mm dilator for five minutes, followed by a 30mm dilator for 10 minutes is recommended, and should be followed once a day by douching with Videne, as directed.

¹¹ https://en.wikipedia.org/wiki/Lidocaine#Local_numbing_agent

- liquid Simple soap or pH 5.5 hand-wash can be used later on for douching and douching can be reduced to twice a week;
- dilation should continue, twice daily if possible, for three months and then once daily for a further three months;
- dilation twice a week, followed by douching, is then usually sufficient to maintain the diameter and depth of the vagina;
- sexual intercourse can commence three months post operatively. This will help dilation and reduce the need for it; and
- in the longer term, dilation and douching may be reduced to once or twice a week and can be done while having a bath.

15 Will there be an impact on my sexual sensation?

Since the clitoris is formed from the glans (the tip of the penis) and the original nerve supply is retained you should have be able to reach orgasm without difficulty once the bruising to the tissues has subsided.



The prostate gland is still present and is adjacent to the vagina so it is still able to make a contribution to erogenous sensation even with a much shorter vagina than shown in this image. If you have also had a cervix created using the lower/back part of the glans, this should heighten the sensation of your orgasm.

As the tissue used to make the vagina is not always self-lubricating, it is likely that you will need to use lubrication (water-based). However, many trans women report that their vaginal tissue does become moist during sexual activity.

You may have found that through the prolonged period of taking hormones (oestrogen and possibly also GnRH α which limits testosterone), your libido has dropped. You may have experienced this relative lack of interest in sexual activity for quite a while, and this may continue following surgery. However, many trans women do wish to have sexual relationships once they have recovered from surgery.

You may have to ‘relearn’ how to masturbate, and also how to achieve orgasm within the context of a sexual relationship. Because you will have to dilate your vagina on a regular basis, you will have the opportunity to work out for yourself what stimulates you, and what is uncomfortable. You can then incorporate what you have learned into your sexual relationships. Physically, of course, a sexual relationship with a man is now possible and should present no major problems once you have healed and have had the go-ahead from the surgeon.

If you are having regular penetrative sex, you will reach a point where you will not need to dilate as frequently, or it may no longer be necessary to dilate at all.

16 Orchidectomy (gonadectomy – removal of the testes)

It is relatively rare for trans women to undergo orchidectomy as a separate procedure, but some do choose to do this before, or even instead of, complete gender confirmation surgery that would include all the steps discussed above. Some trans women say that the experience of living without testes makes them sure that they wish to continue to the next stage; others find that it makes them feel it is unnecessary.

The purpose of having the testes removed is to prevent the continued production of testosterone by the testes. Only small amounts of testosterone are still produced by the adrenal glands. You can achieve chemical gonadectomy by taking a hormone blocker, such as gonadotrophin releasing hormone analogue (GnRHa). However, in a few people this medication may have unwanted side-effects. If you are in the situation of being unable to undergo the major surgery involved in having genital gender confirmation surgery, for health or other reasons, this may be the path you will choose. You may, for instance, be unable to change your gender role on a continuous basis and would not, therefore, meet this eligibility criterion for full genital surgery as is still required by most Gender Identity Clinics.

If you are not sure that you want full gender confirmation surgery, or perhaps you and your partner wish to continue having penetrative sex, you may choose gonadectomy. This procedure will make you infertile, and will lower libido and make erection less firm. However, it will not entirely prevent you have penetrative sex.

