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At risk of pregnancy? Contraception for transgender, nonbinary, gender-diverse, and Two Spirit patients

Gender-affirming contraception counseling should consider the patient's reproductive goals; contraceptive options, risks, benefits, and side effects; and potential contributors to gender dysphoria.

ABSTRACT: Healthy sexual practices should be integrated into gender-affirming health care. People with reproductive potential should be offered counseling on contraception, emergency contraception, abortion, fertility, fertility preservation, and antenatal, intrapartum, and postpartum care. Use of gender-affirming hormones, including testosterone, estrogen, estrogen blockers, progestins, and gonadotropin-releasing hormone agonists, cannot be relied upon for contraception. Patients should be informed that an absence of bleeding does not equate to an absence of ovulation. Many contraceptive options, including combined hormonal contraception (pill, patch, ring) and progestin-only methods (pill, depot medroxyprogesterone acetate), can be provided without the need for an internal examination. Patients should be supported in deciding if intrauterine device placement is conducted in the office or operating room (with procedural sedation, general anesthesia).

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Healthy sexual practices should be integrated into gender-affirming health care. People with reproductive potential should be screened for and offered contraception.[1] Despite this, the reproductive needs of transgender, gender nonbinary, gender-diverse, and Two Spirit people (TGD), including the need for contraception, emergency contraception, abortion, fertility, fertility preservation, and antenatal, intrapartum, and postpartum care, have not been rigorously studied. The recommendations provided here are based on best available evidence and expert opinion. Further complex reproductive care in BC can be accessed through the Rapid Access to Consultative Expertise (RACE) line, Trans Care BC, and the Complex Contraception Clinic at BC Women's Hospital and Health Centre. My intention is to help nurses, nurse practitioners, family physicians, midwives, and specialists integrate contraception into the care of TGD patients. This discussion is limited primarily to those who were assigned female at birth.

Background

TGD people experience barriers in accessing contraceptive care due to previous trauma, stigmatizing experiences, lack of gender-affirming health care environments, and limited health care practitioner knowledge.[2] Participants in one study felt that only 50% of health care providers were trained to provide inclusive and gender-affirming sexual health care.[2] Accessing experienced providers may require travel to urban settings, which is not always possible. Measures taken to control the spread of COVID-19 have demonstrated that contraception counseling can be conducted via telehealth, and acceptable contraceptive methods can be provided at the time of consultation or accessed through a local provider.[3] People who engage in sexual activity and have reproductive potential should be offered comprehensive family planning counseling. In one study, when TGD people accessed health care, approximately half indicated contraception was not offered.[4] Additional barriers include being misgendered and receiving counseling about methods that do not align with the patient's sexual behavior.[2] As one patient related, "not everybody who's getting contraception or who's getting an abortion is a woman."[2] Unintended pregnancy has medical, social, psychological, and economic repercussions. Adding to this, testosterone is a teratogen due to the potential for virilization of a female fetus. Sixty percent of transgender males in one study reported using contraception, similar to US rates for cisgendered women.[5] Another study conducted at a well-known transgender-inclusive primary care practice noted 85.3% of patients acknowledged having used contraceptives, with 37.3% currently using them.[6] It should not be assumed that TGD people do not desire fertility. In one

study, most participants desired having a family; 25% desired pregnancy.[5] The overall pregnancy rate among TGD people is not known. The Canadian Trans Youth Health Survey showed that transgender youth have been pregnant or gotten someone pregnant at the same rate as their cisgender counterparts.[7] A US survey of adult TGD people found that 17% had experienced pregnancy, and 12% of them had accessed abortion.[5] Another US study identified a 5.3% pregnancy rate among a TGD population, with 3.3% giving birth.[6] Based on these data, family building, future fertility, and fertility preservation should be discussed with all patients.[8]

Gender-affirming hormone treatments, including testosterone, estrogen, estrogen blockers, progestins, and gonadotropin-releasing hormone agonists, are not contraceptives. In studies, 16% to 20% of testosterone users believed they had adequate contraception by using testosterone.[5,9] In one of those studies, 5% of patients reported that their health care practitioner had indicated that testosterone treatment was a contraceptive.[5] Amenorrhea can occur by 6 months of testosterone use, which may falsely reassure users. Patients should not be reassured that absence of bleeding equates to an absence of ovulation.[1] The physiology of impaired ovulation due to testosterone use is not completely understood.[10] The amenorrhea experienced can be a result of endometrial atrophy and/or anovulation, which makes it an inadequate marker of fertility.[1] Additionally, the dosages of testosterone used are meant to be physiologic, not suppressive.[10] In one review, no studies demonstrated complete suppression of follicle stimulating hormone and luteinizing hormone with testosterone use.[10] Another observational study indicated rapid suppression of the hypothalamic-pituitary-gonadal axis, but the suppression was not consistent with ongoing use, which can lead to potential ovulatory events.[11] Additional contributing factors to inconsistent anovulation include patient compliance with treatment and switching between testosterone preparations.[10]

