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Endocrine care of transgender and gender-diverse adults: Swiss recommendations

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Summary

Transgender and gender-diverse individuals require standardised, evidence-based and culturally sensitive endocrine care. International guidelines such as those from the World Professional Association for Transgender Health (WPATH) and the Endocrine Society provide a strong foundation. These Swiss recommendations build on them and offer context-specific recommendations adapted to Switzerland's healthcare system, insurance policies and social considerations.

These recommendations were developed by the "Working Group Transgender" of the Swiss Society of Endocrinology and Diabetology (SSED/SGED) in collaboration with multidisciplinary experts. They primarily focus on gender-affirming hormone therapy, including indications, monitoring and long-term management. They also address fertility preservation, bone and sexual health, and relevant psychological and legal aspects.

Interdisciplinary collaboration among endocrinologists, primary care providers, mental health professionals, reproductive specialists and surgeons is recommended to ensure cohesive patient-centred care.

Introduction

Transgender and gender-diverse individuals are those whose gender identity does not align with sex assigned at birth. For example, transfeminine individuals were assigned male at birth and transmasculine individuals were assigned female at birth [1, 2].

For many transgender and gender-diverse individuals, medical transition is an important aspect of aligning their physical characteristics with their gender identity. Medical transition commonly involves gender-affirming hormone therapy and gender-affirming surgeries, both of which

have been demonstrated to significantly improve psychological and physical health outcomes [1, 3, 4]. Two diagnostic terms are used: International Classification of Diseases, 11th Revision (ICD-11) "gender incongruence", which describes incongruence between gender identity and sex assigned at birth and includes the desire to undergo treatment as part of the diagnosis while Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) "gender dysphoria" describes distress or impairment associated with this incongruence [5–7].

Health systems-based studies estimate the prevalence of gender incongruence at 0.02–0.1%, while survey-based studies report 0.3–4.5% [8]. In the 2023 IPSOS survey across 30 countries, the average proportion of individuals self-identifying as transgender, non-binary, gender non-conforming, gender-fluid or other gender identities was 3%, with Switzerland having one of the highest rates at 6% [9]. The growing visibility of transgender and gender-diverse people has been accompanied by an increasing demand for equitable, high-quality healthcare. While international guidelines such as the Standards of Care, Version 8 (SOC 8) from the World Professional Association for Transgender Health (WPATH) and the Endocrine Society's "Gender Incongruence Guideline" offer an evidence-based framework for care, adaptations are required to account for Switzerland's healthcare organisation, insurance regulations, legal gender recognition processes and access to specific medications. The purpose of this document is to equip healthcare professionals in Switzerland with useful and practical guidance for transgender care. It integrates international best practices with Swiss-specific clinical realities, legal frameworks and sociopolitical contexts.

Methods

The "Working Group Transgender" of the Swiss Society of Endocrinology and Diabetology (SSED/SGED), composed of Swiss endocrinologists with expertise in transgender health, developed these recommendations in collaboration with invited multidisciplinary guest authors. To establish evidence-based recommendations, the authors reviewed relevant scientific literature, national resources and international guidelines. Each contributor drafted one or more chapters within their area of expertise, which were then reviewed by at least one other expert from a different institution or geographical region.

Following this peer-review process, members of the editorial board (ME, LS, ST, BW) revised each chapter to ensure accuracy, consistency and clarity. The complete draft was then circulated among all contributing authors for critical appraisal and feedback. Revisions were made iteratively until consensus was achieved. The final version underwent internal peer review by the SSED/SGED executive committee.

The full recommendations are available on the SSED/SGED website.

Clear terminology in transgender and gender-diverse healthcare supports respectful and accurate description of diverse gender identities [10]. A glossary of terms to aid clinical communication is provided in table 1.

Table 1: Definitions of key terms for clinical communication in gender-affirming care.

Sex	Term relating to biological characteristics (i.e. chromosomes, genitals, hormones)
Gender	Term relating to personal, social and cultural concepts
Sex assigned at birth	Categorisation at birth, mostly based on phenotypic presentation (i.e. genitals)
Transgender	Gender identity does not correspond to sex assigned at birth
Cisgender	Gender identity corresponds to sex assigned at birth
Non-binary	Gender identity outside binary categorisation of women and men
Gender-diverse	Gender identity not constrained by binary concept of gender
Gender-fluid	Gender identity that is not fixed to a specific gender and may change over time
Gender incongruence	Marked and persistent incongruence between a person's experienced gender and that assigned at birth
Gender dysphoria	Distress caused by gender incongruence
Transfeminine	Feminine identity of someone who was assigned male at birth. This includes trans women and other gender identities
Transmasculine	Masculine identity of someone who was assigned female at birth. This includes trans men and other gender identities

A clinical checklist summarising all key recommendations is provided at the end of the article to facilitate implementation in clinical practice.

