Gender Affirming Surgery

Metoidioplasty

A summary for health care providers

rainbow health ontario
santé arc-en-ciel ontario
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This summary provides information to facilitate the discussion of gender affirming surgery between Ontario health care providers and patients. It is not exhaustive and does not replace the informed consent process between surgeon and patient.

DESCRIPTION

The primary goal of metoidioplasty is to create a small phallus with full sensation. There are many different surgical techniques within the metoidioplasty procedure that can be performed in addition to creating the small phallus. It is very important to discuss patient goals and desires, rather than rely on specific surgical terminology as there is a large variability in language, terms and meaning.

If phallus size and insertive sex are a priority, then phalloplasty should be considered. See the Phalloplasty Information Sheet.

INTENDED RESULTS

- Align anatomy with gender identity
- Reduction in gender dysphoria and/or gender incongruence
- Improve mental health and well being
- Creation of a small phallus (2-12 cm; mean 5-7 cm)
- Allow a visible erection
- Maintaining full erogenous sensation

CAN BE DONE WITH OR WITHOUT:

- Urethral lengthening: to extend urethra to end of phallus so one can urinate while standing
- Scrotoplasty: to create a scrotum behind the phallus

Important to note: metoidioplasty can be done as single stage surgery and there is no notable donor site scarring/risk of morbidity as in the case of phalloplasty.

ALTERNATIVE TREATMENT OPTIONS

- “Packing” (use of padding or phallic object in pants/underwear)
- Devices that aid voiding while standing
- Devices that allow for insertive sex with a partner
- Use of testosterone to develop clitoromegaly (enlargement of the clitoris)
- Phalloplasty

SURGICAL TECHNIQUES AND OPTIONS

CLITORAL RELEASE

METOIDIOPLASTY WITH SCROTOPLASTY

METOIDIOPLASTY WITH URETHRAL LENGTHENING, VAGINECTOMY +/-SCROTOPLASTY

- Surgical techniques vary by surgeon and patient goals
- Hysterectomy +/- BSO needed prior to vaginectomy
- **Vaginectomy**: removal of the vagina (colpectomy) and closure of vagina (colpocleisis). May be required if having urethral lengthening and scrotoplasty.
- A larger pre-surgical clitoris is favorable for phallus length
- **Clitoral enlargement** from
  - Systemic testosterone, topical dihydrotestosterone or vacuum devices
  - Surgical release of attachments (ligaments, possible chordae or crura) around the clitoris releasing it from the pubis
- Labial tissue may be used to add girth to the phallus
- **Monsplasty:** Reducing the fatty tissue over the pubic bone, improving prominence of phallus. Not recommended if considering future phalloplasty.
- **Urethral lengthening**: construction of a new urethra to extend native urethra and allow voiding through tip of phallus. Tissue used to lengthen the urethra may differ, but common tissues are vaginal mucosa, buccal mucosa (inner cheek), and labia minora
- **Scrotoplasty:** creation of a scrotum using outer labia
- **Testicular implants** can be inserted into new scrotum

SIDE EFFECTS

- **Infertility** if accompanied by hysterectomy +bilateral salpingo-oophorectomy (BSO) and vaginectomy (typically required for urethral lengthening)
- **Inability to have receptive vaginal sex** if vaginectomy is performed
- **Minimal visible 'bulge' with clothing**
- **Phallus is not usually large enough for insertive sex**

POTENTIAL RISKS/COMPLICATIONS COMMON TO MOST SURGERIES

Risks are increased with smoking, immunosuppressant drugs, clotting disorders, conditions that impair healing, BMI <18.5 or >30

General Surgical Risks

- Bleeding, if excessive may require blood transfusion
- Deep Vein Thrombosis, Pulmonary Embolism (blood clots in legs, lungs)
- Injury to surrounding anatomical structures (organs, nerves, blood vessels)
- Hematoma (collection of blood)/seroma (collection of fluid)
- Infection/abscess (collection of pus)
- Wound dehiscence (wound opening), delayed healing
- Nerve damage, loss of sensation, hypersensitivity, neuropathic (nerve) pain
- Chronic pain
- Scarring (can be prominent especially if history of keloid)
- Dissatisfaction with appearance/function
- Need for revision(s)
- Post-operative regret

General Anesthetic Risks

- Respiratory failure
- Cardiac failure/arrest
- Death
- Damaged teeth
- Aspiration pneumonia
- Nausea/vomiting