All contraceptive counseling should begin with a recommendation for long-acting reversible contraception as first-line therapy. Discussions about each method should include compliance, duration of use, efficacy, and noncontraceptive benefits. Emphasis should be placed on shared decision making, and should include patient preference, noncontraceptive benefits, and informed choice that acknowledges a lack of high-quality research.[1] TGD patients have a higher rate of previous sexual trauma and violence than non-TGD patients, which may influence their choice of contraception (i.e., avoidance of internal examinations).[1] Additionally, patients may wish to avoid gendered experiences of being on "birth control," experiencing bleeding and cramping, or needing to insert the contraceptive device (combined hormonal contraceptive ring, contraceptive sponge).[1] Contraceptive counseling should consider potential contributors to gender dysphoria: anatomical (internal examinations, placing medication/barrier protection internally), functional (dysmenorrhea, bleeding), medication administration (daily reminder), medication interactions (feminizing effects, chest/breast tenderness), ease of discontinuation, and concealed methods.[10] The use of gendered terms should be avoided when discussing contraceptive options, risks, benefits, and side effects. Instead of saying "this will stop your period," try "the medication will stop your bleeding." It is imperative that health care practitioners ensure patients are provided with contraceptive methods that are the most acceptable to them and have the least risk.

Taking a sexual history

Clinics that do not provide gender-affirming care present a major barrier to TGD people in accessing health services.[2,9] Offices should be inclusive and respectful. This starts at the front door, with inclusive signage, clinic greetings, waiting areas, and patient information. At intake, patients should be asked for their preferred name and pronouns, and this information should be reassessed periodically for any changes. Discrepancies between legal documents and the patient's preference should be flagged.

Health care training programs need to include gender-affirming care in their curriculum. Training should extend to all office and temporary staff in order to provide an inclusive experience. Handouts should be reviewed regularly to ensure they use inclusive language.[2] The Reproductive Health Access Project has one such option: Birth Control across the Gender Spectrum (www.reproductiveaccess.org/wp-content/uploads/2018/06/bc-across-gender-spectrum.pdf).

Patients should also be asked about their preference of language used for body parts.[2,12] Health care practitioners could consider integrating an "anatomy inventory" into patient charts.[10] Patients should not only be asked if they are sexually active, but what types of sexual activity they are engaged in. Asking about the gender and sex of partners is also important **[Box]**.

BOX. Taking an inclusive sexual history.

Do you have sex?

What are the gender or genders and bodies of your partner(s)?

How do you have sex with them?
- What body parts do you use for sex?
- Which of your body parts touch other people's body parts?
- What parts go where?

Are you at risk of pregnancy?
- Do you use anything to prevent this?
- Do you have plans to build a family?
- Do you plan on achieving a pregnancy in the future?

Adapted from "Society of Family Planning clinical recommendations: Contraceptive counseling for transgender and gender diverse people who were female sex assigned at birth",[1] "Sexual and reproductive health considerations among transgender and gender-expansive youth",[8] and "Contraception across the transmasculine spectrum".[10]

Contraceptive methods

Condoms, combined oral contraceptives, and intrauterine devices (IUDs) are the most commonly reported contraceptives used by sexually active TGD people with reproductive potential.[2,5,6] Common reasons for discontinuing combined oral contraceptives include side effects and concerns regarding estrogen.[5] Long-acting reversible contraceptives (IUD, subdermal progestin implant) are used infrequently by TGD people; however, in one study, these methods were used more commonly by TGD people than the US cisgendered female population (12.7% versus 10.0% for IUD; 2.5% versus 1.0% for implant).[5] It is likely that TGD people use IUDs at approximately the same rate, if not slightly greater, as the cisgendered population.[6] TGD people value contraceptive choices that prioritize high rates of bleeding suppression, low side effects, hormone-free options, and avoidance of dysphoria.[2] TGD people may experience financial barriers in accessing contraception, which lends further support to funded contraceptive programs.[2]