Diagnosis, mental health and transition support

According to the World Professional Association for Transgender Health's SOC 8, healthcare professionals experienced in transgender medicine may assess adults for gender-affirming hormone therapy if they can identify co-existing mental health or psychosocial issues, assess capacity to consent, evaluate clinical aspects of gender dysphoria and engage in ongoing education. Diagnosis of gender incongruence is based on clinical history, as no psychometric, laboratory or imaging methods exist for this purpose. Gender-affirming hormone therapy can be indicated when there is a marked and sustained experience of incongruence. Gender-affirming hormone therapy repeatedly demonstrated a decrease in depressive symptoms and psychological discomfort [1]. Medical or psychosocial conditions that could impact gender-affirming hormone therapy outcomes and the individual's expectations must be identified and addressed. The SSED/SGED working group recommends that an assessment by a mental health professional experienced in gender incongruence be offered to all individuals before gender-affirming hormone therapy. This evaluation can help explore personal resources, identify mental health comorbidities and, if desired, initiate longer-term support. It is particularly recommended in cases of diagnostic uncertainty where incongruence may be primarily due to underlying psychopathology rather than a transgender identity per se. Once the diagnosis is established, an individual medical transition plan is created through shared decision-making [11, 12]. Because the transition process affects core physical, psychological and social factors, support by a professional experienced in gender incongruence should be offered. Innovative approaches, such as advanced practice nurse-supported models, can facilitate coordination among specialists and help adapt the transition plan without pressure from the medical system [13].

Legal aspects

Since January 2022, individuals aged over 16 years in Switzerland can legally register a change of recorded gender and first name by self-declaration at the civil registry office without medical or psychological assessments [14]. The register allows only male or female entries. A male gender entry before age 24 requires assessment by the military medical service to determine compulsory military service eligibility, considering transition stage and comorbidities [15]. Under the informed consent model, transgender and gender-diverse individuals can start gender-affirming therapies without mandatory psychological evaluation, though such evaluations may still be recommended. Costs for medical and surgical procedures are covered by Swiss health insurance regardless of civil register gender status. Transgender and gender-diverse individuals are protected from workplace discrimination under the Swiss gender equality act [16]. While using correct names, pronouns and appropriate facilities is strongly recommended in schools and workplaces, no specific anti-discrimination law for transgender and gender-diverse individuals exists as of 2025.

Gender-affirming hormone therapy

Indications and general principles of gender-affirming hormone therapy

The primary indication for gender-affirming hormone therapy is a diagnosis of gender incongruence. By suppressing endogenous sex hormones and administering gender-affirming hormones, gender-affirming hormone therapy supports aligning physical characteristics with gender identity. Gender-affirming hormone therapy has demonstrated safety and efficacy to achieve desired physical changes and to reduce gender incongruence for transgender and gender-diverse individuals in short- and medium-term follow-up studies [3].

Baseline assessment includes a discussion of expected physical changes, potential irreversible effects and possible adverse effects. Counselling on the impact of gender-affirming hormone therapy on fertility, as well as fertility preservation options, is essential prior to initiation. Table 2 outlines the recommended assessments at baseline and during follow-up. In the first year, clinical evaluations are advised every three months, followed by monitoring every 6–12 months. This includes assessment of body weight, body mass index (BMI), blood pressure, cardiovascular risk and laboratory parameters such as hormone levels, glucose, HbA1c, and renal and liver function [8, 17].

Table 2: Overview of recommended clinical, laboratory and psychosocial evaluations prior to and during gender-affirming hormone therapy.

Baseline	Discuss expectations from gender-affirming hormone therapy
	Explain onset and time course of physical changes including irreversible effects as well as side effects
	Provide counselling for impact on fertility and fertility-preservation options
	Assess psychosocial setting and resources
	Check relative contraindication (i.e. thromboembolic disease, hormone-sensitive cancer and for transmasculine individuals erythrocytosis and obstructive sleep apnoea syndrome)
	Clinical evaluation, i.e. measure body weight, BMI, blood pressure; smoking cessation counselling
	Laboratory evaluation: sex hormones, liver and renal parameters, lipids, glucose/HbA1c, blood count, 25-OH-vitamin D
Every 3 months for the 1st year, then every 6–12 months	Clinical evaluation to monitor signs of feminisation/virilisation and undesired/adverse effects
	Monitor cardiovascular risk factors such as body weight, body mass index (BMI), blood pressure; smoking cessation counselling
	Laboratory evaluation: sex hormones, liver and renal parameters, lipids, glucose/HbA1c, blood count

As gender-affirming hormone therapy represents a lifelong treatment for most individuals, long-term follow-up is essential. Satisfaction with therapy should be evaluated continuously through shared decision-making, respecting patient autonomy and individual preferences.

Feminising hormone therapy

Feminising hormone therapy aims to suppress endogenous testosterone and induce feminisation. Therapy uses 17β-oestradiol, usually combined with an anti-androgen [8, 17]. Ethinyl oestradiol and conjugated equine oestrogens are not recommended due to higher thromboembolism risk (table 3). Clinicians review relative contraindications like thromboembolic disease, liver dysfunction and hormone-sensitive malignancies before initiation.

Table 3: Summary of oestradiol options used in feminising hormone regimens, with their pharmacological characteristics.

