



Trans Care

Gender transition

Surgery: A guide for MTFs

Sex reassignment surgery (SRS) refers to surgical techniques used to change trans people's bodies. SRS is sometimes called "gender reassignment surgery" (GRS) or "gender confirming surgery".

Not all trans people have SRS. Among those who do, there are various reasons for having SRS. Some people have it to reduce *physical dysphoria* – strong discomfort with the mismatch between identity and body. Others feel OK about their bodies, but are very uncomfortable with how other people perceive them (*social dysphoria*), and want to change their physical appearance to be able to live in a way that better matches their identity.

For any kind of health issue, choosing surgery is a big decision, and SRS is no exception. This booklet aims to:

- describe options for MTF¹ SRS
- explain possible risks and complications of MTF SRS
- describe what to expect before and after MTF SRS
- explore issues to consider in making the decision to have SRS

¹ We use "MTF" as shorthand for a spectrum that includes not just transsexuals, but anyone who was assigned male at birth and who identifies as female, feminine, or a woman some or all of the time. Some non-transsexuals in the MTF spectrum (androgynous people, drag queens, bi-gender and multi-gender people, etc.) may also want some of the surgeries described above, and may not identify or live as women. For this reason we use the term MTF instead of "trans women".

Already sure you want to have surgery? The booklet *Getting Surgery*, available from the Transgender Health Program (see last page), explains the process.

This booklet is written specifically for people in the MTF spectrum who are considering SRS. It may also be a helpful resource for partners, family, and friends who are wondering what is involved in SRS. For health professionals who are involved in caring for someone who is planning to have SRS, there is a detailed set of guidelines available from the Transgender Health Program (see last page).

Surgical Options for MTFs

For MTFs the goals of SRS are to reduce “male”² characteristics and make the body look more “feminine”² or androgynous (depending on how you identify). MTF SRS can include some or all of the surgeries listed on the following page.

Each of these surgeries has risks, but they are also proven to help MTFs with physical and/or social dysphoria to live more comfortably. The details of breast surgery, facial surgery, and genital surgery are discussed on the following pages. Voice surgery is discussed in the booklet *Changing Speech*, available from the Transgender Health Program (see last page).

2 The binary terms “male,” “female,” “masculine,” “feminine,” “masculinizing,” and “feminizing” don’t accurately reflect the diversity of trans people’s bodies or identities. But in understanding SRS, it is helpful to understand “typical” (non-intersex, non-trans) men’s bodies, and “typical” women’s bodies. We keep these terms in quotes to emphasize that they are artificial and imperfect concepts.

Options for MTF Sex Reassignment Surgery

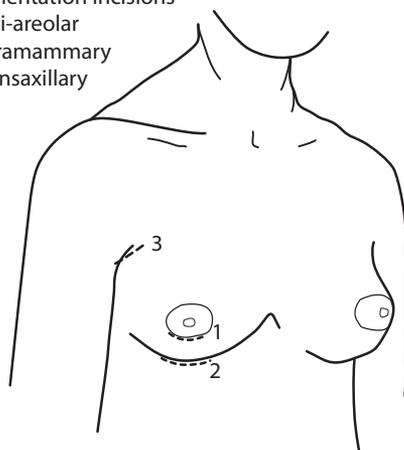
	Medical term	Explanation
Breast surgery	Augmentation mammoplasty	Inserting implants to make the breasts larger ("breast augmentation")
Face/neck surgery	Facial feminization surgery (FFS)	Surgical changes to the nose, forehead, chin, jaws, cheeks, lips, ears, or eyes
	Thyroid cartilage reduction, or "chondrolaryngoplasty"	Shaving down the Adam's apple ("tracheal shave")
Genital surgery	Orchiectomy	Removing the testicles
	Penectomy	Removing the penis
	Vaginoplasty	Creating a vagina
	Labioplasty	Creation of labia (the "lips" around the vagina)
Other possible surgeries	Clitoroplasty	Creation of a clitoris
	Abdominoplasty or abdominal lipoplasty	Removing fat (and possibly excess skin) from the stomach
	Implants	Inserting material into the hips or buttocks to make these areas look more rounded
	Scalp surgery	Various surgical methods to treat "male"-pattern baldness (e.g., hair transplants, removing strips of bald skin)
	Voice surgery	Surgery on the vocal cords or surrounding cartilage to raise voice pitch

Breast Implants (Breast Augmentation)

Estrogen makes breasts and nipples grow, but there is a limit to how much breasts will grow from hormones alone. For MTFs who want larger breasts or a change in breast shape, implants can be inserted through an incision under the breast, in the armpit, or around the nipple.

Augmentation incisions

- 1 Peri-areolar
- 2 Inframammary
- 3 Transaxillary



What will my breasts look and feel like after implants?

Surgically augmented breasts typically look and feel different than non-implanted breasts. Augmented breasts tend to be further apart, firmer, and rounder than naturally developed breasts. This is particularly true for MTFs or non-trans women who get implants later in life, as their breasts have not gone through the age-related process seen in non-trans women without implants (with age the skin stretches and the breasts droop). Additionally, MTFs often have larger chest muscles and a wider chest than non-trans women. Working with a surgeon who understands how MTF skin, muscle shape, and breast development is different than in non-trans women can be helpful in deciding on an implant shape and technique that will get the result that looks and feels like you want it to.

Looking at pictures of MTFs who have had breast implants can help you get a sense of what to expect. Anne Lawrence's website (<http://www.annelawrence.com/breasts.html>) includes pictures of results by various surgeons. You can also ask surgeons to see before/after photos of their patients.

What are breast implants made from?

In Canada most breast implants are filled with saline (salt water) or silicone.

A caution about silicone injections

Breast augmentation involves using semi-solid implants, with the liquid filler surrounded by a solid shell that keeps the filler contained. In the USA, some MTFs who can't afford surgery have tried to augment their breasts, hips, cheeks, lips, or buttocks by buying liquid silicone and injecting it into themselves, or getting an injection done by a friend or unlicensed health worker. Injection of liquid silicone (sometimes called "free silicone") is extremely dangerous and is therefore not legal as a medical procedure in Canada or the USA. Liquid silicone has serious health risks, including permanent disfigurement, lung disease, brain damage, and death. If you have ever had liquid silicone injection, talk to a doctor as soon as possible.