Gender-affirming hormonal treatment is not a contraindication to contraception.[1,10,12] The Society of Obstetricians and Gynaecologists of Canada, the Centers for Disease Control, and the World Health Organization provide comprehensive reviews of relative and absolute contraindications to contraception.[13-18] The US Medical Eligibility Criteria for Contraceptive Use has an excellent app to help health care practitioners incorporate pre-existing health conditions into a safe contraceptive plan. Medical history should include actual and theoretical side effects of gender-affirming treatment. Testosterone use has a theoretical risk of polycythemia, dyslipidemia, liver inflammation, diabetes, cardiovascular disease, and hypertension.[19] Estrogen use has a theoretical increased risk of venous thromboembolism, cholelithiasis, dyslipidemia, liver inflammation, diabetes, cardiovascular disease, hypertension, breast cancer, and benign pituitary tumors.[19] Progestin use has a theoretical risk of cardiovascular disease, breast cancer, mood changes, dyslipidemia, and hypertension.[19] Shared decision making, using a harm-reduction lens, may need to be applied to people with relative and/or absolute contraindications to contraception in order to generate a contraceptive plan if low-risk methods are unacceptable. These patients can be referred to a specialist for complex contraceptive counseling. Consultations can be held in person or via telehealth.[3]

Prior to initiation of contraceptive methods, only blood pressure needs to be documented. Patients can self-collect for sexually transmitted infection (STI) screening, and this should not be a barrier to providing a contraceptive method. Internal examinations are required only for IUD insertions.[8]

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Barrier methods

Among the TGD population who are at risk of pregnancy, condoms are the most commonly used contraceptive method, followed by oral contraceptives and IUDs.[6,9] Barrier methods include chemical and mechanical options.[1,18] These methods are coitally dependent, and rely on user access and proper placement to be effective.[1,18] Sexually active people should be counseled on the importance of dual protection, to allow for contraception (if applicable), and barrier methods (contraception and STI prevention). Discussions about condom use should refer to external and internal condoms rather than male and female condoms. The typical use failure rate is 18% for external condoms and 21% for internal condoms.[1,18]

Internal barriers include internal condoms, diaphragms, and cervical caps. Both diaphragms and cervical caps require fitting by a trained health care practitioner. People may also have difficulty acquiring spermicidal jelly in Canada, and the product may cause genital irritation.

The contraceptive sponge is available without a prescription, the user must place it inside prior to penetrative intercourse, and it does not protect against STI.[18] The user can put the contraceptive sponge in place up to 24 hours prior to intercourse; however, total use should not exceed 30 hours due to the risk of toxic shock syndrome.[18] The contraceptive sponge has a higher failure rate in multiparous compared to nulliparous people. Research data on the use of internal barriers and chemical barrier options by TGD people are lacking.

Intrauterine devices

Intrauterine devices can be safely offered as first-line therapy to all patients, regardless of age and parity.[13,14] Both copper IUDs and levonorgestrel-releasing IUDs (LNG-IUDs) provide highly effective, long-acting reversible contraception with an efficacy equivalent to permanent contraception.[14] Users may prefer this method because it is coitally independent, discrete, and easily reversible. There is high ongoing use at 1 year.[14] IUDs can be inserted immediately postabortion and postpartum. Counseling patients on choosing between IUD types involves a discussion about their motivation for noncontraceptive benefits; available hormone versus hormone-free options; the need for emergency contraception; and cost. Copper IUDs are highly effective, long-acting reversible contraceptive methods that do not contain hormones. People who use a copper IUD should not expect menstrual suppression, and some may experience prolonged bleeding, heavier bleeding, and increased dysmenorrhea.[8] LNG-IUDS are discussed under progestin-only options.

IUDs can be placed successfully when the patient is in the health care practitioner's office, although some patients may require longer appointments for placement. Health care practitioners should not restrict access to IUD placement for ultrasound and/or STI screening.[14] The process of insertion and possible side effects should be explained in detail, including speculum use, cramping with placement, cramping in the first months after placement, and unscheduled bleeding that can last 3 to 6 months. For patients with genital atrophy secondary to testosterone use, 2 weeks of pretreatment with internal estrogen may be helpful.[1] Patients may find the pelvic examination difficult, dysphoric, and/or triggering due to past trauma.[20] Alternatively, IUDs can be successfully placed under IV sedation or general anesthetic. A

patient-centred approach should be used to find the best setting for IUD insertion.