Route of administration	Active ingredient	Formulation	Main characteristics
Transdermal	Oestradiol (Estradot®)	Transdermal patch: 50–300 µg every 72 hours	Slow release; oestradiol values stable; avoids first-pass effect; ↓ thrombotic risk compared to oral oestradiol; half-life 24 hours
	Oestradiol hemihydricum (Oestrogel®)	Transdermal gel: 0.75–3 mg/day (= 1–6 pushes/day)	
Oral	Oestradiol valerate (Progynova®, Estrofem®)	Oestradiol tablets: 2–6 mg/day	Accumulation of oestrone as first-pass effect; fluctuation of plasma levels; half-life 12 hours
Parenteral	Oestradiol valerate or cypionate	Not available in Switzerland	

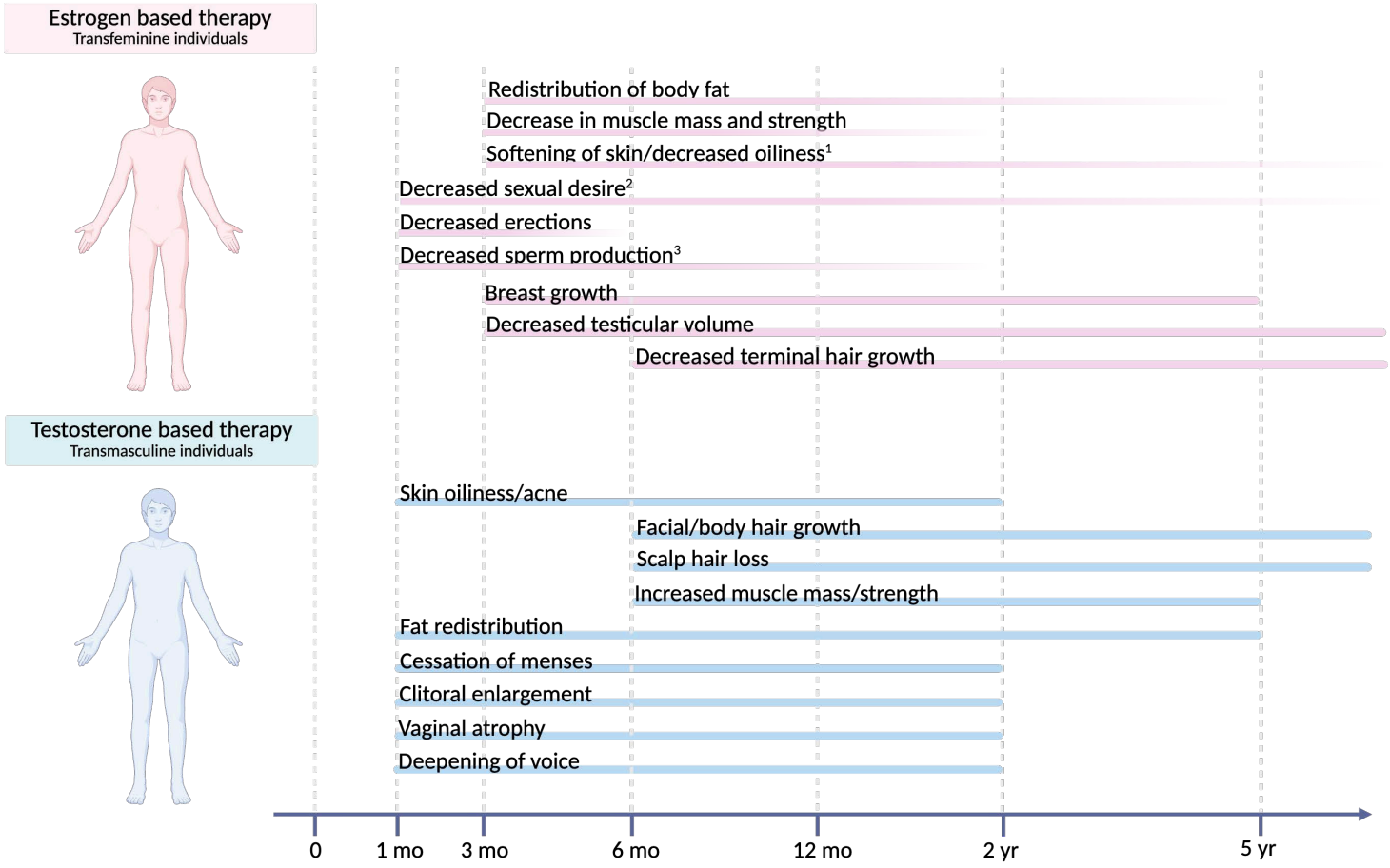
Transdermal oestradiol via patches or gels is preferred due to a better thromboembolic risk profile compared to oral forms [8, 18, 19]. However oral oestradiol remains an option especially for younger individuals (<45 years) without cardiovascular risks. Parenteral oestradiol is not available in Switzerland.

Anti-androgens are generally used in combination with oestradiol, as monotherapy rarely suppresses testosterone sufficiently [18]. Available agents in Switzerland include cyproterone acetate, spironolactone and gonadotropin-releasing hormone (GnRH) analogues (table 4). Cyproterone acetate is effective but linked to hyperprolactinaemia, hepatotoxicity and increased meningioma risk with cumulative doses above 10 grams [20]. Spironolactone blocks androgen receptors and may reduce testosterone synthesis but can cause hyperkalaemia, especially in older adults or those with renal impairment [21]. GnRH analogues provide potent suppression but are limited by cost and need for bone health monitoring. Current guidelines do not give a clear preference for any of the three options [22].