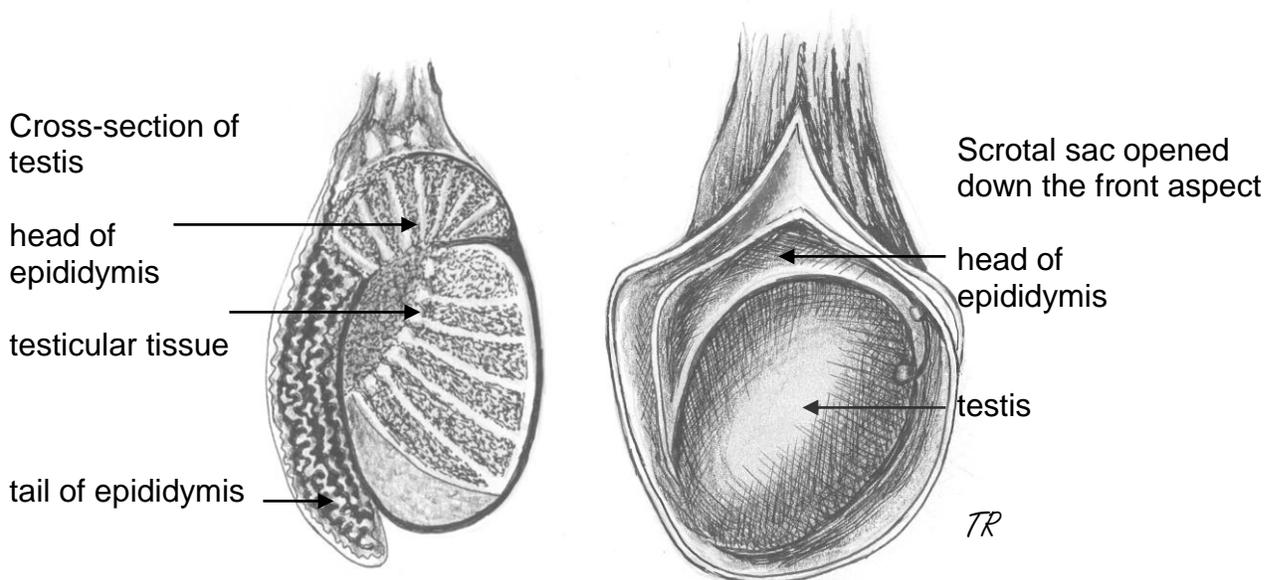
If you fully intend to have full gender confirmation surgery in the future, it is better if it is less than three years after the orchidectomy, as the tissue from the penis and scrotal sac, from which the vagina will be created, will shrink over time. This is why you may be discouraged from having an orchidectomy. However, your hormone regimen too will cause these tissues to shrink somewhat, although, in the case of the scrotum, the effect will be less than when the testes are removed. As far as the scrotum itself is concerned, some of this tissue loss may be

prevented by having testicular prostheses in place. However, if you are seeking to make your genitalia less conspicuous, you may not wish to use these. In cases where insufficient tissue is available from the penis and scrotum combined, addition tissue from the bowel may be used, as described in section 10.

Gonadectomy is a relatively quick and risk-free operation and can be done under local anaesthetic as a day procedure. If you prefer to have a general anaesthetic, you will probably stay in overnight. Some surgeons may give an epidural (this is an injection into the spine, to block the nerves providing sensation to the lower part of the body). You will be awake for the procedure but will feel nothing.

If you are having the procedure done under local anaesthetic, you will have injections – probably three – to numb the scrotal area. An incision will be made into the scrotal sac, the testes will be removed and the incision sutured. It is likely that bleeding will be overcome by using electro-cautery to seal the blood vessels, so you should be prepared to see smoke and smell burning.

The procedure will take about 45 minutes. If you have had an epidural, the numbness will last for a couple of hours.



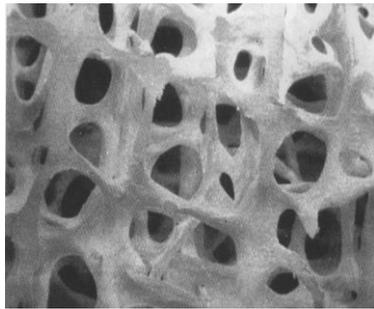
Reactions to this procedure vary. You may have a feeling of serenity, but some people feel rather depressed. Over time, you may experience some weight gain, and a loss of muscle strength.

If you are not taking oestrogen, you will begin to have hot flushes. If you have had a general anaesthetic, you may have been told to stop taking oestrogen a couple of weeks prior to surgery. In that case, it is important to restart your hormone regimen as soon as you are fully mobile. This will probably be within

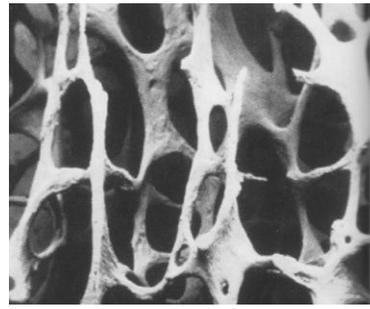
one or two days. Some trans women report being back at work within a few days to a week. This depends on how you feel and what kind of work you do. Immediate heavy work should not be undertaken.

The risk of complications is minimal, but you could have pain and swelling that can be controlled with ice-packs and pain-killers; bleeding can occur but is rare; infection can also arise but you will probably be given antibiotics at the time of the surgery, as a precaution.

