

CADTH Reference List

Facial Gender-Affirming Procedures for Gender Dysphoria

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Key Messages

- One systematic review and 2 non-randomized studies were identified regarding the clinical effectiveness of facial gender-affirming procedures in people with gender dysphoria.
- One evidence-based guideline was identified regarding the use of facial gender-affirming procedures for people with gender dysphoria.

Research Questions

1. What is the clinical effectiveness of facial gender-affirming procedures for people with gender dysphoria?
2. What are the evidence-based guidelines regarding the use of facial gender-affirming procedures for people with gender dysphoria?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, PsycInfo, the Cochrane Database of Systematic Reviews, the international HTA database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were facial procedures and transgender people/gender dysphoria. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2016 and November 8, 2021. Internet links were provided, where available.

Selection Criteria and Summary Methods

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed. The Overall Summary of Findings was based on information available in the abstracts of selected publications. Open access full-text versions of evidence-based guidelines were reviewed when abstracts were not available, and relevant recommendations were summarized.

Table 1: Selection Criteria

Criteria	Description
Population	People with gender dysphoria
Intervention	Facial gender-affirming procedures (e.g., rhinoplasty, forehead reshaping or contouring, jaw contouring, frontotemporal lift, electrolysis, lip lift, tracheal shave procedure)
Comparator	No treatment with facial gender-affirming procedures
Outcomes	Q1: Clinical effectiveness (e.g., quality of life, severity of symptoms [e.g., anxiety symptoms, depressive symptoms], patient satisfaction, safety [e.g., adverse events]) Q2: Recommendations regarding best practices (e.g., recommended treatment protocols, strategies to mitigate harms and adverse events)
Study designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, evidence-based guidelines

Results

One systematic review¹ and 2 non-randomized studies^{2,3} were identified regarding the clinical effectiveness of facial gender-affirming procedures in people with gender dysphoria. No health technology assessments and no randomized controlled trials were found regarding the clinical effectiveness of facial gender-affirming procedures in people with gender dysphoria compared to people with gender dysphoria who did not undergo facial gender-affirming procedures. One evidence-based guideline⁴ was identified regarding the use of facial gender-affirming procedures for people with gender dysphoria.

Additional references of potential interest that did not meet the inclusion criteria are provided in Appendix 1.

Overall Summary of Findings

While this summary retained some of the original terms used in the identified publications, we acknowledge that the terms “feminization,” “feminizing,” or “feminized” found in the literature, may not be all encompassing, as there may be individuals who want these procedures for reasons other than “to appear more feminine.”

One systematic review¹ and 2 non-randomized studies^{2,3} were identified regarding the clinical effectiveness of facial gender-affirming procedures in people with gender dysphoria. The systematic review concluded that people with gender dysphoria reported high satisfaction and better gender congruency after facial gender-affirming surgical procedures.¹ In a prospective cohort study of gender-diverse adults with gender dysphoria, the authors reported that 1 month after facial gender-affirming surgery, quality of life improved, and feminized cephalometric values were observed.² Additionally, externally rated appearance

and aesthetic scores were good at 1 month post-surgery.² In a non-randomized pilot study, self-rated appearance congruence and body image satisfaction improved 6 months after facial gender-affirming procedure in adults with gender dysphoria.³

One evidence-based guideline was found regarding the use of hair transplantation for transgender individuals.⁴ It recommended providing information of the potential impact of other facial gender-affirming procedures to the position of transplanted hairs, in addition to deferring hair transplantation 1 year after the start of testosterone therapy.⁴ The guidelines recommended follicular unit extraction from the occipital scalp as the preferred technique for the hair transplantation.⁴

References

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Siringo NV, Berman ZP, Boczar D, et al. Techniques and trends of facial feminization surgery: a systematic review and representative case report. *Ann Plast Surg.* 2021 Jul 13. [PubMed](#)

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

2. Morrison SD, Capitan-Canadas F, Sanchez-Garcia A, et al. Prospective quality-of-life outcomes after facial feminization surgery: an international multicenter study. *Plast Reconstr Surg.* 06 2020;145(6):1499-1509. [PubMed](#)
3. Isung J, Mollermark C, Farnebo F, Lundgren K. Craniofacial reconstructive surgery improves appearance congruence in male-to-female transsexual patients. *Arch Sex Behav.* Aug 2017;46(6):1573-1576. [PubMed](#)

Guidelines and Recommendations

4. Patel V, Nolan IT, Card E, Morrison SD, Bared A. Facial hair transplantation for transgender patients: a literature review and guidelines for practice. *Aesthet Surg J.* 02 12 2021;41(3):NP42-NP51. [PubMed](#)

Appendix 1: References of Potential Interest

Previous CADTH Reports

5. Gender affirming therapy for gender dysphoria: a rapid qualitative review. (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2020: <https://cadth.ca/gender-affirming-therapy-gender-dysphoria-rapid-qualitative-review>. Accessed 2021 Nov 9.