Table 4: Description of available anti-androgens used to suppress testosterone production in feminising therapy.

Route of administration	Active substance	Dose	Main characteristics	Side effects
Oral	Cyproterone acetate (Androcur®)	Approximately 10 mg/day (no benefit with higher doses); 1/4 of 50 mg every day or every other day if 10 mg tablets not available	Hepatic metabolism; half-life 48–72 hours	Negative effects on lipid profile, weight; Increase in prolactin values; Increased incidence of meningiomas
	Spironolactone (Aldactone®)	Tablets: 100–300 mg/day	Hepatic metabolism; half-life 16–22 hours	Hyperkalaemia (greater in patients >45 years old/with specific risk factors; dehydration; hyponatraemia
Parenteral	GnRH agonist: triptorelin (Pamorelin LA®) or leuprolide (Lucrin®)	3.75 mg/monthly s.c. injection: 11.25 mg/ every 3 months s.c. injection	Hepatic metabolism; half-life 3 hours	

Figure 1: Time course of physical changes in gender-affirming hormone therapy. Estimated onset and time to maximum effect of common physical changes induced by oestrogen-based therapy in transfeminine individuals and testosterone-based therapy in transmasculine individuals, showing considerable interindividual variability ([1] maximum effect is unknown, [2] onset is unknown, [3] maximum effect is variable). Created with BioRender.com.



Follow-up is essential and includes key parameters such as cardiovascular risk factors, sex hormones, blood count, and liver and renal function tests. Target serum testosterone levels are usually below 2 nmol/l, and oestradiol levels between 370–730 pmol/l. Importantly, laboratory values are used as a guide during treatment, but the goal is not to reach specific targets; rather, clinical well-being and desired physical changes are prioritised. Feminising effects typically start within 3–6 months, with maximal changes over 2–5 years (figure 1). Effects include breast development, fat redistribution, decreased erections, softer skin, and reduced facial and body hair, which often re-

quires additional measures like laser or electrolysis. Degree and rate of change vary depending on age, genetic predisposition and adherence. Bone health surveillance is important, especially on GnRH analogues or in individuals who stop oestrogen after gonadectomy.

Masculinising hormone therapy

The approach of masculinising hormone therapy parallels treatment for hypogonadal cisgender men and includes injectable and transdermal preparations [17, 23, 24]. Testosterone enanthate subcutaneously (monthly) or undecanoate intramuscularly (every three months) are common regimens, though intervals vary with individual response. Transdermal preparations like testosterone gel are other options (table 5) [25, 26].

Table 5: Commonly used testosterone preparations for masculinising hormone therapy.

Testosterone		Dose
Parenteral	Testosterone enanthate (Testoviron®)	125–250 mg i.m. every 3–4 weeks
	Testosterone undecanoate (Nebido®)	500–1000 mg i.m. every 8–14 weeks, then according to plasma testosterone levels
Transdermal	Testosterone gel (Testogel®, Tostran®)	10–80 mg testosterone/day

Pre-therapy evaluation should assess cardiovascular risk, haematological parameters, sleep apnoea and liver function [8]. While testosterone alone is usually sufficient to suppress ovulation and menstrual cycles, it does not provide contraception, so counselling is essential.

Physiological effects begin within 1–6 months and continue over years, including increased lean mass, decreased fat mass, voice deepening, clitoromegaly, increased hair growth, cessation of menses and skin changes (figure 1) [17, 27, 28]. About 10% may continue uterine bleeding, and benefit from progestogens or GnRH analogues in case of distress associated with gender incongruence [28, 29].

Serum testosterone is monitored every 3 months during titration: for enanthate, mid-cycle levels should be 14–24 nmol/l; for undecanoate, levels assessed at the end of the interval <14 nmol/l may indicate a need for interval adjustment; for transdermal therapy, levels obtained ≥2 hours post-application after ≥1 week of use should demonstrate stable physiological concentrations. Follow-up also includes haematocrit, lipid profile, liver enzymes and renal function; see table 3. Haematocrit >0.50–0.54 may indicate erythrocytosis, an adverse effect which may occur in approximately 11% [8, 17, 23].

Other potential adverse effects include hypertension, dyslipidaemia or liver enzyme elevations. Bone health surveillance is important, especially on GnRH analogues or in individuals who stop testosterone after gonadectomy [30–33].

Therapy of non-binary people

No standardised gender-affirming hormone therapy protocols exist specifically for non-binary individuals. Clinical principles from binary transition can be adapted, recognising that non-binary people may seek only partial feminisation or masculinisation based on their goals. Individualised plans may include oestradiol alone or in combination with low-dose androgen blockers for partial feminisation, and low-dose testosterone for partial masculinisation. Sometimes suppression of the menstrual cycle (e.g. with oral, subcutaneous or intrauterine progestogens) may be sufficient. These approaches aim to achieve specific effects like breast development, voice deepening or amenorrhoea while avoiding undesired changes.

Due to lack of long-term outcome data, therapy should use shared decision-making with thorough counselling on expected changes, fertility and health risks [8]. Minimal exposure to endogenous or exogenous sex hormones is needed to support bone and cardiovascular health, maintaining hormone levels at least within the lower physiological range for cisgender individuals [34].