As part of thinking about whether or not to get implants, it is important to be realistic that all types of breast implants commonly leak or rupture and need to be removed. According to Health Canada:

Breast implants are not considered to be lifetime devices...you will likely need additional surgeries and visits to your surgeon over time. At some point, your implants will probably have to be removed, and you will have to decide whether or not to replace them.

Implants stretch the skin. If you have implants removed and do not replace them, your skin will likely be wrinkled, dimpled, or puckered.

Timing of breast augmentation

Estrogen can significantly change breast size and shape in some MTFs. While breast growth starts soon after taking estrogen, it is slow and gradual, and it typically takes two or more years for breasts to reach their maximum size. If you can take hormones, it's recommended that you wait at least 18 months, to give your breasts time to develop with hormones. Hormonal development will help your nipples grow, and will also stretch out the skin of your chest so you can have a more natural looking implant. Implants look more natural if they're used to augment existing breasts, rather than implanted into a flat chest.

Some MTFs can't take hormones for medical reasons, don't want the side effects of hormones, or just want breasts without the other effects of hormones. Implants can be an option if you can't take hormones. You will need to work with the surgeon to find a size that will look balanced with your nipples, as they will still be small.

Breast surgery can be done as a first (or only) step in surgery, or after you've already gone through other types of SRS (e.g., genital surgery). In BC, MTF breast augmentation is usually done as a single surgery, but in SRS programs where there is a team of surgeons working together, it can be done at the same time as genital surgery (see pages 17–24) to reduce the number of times you have to go through general anesthetic. The new SRS program that is under development in Vancouver is aiming to offer MTFs the choice of having both surgeries done together. For more information on this program, see the *Getting Surgery* booklet, available from the Transgender Health Program (last page).

What to expect before and after breast augmentation

At the hospital

If you are getting breast implants alone (not with genital surgery), you will most likely be admitted to hospital the same day as your surgery. You may be asked to come to the hospital the day before surgery to go over information about the surgery and to have a last-minute physical checkup. You will be told not to eat or drink after midnight the night before you have surgery.

After your surgery, you will be monitored by hospital staff as you come out of the anesthetic. Breast augmentation is a relatively simple procedure and you will probably be sent home the same day as surgery with medication to help control pain. You will need to have someone drive you home or take a taxi, as it's not safe to drive right after surgery (when you're still woozy from the anesthetic). You will probably be given antibiotics in the hospital to help reduce the risk of infection as your wounds are healing.

After breast surgery

You will wear a special bra and leave the surgical dressings on for 3 days after surgery. After 3 days, you can take the gauze pads off. There will be adhesive tapes (“steri-strips”) along the incision line; leave these on. At this point you can shower, being careful not to soak the steri-strips (it's OK if they get splashed with a bit of water, but don't run water directly over them). After showering, gently pat the steri-strips dry. They will fall off on their own in 7–10 days.

It is normal for the incisions to be red, but the redness shouldn't go beyond the incision for more than 1–2 cm (if this happens, see a doctor right away, as it can be a sign of infection). It is also normal to see or feel the knot in the stitches at the end of the incision. The stitch knot is not a problem; it will either dissolve on its own or come to the surface of your skin, in which case a doctor or nurse can clip it free.

A medium level of bruising and swelling is normal. Your breasts will probably feel sore and swollen for at least a month after surgery. If you have a large amount of swelling, see a doctor. Feelings of sharp shooting pain, burning pain, or general discomfort are common as part of the healing process and will eventually go away. Usually serious discomfort

passes 1–2 days after the surgery. Three to five days after surgery, you can start special breast massage exercises that your surgeon will show you.

You can go back to your usual routine when you feel well enough to do so (i.e., normal movements don't cause pain). This is typically 1–2 weeks but can take longer in some cases. You should avoid any activity that is vigorous enough to raise your heart rate for 3–4 weeks.

Risks and possible complications of breast implants

All surgery that involves general anesthetic is a serious medical procedure. With any surgery there is a risk of blood clots (which can be fatal) or a negative reaction to the anesthetic. Surgeons, anesthesiologists, and surgical nurses are experienced in preventing problems and responding to any emergencies that happen during surgery. After you're discharged from the hospital, to prevent blood clots move around as much as feels comfortable, and drink plenty of water. Get emergency medical help (call 911) if you have sudden shortness of breath, chest pain, dizziness, or tender, warm, and swollen legs – these can be signs of a blood clot and you may need emergency help.

In addition to the risks from blood clots, every surgery also involves possible risk of infection, bleeding, pain, and thick red scars. Antibiotics are usually given at the hospital to reduce the risk of infection. It is normal for breasts to be sore after the surgery, and for the incision line to be red. If the redness goes more than 1–2 cm beyond the end of the incision, the skin is very tender or warm, and you don't feel well, see a doctor to check whether you have an infection.

Possible complications specific to breast implants include:

- *capsular contracture*: thickening and contraction of the scar tissue that naturally forms around the implant (some scar tissue is normal; an excess can be a problem)
- lopsided breast size, shape, or position (one side looks different than the other)
- lopsided placement of the nipple (one side looks higher than the other)
- wrinkling of the skin over the implant: more likely if you are thin or your breasts haven't developed well after hormones
- problem with the implant: leakage, rupture, infection, or coming out of the body
- change in sensation to nipples/breast skin: less sensation or more intense sensation

Your GP or nurse can handle minor infection or rupture of a small number of stitches after you've been discharged from the hospital. You will be referred back to your surgeon if you rupture so many stitches that the wound keeps opening, or if fluid/blood builds up in your breast.

You will likely have to have further surgery if:

- there are problems with the implant: the surgeon will have to take out your implant, but can replace it later
- your breasts or nipples are lopsided: the surgeon will wait 4–6 months after surgery to see how the implant settles
- you have severe capsular contracture (the scar tissue is making your breasts excessively firm, distorting their shape, or causing you pain)
- you have severe scarring

The US Department of Health and Human Services website on breast implants (<http://www.fda.gov/cdrh/breastimplants>) includes information on safety studies by two large manufacturers of implants (Mentor Corporation and Inamed Corporation). Each of these studies involved followup on non-trans women who had saline implants to make their breasts larger (not to reconstruct the breast after cancer mastectomy). The following complication rates were found:

Complication	% of patients (within 3 years of surgery)	
	Mentor (960 non-trans women)	Inamed (901 non-trans women)
Wrinkling of the breast skin	21%	11%
Re-operation	13%	21%
Loss of nipple sensation	10%	8%
Severe capsular contracture	9%	9%
Implant removal	8%	8%
Asymmetry (lopsided breasts)	7%	10%
Intense nipple sensation	5%	9%
Breast pain	5%	16%
Leakage/deflation	3%	5%
Can feel or see implant	2%	9%
Infection	2%	< 1%
Breast sagging	2%	not listed
Scarring complications	2%	6%
Pooling of blood in breast	2%	2%