If you have had a gonadectomy and you choose not to take hormones, your bone tissue may become thinner (osteoporosis). It is wise, whether you are having hormone therapy or not, to have DEXA bone scans as you get older.



normal bone density



bone affected by osteoporosis

17 Sexual orientation and sexual practice

As mentioned under Section 1, although sexual orientation usually remains the same after transition as it was before, this is not always the case. For example, a trans woman who, before transition, has been in a heterosexual relationship with a woman may, following transition:

- remain attracted to women and be comfortable in what may be regarded as a lesbian relationship;
OR
- may be more attracted to men and prefer what may be regarded as a heterosexual relationship.

The reverse is also possible, that is, where a trans woman who, before transition, is in a gay relationship with a man may, following transition,

- still be attracted to men and be comfortable in a relationship with a man;
OR
- may be attracted to women and want a relationship that may be regarded as lesbian.

Where trans people are in sexual relationships with other trans people, who may be non-binary, the possibilities are more numerous and complex.

In this field, the constraints of language: gay, straight, homosexual, heterosexual do not do justice to the diversity of experience and are, in many respects, irrelevant to the issue of gender identity.

However, as discussed in section 1, for those who remain in the same relationship before and after transition, adaptation of sexual and relationship behaviours will be essential in order to meet the new challenge. There are likely to be emotional issues and perhaps even identity crises for partners. If your partner or spouse is a woman, she may find that, not only are the specifically sexual aspects of your private relationship unsatisfying, but also the public perception that she has a lesbian identity. So, just as you have been uncomfortable with the public misconception of your gender identity, your partner may now be uncomfortable with the public perception of her sexual identity. The mirror image of this would occur if you have been in a gay relationship with a man. After your transition, he may not be comfortable being regarded as straight.

However, satisfactory sexual relationships are often about more than just being able to reach orgasm; a warm and loving relationship is also important. In that context, you may find new ways of enjoying sex together. Or, you may find that the caring commitment of a long-term relationship outweighs the issue of sex and you remain together in a loving but platonic relationship.

Some trans women feel that a sexual relationship with a man validates their identity as women. This may be a temporary, experimental period that passes, or it may remain the way in which their sexual identity continues to be expressed.

18 Sexual behaviours and risks after gender confirmation surgery

Anatomically, if you have had successful full gender confirmation surgery, you will have a vagina and your genital appearance will be virtually indistinguishable from any other woman.

Your sexual behaviours and, consequently, the degree of risk of STIs to which you are exposed will therefore be similar to any other woman. However, the tissue lining the vagina, depending where this has been taken from, may be less prone to some genital infections. Remember that infections can be passed between partners having close physical contact or using sex toys.

The behaviours that put you at most risk are:

- unprotected anal sex;
- unprotected vaginal sex;
- multiple sexual partners whose health status is unknown; and/or
- selling sex, or being sexually involved with others who do.

How can I protect myself against all STIs?

Always use condoms or Femidom for penetrative sex –

- If you are having penetrative sex with a man, he should use a condom every time you have sex whether, vaginal, anal or oral; and he should:
 - use known brands that are kite marked;
 - check the expiry date;
 - only use once;
 - not bite the pack to open it;
 - not stretch the condom before putting it on;
 - use the right size for you: narrow ones called 'TRIM' are made by Pasante (pasante.com); regular size is approximately six inches long by four inches girth and large is eight inches long by six inches girth;
 - If either you or your partner is allergic to latex, use polyurethane (Durex, Avanti);
 - Standard condoms are now thought to be robust enough for anal sex.
- penetration with anything, hands, fingers, sex toys as well as penises can transfer infection;
- use lubrication (water-based) – it helps to prevent damage to mucous membranes (your vagina may not lubricate naturally); this applies to all penetrative sex including the use of sex toys and vaginal or anal fisting;
- ordinary hygiene – clean hands and genitals – helps to limit risk of less serious infections but, on its own, it will not prevent infections being passed on;

- sex toys should be washed every time they are used, and this includes when they are used for more than one orifice on the same occasion;
- avoid oral sex if you have any cuts or sores on the mouth; and
- get medical help quickly if you think you may be infected. You should seek medical help from your GP or a Sexual Health Clinic (genito-urinary medicine, GUM, clinic). Many people find this embarrassing, but remember, the staff in specialist clinics are professional people who deal with these situations all the time and they are not judgemental.

