

General Criteria for Gender Affirming Surgery (WPATH SOC8)

- a. Gender incongruence is marked and sustained
- b. Meets diagnostic criteria for gender incongruence prior to surgery
- c. Demonstrates capacity to consent for the specific gender-affirming surgery
- e. Other possible causes of apparent gender incongruence have been identified and excluded
- f. Mental health and physical conditions that could negatively impact the outcome of gender-affirming surgery have been assessed, with risks and benefits have been discussed
- g. Stable on their gender affirming hormonal treatment regime (which may include at least 6 months of hormone treatment or a longer period if required to achieve the desired surgical result, unless hormone therapy is either not desired or is medically contraindicated).

Criteria for Coverage of Feminizing Hair Transplantation to the Scalp

ALL of the following criteria must be met in order for hair transplantation to be considered medically necessary:

- a. Meets stated WPATH SOC8 general clinical criteria for surgical procedures
- b. Has not already received surgical hair transplantation **Requests for revisions and additional treatments will be reviewed on a case-by-case basis, please see item g regarding planned staged procedures*
- c. Documented medical contraindication or member aversion to non-invasive alternatives to surgery including high-quality custom wigs (a covered benefit)

d. Member has taken one or more hair-loss medications (finasteride, dutasteride, minoxidil, spironolactone) for a minimum of 6 months and has been counseled to continue medications indefinitely post-operatively for maintenance and preservation of grafts. Hair loss medication history and plan is specific. At least one medication must be oral, not topical. ** Members who have undergone bottom surgery (orchiectomy, vaginoplasty) are exempt from this requirement*
Revisions for members not maintained on hair-loss medications are not considered medically necessary due to increased graft loss that is preventable

e. Documentation must include Norwood stage preoperatively and Fox test when relevant. If request is for member who has had prior transplants, pre- and post-operative Norwood stage and description of results are documented **See guidance for information on Norwood staging*

f. Documentation that risks and benefits have been discussed with member, including realistic expectation of result. Documentation that member has been informed that hair transplant should be completed AFTER all planned facial feminization procedures on the upper third of the face are complete. Additionally, members with advanced hair loss (Norwood 6 or 7) should be counseled about serious limitations on results and availability of high-quality customized wigs as a covered benefit

g. If multiple or staged procedures are planned, a detailed treatment plan is documented in initial request along with justification for staging. There must be at least 6 months between stages

h. Documentation includes justification of number of grafts using calculation or measurement, and detailed plan noting how many grafts will be extracted from each specific donor site. Absolute lifetime maximum 800 units (1 unit = 10 grafts) or 8,000 grafts. **See guidance for billing definitions of “graft” and “unit,” and sample calculations*

i. Body dysmorphia has been excluded as a possible cause for desire for surgery
**Please see guidance for information on body dysmorphia, especially criteria 1*

Criteria for Coverage of Masculinizing Hair Transplantation to the Beard Area

ALL of the following criteria must be met in order for hair transplantation to be considered medically necessary:

- a. Meets stated WPATH SOC8 general clinical criteria for surgical procedures
- b. Has not already received surgical hair transplantation **Requests for revisions and additional treatments will be reviewed on a case-by-case basis, please see item g regarding planned staged procedures*
- c. Documentation that risks and benefits have been discussed with member, including realistic expectation of result. Documentation that member has been informed that hair transplant should be completed AFTER all planned facial masculinization procedures on the lower half the face (jaw, cheeks, nose) are complete.
- e. If multiple or staged procedures are planned, a detailed treatment plan is documented in initial request along with justification for staging. There must be at least 6 months between stages
- f. Documentation includes justification of number of grafts using calculation or measurement, and detailed plan noting how many grafts will be extracted from each specific donor site. Absolute lifetime maximum 800 units (1 unit = 10 grafts) or 8,000 grafts. **See guidance for billing definitions of “graft” and “unit,” and sample calculations*
- g. Body dysmorphia has been excluded as a possible cause for desire for surgery **Please see guidance for information on body dysmorphia, especially criteria 1*
- h. A minimum of 4 years of consistent testosterone use and 6 to 12 months of oral or topical minoxidil is required before transplant can be considered for transmasculine members. Documentation must specify history of gender-affirming hormone use and minoxidil use. Member must be counseled to continue

minoxidil post-operatively for graft preservation. If minoxidil contraindicated due to allergy or interaction, the specific contraindication must be documented.