In the Mentor study, 15% of participants who had saline implants went back for further surgery at least once within 3 years after the implants were put in; in the Inamed studies, 25% of participants went back for further surgery within 5 years after the initial surgery. In both studies, some of the participants who went back for further surgery had more than one procedure done at once, and others had multiple surgeries over the 3 or 5 year period they were tracked. The following numbers/percentages of procedures were reported:

Reason for further surgery	Mentor (960 non-trans women, 3 years after initial surgery)		Inamed (901 non-trans women, 5 years after initial surgery)	
	# of procedures	% of procedures	# of procedures*	% of procedures
Implant removal + replacement	116	32%	~ 157	34%
Problems with breast capsule	77	22%	~ 88	19%
Revision of scar or wound	67	19%	~ 42	9%
Repositioning implant	29	8%	~ 23	5%
Add/remove saline from implant	27	8%	~ 51	11%
Breast lift (due to sagging)	23	6%	~ 23	5%
Implant removal, no replacement	9	3%	~ 9	2%
Biopsy / removal of cyst or lump	6	2%	~ 23	5%
Breast reduction or mastectomy	3	< 1%	not listed	not listed
Nipple-related	1	< 1%	not listed	< 1%
Total number of procedures:	358		463	

* numbers estimated from percentages given

Some people believe breast implants cause systemic illnesses such as autoimmune disease or connective tissue disease. However, studies on non-trans women have found no evidence that implants increase the incidence of systemic illness.

Do breast implants increase my risk of breast cancer?

There have been many studies done on this, and there is no evidence that breast implants increase the risk of breast cancer. Breast implants can make it more difficult to feel lumps in the breast, and can make it more difficult for lab technicians to interpret the results of screening mammography (breast x-ray used to detect early signs of cancer). This can

delay a diagnosis of cancer and therefore delay treatment. But studies of non-trans women concluded that even though the implants delayed diagnosis, they did not make it more likely the woman would die from breast cancer – that is, the delay in diagnosis did not lead to worse outcomes.

Based on your age and other risk factors for breast cancer, your primary care provider (GP or nurse) may recommend that you have a mammogram periodically (see *Trans people and cancer*, available from the Transgender Health Program). It's important to tell your primary care provider if you have breast implants, as a special mammogram view must be used.

MTF Face and Neck Surgery

During puberty, testosterone causes many changes in MTF bodies, including development of the skull and face bones, as well as cartilage in the face and neck. After puberty, although hormone therapy can make the skin of the face look softer and can bring about minor changes to the fat/muscle structure of the face, the basic structure of the face and neck can't be changed by hormones; only surgery can reshape the contours of bone and cartilage.

MTFs have varying beliefs about face and neck surgery. Some feel it is very important in helping reduce their gender dysphoria and helping with passability. Others are concerned that MTFs may feel pressure to get face and neck surgery to conform with conventional standards of attractiveness for women. Like any other type of SRS, there is no right or wrong answer in terms of whether to get face or neck surgery: it is a personal decision.

Tracheal shave

Rings of cartilage surround the windpipe in the throat/neck. In “males,” the thyroid cartilage tends to jut forward in a more pronounced point than in “females.” This point is sometimes called the “Adam’s apple” or laryngeal prominence.

The thyroid cartilage can be surgically altered (“tracheal shave,” or *chondrolaryngoplasty*) to reduce the size and noticeability of the laryngeal prominence. This can be done at the same time as voice surgery (see the booklet *Changing Speech*) or separately.

Facial feminization surgery (FFS)

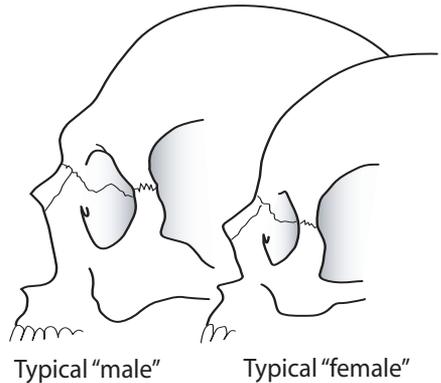
FFS includes two types of techniques: surgery on the bones or cartilages of the skull, or work on the soft tissue that covers the bone/cartilage. Bone reconstruction in FFS is based on the differences between the average “male” and “female” skull. Soft tissue work may be done to amplify the work done on bone, or instead of bone reconstruction, if relatively minor changes are sought. Soft tissue work is less invasive than bone reconstruction.

FFS can include surgical changes to any of the following areas:

Forehead

FFS creator Douglas Ousterhout emphasizes surgical change of the forehead as a key part of facial “feminization,” based on three differences in the facial structure of non-trans women and men:

1. As the pictures on the right show, “males” tend to have a relatively flat slope from the hairline to the eyebrows, while “female” skulls tend to be more curved.
2. As the pictures on the right show, “males” tend to have a heavier bony ridge just above the eyes (brow bossing).
3. “Males” tend to have a longer distance from their eyebrows to their hairline than “females,” even without “male”-pattern balding (which further increases this distance).



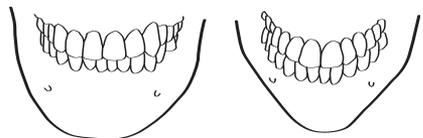
The surgical changes to the forehead that can be done as part of FFS include:

- brow shave: grinding down the orbital rims (upper edge of eye sockets) to remove brow bossing
- forehead implant: using synthetic bone-filler to round out a flat forehead
- forehead reconstruction: removing part of the skull, reshaping it, and replacing it (using wires/screws to hold the new bone in place)
- brow lift: tightening of the skin on the forehead and raising of the eyebrows
- scalp advancement: bringing the scalp and hairline forward

Chin and jaws

FFS creator Douglas Ousterhout describes three differences in the structure of chins and jaws of non-trans women and men:

1. As the pictures on the right show, “male” chins tend to be wider and more square, while “female” chins tend to be pointed and narrower.
2. The length from the bottom lip to the base of the chin tends to be shorter in “females” than in “males.”
3. The back corners of “male” jaws tend to be fuller, with the bone tending to have a sharper angle and flaring out away from the face, and a more prominent masseter (chewing) muscle. “Female jaws” tend to have a gradual curve from ear to chin, with a less square and full shape in the back.