SURGICAL RISKS AND COMPLICATIONS OF METOIDIOPLASTY

- No current prosthesis for phallus
- Phalloplasty after metoidioplasty is possible but it may impact initial surgical approach
- Pre-surgical anatomy can impact surgical options and results. Phallus length, body fat distribution and labial tissue are taken into consideration.
- **Wound healing complication**s common to metoidioplasty include wound separation to incision sites and hypergranulation to areas of healing
- **Tissue loss** such as graft failure or tissue necrosis.
- Grafts are often used in urethral lengthening. If graft failure, it will either resolve fully on its own or may lead to **urethral fistula or stricture**.
- Tissue necrosis may lead to tissue loss and depending on location may result in secondary complications or require surgical revision.
- Dissatisfaction with appearance and or function of genitals (size, shape, function of penis, scrotum)
- **Vaginal remnant** or mucocele: vaginal tissue may be left behind after vaginectomy and a collection of fluid and cells in your pelvis may result. If it is connected to the urethra, it may cause substantial post-void dribbling/incontinence. This may require surgical revision to remove the tissue.
- **Changes in sensation of penis**: decreased sensation, tenderness or hypersensitivity
- **Testicular implant complication**s: infection, extrusion, poor/uncomfortable positioning
- Bladder or bowel injuries are a very rare but serious complication that can occur during hysterectomy, salpingo-oopherectomy, vaginectomy.
- Negative mental health impacts of surgery. Metoidioplasty, notably with urethral lengthening, carries significant risk for complications. Despite positive impacts to quality of life and mental health in the long term, it is not surprising that some patients may have challenges in the shorter term.

SURGICAL RISKS AND COMPLICATIONS OF METOIDIOPLASTY, CONT

Urinary/Urethral Complications
Urethral complications are common if urethral lengthening is undertaken. Surgical revision may be required, and one should prepare for this possibility.

- **Urethral fistulas**: these result in an unwanted opening in the urethra that leaks urine. This can occur anywhere along the new urethral tube but are more common at the site the new urethra is connected
- **Urethral strictures**: a narrowing of the urethra making it difficult or impossible to urinate
- **Bladder spasms** may occur if a catheter is placed to empty the bladder to manage a complication (i.e. Stricture)
- **Urethral meatal stenosis**: narrowing of the end of the urethra (urethral opening)
- **Lower urinary tract symptoms**: post-void dribble, urinary spray, urinary tract infections, poor flow, incomplete emptying. If not temporary, may require surgical revision.
- Even with urethral lengthening, voiding standing may not be possible due to a change in urine stream or limited phallus length

Revision surgery
Revision surgery can include any aspect of the surgery including the phallus, scrotum, urethra, or testicular implants. With urethral lengthening comes an increased risk for complications and the need for revision.

Strictures after urethral lengthening are not uncommon. Fixing a stricture may include:

- A suprapubic catheter, a catheter (tube) inserted from the lower abdomen into your bladder
- A urethral catheter, a catheter (tube) inserted from the urethra to the bladder
- Urethral dilation
- Urethroplasty using a tissue graft, usually from the mouth or a full thickness skin graft

Fistulas, if they require surgical management, may require a small outpatient procedure or a more involved procedure depending on the cause. Fistulas caused by strictures will need a stricture repair for the fistula not to reoccur. Generally, surgical repair involves removing the unwanted tract and applying new tissue over the area. A catheter, suprapubic or urethral, will likely be placed.

PRE-OPERATIVE CARE

PRE-SURGICAL CONSIDERATIONS

- Consider working through **pre-surgical workbooks** as available on Provincial Health Service Authority Trans Care BC website: https://www.transcarebc.ca/sites/default/files/2024-06/Penis_Construction_Surgeries_Workbook.pdf
- **Consider referral to the Sherbourne Health's Acute Respite Care (ARC) Program** for post-operative support if socially isolated, under-housed or homeless
- **Preparing for complications** is an important part of pre-surgical planning. If urethral lengthening, integrate a local urology team into the patient's care early if possible.
- **Testosterone** administration is needed to enlarge clitoris (most surgeons require at least 1-2 years)
- **Review goals** re: uterus, cervix, ovaries, vaginal cavity
- **Hysterectomy is required for vaginectomy** with or without BSO. This is generally done locally.
- Few surgical centres can perform metoidioplasty with urethral lengthening without requiring hysterectomy, and vaginectomy. This presents a technically more complicated procedure with an increased probability for urethral complications.
- **Scrotoplasty is possible with or without vaginectomy**, however technique and results may differ
- Each surgical centre has a routine pre-operative process, patients should ask their surgeon what to expect