Health Technology Assessments

Not Specific to Facial Gender-Affirming Procedures

6. Georgas K, Beckman U, Bryman I, et al. Gender affirmation surgery for gender dysphoria-effects and risks. [Könskonfirmerande kirurgi vid könsdysfori - effekter och risker]. (*HTA report 2018:102*). Göteborg (SE): Västra Götalandsregionen, Sahlgrenska University Hospital, HTA-centrum; 2018: https://alfresco-offentlig.vgregion.se/alfresco/service/vgr/storage/node/content/workspace/SpacesStore/441006af-62a7-4f19-be73-6d698bf635f5/2018_102%20Rapport%20K%c3%b6nsdysfori.pdf?a=false&guest=true. Accessed 2021 Nov 9.
7. Gender dysphoria. (*Health Technology Assessment Information Service Special Report*). Plymouth Meeting (PA): ECRI Institute; 2016: www.ecri.org. Accessed 2021 Nov 9. See: *Quality of life*, page 4.

Systematic Reviews and Meta-Analyses

Unclear Comparator

8. Ascha M, Swanson MA, Massie JP, et al. Nonsurgical management of facial masculinization and feminization. *Aesthet Surg J*. 04 08 2019;39(5):NP123-NP137. [PubMed](#)

No Comparator

9. Eggerstedt M, Hong YS, Wakefield CJ, Westrick J, Smith RM, Revenaugh PC. Setbacks in forehead feminization cranioplasty: a systematic review of complications and patient-reported outcomes. *Aesthetic Plast Surg*. 06 2020;44(3):743-749. [PubMed](#)
10. Morrison SD, Vyas KS, Motakef S, et al. Facial feminization: systematic review of the literature. *Plast Reconstr Surg*. Jun 2016;137(6):1759-1770. [PubMed](#)

Alternative Population –Not Specific to Patients with Gender Dysphoria

11. Sayegh F, Ludwig DC, Ascha M, et al. Facial masculinization surgery and its role in the treatment of gender dysphoria. *J Craniofac Surg*. Jul 2019;30(5):1339-1346. [PubMed](#)
12. Therattil PJ, Hazim NY, Cohen WA, Keith JD. Esthetic reduction of the thyroid cartilage: A systematic review of chondrolaryngoplasty. *JPRAS Open*. Dec 2019;22:27-32. [PubMed](#)

Non-Randomized Studies

No Comparator

13. Chaya BF, Berman ZP, Boczar D, et al. Current trends in facial feminization surgery: an assessment of safety and style. *J Craniofac Surg*. Oct 01 2021;32(7):2366-2369. [PubMed](#)
14. Li D, Xu L, Yu Z, Yuan J, Wei M. Necessity of facial contouring in feminization surgery for Chinese transgender females. *Ann Transl Med*. Apr 2021;9(7):603. [PubMed](#)
15. Murphy AI, Asadourian PA, Marano AA, Rohde CH. Patients and procedures of facial gender confirmation surgery: a NSQIP study. *J Craniofac Surg*. 2021 Sep 20. [PubMed](#)
16. Chou DW, Tejani N, Kleinberger A, Shih C. Initial facial feminization surgery experience in a multicenter integrated health care system. *Otolaryngol Head Neck Surg*. Oct 2020;163(4):737-742. [PubMed](#)
17. Lipschitz N, Wolf M, Amir O, Sagiv D, Primov-Fever A. Thyroid chondroplasty: Smoothing the thyroid cartilage-A retrospective study of thyroid chondroplasty for feminine neck appearance. *International Journal of Transgenderism*. Oct 2017;18(4):389-394.
18. Raffaini M, Magri AS, Agostini T. Full facial feminization surgery: patient satisfaction assessment based on 180 procedures involving 33 consecutive patients. *Plast Reconstr Surg*. Feb 2016;137(2):438-448. [PubMed](#)

Alternative Comparator

19. Chaya BF, Boczar D, Rodriguez Colon R, et al. Comparative outcomes of partial and full facial feminization surgery: a retrospective cohort study. *J Craniofac Surg*. Oct 01 2021;32(7):2397-2400. [PubMed](#)
20. Daurade M, Brosset S, Chauvel-Picard J, Sigaux N, Mojallal A, Boucher F. Trans-oral versus cervico-facial lift approach for mandibular angle resection in facial feminization: A retrospective study. *J Stomatol Oral Maxillofac Surg*. Mar 31 2021;S2468-7855(21)00051-3. [PubMed](#)

Alternative Population - Not Specific to People with Gender Dysphoria

21. Niechajev I. Reduction genioplasty for mandibular prognathism and long chin. *Oral Maxillofac Surg*. Sep 2020;24(3):333-341. [PubMed](#)

22. Gupta N, Wulu J, Spiegel JH. Safety of combined facial plastic procedures affecting multiple planes in a single setting in facial feminization for transgender patients. *Aesthetic Plast Surg.* 08 2019;43(4):993-999. [PubMed](#)

Guidelines and Recommendations

Alternative Methodology

23. De Bouille K, Furuyama N, Heydenrych I, et al. Considerations for the use of minimally invasive aesthetic procedures for facial remodeling in transgender individuals. *Clin Cosmet Investig Dermatol.* 2021;14:513-525. [PubMed](#)
24. Guidelines for medical necessity determination for gender-affirming surgery. Chelsea (MA): MassHealth; 2021: <https://www.mass.gov/doc/gender-affirming-surgery/download>. Accessed 2021 Nov 9.
See: p. 4-5

Review Articles

25. Berli JU, Capitan L, Simon D, Bluebond-Langner R, Plemons E, Morrison SD. Facial gender confirmation surgery-Review of the literature and recommendations for Version 8 of the WPATH Standards of Care. *International Journal of Transgenderism.* Jul 2017;18(3):264-270.