Typical “male”

Typical “female”

Chin and jaw FFS is done through the mouth, via incisions around the lower gums. The surgical changes to the chin and jaw that can be done as part of FFS include:

- removing bone from the back corner of the jaw, possibly with removal of part of the masseter muscle to make it less prominent
- removing bone from the chin and reshaping it so it looks more tapered, less square, and shorter
- using implants or bone-filler paste if the chin is receding
- surgical rotation of the jaw: clockwise rotation pushes the chin and back corner of the jaw back, making them look smaller
- liposuction under the chin to make the lower part of the face look less heavy

Nose

Surgery to change the appearance of the nose is called *rhinoplasty*. Some MTFs want their nostrils or the tip of their nose to look different. Other times surgery on the bridge of the nose will be recommended to MTFs who are having forehead surgery, so the flow from nose to forehead looks smooth. The surgical changes to the nose that can be done as part of FFS include:

- reducing the bone from the bridge of the nose to make it flatter
- reducing the width of the nose to make it thinner
- shortening the nose by removing some of the cartilage at the tip of the nose
- narrowing the nostrils

Cheeks

Cheek augmentation can be done to emphasize the “cheekbones” (*zygomatic arch*), making the cheeks more prominent and also making the chin/jaw look smaller. Augmentation can be done using bone grafts, synthetic implants, or fat implants. Alternatively, the cheekbones can be cut and repositioned using a wedge of bone.

Lips

The surgical changes to the lips that can be done as part of FFS include:

- removing skin from between the nose and top lip to raise the upper lip
- angling the section of skin between the nose and upper lip back slightly
- using implants to make the lips look fuller

Ears

Some MTFs have the position of their ears changed so they are flatter against the head (“ear pinning,” or *otoplasty*), or have the size of their earlobes reduced.

Timing of face/neck surgery

Most FFS techniques can be done at any point in transition (at the start, middle, or after you’ve had other surgeries). If you want both forehead and nose surgery, it is recommended that they be done together, as changes to the forehead can affect the shape of the nose. Generally it is

not recommended that you have multiple surgeries close together, as this is a lot of stress on your body. You can have FFS safely 3 months before or after vaginoplasty as long as there are no complications from whichever surgery is done first.

If you are planning to have tracheal shave as part of voice surgery, you should do this last (see the booklet *Changing Speech*). Voice surgery is done after all other surgeries because some types of voice surgery narrow the windpipe, making it more complicated to put in the tube that keeps your windpipe open during general anesthesia (*tracheal intubation*). Tracheal intubation can also decrease the effectiveness of some types of voice surgery.

What to expect before and after face/neck surgery

If you are having electrolysis done to help remove facial hair, you will need to stop it completely at least two weeks before getting face surgery. If you are getting chin or jaw surgery done, you will not be able to start electrolysis again until at least three months after surgery. As part of planning for surgery, talk with your surgeon about ways to temporarily get rid of your facial hair before and after surgery.

At the hospital

Many facial surgeons have their own private clinics and can do minor procedures (e.g., collagen lip implants) in their office. If you are having major bone reconstruction done, you will have surgery in hospital, and will be admitted the same day as your surgery. You may be asked to come to the hospital the day before surgery to go over information about the surgery and to have a last-minute physical checkup. You will be told not to eat or drink after midnight the night before you have surgery.

What to expect right after the surgery depends on whether a local or general anesthetic was used. Minor procedures are usually done under local anesthetic (similar to when you have a tooth drilled), and you can go home shortly afterward. Bone reconstruction or tracheal shave generally require general anesthetic.

If you have a general anesthetic, you will be monitored by hospital staff as you come out of the anesthetic. For more minor procedures you will be sent home the same day as surgery with medication to help control pain; for more extensive surgery you will stay the night in hospital. Whenever

you are discharged you will need to have someone drive you home or take a taxi, as it's not safe to drive right after surgery. You will likely be given antibiotics in the hospital to help reduce the risk of infection as your wounds are healing.

After surgery

The aftercare instructions are different for different types of facial surgery and depend on the specific technique used. Talk with your surgeon before surgery to make sure you understand what to expect and what you need to do after you've been discharged from the hospital, and to talk about pain management options.

The following information is from Dr. Douglas Ousterhout, the creator of FFS:

- a) Forehead surgery: Pain medication and antibiotics will be prescribed.
 - Day after surgery: The dressing around the forehead can be removed. You can then gently wash your hair, taking care not to get any dressings used for nose/chin surgery wet (if you have had multiple surgeries done at the same time).
 - Within 8 days after surgery: Sutures and staples used to close scalp incisions are usually taken out by the surgeon. Most people feel well enough to go back to work by this time (but vigorous activity should not be done until 2 weeks after surgery).
 - Within 10–12 days after surgery: Swelling and bruising around the eyes typically goes away by this time.
- b) Cheek augmentation: Pain medication and antibiotics will be prescribed. You can clean your teeth as normal, being careful not to brush over the incision line if the implant was placed through your mouth.
 - First 1–3 days after surgery: Temporary numbness and swelling may interfere with speaking, smiling, yawning and chewing. You should avoid foods that are hard to chew for the first few weeks.
 - Within 2 weeks after surgery: Swelling has typically gone away by this time.
- c) Nose surgery: Pain medication will be prescribed. If you wear glasses, you will get special instructions as the nasal pads that rest your glasses on your nose can't touch the nose for one month after surgery.
 - First 1–2 days after surgery: Internal nasal packing will stay in to support nasal tissues during the early phase of healing. The packing will be taken out by the surgeon.

- Day 8 after surgery: The external cast around your nose will be taken off by the surgeon. Be careful not to get this cast wet while it is still on.
 - Within 2 weeks after surgery: Bruising around the nose and eyes typically fades by this time.
 - One month after surgery: It is safe to do vigorous activity after this time. You can go back to wearing your glasses as normal.
- d) Chin reduction: Pain medication will be prescribed.
- Recovery time depends on the type of technique done; if significant bone reconstruction has been done recovery can take 4–5 weeks, with swelling remaining for up to 3–4 months.
 - Usually you can go back to light work 5–6 days after surgery.
- e) Jaw reduction: Pain medication will be prescribed.
- The face is usually moderately swollen and bruised after surgery. Most of the swelling gradually fades over 10–14 weeks, but it can be difficult to see change until swelling has fully gone down 3–4 months after surgery.
 - Usually you can go back to work 10–14 days after surgery.
- f) Lip augmentation: Usually a relatively minor procedure. There may be some swelling that typically goes away within 10–14 days of surgery.