Members with medical contraindications to testosterone therapy may access transplant without undergoing 4 years of masculinizing hormone therapy. The medical contraindication to testosterone therapy must be specifically documented; member is still subject to the minoxidil use requirement if minoxidil is not contraindicated. **All requests for members not sustained on testosterone will be reviewed on a case-by-case basis*

Quality and thickness of hair transplanted to beard area in the absence of testosterone therapy is variable. Members must be counseled on unique circumstances and prognosis of transplant in these cases

Billing Definitions of “Unit” and “Graft”

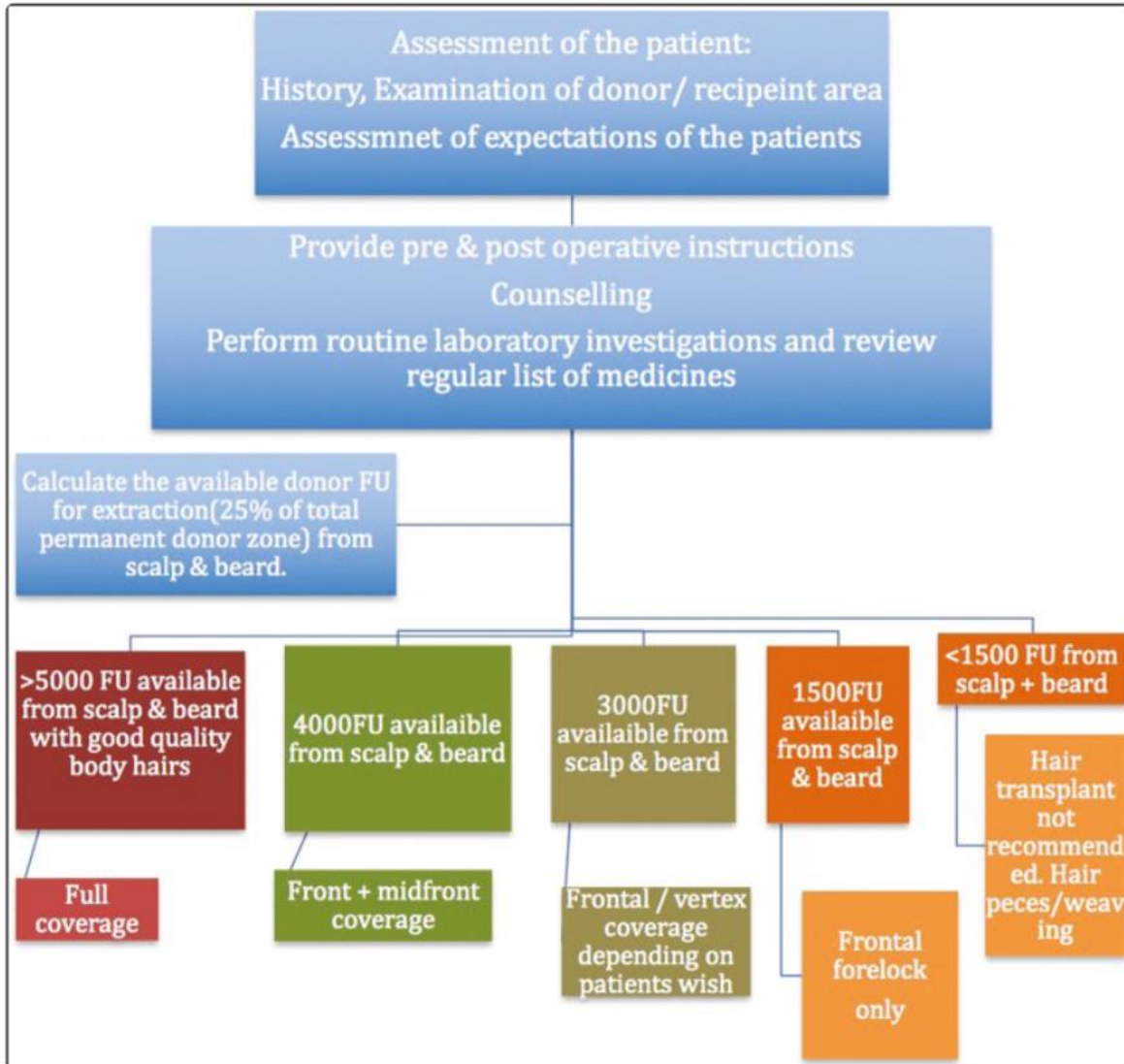
In line with the practices of private hair transplantation companies and other public and private payers, a “graft” is defined as a single Follicular Unit Extraction (FUE) punch graft. The number of grafts is often counted by equipment utilized in FUE but may also be counted manually upon insertion. A single graft may contain 1 to 4 hair follicles depending on the hair density of the donor area - grafts with 1 follicle are usually put at the front of the hairline, while grafts with multiple follicles are put further back to build density (Bosley 2024, Jimenez 2021). CPT code 15776 has a maximum of 999 billable units. As the lifetime maximum is 8000 grafts, for billing purposes each unit reported with CPT code 15776 is equal to 10 grafts as defined above.

