Reproductive Options for Trans People

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SHERBOURNE HEALTH

Published March 2024 by Rainbow Health Ontario

This fact sheet offers information about reproductive options for trans people interested in hormone therapy or gender-affirming surgeries. Knowing and discussing reproductive options is a necessary component of informed consent to transition-related care and is a significant component of the World Professional Association for Transgender Health's *Standards of Care for the Health of Transgender and Gender Diverse People Version 8*.

This brief overview is not medical advice, and is intended as a snapshot of different options. Please consult with your health care provider for advice specific to your care.

A Note About Terminology

While most health care providers assume that all people whose bodies produce sperm will be men, and all people whose bodies produce eggs or could carry a pregnancy will be women, this is not always the case.

This fact sheet will discuss reproductive options that are available to people based on the gametes their bodies produce (i.e., sperm or eggs) and the body parts they have (i.e., testes, ovaries, or uterus), regardless of gender identity. For example, a person who has testes may be able to freeze their sperm (fertility preservation) and/or use their sperm to fertilize a partner or co-parent's egg through IVF, IUI or at-home insemination. Similarly, a person who has ovaries may be able to freeze their eggs or fertilized embryos (fertility preservation) and/or – if they have a uterus – they may be able to gestate their own pregnancy or act as a surrogate through IVF, IUI or at-home insemination.

Most research into fertility preservation and reproductive options groups participants based on identity characteristics (e.g., cisgender women, transgender men) and so often involve many assumptions (e.g., that the transgender men involved have ovaries and a uterus). We have adapted this research to a more nuanced understanding of gender and reproductive issues.

Why are Reproductive Issues Important for Trans People?

We know that just because a person is trans or non-binary does not mean that they do not want to grow their families in a multitude of ways. Prior to medical transition, trans and non-binary people may not receive the information they need about fertility preservation, and they may not know where to look. Both before and after undertaking hormone therapy or undergoing gender-affirming surgeries, trans and non-binary people have options available to them when it comes to creating their families.

For Trans People with Testes

Fertility Impacts of Gender-Affirming Surgeries for Trans People With Testes

If you have surgery that removes your testes – such as orchiectomy or vaginoplasty – you will no longer be able to provide genetic material for a pregnancy unless you have already preserved sperm beforehand.

Having surgery on your chest (e.g., breast augmentation) has no impact on your fertility, or hormone levels.

Fertility preservation for Trans People with Testes

Long-term feminizing hormone therapy (i.e. testosterone blockers and/or estrogen) greatly reduces testicular volume. Feminizing hormone therapy impacts the maturation and motility of sperm in a cumulative, dose-dependent manner, meaning the impact on sperm quality will be higher the longer you are on hormones and for higher doses of hormones. Because of this, it is preferable to bank sperm before starting a hormone regimen, especially for lesbian, bisexual or queer transfeminine people who may want to use their sperm to inseminate a current or future partner(s) who have the ability and desire to carry a pregnancy. A transfeminine person whose partner is unable to carry a child themselves may wish to become a parent by using a donor egg and a gestational surrogate.

For transfeminine people already using hormones, a suspension of hormone treatment is recommended for a few months so that sperm production and quality can recover prior to banking. Research suggests suspension of hormone therapy for three to six months may be required to recover testicular function to a variable degree, but evidence is lacking on the recovery of sperm production and quality. If interrupting hormone treatment is not an option, sperm that may have been impacted by hormone therapy can still be frozen for later use in assisted reproductive technologies. In cases where sufficient sperm cannot be produced through ejaculation, some fertility clinics may offer surgical options for sperm extraction, including testicular biopsy or Testicular Sperm Extraction (TESE).

For more information about fertility preservation, see our companion document **Fertility Preservation for Trans People who Produce Sperm.**

Breastfeeding After Hormone-Initiated Breast Development

People whose breasts develop as a result of feminizing hormone therapy (e.g., estrogen and/or testosterone blockers) may wish to breastfeed their babies, a process which can be psychologically beneficial to both parent and baby. It is possible for transfeminine people to successfully produce breast milk using protocols developed for non-gestational parents, including mechanical stimulation (e.g., use of a breast pump) and prescribed medications to increase milk production.

Just as cisgender women may turn to prescription medication and supplements to increase breast milk production, so may transfeminine people. Fenugreek (also called milk thistle) contains chemicals which mimic estrogen and has been found to increase breast milk production. Other options include off-label use of a prescription drug called domperidone, which stimulates the production of breast milk by increasing the secretion of prolactin by the pituitary gland through the suppression of dopamine. Domperidone does not appear to have significant impacts on the nutritional quality of milk produced.

The prescription drug progesterone is used by some transfeminine people to assist with faster feminization, breast development, decreased testosterone production and improved sleep. Starting or increasing the dosage of progesterone has also been shown to be useful for increasing milk production in transfeminine people wishing to breastfeed.