Combined hormonal contraception

No studies have examined pharmacological interactions between testosterone and combined hormonal contraceptives (pill, patch, ring).[1] However, expert opinion recommends combined hormonal contraception as a safe option.[1] Little is known about the interaction between combined hormonal contraception and testosterone therapy; therefore, patients should be counseled on close follow-up for changes in androgen effects.[1] Fifty percent of transgender and transmasculine males stopped combined oral contraception due to concerns about the interaction between estrogen and testosterone, and about taking extra hormones.[5] Clinicians should provide reassurance that combined hormonal contraception does not raise overall estrogen levels in nontestosterone users.[8] Given the overall low levels of estrogen in combined hormonal contraception, the patient's estrogen levels would typically be within the expected range for testosterone therapy.[10] Patients can be counseled on cyclic or extended use of the pill, patch, and ring. Extended use provides the added benefit of menstrual suppression. The typical failure rate is 9%, but a reduced failure rate has been recorded with an extended cycle and/or a reduced hormone-free interval (from 7 to 4 days).[16] There is no additional need for a "pill holiday" because menstrual suppression with combined hormonal contraception is safe.[16] Noncontraceptive benefits of combined hormonal contraception, including reduced heavy menstrual bleeding, dysmenorrhea, and premenstrual symptoms, and improvement in acne and migraines, may also be desired.[8,16] Patients may prefer combined hormonal contraception that includes more androgenic progestins (levonorgestrel, norethindrone, gestodene, norgestrel).[1,12] A recent review failed to demonstrate an increased risk of venous thromboembolism among testosterone users.[10] Increased venous thromboembolism risks are associated with the use of combined hormonal contraception. Although the absolute risk is low, it is unclear if the addition of testosterone therapy has an additive effect on this risk.[1,16] Patients should be screened for additional venous thromboembolism risk factors, and the combination of testosterone and combined hormonal contraception should be avoided in patients with additional risk unless it is the only acceptable method. Blood pressure measurement is the only examination recommended prior to initiating combined hormonal contraception.[16]

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Progestin-only options

Progestin-only options are generally well tolerated, and users can experience menstrual suppression.[12] Progestin-only options work as a contraceptive via thickened cervical mucous, endometrial atrophy, and impaired tubal transport, which are separate from any interaction between testosterone and the hypothalamic-pituitary-gonadal axis.[10,15]

Oral

TGD patients may be on progestin treatment to aid with menstrual suppression. In Canada, only one oral formulation (norethindrone acetate, 0.35 mg) is approved for contraception. Patients who are taking other forms of progestins (i.e., medroxyprogesterone acetate, micronized progesterone, dienogest) should be informed that additional contraception is required.[8] Oral progestin has a 9% typical use failure rate.[15] Many patients do not choose this method due to the narrow compliance window (daily, within 3 hours each day) and unscheduled bleeding.[8,15]

Depot medroxyprogesterone acetate

Depot medroxyprogesterone acetate (DMPA) is a highly effective (92%), coitally independent, concealed form of contraception.[15] Users may choose this option due to infrequent dosing, the lack of need for internal examination, and the noncontraceptive benefit of reduced dysmenorrhea, premenstrual symptoms, and heavy menstrual bleeding. Approximately 60% to 80% of users experience menstrual suppression.[8,15] The initial 3 to 6 months of use can be associated with unscheduled bleeding, and patients should be informed that the frequency decreases with time. Common reasons for discontinuation include weight gain, unscheduled bleeding, headaches, and acne.[15] DMPA has more androgen side effects than other progestins, and may be preferred.[8] Use of DMPA beyond 2 years can be associated with reversible bone loss, which improves to the bone density of non-users after discontinuation.[15] No long-term studies have demonstrated an association between the use of DMPA and osteoporosis or fractures. Further, there is a paucity of research on the effects of concurrent testosterone and DMPA use on bone health. For this reason, the Society of Obstetricians and Gynaecologists of Canada considers the long-term use of DMPA to be safe.[15] People who are using DMPA should be counseled on calcium and vitamin D supplementation, healthy active living, and smoking cessation.[15]

Subdermal implant

The progestin subdermal implant is used by many people worldwide. Health Canada has approved a subdermal progestin implant for contraceptive use in Canada.[15] This method is highly effective and does not require an internal examination. The failure rate is similar to that of IUDs and permanent contraception, at approximately 0.05%, with high ongoing use at 1 year.[15] Subdermal implants can be placed postabortion and postpartum. There is no delay in fertility with removal, unlike with DMPA.[15] Obesity does not preclude use of the subdermal implant. The most common side effect is unscheduled bleeding, which can be unpredictable; however, its occurrence is not well studied among those on testosterone treatment. Patients who choose this method should be informed that unscheduled bleeding episodes may occur but generally decrease 3 months postplacement.[15] This may be a good method for those wishing

a less adherence-demanding, concealed form of contraception.[15]