General Guidance for Hair Transplantation

Hair transplantation, specifically Follicular Unit Extraction (FUE) can be a useful adjunct for feminizing the hair line, or masculinizing the beard area (Bared 2019, Capitan 2017, Patel 2021). Techniques for feminizing the hairline and head have

been described in the literature (Bared 2019, Capitan 2017), as well as how to masculinize areas like the lower face or beard area (Capitan 2017, Patel 2021).

The bulk of the literature describes the use of FUE in cisgender men. Regardless, protocols that have been developed can provide a relevant framework for assessment, planning, and treatment.



(Chouhan 2019 - Image)

Table 4 Simple protocol for hair transplant (FUE)

Detailed examination	History (general, systemic, family, medical, previous treatment) Clinical examination (grading/staging) Pull test Dermoscopy (trichoscopy)/folliscopy Scalp/skin assessment Biopsy (if needed)
Counseling	Patient expectations Discuss problem, cause, technique, pros and cons, risk and complications, alternative approaches Recipient site, hairline marking Expected results Possible need for further therapy/surgery Cost
Presurgical evaluation	Density test (donor area) Blood test (complete blood counts, blood sugar, bleeding time, clotting time, HIV, HbsAg, etc.) Physician/anesthetic evaluation Drug allergy test (local anesthesia, etc.) Preoperative photographs
Informed Consent	Technique, common risk and complications, prognosis, further treatment required, etc.
Surgery	Premedication, fine trimming of hair, surface anesthesia, marking of planned recipient site, standard painting and draping Ring block, tumescent anesthesia of donor site FOX test: continue if score 1, 2, ?(3) Donor graft harvesting Storage of grafts in holding media at hypothermic solution (Ringer's/saline/others at 4–10 °C) Anesthesia and preparation of recipient site Transplantation of follicular grafts Saline/Ringer's irrigation on transplanted grafts intraoperatively (every 5–10 min). Keep grafts wet. Hemostasis, donor site dressing
Postoperative instructions	Medications (antibiotics, opioid analgesics, steroid) Sleep posture with head elevation Avoid strenuous activity, head down or bending, exercise, swimming, physical trauma, harsh chemicals, alcohol, etc. Saline irrigation on recipient site, ice compress on forehead and periorbital area
Follow-up	3rd day: check graft area, swelling, crusting, remove donor site dressing. Advise mild shampoo 10th day: surgical site healing, crusting 1–6 months: healing and growth, folliculitis, consider starting minoxidil, PRP, other therapies. > 6 months: healing, hair growth, alternative therapies, second surgery

(Sharma 2019 - Table)

As part of the assessment, a detailed history of hair loss should be taken and contraindications to FUE reviewed. A Fox test may also be necessary depending on hair texture, grading can be found in the table on page 7.

