



## OBJECTIVE

This summary provides information to facilitate discussions of transition-related surgery between primary care providers and patients. It is not exhaustive and does not replace the informed consent process between surgeon and patient. Phalloplasty is a multi-staged, irreversible surgical treatment for gender dysphoria, and requires considerable commitment from the patient throughout the process. Patients should make themselves well informed about this journey.

Alberta Health has developed criteria for eligibility for funding for phalloplasty, and the application process, found at: <https://www.albertahealthservices.ca/info/Page15676.aspx>.

## DESCRIPTION

Phalloplasty is a masculinizing gender affirming surgery to create a penis, scrotal sac and testes. It involves:

- Creation of a penis (neophallus) using a flap of tissue, including arteries, veins and nerves
- **Vaginectomy:** removal of the vagina (colpectomy) or closure of vagina (colpocleisis)
- **Urethroplasty:** creation of a urethra that travels through the neophallus (tissue from skin, vagina, oral mucosa can be used to create the urethra)
- **Glansplasty:** creation of the glans penis – by sculpting head of neophallus
- **Scrotoplasty:** creation of a scrotum and insertion of testicular implants
- **Erectile device:** insertion of a penile prosthesis, if chosen by the patient

## INTENDED RESULTS AND BENEFITS

- Reduces gender dysphoria by aligning anatomy with gender identity
- To allow penetrative sex (if an erectile device is part of the surgical procedure)
- To allow standing urination (often identified by patients as a major goal)

## POTENTIAL DRAWBACKS

- Irreversible
- If vaginectomy and scrotoplasty are desired, hysterectomy + BSO are required, resulting in infertility.

- Scars (large scar on forearm results from forearm flap phalloplasty). Location of scars vary by surgical technique.
- There is a significant rate of surgical complications from phalloplasty; upwards of one third of patients or more will have **serious or even life-changing complications**, often requiring further major surgery. On average, four surgeries are needed in the staged phalloplasty approach, and more if there are complications requiring surgical revisions.

## SURGICAL TECHNIQUES AND OPTIONS

Surgical techniques vary by surgeon. Montreal GRS clinic offers “*free forearm flap phalloplasty*” (also called radial forearm flap), this usually involves several components, which occur over 4-5 surgeries. Metoidioplasty is an alternative to phalloplasty. It has the advantage of a much-reduced risk of surgical failure and serious complications compared to phalloplasty (see Metoidioplasty practice tool). However, metoidioplasty will usually not allow penetrating intercourse and for some individuals it will not relieve gender dysphoria.

## POTENTIAL URINARY/URETHRAL COMPLICATIONS OF PHALLOPLASTY

- Patients need to know **serious complications are very common**, often affecting one third or more of all patients, and include: fistula, stricture, stenosis, and a wide range of soft tissue and urinary tract infections. Additionally, while standing to void may be possible, post-void dribbling, spraying of the stream, and skin changes from urine moisture to the end of neophallus are common. Patients need to be aware, the cosmetic result is often far from perfect, and each additional surgery to correct these issues adds to the risk of complications.
- **Urethral fistulas:** uro-cutaneous - abnormal leak between urethra and skin
- **Urethral stenosis:** narrowing of the urethra causing difficulty urinating, commonly occurring at the meatus where the urethral tube opens at the end of the meatus
- **Urethral strictures:** completely blocked urethra, with resultant inability to urinate; may require a catheter to be inserted (until surgically corrected). Often for best outcomes, patients will be asked to perform self-catheterization or self-dilation to pass a catheter daily up their new urethra to keep it open.
- Hair growth in urethra: may cause UTI, stenosis, stricture, intra-urethral stone.
- Urethral complications may require surgical revision.

## OTHER POTENTIAL COMPLICATIONS

- Forearm donor site: large permanent scar, numbness/stiffness/swelling/pain of wrist/elbow/arm
- Graft failure: the neophallus tissue dies (<1% full, 6% partial graft failure)

- Nerve damage and loss of sensation of neophallus
- Decreased sexual satisfaction, inability to orgasm
- Dissatisfaction with appearance and/or function of genitals (size, function of penis, scrotum)
- Injury to bladder or rectum (recto-perineal fistulas: rectum to skin)
- Wound breakdown (common at base of phallus,
- Testicular implant complications: infection, extrusion, poor/uncomfortable positioning
- Erectile device complications: infection, skin-erosion, technical failure, poor positioning

Major surgery with general anesthetic itself holds substantial risk of complications, such as deep vein thrombosis, infection, nerve damage, chronic pain, need for surgical revision, and others.

## PERIOPERATIVE CARE RECOMMENDATIONS FOR THE PRIMARY CARE PROVIDER

### PRE-SURGICAL CONSIDERATIONS

Phalloplasty involves multiple surgeries over a period of 1-2 years or longer, depending on the recovery time between surgeries.