19 Sexually transmitted infections (STIs)

Sexually transmitted infections are seldom trivial; all of them can have serious consequences and several are not curable but can usually be managed. They can impact, not only on your life, but on others around you. For more information than is covered in this booklet, go to <http://www.tht.org.uk/sexual-health/About-HIV>

STIs are quite common

They include:

- HIV,
- syphilis,
- gonorrhoea,
- herpes,
- chlamydia,
- hepatitis A, B, C,
- genital warts,
- trichomonas vaginalis
- bacterial Vaginosis
- thrush

HIV

Pre-exposure prophylaxis (PrEP) is a course of HIV drugs taken before sex to reduce the risk of getting HIV. It could one day be widely available to those who are at high risk of coming into contact with the virus.¹²

Post-exposure Prophylaxis (PEP) is the only thing that can prevent HIV infection after the virus has entered a person's body. PEP is an emergency measure to be

¹² <http://www.tht.org.uk/sexual-health/About-HIV/Pre-exposure-Prophylaxis>

used as a last resort, e.g., if a condom breaks or you have a 'slip up' from your usual safer sex routine.¹³

HIV infection is a lifelong condition; it can be treated with antiretroviral drugs, but not cured. There are different strains of HIV and having one strain, does not protect against catching another. Treatments may include a mixture of medications that combine to provide 'highly active antiretroviral therapy' (HAART). In the longer term health may decline progressively. The virus may be passed on through body fluids from the vagina or the penis, or from blood and it can enter the bloodstream through breaks in the skin or membranes lining the vagina and rectum and from shared needles. There is also a small risk associated with oral sex. Dental dams should be used in any situation where infection could be transmitted by mouth.

Symptoms of HIV conversion illness

Some people experience flu-like symptoms in the first couple of months; these may include:

- a high temperature and fever;
- a sore throat;
- fatigue;
- a skin rash;
- Muscle aches and pains;
- headaches;
- nausea and vomiting; and
- diarrhoea

There are several tests to detect HIV antibodies and the virus itself. The length of time you will have to wait for results depends on the method of testing used by your GUM clinic. Some can detect the virus very soon after exposure, but many laboratories cannot produce results until antibodies appear some three months later. If you have the virus, you will be infectious during this period and could pass the infection on, or catch it from a partner who is infectious. It is especially important that a male partner wears a condom at this time; this will protect you both.

If the virus spreads, your immune system will become weakened and you will develop AIDS (auto-immune deficiency syndrome) which will eventually be fatal.

¹³ <http://www.tht.org.uk/sexual-health/About-HIV/Post-exposure-prophylaxis>

Your resistance to infections will be significantly lowered making you vulnerable to other STIs and a range of infections, including:

- infections of the mouth;
- recurring mouth ulcers;
- herpes or shingles infections;
- unusual types of pneumonia;
- tuberculosis (TB);
- infections of the brain and eyes;
- hepatitis C;
- unusual skin problems;
- infections of the gastrointestinal tract; and
- most people with an advanced HIV infection will also experience severe body wasting and weight loss.

Syphilis

The disease is readily transmitted through genital or oral sexual contact, and is commonest in those having anal intercourse. It can be treated with antibiotics.

There may be mild symptoms or none at all. The symptoms of first-stage syphilis may take up to three months to become evident. They include:

- one or more sores (ulcers) on the penis, vulva, vagina, cervix, mouth or anus, that weep pus; they may last for around six weeks; and /or
- small lumps due to swollen glands in the groin.

The symptoms of second stage syphilis usually appear several weeks after any ulcers have gone. The following symptoms come and go over many years. They include:

- a non-itchy rash of dark patches, often on the palms and soles as well as other areas;
- feeling generally unwell, fever, extreme tiredness and malaise,
- headaches;
- wart-like growths on the genitals;
- white patches inside the mouth;

- patchy hair loss (alopecia); and
- more rarely, major body organs such as the liver, kidneys and brain begin to be affected.

The first and second stages of syphilis are highly infectious.

The symptoms of the second stage may disappear and the infection can lie dormant for many years (latent syphilis) but, in time, third stage syphilis develops which can seriously damage major body systems and organs and will ultimately be fatal.

Gonorrhoea

Gonorrhoea can be treated with antibiotics.

The incubation period is two weeks. You may not experience symptoms and therefore the infection may go untreated for some time. Untreated gonorrhoea can cause serious health problems.

The 50% of infected people who have symptoms may experience the following:

- a strong, unpleasant smelling thick discharge from the vagina, that may appear green or yellow in colour;
- pain or tenderness in the lower abdominal area, including a burning sensation when urinating;
- frequent need to urinate; and
- irritation or discharge from the anus.

Herpes simplex virus

Many people who have genital herpes do not experience any symptoms, but if you do, the onset is usually between 2-7 days after exposure to the virus (usually by sexual contact). However, it is important to note that symptoms occasionally do not appear until months, or sometimes years, after being exposed to the virus.