Table 2 FOX test

Score	Criteria	Significance
1	All of the follicular units are extracted intact, least difficult harvesting (popping out of grafts)	Excellent. FOX positive
2	Significant loss of surrounding fat around lower part of follicle or < 20% of amputation	Good. FOX positive, but may be difficult in subsequent sessions due to scarring
3	Difficult emergent angle	Questionable; greater surgical skills, experience and orientation are needed. FOX neutral
4	Significant amount of surrounding fat avulsed and amputation of significant number of distal follicles	Poor. FOX negative
5	Significant damage to mostly all the grafts with upper portion of follicles avulsed from lower segment	Poor. FOX negative

(Sharma 2019 - Table)

It is important to take into careful consideration how much hair will be taken from donor sites, the stage of hair loss, and the hair density (Ahmad 2018, Kerure 2021). Taking too much hair from the donor site will lead to overall suboptimal results (Ahmad 2018). Technique, experience, case volume, and equipment utilization also play an important role (Garg 2032)

Grading the Level of Hair Loss

While several scales exist to estimate the degree of balding, the Norwood classification system is preeminent (Gupta 2016, Jimenez 2021). The following text and image authored by Gupta (2016) details the levels of the Norwood baldness classification:

Type I: There is minimal or no recession of the hairline.

Type II: There are triangular, usually symmetrical, areas of recession at the frontotemporal hairline.

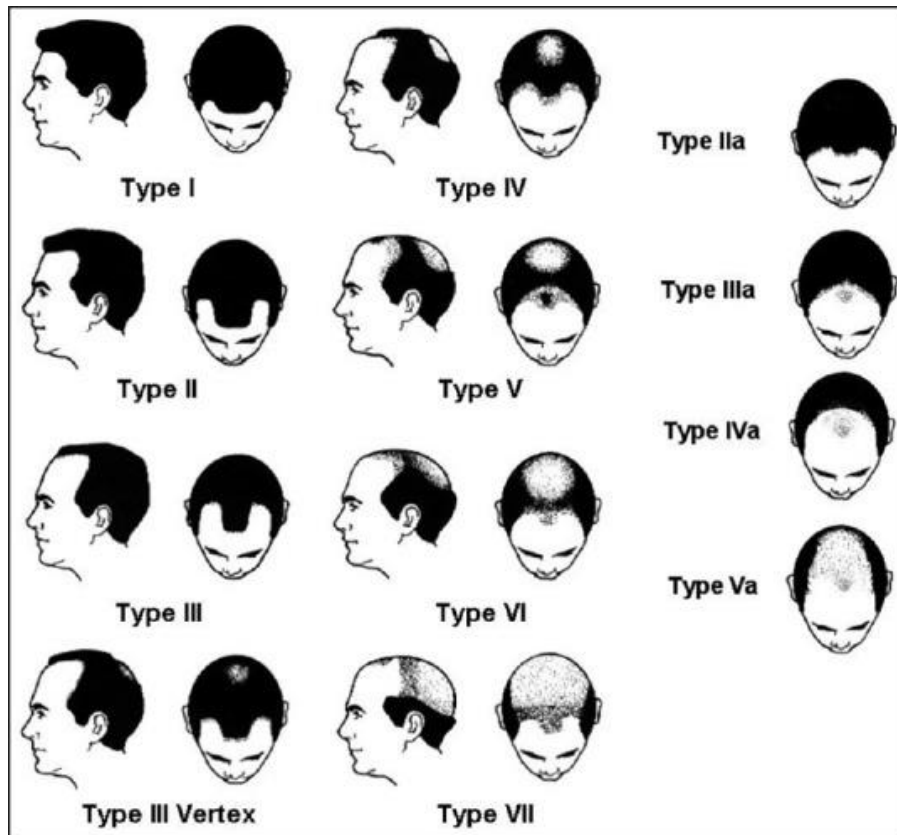
Type III: This represents the minimal extent of hair loss sufficient to be considered as baldness according to Norwood. There is deep symmetrical recession at the temples that are bare or only sparsely covered by hair. In Type III vertex, the hair loss is primarily from the vertex with limited recession of the frontotemporal hairline that does not exceed the degree of recession seen in Type III.