Risks and possible complications of face/neck surgery

Every surgery involves possible risk of infection, bleeding, pain, and thick red scars. Antibiotics are usually given at the hospital to reduce the risk of infection. It is normal for there to be swelling and bruising after facial surgery. If the skin is very tender or warm, and you don't feel well, see a doctor to check whether you have an infection.

All surgery that involves general anesthetic is a serious medical procedure. With general anesthetic there is a risk of a negative reaction to the anesthesia or, if you are lying flat for a long period of time, a risk of blood clots (which can be fatal). Surgeons, anesthetists, and surgical nurses are experienced in preventing problems and responding to any emergencies that happen during surgery. After you're discharged from the hospital, to prevent blood clots move around as much as feels comfortable, and drink plenty of water. Get emergency medical help (call 911) if you have sudden shortness of breath, chest pain, dizziness, or tender, warm,

and swollen legs – these can be signs of a blood clot and you may need emergency help.

Possible complications specific to face/neck surgery include:

- numbness, pain, or difficulty controlling the muscles of the area that was operated on: may be temporary (from swelling) or permanent (from nerve damage)
- problem with implants, wires, or screws: infection, reabsorption, or coming out of the body
- tracheal shave: possible damage to the voice
- difficulty adjusting to looking different after surgery (some people describe this as feeling like a stranger is looking back at them when they look in the mirror)
- disappointment with the appearance of results: eyebrows raised too high, nose looks unnatural, etc.
- thick red scars, or other problems relating to scarring

Genital Surgery

MTF genital surgery can include:

- removal of the testicles (*orchietomy*)
- removal of the penis (*penectomy*)
- creation of a vagina (*vaginoplasty*), labia (*labiaplasty*), and clitoris (*clitoroplasty*)

Usually these three types of surgeries are done together. However, some MTFs want their testicles removed as early as possible, so they can reduce the amount of hormones they need to take (to reduce the risks associated with estrogen). Others are not sure that they want the full vaginoplasty and want their testicles removed to see what partial surgery feels like. Some people in the MTF spectrum do not want a vagina (preferring to just have the penis removed) or are not comfortable with the health risks of vaginoplasty. For this reason we include information about “orchietomy-only” or “penectomy-only” options for MTF genital surgery.

Orchietomy

Testicles (also called *testes* or *gonads*) are the organs that produce sperm and most of the testosterone in “males”. The testicles sit in a pouch of skin

called the scrotum. In MTF orchiectomy, the testicles are removed but the scrotal skin is typically left behind to create labia and to line part of the vagina (in vaginoplasty – see below).

With orchiectomy, even if the scrotal skin is not removed there is risk of shrinkage or damage of the skin. Because of this risk, some surgeons do not recommend having orchiectomy as a separate procedure if you may want to pursue vaginoplasty at a later date. Other surgeons are not as concerned about this, as a skin graft can be taken from the abdomen if scrotal skin is not useable.

Penectomy

Penectomy refers to removal of the penis. When it is done without vaginoplasty, it is sometimes called “nullification.” A shallow vaginal dimple is created and a new urethral opening is created to allow you to urinate in a sitting position.

Removal of the penis as a separate procedure is not recommended if you are considering vaginoplasty at a later time, as skin and tissue from the penis is typically used in vaginoplasty. In other words, don’t have penectomy done first if you think you might want vaginoplasty later.

Vaginoplasty

The term *vaginoplasty* includes several procedures designed to transform the “male” genitals into “female” genitals. Usually most of the surgery is done as one step (removing the testicles; partially removing the penis; and creating a vagina, clitoris, and labia), but some surgeons prefer to work on the labia and clitoral hood as a second stage of surgery.

In vaginoplasty, the surgeon’s goals are:

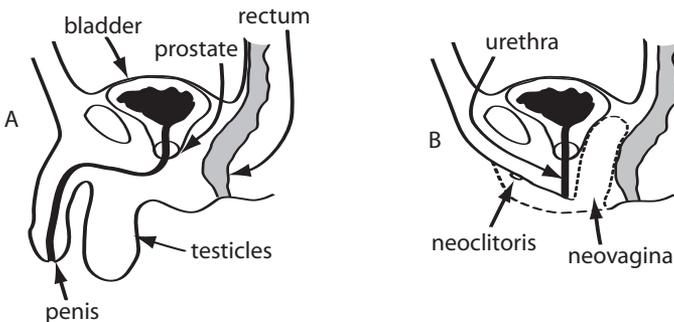
- To preserve the ability to have orgasms.
- To create a clitoris, labia, and opening to the vagina (introitus) that look realistic and maintain good touch sensation (i.e., you can feel it when they are touched).
- To create a vagina that will hold its shape, is sensitive to touch, is wide and long enough for sexual penetration (by fingers, a dildo, or a penis), and has a moist, elastic, and hairless lining.
- To change the structures of the urinary tract so you urinate downwards and in a steady stream.

As part of making decisions about vaginoplasty it is important that you talk with the surgeon about how important each of these is to you, as your goals determine the techniques that will be used. For example, if it's really important to you that you have a vagina that is long and wide enough to take a penis or dildo, you may need to have grafts if your penis is too small to create an adequately sized vagina (and you will also need to do daily dilation after surgery).

The most common technique for creating a vagina is the penile inversion. In this technique the penis is skinned and the skin is turned inside out to line the walls of the new vagina. In some cases, extra skin is required to make the vagina longer or wider; this is usually taken from the lower abdomen or the scrotal sac. A segment of your large intestine may be used to create the vagina if the penile inversion fails or is not possible (e.g., because your penis was damaged or removed when you were younger). As part of the penile inversion, a small section of the head of the penis – the part that is most sensitive – is used to create a new clitoris. *Erectile tissue*, which gives the penis the ability to get hard, will be removed so the entrance to the vagina and the clitoris don't get overly swollen when you get sexually aroused.

The tube that carries urine from the bladder to the outside of the body (*urethra*) is longer in “males” than in “females,” and in a slightly different position. The urethra is shortened and repositioned as part of vaginoplasty. The prostate (which sits at the neck of the bladder, around the urethra) is not removed.