It is important to consider the timing of lactation induction. Advance preparation several weeks before the arrival of a baby is recommended, as the process of starting production of significant quantities of milk can take some time. Many new parents will also require some degree of milk supplementation early on to provide adequate nutrition to a baby, particularly while milk production is still being established. As such, transgender parents may choose to use an at-breast supplementer (a feeding system in which tubes run from a reservoir to the nipple, supplying milk) whether or not they are lactating.

For Trans People Who Can Become Pregnant

Trans people who retain their ovaries and uterus, but have started hormone therapy, may regain fertility after stopping androgen use, even after many years. This is supported by numerous studies that show exposure to high levels of testosterone over many years has no impact on egg health and a minimal impact on the recovery of ovary function. However, some people may still require months or years of testosterone cessation and assisted reproduction technologies to regain fertility and become pregnant. Testosterone cannot be taken during pregnancy or breastfeeding as testosterone is toxic to a developing fetus and high testosterone levels may inhibit lactation.

Fertility Impacts of Gender-Affirming Surgeries for Trans People With Ovaries And/or a Uterus

If you have surgery to remove your uterus (hysterectomy), you will no longer be able to carry a pregnancy, but a partner, co-parent or surrogate who has a uterus may be able to carry a pregnancy that uses your egg(s) through reciprocal IVF.

If you have a surgery to remove your ovaries (oophorectomy) or your ovaries and fallopian tubes (bilateral salpingo-oophorectomy), your body will no longer produce eggs and so you will not be able to provide genetic material to a pregnancy unless you preserved eggs and/or embryos beforehand. You may still be able to carry a pregnancy through reciprocal IVF, using egg(s) or embryo(s) you preserved earlier, or those from your partner, co-parent or an egg/embryo donor.

Some trans people undergo hysterectomy and/or oophorectomy for psychological benefits or to prevent gynecological or ovarian cancers (particularly a concern for individuals who do not receive annual pelvic exams). Whether to have a hysterectomy and/or oophorectomy is a decision that should be made in consultation with your care provider after a full discussion of the risks and benefits.

If you have genital reconstruction surgery – such as metoidioplasty or phalloplasty – that results in your front hole/genitals being closed off (known as vaginal occlusion) you will no longer be able to carry a pregnancy.

Having surgery on your chest (e.g., subcutaneous mastectomy, chest reconstruction, breast augmentation or breast reduction) – also known as “top surgery”– has no impact on your fertility or hormone levels. For the best aesthetic results, transmasculine people considering any form of chest surgery may wish to wait until after any planned pregnancies, as there is a potential for remaining chest tissue to swell and grow during pregnancy. Swollen chest tissue may decrease post-pregnancy and can be further reduced by a surgical revision.

Transmasculine people who have had chest surgery should be prepared for a small amount of lactation during and immediately following pregnancy and should be alert to the symptoms of mastitis (inflammation of chest tissue). If desired, drugs to stop lactation are also available.
For those who want to nurse in the future but do not wish to postpone chest surgery, breast reduction is an option, though any chest surgery may jeopardize the ability to nurse successfully.

Fertility Preservation for Trans People with Ovaries

Research suggests that long-term testosterone use does not deplete the ovary follicles (the part of the ovary which contains an egg) or affect the ability of the eggs to mature. However, as testosterone can stop ovaries from releasing eggs, trans people with ovaries who want to preserve their fertility will need to pause their hormone regimen during the fertility preservation process. This break can last six to eight weeks.

For trans people with ovaries who want to preserve their fertility, there are two options:

- **Oocyte (Egg) banking** involves hormone-induced ovulation and the retrieval of eggs using a needle, guided by ultrasound, inserted through the vaginal wall into the ovary. The process takes approximately 2-3 weeks in total. Harvested eggs are immediately cooled and stored at an ultra-low temperature – known as cryopreservation. Frozen eggs can later be thawed for use in conception via assisted human reproduction (AHR). Some cryogenically frozen eggs do not survive because they are sensitive to the freezing and thawing process, but due to recent technological advances success rates are significantly higher than in the past.
- **Embryo banking** is the same process as egg retrieval, followed by immediate fertilization of the embryo. The fertilized embryo(s) can then be cooled and stored at an ultra-low temperature in the same way as for eggs. It has a better success rate, but sperm (whether from a partner, co-parent, or a donor) must be chosen and available at the time of egg retrieval. An embryo can be created by fertilizing an egg that has been freshly harvested or that has been previously cryopreserved. You can have a fertilized embryo reimplanted into your own uterus (if you have one), or into the uterus of a partner, co-parent, gestational carrier, or surrogate.

Decisions concerning fertility preservation should be made as early as possible. The Society of Obstetricians and Gynecologists of Canada (SOGC) recommends counselling people with ovaries that over the age of 35 fertility begins to decline significantly.