Fertility protection

Gender-affirming hormone therapy affects fertility; it is therefore strongly recommended to discuss the topic of fertility preservation early and before initiating gender-affirming hormone therapy, and to generously refer patients to fertility preservation experts if indicated [35–37].

In transfeminine individuals, oestrogens and antiandrogens often reduce spermatogenesis or cause azoospermia, though recovery may occur after stopping therapy [38]. Standard preservation involves sperm cryopreservation via masturbation, or testicular sperm extraction if needed [39].

In transmasculine individuals, testosterone and/or GnRH analogues typically induce anovulation and amenorrhoea. Ovarian function may return after discontinuation [40]. Fertility options include spontaneous conception after gender-affirming hormone therapy discontinuation, oocyte or embryo cryopreservation, and third-party reproduction (surrogate). Cryopreservation procedures require ovarian stimulation and retrieval, which may be psychologically distressing and provoke distress related to gender incongruence [41]. Data from transgender individuals with ovaries who have used testosterone suggest that testosterone use does not significantly impact oocyte retrieval, follicular function or oocyte maturation. Notably, the duration of testosterone use did not correlate with mature oocyte outcomes [42]. Adnexectomy leads to irreversible loss of ovarian function, so ovarian tissue cryopreservation before surgery may be considered [43].

Despite comparable parenthood desires to cisgender individuals, uptake of fertility preservation is low [35, 36, 44]. Barriers include high costs (not covered by basic health insurance), lack of legal frameworks and insufficient information.

Long-term management and special populations

Long-term risks of gender-affirming hormone therapy and cancer screening

Gender-affirming hormone therapy is typically lifelong and generally safe when properly monitored. However, long-term effects on somatic health and cancer risk remain under study. No consistent evidence shows gender-affirming hormone therapy increases overall mortality. Higher morbidity and mortality rates, including high rates of suicide and homicide, may largely reflect psychosocial factors such as minority stress, limited access to care and mental health issues. Cause-related mortality from lung cancer, cardiovascular disease, HIV and suicide does not show a direct link to hormone therapy, but it does highlight the need to monitor and manage comorbidities and lifestyle factors [45, 46]. Cancer screening should follow local guidelines based on anatomy and hormone exposure. In Switzerland, national screening guidelines for breast and cervical cancer are applicable to all individuals having a uterus or mammary glands, regardless of gender identity or gender-affirming hormone therapy use. For breast cancer, data suggest no increased incidence in transfeminine individuals compared to cisgender populations, though prospective studies are limited. Transfeminine individuals and transmasculine individuals with retained breast tissue should follow cisgender women's screening. After chest masculinisation surgery (mastectomy), annual chest wall exams are recommended [8, 47]. Cervical cancer screening applies to all transgender and gender-diverse individuals with a cervix via Pap smear per cisgender women intervals: every three years from ages 21 to 70, or human papilloma virus (HPV) testing starting at 30 years [48].

For transfeminine individuals on long-term oestrogen, prostate cancer risk is low but present, and screening should be individualised [49–51]. As shown in table 6, routine screening should align with general population practices, with attention to individual risks related to hormones, age and comorbidities.

Table 6: Suggested screening procedures based on present anatomy and hormone exposure in individuals receiving gender-affirming hormone therapy.

Screening	Transfeminine individuals	Transmasculine individuals
Cardiovascular disease	Screening for risk factors	Screening for risk factors
Diabetes mellitus type 2	Screening according to cis individuals	Screening according to cis individuals
Dyslipidaemia	Annual screening	Annual screening
Breast cancer	Screening according to cis women	Screening according to cis women in individuals with breasts not having gender-affirming chest surgery. After mastectomy: annual sub- and periareolar breast examinations.
Cervical cancer	Not applicable	Screening according to cis women in sexually active individuals if cervical tissue is present.
Prostate cancer	Screening according to cis men	Not applicable

Cardiovascular health and health risk behaviours

Transgender and gender-diverse individuals are at elevated risk of cardiovascular disease. A recent meta-analysis of 10 studies (15,781 trans women and 11,304 trans men) showed a 40% higher risk for major cardiovascular events in transgender and gender-diverse individuals compared with individuals of the same birth sex [52]. This increased risk appears to be multifactorial. While the contribution of gender-affirming hormone therapy remains uncertain, it intersects with minority stress, lifestyle behaviours and classic cardiovascular risk factors.

Masculinising therapy is linked to lower HDL and higher LDL cholesterol and triglycerides. Blood pressure may rise with testosterone, though findings are inconsistent. Feminising therapy has variable effects on lipids and blood pressure depending on the agents used (e.g. cyproterone acetate vs spironolactone), often modestly reducing LDL cholesterol at the beginning [53, 54].

Important contributing behavioural factors are higher rates of tobacco use, physical inactivity and obesity. Lifestyle counselling is therefore important, including encouraging people to quit smoking and engage in regular physical activity [55–57].

Bone health

Both medical and surgical gender-affirming interventions can influence bone health [58]. Bone mineral density (BMD) might be assessed using dual-energy X-ray absorptiometry (DXA) prior to gender-affirming hormone therapy in individuals at risk particularly in transfeminine individuals, where studies suggest up to 30% may have low bone mineral density at baseline [59].