The innermost labia (*labia minora*) are typically made from leftover skin from the penis. The outer labia (*labia majora*) are usually made from



testicle skin. Revisions are sometimes needed after vaginoplasty to refine the appearance of the labia, as well as the clitoris or its hood.

What to expect before and after genital surgery

If orchiectomy is done alone, it is generally considered a simple surgery that can be done under a local anesthetic and completed in under an hour. It is routinely done for “men” who have prostate or testicular cancer, and aftercare is generally straightforward, with a full recovery in 2–4 weeks.

Penectomy and vaginoplasty are both major surgeries that require more complex care before and after surgery. The information below is specific to these more complex surgeries.

At the hospital

You will be admitted to hospital the day before your surgery. Blood will be drawn to check your overall health, and you will likely have electrodes placed on your chest (*electrocardiogram*) to measure your heart function; if there are any concerns about your lungs you may have a chest X-ray. You will also have a “bowel prep” to clean out your intestines. This both helps prevent problems during surgery and also gives you a couple days of rest so you don’t have to strain to go to the bathroom after surgery. You will be told not to eat or drink after midnight the night before you have surgery. The area that will be operated on will be shaved.

After your surgery, you will be monitored by hospital staff as you come out of the anesthetic. You will then stay in hospital until you are recovered enough to be sent home – this is usually 6–8 days. In the early stages of recovery you will be restricted to bedrest (i.e., you won’t be up and walking around). You will likely be hooked up to a PCA (*patient-controlled analgesia*) machine that lets you take pain medication when you need it (up to a limit of what is safe). You will also be given antibiotics and medication to prevent blood clots.

As part of vaginoplasty, a rod-shaped prosthesis will be put in your vagina and will be left there for five days to help the skin lining the new vagina attach to the vaginal wall. A sterile tube (*catheter*) will be placed in your new urethra to drain your bladder. Five days after surgery, both the catheter and prosthesis will be removed for the surgeon to check on your healing, and you will get instructions on how to take care of your vagina, along with an information sheet for you to follow when you go

home. You will generally stay in hospital 1–3 days after this to make sure everything is healing well.

After surgery

Generally people start to feel more physically comfortable during the second week after surgery, but it can take a long time to fully heal, and there can be pain and soreness for a long time after genital surgery.

You will see the surgeon at least once in the week after surgery, and then periodically after that. The surgeon will do a physical exam to check your general health and will also check your new clitoris for healing and sensation. You will be asked questions about your bowel and bladder function, and the surgical incisions will be checked for infection and scarring. If you have had a vaginoplasty, the surgeon will put a finger inside your vagina to check healing.

For the first 8 weeks after vaginoplasty you will continue to wear a prosthesis inside your vagina most of the time. At first, you will only take it out once a day, when you do routine cleaning (you will douche once a day initially). The amount of time the prosthesis is left out will gradually be increased (as per the surgeon's protocol). You will have to continue to dilate your vagina every day, either by sex (dildo/penis/fingers) or using the dilator, to keep your vagina open. If you do not dilate every day, your vagina may become narrow and short.

If as part of vaginoplasty you have had a graft, you will have an incision at the graft site – usually the abdomen just above the pubic bone. Adhesive strips (“steri-strips”) will be used to bring the edges of the wound together and promote healing. Hospital staff will check this incision and change your dressings on a regular basis. After you go home, schedule an appointment with your regular GP or nurse to check the healing of the graft site and make sure it is not infected. It is normal for the incisions to be red, but the redness shouldn't go beyond the incision for more than 1–2 cm (if this happens, see a doctor right away, as it can be a sign of infection). It is also normal to see or feel the knot in the stitches at the end of the incision. The stitch knot is not a problem; it will either dissolve on its own or come to the surface of your skin, in which case a doctor or nurse can clip it free.

You can go back to your usual routine when you feel well enough to do so (i.e., normal movements don't cause pain). This is typically 4–6 weeks

but can take longer in some cases. You should avoid any activity that is vigorous enough to raise your heart rate until you have fully recovered. Check with your surgeon if you are not sure.

As discussed in the booklet *Getting Surgery* (available from the Transgender Health Program), MTFs who take estrogen will be tapered off a couple weeks before surgery to reduce the risk of blood clots. When you have recovered enough after surgery to be able to resume light activity, you will be slowly started back on estrogen. The surgeon will work with the doctor/nurse who prescribes your hormones to work out a plan to start you on hormones. Because orchiectomy involves removal of the organs that produce testosterone, it is important to work with a doctor who has training in trans medicine to make sure you are put on an appropriate dose of hormones after surgery. If you don't want to take estrogen, you must take another type of medication to prevent loss of bone density (see *Trans people and osteoporosis*, available from the Transgender Health Program).

Risks and possible complications of MTF genital surgery

All surgery involves possible risk of infection, bleeding, pain, and scarring. This is true of orchiectomy and penectomy as well as vaginoplasty. Antibiotics will likely be given to prevent infection, and the health professionals who will check your dressings in the week after surgery will also be looking for infection.

Penectomy and vaginoplasty are done under general anesthetic. All surgery that involves general anesthetic is a major medical procedure. With any surgery there is a risk of blood clots (which can be fatal) or a negative reaction to the anesthetic. Surgeons, anesthesiologists, and surgical nurses are experienced in preventing problems and responding to any emergencies that happen during surgery. After you're discharged from the hospital, to prevent blood clots move around as much as feels comfortable, and drink plenty of water. Get emergency medical help (call 911) if you have sudden shortness of breath, chest pain, dizziness, or tender, warm, and swollen legs – these can be signs of a blood clot and you may need emergency help.

Possible complications specific to vaginoplasty include:

- *fistula*: opening between the rectum and new vagina
- decreased sexual sensation, and possible decreased ability to have orgasm
- partial or total death of the tissue used to create the new vagina, labia, or clitoris
- narrowing or closure of the new vagina or urethra
- *prolapse*: vagina falling out of the body
- hair growth in the vagina (from hair-bearing tissue used as vaginal lining)
- unsatisfactory size or shape of the new vagina, clitoris, or labia

Some of these are long-term risks, while others are only likely to happen in the hospital (where they can be taken care of by hospital staff. For example, partial or complete death of the new clitoris, labia, or lining of the vagina – rare complications – is most likely early in recovery while you're still in hospital; by the time you are discharged, the risk is very low. Hospital staff will also take care of any bleeding or swelling that happens right after surgery.