The first occurrence of genital herpes may cause a range of symptoms including:

- mild fever,
- aches and pains,
- swollen lymph glands (at the top of your legs), and

- feeling generally unwell.

These symptoms may last for up to 21 days.

You may also have an itching or burning sensation in your genital area. Painful red spots may appear around your genitals that gradually turn into fluid-filled blisters. These blisters will then burst, leaving painful ulcers. However, the ulcers will eventually dry out and heal, after about 10 -14 days, and should not scar. These symptoms can vary from person to person. For example, you may not experience the blisters, but only have ulcers that appear to be small cuts or cracks in your skin.

The symptoms of genital herpes can affect any part of the genitalia and the surrounding area: the buttocks, anus and top of the thighs, so the use of a condom may not protect you or your partner.

Urinating may be painful and is occasionally so extreme that hospitalisation is necessary.

Once the initial infection has subsided, the symptoms will disappear, but the virus will still be present and can be reactivated. When this happens the symptoms are usually milder and last for about 3-5 days. If the virus is reactivated, it will cause symptoms of itching, or tingling, sensation around your genitals, lasting for between 12- 24 hours. Early treatment reduces the likelihood of recurrent episodes.

If recurrences are frequent and disabling they can be treated with anti-viral drugs that shorten the length of the episode. Herpes is incurable and recurs throughout life.

Chlamydia

Chlamydia can be treated successfully with antibiotics. In many people there are no symptoms but some may experience:

- pain when passing urine (cystitis); and
- mild lower abdominal pain.

If you have any of these symptoms, or you believe you may have chlamydia, you should go to a GUM clinic as you may have an additional sexually transmitted disease. However, you can ask to be tested for Chlamydia by your doctor or your local pharmacist, or you may be able to do the test at home. Those over the age of 16 who have tested positive, but who are still symptomless, can buy the necessary antibiotic over the counter, without a prescription. This is available to partners as well.

Hepatitis

Hepatitis A, B and C affect the liver and can cause jaundice. Hepatitis can be transmitted in several ways, including sexual contact (also shared needles and social contact).

Hepatitis A can be transmitted through sex involving mouth to anus contact. Hepatitis B and C can be transmitted in body fluids so can be passed on through sexual contact, including oral sex. It is recommended that vaccination against hepatitis A, or hepatitis A and B combined, is available for those whose sexual contact and lifestyle puts them at particular risk, e.g. gay men, intravenous drug users and sex workers. This involves three injections over a period of a few months; this provides life-long protection. This treatment can be provided by a GUM clinic.

Symptoms are very like those of chronic fatigue syndrome, but may be slight so people do not always know that they have Hepatitis. Symptoms include:

- weight loss
- loss of appetite
- joint pains
- nausea
- flu-like symptoms (fever, headaches, sweats)
- anxiety
- difficulty concentrating
- alcohol intolerance and pain in the liver area

Depending on the strain with which you are infected, Hepatitis C may be treated with a combination of pegylated interferon alpha and ribavirin.

Genital warts

Genital warts are fleshy growths around the vulval and anal area. They are caused by the human papilloma virus (HPV). There are many kinds of HPV, a few of which are associated with pre-malignant changes, so this would be relevant to those trans women who are having vaginal sex with a man. HPV can penetrate mucosal and skin surface through minor abrasions. Genital warts can be treated in several ways, e.g. by 'freezing' or with medicated cream.

Trichomonas Vaginalis

Trichomonas Vaginalis is caused by a tiny parasite found in the vagina and urethra.

It is passed on through:

- vaginal sex
- sharing sex toys

Many infected people show no symptoms, but symptoms can appear between three and 21 days after infection.

Symptoms include:

- discharge from the vagina, that may have a musty or fishy smell
- itching, soreness and inflammation in and around the vagina
- pain when passing urine or having sex
- tenderness in the lower abdomen

Treatment involves a single dose or a course of antibiotics.

Bacterial Vaginosis

The symptoms of Bacterial Vaginosis are a fishy smelling thin green discharge; this is treatable with antibiotics.

Thrush

The symptoms of Thrush include: itching; pain on vaginal penetration; burning sensation when passing urine (and thick white discharge). Medicated creams, pessaries and tablets can be bought at pharmacies but you should see your doctor if these symptoms persist.

A guide to lower surgery for trans women was prepared by the *Gender Identity Research and Education Society's* team, following extensive consultation:

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