

# Vaginoplasty

## A summary for primary care providers



This summary provides information to facilitate discussion 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.

### DESCRIPTION\*

A surgery to create a vagina and vulva (including mons, labia, clitoris and urethral opening) and remove the penis, scrotal sac and testes.

### INTENDED RESULTS

- ✓ Reduces gender dysphoria by aligning anatomy with gender identity
- ✓ Eliminates main source of endogenous testosterone production and its effects
- ✓ Patients can often stop or at least significantly reduce androgen-blockers\*
- ✓ Some patients may be able to decrease their estrogen dose\*
- ✓ Sensate tissues which, in many cases, maintain the ability to have an orgasm
- ✓ Ability to have receptive sex (if cavity formation is chosen)
- ✓ Ability to void sitting down
- ✓ No longer have to 'tuck' genitals

### SIDE EFFECTS

- Irreversible
- Permanent infertility (no longer producing sperm)\*\*
- Almost no testosterone production—puts patient at risk for osteoporosis if an exogenous sex hormone is not used\*\*
- Side effects of low testosterone may include decreased libido, decreased energy\*\*

### ALTERNATIVE TREATMENT OPTIONS

- "Tucking" genitals
- Orchiectomy +/- scrotoectomy
- Vaginoplasty without cavity formation

\* Adapted from Transgender Health Information Program [Internet]. Transgender Health Information Program. [cited 2016Nov21]. Available from: <http://transhealth.phsa.ca/>

\*\* Due to orchiectomy

### SURGICAL TECHNIQUES AND OPTIONS\*

#### Vaginoplasty includes:

- Removal of testes (orchiectomy)
- Removal of penis (penectomy)
- Creation of a vaginal cavity/neovagina (vaginoplasty)
- Creation of a clitoris (clitoroplasty)
- Creation of labia (labiaplasty)

#### Creation of neovagina:

- Different tissues can be used to create the neovaginal lining
- The most common is skin from the shaft of the penis and scrotum
- Sometimes lower abdominal, or other skin grafts can be used as sources of additional skin
- Less commonly, the rectosigmoid colon is used (not available in Canada)

#### Penile inversion vaginoplasty:

Penile inversion is the most common vaginoplasty technique, and is the technique offered at GRS Montreal. The skin from the shaft of the penis is inverted and used to line the newly created vagina. If the skin from the penis is not sufficient to create the desired vaginal depth, additional skin is typically harvested from scrotal skin. Space for the neovagina is dissected between the bladder and the rectum, posterior to the prostate (which remains in place). The testes are removed.

The clitoris is made from a small portion of the glans containing nerves. The glans remains rooted to the penile dorsal nerves and vessels, and is shaped to construct the clitoris. The clitoral hood is made with penile tissue. The labia minora are made with mucous membrane from the urethra and penile skin, and the labia majora are constructed from scrotal skin.

#### Colovaginoplasty:

Vaginoplasty in which a piece of the large intestine is used to create the vaginal vault. The segment of colon maintains its blood supply and tends to be self-lubricating. The procedure is more invasive, is associated with increased risk for bowel complications, and is not performed in Canada at this time.

#### Vaginoplasty without cavity formation:

A less invasive alternative when a vaginal vault is not desired by the patient. A shallow vaginal dimple is created along with the external genital structures: clitoris, labia minora and labia majora. This option allows urination in the seated position. It does not allow for receptive vaginal sex and precludes future penile inversion vaginoplasty.

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## SURGICAL RISKS AND COMPLICATIONS OF VAGINOPLASTY

### Vaginal complications:

- **Neovagina stricture or stenosis** (lifelong dilation or equivalent is required to prevent this)
- **Prolapse of the neovagina** (vaginal vault falls out of its original position)
- **Partial or complete flap necrosis** (loss of clitoris) \*increased risk with smoking
- **Hair growth inside the neovagina** (causing irritation, inflammation, infection)
- **Granuloma inside vagina** (overgrowth of healing tissue, causing a raised bump)
- **Neuroma inside vagina** (raw nerve endings that are hypersensitive)

### Urological complications:

- **Urethral stenosis:** narrowing of the urethra causing difficulty urinating
- **Urethral strictures:** completely blocked urethra, inability to urinate, may require a catheter to be inserted (until surgically corrected)
- **Urinary incontinence**
- **Urethro-vaginal fistula**
- **Urinary infections**

### Wound dehiscence/delayed healing:

- The vaginal fourchette, an area of increased tension where the labia minora meet the perineum, and some areas of labia may take longer to heal

### Rectal complications:

- **Rectal injury**
- **Recto-vaginal fistula** (unwanted connection between rectum and vagina, allowing gas/discharge or feces to exit through the vagina, requires surgical revision)

### Other risks

- **Loss of sensation, loss of sexual function, inability to orgasm**
- **Dissatisfaction with size/shape of vagina, clitoris or labia**
- **Hypertrophic scarring**
- **Compartment syndrome and nerve injury of the legs:** associated with positioning during surgery

## 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

- Bleeding
- DVT, PE (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)
- Scarring (can be prominent especially if history of keloid)
- Chronic pain
- Need for revision(s)
- Post-operative regret
- Wound dehiscence (wound opening), delayed healing
- Nerve damage, loss of sensation, hypersensitivity, neuropathic (nerve) pain
- Dissatisfaction with appearance/function