Type IV: The frontotemporal recession is more severe than in Type III and there is sparse hair or no hair on the vertex. The two areas of hair loss are separated by a band of moderately dense hair that extends across the top. This band connects with the fully haired fringe on the sides of the scalp.

Type V: The vertex hair loss region is still separated from the frontotemporal region but it is less distinct. The band of hair across the crown is narrower and sparser and the vertex and frontotemporal regions of hair loss are bigger.

Type VI: The bridge of hair that crosses the crown is gone with only sparse hair remaining. The frontotemporal and vertex regions are joined together and the extent of hair loss is greater.

Type VII: The most severe form of hair loss and only a narrow band of hair in a horseshoe shape remains on the sides and back of the scalp. This hair is usually not dense and may be quite fine.



(Gupta 2016 – Text, Image)

Determining Number of Grafts

Multiple factors must be considered when determining the necessary number of grafts. One such consideration is the limitations imposed by time and availability of trained surgical staff. Large volume hair transplantation requires a large team: Li (2020) utilized a team of 1-2 surgeons and 4-5 assistants. The assistants were assigned to graft dissection or implantation. The table below demonstrates what a team of 5-7 members was able to accomplish.

TABLE 2 Number of follicular units transplanted, ratio, consuming time, and survival rate

Graft number	Ratio	Time (h)	Survival rate
3000-4000	42.2	6-8	96.6%
4000-5000	32.5	8-10	94.6%
5000-6000	25.3	10-12	93.5%

Available technology also plays a role. For example, Ors (2015) demonstrated that integration of a micromotor increased the number of grafts harvested in a 6-8 hour period by 25%, totaling 2500 grafts.

Estimating the number of grafts required can be done by referencing average graft quantities per area of coverage in the literature. The table on the next page shows the average number of grafts per coverage area from a retrospective analysis of 820 cases (Chouhan 2019 - Table).

Table 2

Average number of grafts transplanted depending on the coverage area

S. no.	Coverage area	No. of patients	Average number of grafts transplanted
1.	Frontal coverage	308	2982 FU
2.	Frontal + mid-front coverage	352	4164 FU
3.	Vertex alone	24	2770 FU
4.	Full coverage	100	6237 FU
5.	Frontal forelock	36	1240 FU

The same retrospective analysis also calculated averages for the number of grafts available in various coverage sites (Chouhan 2019 - Table).

Table 3

Average number of grafts extracted depending on the donor area

S. no.	Donor area	Average number of grafts extracted per case
1.	Scalp extraction	2956 FU (6320 hairs)
2.	Beard extraction	1100 FU (1500 hairs)
3.	Body extraction	1500 FU (1650 hairs)

Other available literature has calculated similar averages in cisgender women. Park (2021) found the average number of grafts for cisgender female hairline correction was 1214, and the average for female pattern hair loss 1344.

Available literature has also proposed equations to calculate the number of grafts needed by factoring in the density of hair against the measure of the area to be covered (Venkataram 2018). The proposed equation by Venkataram (2018) is detailed in the chart below.

RECIPIENT SITE

Calculating the number of grafts required:

The frontal area is triangular and calculated by $\frac{1}{2} \times \text{breadth} \times \text{height}$. The vertex is circular and calculated by $\pi \times r^2$. As the normal number of follicular units is 100 and we need 50%, the total area multiplied by 40–50 (depending on the hair density) gives us the number of follicular units needed.^[6]

For example, area of a triangle of width = 20cm and height = 7cm in frontal area (stage 5 baldness: $\frac{1}{2} \times \text{breadth} \times \text{height}$) is $\frac{1}{2} \times 20 \times 7 = 70\text{cm}^2 \times 40 \text{ units/cm}^2 = 2800$ units are the number of follicular units needed.