Intrauterine device

Two levonorgestrel-releasing intrauterine systems (LNG-IUSs) are currently available in Canada: 52.0 mg (Mirena) and 19.5 mg (Kyleena). Both are indicated for use up to 5 years. The LNG-IUS 52.0 mg has been approved for contraception and treatment of heavy menstrual bleeding.[14] While both LNG-IUSs improve heavy menstrual bleeding and dysmenorrhea, the LNG-IUS 52.0 mg has the highest rates of amenorrhea.[8,14] Users of the smaller LNG-IUS 19.5 mg experience less insertional pain and fewer functional cysts than users of the larger LNG-IUS 52.0 mg.[21] LNG-IUS users may experience spotting for the first 3 to 6 months postplacement. Amenorrhea rates may be higher for patients who are already amenorrheic on testosterone; however, this has not been well studied.[12]

Permanent contraception

Tubal interruption (tubal ligation, salpingectomy) can be offered as a permanent contraceptive option. Hysteroscopic tubal occlusion is no longer available in Canada. Laparoscopic tubal interruption procedures are minimally invasive day procedures that can be performed at the time of abortion, cesarean section, or vaginal delivery. Immediate postplacental tubal ligation may not be readily available at the time of vaginal delivery, and health care practitioners should check if this method is offered at their institution. Interval tubal interruption is also safe and very effective. Patients should be counseled on the permanent nature of these procedures, and that future attempts at pregnancy would involve assisted reproductive technology. There is a movement toward salpingectomy over tubal ligation due to a reduction in ovarian cancer. Longer-term studies are needed to definitively recommend salpingectomy over tubal ligation, and health care practitioners should discuss this with patients.[17] Younger age at procedure has been associated with higher risk of regret; however, access to permanent contraception should not be limited based on age alone.[17] People who have pursued fertility preservation (oocyte cryopreservation, embryo cryopreservation) would continue to have the opportunity to carry a pregnancy after tubal interruption.[1] Some patients may have plans to proceed with gender-affirming hysterectomy with/without gonadectomy; this also provides permanent contraception. Sexually active people need to be counseled on ongoing STI prevention and screening.

All sexually active people should be advised about safe sexual practices.

Emergency contraception

Testosterone treatment is not a contraindication to emergency contraception.[8,10] Patients should be counseled on available methods for emergency contraception (levonorgestrel, ulipristal acetate, copper IUD), how to access it, the therapeutic window, and expected side effects.[10] Patients should be informed that only copper IUD insertion requires internal examination. Because bleeding patterns may not be consistent or the patient may have amenorrhea, all TGD patients should be counseled to take a urine pregnancy test 4 weeks postemergency contraception use.[10]

Prevention of sexually transmitted infection

All sexually active people should be advised about safe sexual practices. The practitioner should review barrier options as they pertain to the patient. In one study on transgender youth, 80% indicated that the health care practitioner discussed STI prevention.[4] STI screening should be inclusive for sexual activity, and oral, genital, and rectal sites should be swabbed if they are used during sexual activity. The TGD population has higher rates of STI, including HIV, likely due to mental health illness, homelessness, and high-risk behaviors resulting from marginalization, such as substance use and sex work, and due to barriers accessing health care.[7,8] In asymptomatic patients, a urine sample can be used to screen for chlamydia and gonorrhea. Patients can submit the sample to the health care practitioner, perform self collection (oral, anal, and/or genital swab), or alternatively access screening via Get Checked Online (https://getcheckedonline.com/Pages/default.aspx).[22] Patients should also be screened for high-risk behavior, whereby pre-exposure prophylaxis and/or postexposure prophylaxis would be indicated.[23-25] Estrogen, testosterone, and blockers are not contraindications to pre-exposure prophylaxis and postexposure prophylaxis.[8]

Summary

All sexually active people should be advised about safe sexual practices. Health care practitioners should be prepared to discuss reproductive concerns with people who engage in sexual activity that could result in pregnancy. Current research and expert opinion suggest that gender-affirming hormone therapy is not a contraindication to contraception, emergency contraception, or abortion care. Patients highly value gender-affirming comprehensive contraception counseling that incorporates consideration of noncontraceptive benefits, contraceptive side effects, and the patient's reproductive goals. ■

Competing interests

Dr Todd has received speaking honoraria from Bayer and Merck. She sits on the Nextstellis Advisory Board.

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