Further indications for dual-energy X-ray absorptiometry include planned gonadectomy without gender-affirming hormone therapy, long-term suppression of endogenous sex hormones (e.g. via GnRH analogues) and poor adherence to gender-affirming hormone therapy. The 2019 ISCD Position Paper advises that z-scores for transgender individuals should be calculated using reference data (mean and standard deviation) matched to the individual's affirmed gender [60].

Despite methodological limitations, existing studies indicate that gender-affirming hormone therapy has a neutral effect on bone mineral density in transmasculine individuals and may slightly improve bone mineral density at the lumbar spine in transfeminine individuals [61–63]. In addition, lifestyle counselling to support bone health should include adequate calcium and vitamin D intake and weight-bearing exercise, though long-term studies are needed to determine their impact on fracture risk [64].

The management of osteoporosis diagnosed in transgender and gender-diverse individuals follows clinical guidelines that apply to the general population [65, 66].

Treatment of older or medically complex individuals

In older individuals and those with a history of complex or severe concomitant diseases, close surveillance of hormonal therapy is essential (table 7). Age is not a contraindication for initiation of gender-affirming hormone therapy. While studies on gender-affirming hormone therapy in older trans individuals are limited, evidence suggests that transitioning improves quality of life in this population [67].

Table 7: Recommended modifications of hormone therapy in the presence of older age, impaired organ function or elevated cardiovascular and thromboembolic risk.

Condition	Masculinising hormone therapy	Feminising hormone therapy
Older age; andro-/Menopause	Monitor for cardiovascular risk factors (see section "Cardiovascular health and health risk behaviours"). Monitor for osteoporosis (see section "Bone health"). Consider dose reduction analogous cis-individuals.	Transdermal oestradiol (>45 years). Monitor electrolytes/kidney function with spironolactone use. Monitor for cardiovascular risk factors (see section "Cardiovascular health and health risk behaviours"). Monitor for osteoporosis (see section "Bone health"). Consider dose reduction analogous cis-individuals
Severe liver disease	Consider dose reduction/adjustment. Consider estimating free testosterone for therapy guidance	No oral oestradiol or cyproterone acetate. No dose adjustment.
Severe kidney disease (eGFR <30 ml/min)	Consider measuring free testosterone for therapy guidance	Avoid spironolactone. Decrease dose of oestradiol in end-stage renal disease (eGFR <15 ml/min)
Risk factors for venous thromboembolism	No dose adjustment.	Switch to transdermal oestradiol. Avoid cyproterone acetate. Avoid supraphysiological oestradiol levels. Consider haematology referral.
Breast cancer	Conflicting data. Consider stop due to possible aromatisation to oestradiol. Shared decision-making person/gynaecologic-oncologist.	Withhold therapy, refer for shared decision-making with person/gynaecologic oncologist. If therapy is continued, aim for lowest possible dose of oestradiol.
High cardiovascular risk	Continuation seems safe; see section "Cardiovascular health and health risk behaviours"	Switch to transdermal oestradiol oestrogen. See section "Cardiovascular health and health risk behaviours".

Similar to physiological changes in cis individuals, a reduction in gender-affirming hormone therapy dosage may be considered [1]. There are no specific guidelines for discontinuing gender-affirming hormone therapy at any specific age. In the absence of research evidence, a shared decision-making approach is recommended to achieve individual goals while minimising potential adverse effects. Given that approximately 50% of testosterone is metabolised by the liver, dose reduction should be considered in individuals with severe liver conditions. Oral forms of testosterone and oestrogen are not recommended. Chronic kidney disease is associated with mild hypogonadotropic hypogonadism, so a mild dose reduction might be indicated in cases of severe kidney disease [68].

Comprehensive multidisciplinary care

Collaboration with other disciplines

Successful gender-affirming care relies on ongoing interdisciplinary dialogue and patient-centred coordination to optimise health outcomes and improve quality of life [69]. While endocrinologists, gynaecologists and mental health specialists are typically involved early in the transition process, many other disciplines contribute to comprehensive care. Dermatologists provide treatment for unwanted facial and body hair, often through laser or electrolysis, and also address acne and other hormone-related skin changes [70]. Speech therapists support transgender and gender-diverse individuals in voice modification and communication style alignment, working on pitch, resonance and expression early in transition. Surgeons specialising in maxillofacial, plastic and reconstructive procedures play a central role in delivering gender-affirming surgical interventions [8].

In the following sections, we will expand on key aspects of gender-affirming care, including sexual health, gender-affirming surgery and the importance of collaboration with paediatric teams to support young adults as they transition to adult care.

Sexual health including sexually transmitted infections

Gender-affirming therapies can profoundly impact sexual health. Before gender-affirming hormone therapy or surgery, many transgender and gender-diverse individuals report a negative body image, which may limit their sexual satisfaction. While transition can improve this, surgeries may cause loss of erogenous zones and sensory changes affecting pleasure [8, 71, 72]. Providers should engage in patient-centred discussions about expectations and potential sexual side effects, covering anatomical, physiological and psychosocial aspects. Counselling and sex therapy can help manage distress or dysfunction. Pharmacological options like phosphodiesterase-5 inhibitors for erectile dysfunction, topical oestrogen for vaginal dryness or low-dose testosterone for low sexual desire disorders may support sexual functioning [73, 74].