ANESTHESIA WILL DISCUSS:

- Which medications to stop and when
- Anesthetic approach and risks
- Pain control measures

IMMEDIATE PRE-OPERATIVE CARE

- Patients should follow the hair removal instructions recommended by their surgeon
- Surgeons may make surgical skin markings with patients standing, sitting or lying down
- IV antibiotics may be given pre-operatively to reduce the risk of infection

Hospitals tend to have standard pre-operative processes which may include:

- Pre-admission visit to review health history and provide teaching (pre/post-op care)
- Anesthesia and/or medicine consult may be required, depending on health history

PRE-OPERATIVE CARE

PRE-SURGICAL CONSIDERATIONS, CONTINUED

- **Smoking cessation** is strongly recommended both before and after surgery to optimize wound healing.
- Typical time frames are ~12 weeks for nicotine, ~4 weeks for cannabis. Follow surgeon's advice on time periods to avoid smoking, alcohol and other substances
- Off work for 4-8 weeks or more (depending on the type of work)
- Limit physical activity for six weeks
- The most intensive recovery occurs in the first three months, however full recovery may be 12-18 months
- Consider the need for a support person in post-op period to assist with activities of daily living (i.e. walking, dressing, bathing) and instrumental activities of daily living (i.e. cleaning, laundry, groceries)

POST-OPERATIVE CARE

IMMEDIATE POST-OPERATIVE CARE

- Urinary catheter, through the urethra, is usually kept in place post-operatively for several weeks
- Suprapubic catheter, a tube through the lower abdomen, is often required for a few weeks if urethral lengthening
- Continue to avoid smoking and alcohol according to the surgeon's instructions to optimize healing
- Icing around the phallus (not directly on) periodically for up to 10 min can be helpful for swelling/pain control

Activity

- Avoid driving if taking opioids or if urinary catheter in place, usually for the first two weeks
- Light activity such as walking is encouraged, but limit to less than 1.5 km/day
- Avoid wide leg movements, such as swinging your legs open to get out of a car/bed
- No lifting >10lbs for first four weeks, avoid vigorous physical activity for six weeks

POST-OPERATIVE CARE

INTERMEDIATE POST-OPERATIVE CARE

- Follow surgeon's recommendations on restrictions to activities
- Some general guidelines include:
  - Off work for 4-8 weeks (or longer depending on the type of work)
  - Showering regularly, up to twice a day may be recommended
  - **For the first three months:**
    - No anal, oral or vaginal sex
    - No immersion in a tub or pool
    - No straddling activities (i.e. bicycling)
- The most intensive recovery occurs in the first three months, however full recovery may be 12-18 months

LONG-TERM MEDICAL CARE

If no hysterectomy and/or vaginectomy, surveillance should continue as appropriate

ONGOING CARE INSTRUCTIONS FOR THE PROVIDER

- Obstructive voiding symptoms should trigger a high suspicion for urethral stricture. Symptoms can include: decreased force of stream, dribbling, urinary retention, dysuria, frequency and urgency. Initial evaluation should include a comprehensive history and a clinical examination.
- Urinary tract infections (UTIs) should be treated as complicated UTI's and with culture specific antibiotics
- With recurrent UTI's, consider upper tract ultrasound, post-void residual and/or cystoscopy
- Post void residuals (i.e. Bladder ultrasounds) should be ordered if there is concern about urinary retention
- Retrograde urethrography or voiding cystourethrography can provide important information on the characteristics of a stricture or fistula. These are accessible through referral to urology.
- Arranging investigations locally, with collaboration and communication with the surgical team, can be highly valuable and supportive
- Urethral strictures may be temporarily addressed with urethral balloons, regular dilation using sounds or catheters. Urethral surgery is often needed for definitive treatment.
- Urethral fistula can be managed using non-surgical options and/or urinary diversion with a catheter. If the fistula persists, adjacent tissue transfers with closure of fistula is performed. If the fistula is secondary to stricture, this may need to be surgically addressed.
- In Ontario, funding for revisions can be applied for through the Ministry of Health by completing the Prior Approval for Funding of Sex Reassignment Surgery form

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