Your GP or nurse can handle minor infection or rupture of a small number of stitches after you've been discharged from the hospital. You will be referred back to your surgeon if:

- you have a serious infection
- you rupture so many stitches that the wound keeps opening more and more
- you have bleeding with pus more than a few weeks after surgery (minor bleeding after dilation is normal and can be controlled by putting pressure on the vagina)
- you have vaginal discharge with pus in it
- gas or feces leak from your vagina: this indicates a tear between your vagina and rectum
- you have any signs of tissue death (mottled skin that progressively becomes darker)
- vaginal penetration is painful or difficult
- you have difficulty urinating, painful urination, decreased amount of urine, or need more time and effort to urinate
- your vagina prolapses (partially comes out of your body)
- you have severe scarring

You will have to have further surgery if:

- the clitoral, labial, or vaginal tissue dies
- you have a tear between your vagina and rectum (fistula)
- your urethra gets severely narrowed or blocked
- you have a vaginal prolapse
- you have severe scarring

Decreased sexual sensation is a potential long-term risk of vaginoplasty. Generally, sexual outcomes are good. Studies report a range of 63–94% of MTFs as saying they could have orgasm after vaginoplasty. A small study (14 MTFs) found that although physical sensation was decreased after surgery, the participants were less dysphoric and more comfortable having sex (so had sex more and said they enjoyed it more). Although overall the outcomes are good, the studies do note that some MTFs who have had genital surgery have said they could not have an orgasm afterwards.

Making the Decision to Have SRS

Part 1: *Am I sure?*

There is no one right way to make the decision to have surgery. As with any big life-changing decision, it is normal to have doubts, fears, and anxieties about SRS. But as part of the decision-making process, it is important that you are sure you want to go ahead with surgery.

We know from our own experiences and from listening to many other people that every person's situation is unique, that there is no one way to make a decision about SRS, and that it is not as simple as a one-time yes or no – it is often a long process that is shaped not only by internal feelings and beliefs but also by ever-changing external circumstances that are not necessarily in your control (health, money, family responsibilities, limited access to services, etc.)

It's been our experience that people tend to make decisions about SRS the same way they make decisions about the rest of life. Some trans people look for a strong internal feeling that SRS is right and don't want to be influenced by what other people think, while others want to get opinions from friends, family members, other trans people, counsellors, or other health professionals as part of making the decision.

Whatever way you think things through, some questions to consider are listed below. There aren't any right answers to these questions, they are just ways to think through various aspects of SRS so you can better understand your feelings, values, and expectations.

- Do you have a clear mental picture of what you want to look like after SRS? How do you think you might feel if the results don't match that mental picture?
- Are you hoping SRS will fix anything, and if so, what?
- What parts of your life might change after SRS? What do you hope might change, and what do you fear might change?
- Do you think your hopes for SRS are realistic? How can you tell if they are or not?
- How much do you know about the options for SRS? What more do you need to know to be able to make a fully informed decision?
- Are the parts of your body that will be changed by SRS part of your sexuality? What will happen if you lose that part of your sexuality?
- Who else in your life will be affected by your decision? How do you think they will feel about you having SRS? How will their reactions impact you?
- What do you think is a "wrong reason" to have SRS? What do you think are the "right reasons"?

What SRS *won't* do for you

SRS can be a great relief for trans people and allow us to live more comfortably. But there are some things SRS won't do.

1. *SRS won't solve all body image problems*

The point of SRS is to feel more comfortable with your body by bringing physical characteristics closer to your internal sense of self. This relief can increase self-esteem and make you feel more confident and attractive. However, you will find that there are also attractiveness standards after SRS, and you may not fit them.

Comfort with your body is made more complicated by the social pressures and gender stereotypes about appearance. Some MTFs respond to this by obsessively dieting, exercising, or having endless surgical revisions, chasing an idealized stereotype of attractiveness.

It can be hard to separate out gender dysphoria from body image problems. Professional and peer counselling can be helpful to sort out your expectations about your appearance, and to work towards greater self-acceptance after SRS.

2. SRS won't solve all sexual problems

For some trans people, wanting to feel more comfortable about sex is an important reason for having SRS. SRS can help ease feelings of dysphoria that impact negatively on sexuality. However, not all sexual problems are due to dysphoria. Sexuality is complex and can be impacted by many things, including physical problems, stress, relationship dynamics, body image problems, past sexual abuse or other kinds of trauma, and cultural and personal beliefs about sexuality. SRS will not automatically fix all of these areas of your life. If you are having sexual difficulties, consider peer or professional counselling to explore the reasons and to find out about sexual health treatment options. The Transgender Health Program (see last page) can assist if you need help finding a trans-positive sexual health professional.

SRS often has a positive impact on sexuality. In numerous studies, the majority of trans people who participated reported increased sexual satisfaction after SRS. But SRS can also have a negative impact. Change in sensation is very common after surgery. You may find that touch is not as intense, or that it is more intense (to the point of being uncomfortable or painful). Some MTFs have difficulty reaching orgasm after genital surgery, or report that orgasm is less intense. Making the decision about surgery includes considering the possibility that SRS may negatively impact your sexuality, and thinking about how you might cope with that possibility.

Whether or not you decide to have SRS, some trans people find counselling useful in dealing with the impact of internalized transphobia on their sexuality. Living in a transphobic society, many trans people internalize negative messages about being trans. This can include shame about erotic crossdressing or other trans-specific sexual desires and fantasies, or shame about having a body that does not conform to societal norms. Peer or professional support can be helpful in working towards greater self-acceptance of your sexuality (with or without SRS).

3. SRS won't make you into someone else

Many people experience positive emotional changes with SRS. But you'll likely find, after the excitement wears off and you've incorporated the changes into your day-to-day life, that if you were shy you're still shy, if you didn't like your laugh you still don't, and you're still afraid of spiders. Whatever things you think of as your strengths and weaknesses will still be there. Hopefully, you will be happier, and that is good for anyone. SRS may help you to be more accepting of yourself. But if you are expecting that all your problems will pass away, and that everything is going to be easy emotionally and socially from here on in, you're probably going to be disappointed.

This extends to mental health concerns as well. Trans people who were depressed because of gender dysphoria may find that SRS greatly alleviates their depression. However, if you have depression caused by biological factors, the stresses of transphobia, or unresolved personal issues, you may still be depressed after SRS. Likewise, if you are having problems with drugs or alcohol, SRS will not necessarily get rid of those problems.