Routine genital examinations may be distressing and are not necessary unless there is evidence-based screening [75]. STI screening is based on personalised risk evaluation, considering sexual practices, anatomy and behaviours, rather than identity labels. HIV, *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, hepatitis B/C and syphilis are some of the most important infections to check for [76]. Chlamydia screening is not routine but may be indicated for sexually active adolescents or symptomatic individuals. Vaginal self-sampling is preferred while urine testing is less sensitive and specific. Screening in individuals with neovaginas is questionable, as infections seem rare. In such cases, anorectal swabs or first-catch morning urine are more reliable [77, 78].

The Safer Sex Check tool is a valuable aid to personalised risk assessment and can be consulted in complete confidentiality [79]. HIV pre-exposure prophylaxis (PrEP) with emtricitabine/tenofovir disoproxil (Truvada ®) has been available since 2016 in Switzerland for individuals at high HIV risk and is relevant in sexually active transgender and gender-diverse populations [80].

Contraceptive counselling is important for all transgender and gender-diverse individuals engaging in sexual relations at risk of pregnancy. Of note, testosterone does not reliably prevent ovulation. No contraceptive method is contraindicated in people undergoing masculinising hormone therapy as a result of this treatment [81, 82].

Gender-affirming surgery

Gender-affirming surgery is an important part of medical transition for many transgender and gender-diverse individuals. Endocrinologists involved in gender-affirming hormone therapy should be familiar with common procedures and participate in presurgical assessment and perioperative planning. Gender-affirming surgery varies by gender identity and may include breast augmentation, facial feminisation, chondrolaryngoplasty, vocal cord surgery, vaginoplasty or vulvoplasty for transfeminine individuals, and chest reconstruction, phalloplasty, metoidioplasty or hysterectomy/oophorectomy for transmasculine individuals [8].

A confirmed diagnosis of persistent, well-documented gender incongruence/dysphoria is generally required by health insurance companies, supported by psychiatric and/or endocrinological reports. Informed shared decision-making is essential and preoperative hormone therapy is not generally mandatory for surgery, but it may be needed or beneficial for certain procedures [8, 83].

Preoperative assessments include comorbidities, cardiovascular and cancer risks, and mental health evaluation. Fertility preservation must be addressed before gonadectomy if not previously discussed. Surgeon selection is important, with recommended criteria including experience in transgender and gender-diverse specific procedures, supervised training and continuing education.

Perioperative continuation of gender-affirming hormone therapy is generally safe and does not significantly increase venous thromboembolism risk, though caution is advised in older or high-risk individuals [84, 85]. Postoperative hormone therapy is needed after gonad removal to prevent hypogonadism and long-term complications like cardiovascular disease or osteoporosis [47, 86].

Transition from adolescent to adult care

Transitioning transgender and gender-diverse individuals to adult care requires early, structured planning, ideally starting ≥2 years before transfer. Multidisciplinary follow-up during adolescence and joint visits with adult providers help prevent treatment gaps, especially in those with psychosocial or psychiatric comorbidities [8, 17].

Puberty blockers (GnRH agonists) may be offered to transgender and gender-diverse adolescents after starting puberty (i.e. at least Tanner stage 2); gender-affirming hormone therapy may be started later during adolescence (around age 14–16 or later), and evaluation of indication and follow-up by a specialised interdisciplinary team of at least paediatric endocrinologists and mental health specialists are recommended. Fertility counselling should be offered to all patients. However, genital surgery should be postponed until the age of majority. Interdisciplinary management must be continued into adulthood in a process known as “transition”. The transition process concludes with the transfer of patient care from a specialised team for adolescents to one for adults. The transition process must be individualised and lead to patient empowerment, involving both patients and their relatives [87, 88].

Insurance coverage of gender-affirming hormone therapy

In Switzerland, gender-affirming hormone therapy is considered medically necessary for individuals diagnosed with gender dysphoria and is covered by basic health insurance. Coverage includes consultations, medications, follow-up evaluations and laboratory monitoring [89].

Reimbursement requires that treatment meets criteria for medical necessity and effectiveness: (1) a medically relevant condition, (2) provision by certified providers within Switzerland, (3) absence of explicit exclusion from insurance coverage by legal regulation, and (4) the intervention being efficient and cost-effective [90].

Although coverage is standardised, some insurers may impose additional requirements not permitted under Swiss law, such as "everyday life tests", mandatory sequencing of steps, minimum age limits, prior psychiatric treatments or exclusion of non-binary individuals [91, 92].

Gender-affirming hormone therapy medications are typically prescribed off-label, as none currently has formal approval for this indication [93]. Medications on the official specialty list are reimbursed without prior authorisation. When off-list or imported medications are used, such as transdermal testosterone products, some insurers may ask for justification and it is recommended to confirm reimbursement eligibility in advance [94].