- GRS requires meticulous permanent hair removal from forearm donor site (electrolysis/laser) to be completed at least six months prior to phalloplasty. Hair removal is not an insured service in Alberta.
- Perineal electrolysis may also be requested between stages, if perineal tissue is used in the urethral extension.
- Smoking cessation is particularly important in phalloplasty (due to blood vessel grafts and risk of graft failure secondary to vasoconstriction caused by nicotine). Some surgeons recommend smoking cessation six months pre-op and six months post op. To be clear: smoking tobacco or marijuana during the perioperative period carry huge risk of surgical failure.
- Hysterectomy with BSO is required at least six months prior to phalloplasty, and is undertaken in Alberta.
- Pre-op connection with urogenital specialist for post-op management plan (elective/ expedited if complications). Most urologists are not well familiar with these surgeries and their complications. Patients should anticipate needing to travel to major urban centres in Alberta for follow-up care where there are urologists with expertise in these complications.
- Follow the surgeon's advice on time periods to avoid smoking, alcohol and other substances.

**Expect 4-5 trips to Montreal and consider travel costs** (flights, taxi, hotel and some meals are paid by Alberta Health).

GRS requires an in-person consultation prior to booking phalloplasty to ensure adequacy of donor site (healthy blood vessels in the forearm).

1. Pre-operative consultation (outpatient)
2. Phalloplasty and vaginectomy, urethra re-routed to perineum: 10 days in Montreal
3. Urethra re-routed through penis: three days in Montreal
4. Scrotoplasty: three days in Montreal
5. Erectile device: three days in Montreal (steps 4 & 5 may be combined).

***EACH SURGICAL CENTRE HAS A ROUTINE PRE-OPERATIVE PROCESS; PATIENTS SHOULD ASK THEIR SURGEON WHAT TO EXPECT.***

Pre-operative processes often include:

- Confirmation of FP/GP involvement and completed pre-op examination/form
- 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.
  - Anesthesia will discuss:
    - Which medications to stop and when
    - Anesthetic approach and risks
    - Pain control measures

## POST-OPERATIVE CARE: UROLOGIC

- A urinary catheter is usually kept in place post-operatively for several weeks, according to the advice of the specific surgeon. A suprapubic catheter may be required particularly post-operatively if urinary retention develops and if there is difficulty re-inserting a urinary catheter.
- Follow surgeon’s instructions for positioning of the neophallus post-operatively.
- Follow surgeon’s Instructions for suture removal/dressings.
- Follow surgeon’s instructions for urinary catheter or suprapubic catheter care and removal.
- If there are wound or catheter concerns be prepared to discuss management decisions directly with the surgeon or local Urologists with knowledge and experience in this area of post-op care.
- Visits to urgent care setting/ER can be problematic due to lack of experience and knowledge of phalloplasty complications.
- Smoking cessation is deemed to be **extremely important** to promote blood flow and support healing.

## POST-OPERATIVE CARE: THE FIRST FEW WEEKS

- Consider the need for a support person in post-op period to assist with ADLs, IADLs (cleaning, laundry, groceries).
- Follow surgeon’s instructions for showering, dressings and underwear.
- Follow surgeon’s instructions for range of motion exercises for arm and leg, generally started one week post-operatively.
- Follow surgeons’ recommendations on restrictions to activities. Some general guidelines include:
  - Avoid driving for two weeks or longer, until safely able to move arms to drive.
  - Avoid straining and heavy lifting for six weeks.
  - Reduce activities and time off work for 8-12 weeks (or longer depending on type of work)
  - Avoid strenuous activity for 12 weeks.

Timelines for recovery from the various stages of surgery for phalloplasty vary from patient to patient. Creation of the neophallus, urethroplasty, and healing of donor site tend to require the longest recovery period. Testicular implants and erectile device insertion will have shorter recovery times.

## LONG TERM POST-OPERATIVE CARE AND PREVENTATIVE CARE

- Once forearm wound is completely healed, a compression sleeve can be worn to reduce scarring.
- Genital and perineal swelling is normal for at least 4-6 months, and will slowly resolve over time.
- In Alberta, funding for surgical revisions are generally (but not always) submitted by the psychiatrist of record; a list of Alberta psychiatrists with particular interest in transgender health is found at: <https://www.albertahealthservices.ca/info/Page15676.aspx> with links to the appropriate forms.

## ADDITIONAL READING AND RESOURCES

GRS Montreal has published a patient handout which describes perioperative care following phalloplasty. It is found at: <https://www.albertahealthservices.ca/info/Page15676.aspx>

## COMPANION TRANSGENDER HEALTH CARE TOOLS

The following practice tools also developed for the Alberta environment are available on the TOP [website](#):

- Transgender Health in Primary Care: Initial Assessment
- Feminizing Chest Surgery
- Masculinizing Chest Surgery
- Metoidioplasty
- Vaginoplasty

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