Guidance: Body Dysmorphia and Gender Dysphoria

As part of the evaluation for medical necessity of gender affirming procedures, body dysmorphia must be excluded. The DSM5 defines body dysmorphia by four criteria, listed below:

- (1) Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others.
- (2) At some point during the course of the disorder, the individual has performed repetitive behaviors (e.g., mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (e.g., comparing his or her appearance with that of others) in response to the appearance concerns.
- (3) The preoccupation causes clinically significant distress or impairment in social, occupational or other areas of functioning.

(4) The appearance preoccupation is not better explained by concerns with body fat or weight in an individual whose symptoms meet diagnostic criteria for an eating disorder.

Letters of support from behavioral health providers should assess for, and exclude, body dysmorphia. Untreated body dysmorphia can worsen mental health and pose unique health risks during the surgical gender affirmation process.

References:

1. A B, Js E. Hair Transplantation Techniques for the Transgender Patient. *Facial plastic surgery clinics of North America*. 2019;27(2). doi:10.1016/j.fsc.2018.12.005
2. Avram MR, Cole JP, Gandelman M, et al. The Potential Role of Minoxidil in the Hair Transplantation Setting. *Dermatologic Surgery*. 2002;28(10):894.
3. Bosley - Hair Restoration & Transplant. How Many Hair Grafts Do I Need (and How Much Will It Cost)? Bosley Hair Transplant. Published December 2, 2020. Accessed May 1, 2024. <https://www.bosley.com/blog/how-many-hair-grafts-do-i-need-and-how-much-will-it-cost/>
4. Bouhanna P. Topical minoxidil used before and after hair transplantation. *J Dermatol Surg Oncol*. 1989;15(1):50-53. doi:10.1111/j.1524-4725.1989.tb03112.x
5. Bouhanna P. Androgenetic alopecia: combining medical and surgical treatments. *Dermatol Surg*. 2003;29(11):1130-1134. doi:10.1046/j.1524-4725.2003.29352.x
6. Chouhan K, Roga G, Kumar A, Gupta J. Approach to Hair Transplantation in Advanced Grade Baldness by Follicular Unit Extraction: A Retrospective Analysis of 820 Cases. *J Cutan Aesthet Surg*. 2019;12(4):215-222. doi:10.4103/JCAS.JCAS_173_18
7. Garg A, Garg S. Overview of Follicular Extraction. *Indian J Plast Surg*. 2021;54(4):456-462. doi:10.1055/s-0041-1739244
8. Gupta M, Mysore V. Classifications of Patterned Hair Loss: A Review. *J Cutan Aesthet Surg*. 2016;9(1):3-12. doi:10.4103/0974-2077.178536
9. Humayun Mohmand M, Ahmad M. Effect of Follicular Unit Extraction on the Donor Area. *World J Plast Surg*. 2018;7(2):193-197.