Knowledge gaps and future directions

Additional research is needed to strengthen the evidence base for transgender healthcare. Main areas include investigating the long-term effects of gender-affirming hormone therapy on bone density, cardiometabolic health and fertility. Similarly, more focus needs to be placed on documenting individuals who are ageing and nonbinary, as well as those who have stopped or paused hormone therapy. The effect of medical transition on quality of life and other outcomes in patients is also underexplored.

To address these knowledge gaps and advance evidence-based care, Switzerland would benefit from the establishment of a national data collection infrastructure, ideally through multicentre cohorts and long-term registries. This method would allow for systematic surveillance of health outcomes, promote high-quality research and form a base for clinical guidelines. Collaboration among healthcare providers, academic institutions, professional organisations and patient advocacy groups will be needed to promote knowledge exchange and ensure that emerging evidence is rapidly translated into clinical practice.

Equally important is the integration of transgender health education into medical school curricula and postgraduate training programmes. Currently, most healthcare professionals in Switzerland receive little or no formal training in this area. Improving education would enhance the competence of providers and contribute to a more equitable and inclusive healthcare system for transgender and gender-diverse individuals.

Checklist

These recommendations have been created to provide transgender and gender-diverse people with safe, evidence-based and affirming care. Every person's goals, health needs and circumstances should be taken into consideration when creating a plan for therapy. Flexibility, respect for autonomy, and shared decision-making are essential.

Communication

- Use clear, affirming language in all interactions.
- Record and use preferred names and pronouns.

Mental health

- Offer a mental health assessment before initiating hormone therapy.
- Explore coping strategies, resilience and any support needs.

Fertility preservation

- Discuss fertility impact of hormone therapy and surgery before starting gender-affirming hormone therapy and gender-affirming surgeries.
- Review sperm, egg, embryo or gonadal tissue preservation options.

- If interest shown, refer promptly to reproductive specialists.

Baseline evaluation before hormone therapy

- Record weight, height, BMI and vital signs.
- Perform baseline labs: hormone levels (oestradiol, testosterone, LH, FSH); full blood count; lipids, glucose and HbA1c; liver and renal function; electrolytes (especially if considering spironolactone)
- Review medical history for cardiovascular risk factors and relative contraindications.
- Advise about weight control and smoking cessation, if applicable.
- Discuss expected physical changes, timelines, reversibility and risks.
- Clarify contraception needs and options (testosterone is not a contraceptive).

Hormone therapy initiation and regimen

- Tailor dosing to individual goals, risks and preferences.
- Transfeminine patients: Prefer transdermal oestradiol if higher clot risk.
- Avoid ethinyl oestradiol and conjugated oestrogens.
- Oestrogen therapy combined with antiandrogen (cyproterone, spironolactone or GnRH analogues).
- Transmasculine patients: Intramuscular or transdermal testosterone regimen based on the patient.
- Discuss menstrual suppression options if desired.

Non-binary care considerations

- Offer standard care or low-dose or partial hormone regimens as appropriate.
- Clearly explain expected effects and uncertainties.
- Monitor bone health if prolonged hypogonadism occurs.

Follow-up monitoring

- Schedule follow-up visits: every 3 months during the first year; every 6–12 months thereafter.
- At each visit: review goals and satisfaction; measure weight, BMI and blood pressure; discuss lifestyle behaviours including smoking, nutrition, physical activity; check hormone levels to confirm targets; monitor lipids, glucose, liver and renal function; assess for side effects (e.g. erythrocytosis, hyperkalaemia, thromboembolism); adjust dosing based on labs and clinical response.

Cancer screening and preventive care

- Schedule cancer screening based on retained organs: Breast: follow cis female guidelines if breast tissue present. Cervix: Pap smears per guideline if cervix present. Prostate: individualise screening in transfeminine patients.
- Discuss STI screening tailored to sexual behaviour, not identity labels.
- Offer HIV PrEP if indicated.
- Provide smoking cessation counselling if applicable.

Older or medically complex patients

- Use lower hormone doses and prefer transdermal preparations.
- Monitor cardiovascular risks closely.
- Avoid spironolactone if eGFR <30 ml/min.
- If history of cancer, coordinate with oncologist before restarting hormones.

Sexual health support

- Discuss potential effects on libido, function and sensitivity.
- Offer support for sexual concerns, including sex therapy if needed.
- Consider pharmacological options (PDE-5 inhibitors, topical oestrogens, low-dose testosterone).

Gender-affirming surgery

- Confirm diagnosis and readiness with appropriate documentation.
- Ensure fertility preservation discussed prior to gonadectomy.

- Refer to qualified surgeons experienced in gender-affirming procedures.
- Plan perioperative hormone management (generally continue hormones unless high VTE risk).

Transition from adolescence to adult care

- Start planning at least 1–2 years before transfer to adult services.
- Use joint visits with paediatric and adult teams if possible.
- Ensure continuous care and clear handover.

Multidisciplinary coordination

- Involve endocrinology, primary care, mental health, reproductive health, dermatology, speech therapy and surgery as needed.
- Assign a care coordinator if available.

Documentation and legal aspects

- Provide clear records supporting medical necessity for insurance reimbursement.
- Confirm coverage for non-standard treatments.
- Inform patients of their rights to legal gender recognition and protections.

Research and continuous improvement

- Encourage participation in registries or studies when appropriate.
- Support ongoing professional development in transgender healthcare.

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