4. SRS won't provide you with a perfect community

For some trans people, SRS is a ritual affirming that they are who they say they are. Making physical changes is a way to bring who you are to the rest of the world so other people can see it. This process of self-emergence can be very liberating, but it does not guarantee that you will find acceptance or understanding.

Some MTFs hope that after they make physical changes they will be validated as "real" women, or feel more accepted by the trans community. But the idea that trans people aren't "real" unless they've changed their bodies is transphobic, and communities or groups that have this belief are not likely to be fully respectful in terms of trans people's identities and bodies.

During the various stages of transition, it's common to dream about finding an ideal community of trans people. When undergoing SRS there can be a particular drive to find other people who have gone through similar experiences. There are a lot of very cool trans people to talk with about SRS. But having had SRS doesn't automatically make trans people welcoming, approachable, or sensitive to the needs of others, and despite having some experiences in common you will likely find that no trans

person will exactly mirror your personal experiences, identity, and beliefs. Being realistic about the likelihood that you will at times feel lonely and alone after you start taking hormones is part of emotionally preparing for SRS.

Part 2: *Am I ready?*

It's not enough to be sure that SRS is right for you: you should also be sure it is the right time in your life to have SRS. This depends both on your readiness for the physical stress and mental adjustment involved in SRS, and also your readiness to deal with the reactions of others.

As discussed in the booklet *Getting Surgery* (available from the Transgender Health Program), for any kind of surgery the patient needs to be both physically and psychologically ready. Physical readiness means you are in reasonable health overall, and you have completed any of your surgeon's physical requirements (e.g., electrolysis before vaginoplasty). Physical readiness also includes arrangements for the physical care you will need after surgery – having a safe place where you can recover after surgery, understanding what is involved in aftercare, and having friends, family, or health professionals who can help look after you.

Mental readiness doesn't mean you have no mental health problems or life stresses, it means you have:

1. *A solid sense of your gender identity*

SRS is not for people who are just starting to question, explore, and think through issues around gender identity. If you are thinking about SRS as part of your initial process of exploring gender issues, give yourself some time to get a clear sense of how you identify and how surgery will contribute to this sense self before making a decision.

2. *Enough mental stability to make an informed decision about your medical care*

Times of chaos and crisis are not the best times to make big decisions. Being in crisis can make it hard to think clearly and make fully informed decisions. If you are finding it hard to make general life decisions because you're overwhelmed by anxiety, depression, drug or alcohol problems, family stresses, work problems, or other issues, you're not in a good place to make a big decision like whether to have surgery and what kind of

surgery to have. Get peer or professional support to work on whatever is making it hard to think things through, and then come back to the question of whether to have SRS when your mind is clearer.

3. Enough coping skills and supports to withstand the typical stresses of SRS

Trans people often feel exhilarated and liberated after SRS, but it is also common to have emotional ups and downs after surgery. It can be difficult to adjust to changes to how your body looks and feels, to cope with pain or other physical complications, and to deal with other people's reactions. For some loved ones, SRS is the first time it really sinks in that gender issues are not going to go away and that you really are trans. This can be a hard emotional process for them and can affect the support they can offer. If you don't feel you have the emotional resilience to deal with these possibilities, now is not the right time for SRS.

If you are sure that SRS is right for you but you are not sure that you are ready at this point in your life, you don't have to abandon SRS altogether. You can still work towards SRS by thinking about what might help you get to the point where you are ready – counselling, advocacy, peer support, etc. – and slowly but steadily making life changes to move closer to readiness.

What Happens if I Regret Having Surgery?

Surgery is a powerful experience. Dissatisfaction, disappointment, and doubt are relatively common after any surgery, and (for trans and non-trans people) typically relate to post-operative pain, surgical complications, discrepancy between hoped-for results and actual results, a sense of “now what?”, and the reactions of other people. These are all normal parts of adjustment and usually resolve within the first year after surgery. Studies have found that around 1% of MTFs who go through SRS have deep and long-lasting regrets.

If you are having trouble coping with surgical ups and downs, peer and professional counselling can be helpful. It is important that the counsellor have strong experience with trans issues and understand issues relating to surgery. The Transgender Health Program can help you find mental health professionals with this experience.

Many people who experience persistent regret come to peace with their decision to have had surgery – even if they wouldn't do it again, they feel that at the time it was the right decision. Some people decide that surgery and transition was wrong for them, and want to transition back. This is a big decision and should not be made without professional counselling.

MTF SRS Resources

Note: Websites change frequently, and we cannot guarantee the full accuracy of all of the content of the following sites. We recommend reading all health information with a critical eye, and checking with a medical provider before making any treatment decisions. If you have any concerns about the sites listed here, contact the Transgender Health Program by email at trans.health@vch.ca or by phone at 1-866-999-1514 (toll-free in BC).

BeginningLife.com

<http://beginninglife.com/FFS.htm>

Links to the websites of MTFs who have gone through FFS (with their before and after photos and personal stories), as well as links to FFS surgeons' websites and medical articles.

FFS support

http://groups.yahoo.com/group/Dr_O_Club

A meeting place for transsexuals who want to talk about facial feminization surgery (FFS) and the procedures involved. Despite the name of the list (which refers to the creator of FFS, Dr. Douglas Ousterhout), the discussion is not limited to one surgeon. The links page (http://groups.yahoo.com/group/Dr_O_Club/links/Facial_Surgeons_FFS_001093620973) provides links to the websites of FFS surgeons around the world.

Indigo pages

http://wolfandturtle.net/Indigo/index.php/Surgeons:_Male_to_Female

The Indigo pages list surgeons around the world who do MTF SRS.

Transsexual road map

<http://www.tsroadmap.com/physical>

Information surgical options, risks, and complications; advice on choosing a surgeon and preparing for surgery; and MTFs' stories about their experiences.

Transsexual women's resources

<http://www.annelawrence.com/twr>

Before and after photos, information, and links to MTFs' stories about their experiences.

Questions? Contact the Transgender Health Program:

Office: #301-1290 Hornby Street, Vancouver, BC V6Z 1W2

Phone/TTY/TDD: 604-734-1514 or 1-866-999-1514 (toll-free in BC)

Email: transhealth@vch.ca

Web: <http://www.vch.ca/transhealth>

The Transgender Health Program is an anonymous and confidential free service for anyone in BC who has a trans health question or concern.

Services for trans people and loved ones include:

- information about trans advocacy, medical care, hormones, speech change, and surgery
- help finding health/social services, and help navigating the trans health system
- non-judgmental peer counselling and support
- information about trans community organizations and peer support groups



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