For more information about fertility preservation for people with ovaries, see our companion document, **Fertility Preservation for Trans People who Produce Eggs.**

Using Assisted Human Reproduction and Fertility Preservation

When considering fertility preservation, it is important to note that the cost can be extremely high and can vary significantly between provinces/territories or even individual clinics. Only a few provinces/territories offer funding or tax credits that can be used to offset the cost of fertility preservation procedures. It may also be possible to claim some uncovered medical costs as a personal tax credit on your federal income tax.

Success rates for assisted human reproduction (AHR) services differ based on the method you use, your current age, the age you were when your sperm, eggs and/or embryos were preserved, and your overall health. In vitro fertilization (IVF) tends to have the highest success rate, but is also the most expensive AHR option. The results of any route to gestational parenthood are highly dependent on individual circumstances – fertility success can never be guaranteed.

For an overview of the costs of fertility preservation services, assisted human reproduction technologies and government funding/tax credits available by province/territory, you can refer to the Rainbow Health Ontario fact sheet **Assisted Human Reproduction Options and Funding Available Across Canada.**

A Note on Unplanned Pregnancies

Testosterone is not an adequate means of birth control and people with ovaries and a uterus can become pregnant while taking testosterone. Testosterone will not immediately stop ovulation (egg production); trans people with ovaries and a uterus can become pregnant while amenorrheic (i.e. not experiencing monthly hormonal bleeding) and are most at risk for pregnancy at the beginning of a hormone regime.

Unless seeking pregnancy, trans people with ovaries and a uterus may not realize they are pregnant since the absence of monthly hormonal bleeding may be normal. In the case of an unexpected pregnancy, you may need assistance in dating the pregnancy and in assessing any risk to the fetus that may result from hormone use before you knew you were pregnant.

If you are seeking to terminate a pregnancy (i.e., have an abortion), you may want to request additional support and advocacy from your care provider (e.g., family doctor, nurse practitioner). Abortion providers may assume that the people accessing their services will be cisgender women; your care provider may be able to assist by making a referral on your behalf to ensure clinic staff know the correct pronouns, name, and terminology to use for you and your body. You can also ask your care provider or abortion provider if options exist for less invasive termination options (e.g., terminating the pregnancy during a virtual appointment, where a provider can talk you through a medication abortion via video call).

Considerations for Health Care Providers

- Take the initiative to educate yourself on the medical literature related to fertility preservation for transgender individuals, and on transgender issues more broadly, rather than relying upon your patients for information. Question any assumptions you might have about your clients' experiences, histories, bodies, and desires in relation to fertility. Where appropriate, clients may choose to share information about their individual history, body, family, and plans.
- Current standards of care recommend that transgender patients make decisions concerning their fertility before starting hormone therapy or undergoing surgery that would alter their ability to reproduce. Such conversations are a key component of informed consent, regardless of the age of the patient.
- A transgender patient expressing an interest in preserving their fertility should in no way be construed as ambivalence about their gender identity. Service providers should continue to use language that corresponds with their patient's gender identity and sexuality. If you are not sure what terms an individual prefers, ask them respectfully and in private.
- Transgender people can experience immense amounts of systemic discrimination in the workplace, social services, and in medical settings. As a result, your clients may have significant and justifiable fear about accessing fertility preservation or AHR. Prepare to advocate for and support your client through the options they choose.
- Avoid making assumptions about parenting roles based on biological processes. A trans-masculine patient, for example, may identify as a father while carrying a child to term and chestfeeding. A transfeminine patient may identify as the mother of a child produced with her sperm. Some, such as non-binary or genderqueer people, may prefer terms that do not reflect gendered parenting roles.
- While people of any sex and gender may desire to have children, AHR services tend to assume that those providing or banking sperm are cisgender men while those banking eggs/embryos or carrying a pregnancy are cisgender women. Such assumptions can make accessing fertility care challenging, distressing, or dysphoria-inducing for transgender people. As a referring provider, you can advocate on your patient's behalf by providing their name, pronouns and any other relevant information when calling ahead to the clinic to make the referral or when completing any necessary forms and paperwork.
- Fertility preservation and AHR technologies are currently prohibitively expensive for many patients. This is especially true for transgender patients, as systemic societal discrimination means they are disproportionately under- or unemployed, homeless, or under-housed, and are low-income or living in poverty without access to health benefits. To increase health equity, providers can lobby and advocate for the inclusion of such procedures by their provincial or territorial health system.

Resources and Further Information

- Fertility care hub, includes peer support groups, fertility clinics, and independent fertility specialists **fertilitymatters.ca** [Canada-wide]
- Mino Care is a an integrated community of culturally safe health care services and providers, with a commitment to making your pregnancy safe and stress free and focuses on Black parents. At the time of publication, they were planning a health care provider directory. Visit **Minocare.ca** for more information.
- Rainbow Health Ontario provides a Service Provider Directory designed to help you find health and social service providers who have expressed a commitment to providing competent and welcoming care to 2SLGBTQ people in Ontario. **rainbowhealthontario.ca/lgbt2sq-health/service-provider-directory/** [ON only]

Financial contribution:

Health Canada Santé Canada

Contribution financière :

Santé Canada Health Canada

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