### General Anesthetic Risks:

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

## PRE- AND POST-OPERATIVE CARE

### PRE-SURGICAL CARE

#### PRE-SURGICAL CONSIDERATIONS

- Consider referral to the Sherbourne Health Centre ARC (Acute Respite Care) if socially isolated, under-housed or homeless
- Fertility counselling +/- sperm banking
- Post-orchietomy continuous exogenous sex hormone is recommended to address the increased risk of osteoporosis, as long as deemed medically safe and beneficial
- Smoking cessation is strongly recommended both pre-op and post-op to optimize wound healing
- Follow surgeon's advice on time periods to avoid smoking, alcohol and other substances
- GRS clinic prefers that prior electrolysis not be performed on scrotal skin
- Due to the frequency of dilation, many patients require up to 3 months off of work. Some may require more time, depending on patient factors in healing and the type of work
- Need to reduce activities and appreciate the importance of supportive person/community/team to assist with daily activities such as self-care, grooming, meal preparation, laundry, etc. in the post-op period
- Need to strictly adhere to post-operative schedule of vaginal dilations, sitz baths and douching, which is a significant time commitment for the first 3 months
- Need for regular follow up with care providers during post-operative period
- The vulva will approach its final appearance at approximately 6-12 months

**Each surgical centre has a routine pre-operative process, patients should ask their surgeon what to expect.**

**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
- Anesthesia will discuss:
  - which medications to stop and when
  - anesthetic approach and risks
  - pain control measures

#### IMMEDIATE PRE-OPERATIVE CARE

Follow surgeon/anesthetist instructions regarding when to stop medications (hormones, blood thinners, aspirin, herbal remedies)

### POST-SURGICAL CARE

#### IMMEDIATE POST-OPERATIVE CARE

##### Immediate post-op care (vaginoplasty care):

- Will have a vaginal stent (to keep the vaginal cavity open) and urinary catheter for the first several days
- Subsequently, the stent is removed and dilations, douching and sitz baths begin
- Follow surgeon's instructions on frequency and duration of dilations, douching, sitz baths, and dressing care
  - as an example, GRS Mtl recommends dilating 4 times daily (25 min each time), sitz baths twice daily, and douching twice daily for the first month
  - full dilation schedule can be found on the GRS Montreal website
- **Activity:** short walks of 10 minutes or less to avoid pressure on the stent and stitches
- **Medications:** a course of oral antibiotics is often prescribed to minimize chance of infection

##### Immediate post-op side-effects:

- Bleeding, itching, swelling, bruising: typically during the first 48 hours
- Pain: controlled with medications, rest and ice
- Bruising can occur from the abdomen to lower thigh and can take approximately 3-4 weeks to resolve
- Labial swelling, can take up to 6 weeks to resolve
- Spraying with urination, usually improves over time (typically within 3-6 months)
- Brown/yellow vaginal discharge for the first 6-8 weeks
- Scarring: typically fades within the first year

#### LONG-TERM MEDICAL CARE

- Patients and their surgeon can determine whether a surgical revision is necessary. The types of revisions that may be sought are described on the GRS website
- In Ontario, funding for revisions can be applied for through the Ministry of Health and Long-Term Care via completion of the Prior Approval for Funding of Sex Reassignment Surgery form
- Dilations will need to continue daily for at least a year and then weekly on an ongoing basis unless having regular receptive sex
- **Numbness:** sensation tends to gradually return, usually within the first year as the nerve endings heal
- **Sex:** follow surgeon's instructions regarding when sexual activity can be initiated, and whether or not to douche following receptive vaginal sex. The neovagina does not self-lubricate and will require lube for penetrative sex
- Prostate exams, when indicated, can be conducted vaginally
- Discharge from the neovagina is expected. An increase in discharge or malodor can usually be managed by resuming douching for a period of time. Laboratory-confirmed cases of yeast infection or bacterial vaginosis can be treated routinely.
- Using an anoscope rather than a speculum may facilitate visual examination of the neovaginal vault<sup>1</sup>
- **Neovaginal STIs:** see UCSF Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender-Nonconforming People for more information
- Given that orchietomy would be performed before or in conjunction with this procedure, please also refer to all long term care described on the orchietomy sheet

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## REFERENCES

1. Bowman C, Goldberg J. Care of the Patient Undergoing Sex Reassignment Surgery. International Journal of Transgenderism [Internet]. 2006 [cited 21 November 2016];9(3-4):135-165. Available from: <http://www.amsa.org/wpcontent/uploads/2015/04/CareOfThePatientUndergoingSRS.pdf>
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3. Simpson A, Mira Goldberg J. Gender Transition. Surgery: A Guide for FTMs [Internet]. 1st ed. Vancouver: Vancouver Coastal Health, Transcend Transgender Support & Education Society and Canadian Rainbow Health Coalition; 2006 [cited 21 November 2016]. Available from: [http://www.rainbowhealthontario.ca/wp-content/uploads/woocommerce\\_uploads/2014/08/Surgery-FTM.pdf](http://www.rainbowhealthontario.ca/wp-content/uploads/woocommerce_uploads/2014/08/Surgery-FTM.pdf)
4. Transgender Health Information Program [Internet]. Transgender Health Information Program. [cited 2016Nov21]. Available from: <http://transhealth.phsa.ca/>
5. Vaginoplasty [Internet]. GRS Montréal. [cited 2016Nov21]. Available from: <http://www.grsmontreal.com/en/surgeries/man-to-woman/1-vaginoplasty.html>

## DISCLAIMER

The information provided here is generalized and is not medical advice. It is recommended that all patients have a pre-operative consultation with their surgeon to receive individualized information including the specific surgeon's technique, complication rates and recommendations. This is a dynamic document that is subject to change, as the knowledge of transition-related surgeries changes.

## ACKNOWLEDGEMENT

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