10. Jimenez F, Alam M, Vogel JE, Avram M. Hair transplantation: Basic overview. *Journal of the American Academy of Dermatology*. 2021;85(4):803-814. doi:10.1016/j.jaad.2021.03.124
11. Kassimir JJ. Use of topical minoxidil as a possible adjunct to hair transplant surgery. A pilot study. *J Am Acad Dermatol*. 1987;16(3 Pt 2):685-687. doi:10.1016/s0190-9622(87)70088-7
12. Kerure AS, Deshmukh N, Agrawal S, Patwardhan NG. Follicular Unit Extraction [FUE] – One Procedure, Many Uses. *Indian Dermatol Online J*. 2021;12(3):381-388. doi:10.4103/idoj.IDOJ_522_20
13. L C, D S, T M, et al. Facial Feminization Surgery: Simultaneous Hair Transplant during Forehead Reconstruction. *Plastic and reconstructive surgery*. 2017;139(3). doi:10.1097/PRS.0000000000003149
14. Leavitt M. Effects of Finasteride (1 mg) on Hair Transplant : *Dermatologic Surgery*. Published 2005. Accessed April 5, 2024. https://journals.lww.com/dermatologicsurgery/fulltext/2005/10000/effects_of_finasteride__1_mg__on_hair_transplant.2.aspx
15. Lee S, Lee YB, Choe SJ, Lee WS. Adverse Sexual Effects of Treatment with Finasteride or Dutasteride for Male Androgenetic Alopecia: A Systematic Review and Meta-analysis. *Acta Dermato-Venereologica*. 2019;99(1):12-17. doi:10.2340/00015555-3035
16. Li KT, Qu Q, Fan ZX, et al. Clinical experience on follicular unit extraction megasession for severe androgenetic alopecia. *Journal of Cosmetic Dermatology*. 2020;19(6):1481-1486. doi:10.1111/jocd.13156
17. McClellan KJ, Markham A. Finasteride: A Review of its Use in Male Pattern Hair Loss. *Drugs*. 1999;57(1):111-126. doi:10.2165/00003495-199957010-00014
18. Mysore V. Finasteride and sexual side effects. *Indian Dermatol Online J*. 2012;3(1):62-65. doi:10.4103/2229-5178.93496
19. Ors S, Ozkose M, Ors S. Follicular Unit Extraction Hair Transplantation with Micromotor: Eight Years Experience. *Aesthetic Plast Surg*. 2015;39(4):589-596. doi:10.1007/s00266-015-0494-8
20. Park JH, You SH, Kim NR. Nonshaven Follicular Unit Extraction. *Ann Plast Surg*. 2019;82(3):262-268. doi:10.1097/SAP.0000000000001679
21. Park JH, You SH, Kim NR, Ho YH. Long hair follicular unit excision: personal experience. *Int J Dermatol*. 2021;60(10):1288-1295. doi:10.1111/ijd.15648
22. Patel V, Nolan IT, Card E, Morrison SD, Bared A. Facial Hair Transplantation for Transgender Patients: A Literature Review and Guidelines for Practice. *Aesthetic Surgery Journal*. 2021;41(3):NP42-NP51. doi:10.1093/asj/sjaa430

23. Rassman WR, Bernstein RM, McClellan R, Jones R, Worton E, Uyttendaele H. Follicular unit extraction: minimally invasive surgery for hair transplantation. *Dermatol Surg.* 2002;28(8):720-728. doi:10.1046/j.1524-4725.2002.01320.x
24. Sharma R, Ranjan A. Follicular Unit Extraction (FUE) Hair Transplant: Curves Ahead. *J Maxillofac Oral Surg.* 2019;18(4):509-517. doi:10.1007/s12663-019-01245-6
25. Unger WP. Hair Transplantation: Current Concepts and Techniques. *J Investig Dermatol Symp Proc.* 2005;10(3):225-229. doi:10.1111/j.1087-0024.2005.10111.x
26. V P, It N, E C, Sd M, A B. Facial Hair Transplantation for Transgender Patients: A Literature Review and Guidelines for Practice. *Aesthetic surgery journal.* 2021;41(3). doi:10.1093/asj/sjaa430
27. Venkataram A, Mysore V. Logic of Hair Transplantation. *J Cutan Aesthet Surg.* 2018;11(4):169-172. doi:10.4103/JCAS.JCAS_183_18
28. Zhou Z, Song S, Gao Z, Wu J, Ma J, Cui Y. The efficacy and safety of dutasteride compared with finasteride in treating men with androgenetic alopecia: a systematic review and meta-analysis. *Clinical Interventions in Aging.* 2019;14:399. doi:10.2147/CIA.S192435
29. Zito PM, Raggio BS. Hair Transplantation. In: *StatPearls.* StatPearls Publishing; 2023. Accessed December 22, 2023. <http://www.ncbi.nlm.nih.gov/books/NBK547740/>