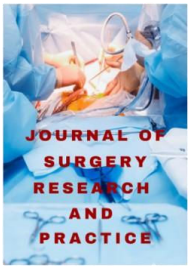

e-ISSN: 3068-3742
Journal of Surgery Research and Practice

ATHENAEUM SCIENTIFIC PUBLISHERS

Case Report

The Importance of Positioning the Diverting Hair Flow for Female Hairline Transplant

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Citation: Lin YJ. The Importance of Positioning the Diverting Hair Flow for Female Hairline Transplant. J Surg Res Prac. 2025;6(3):1-6.

https://doi.org/10.46889/JSRP.2025.6309

Received Date: 28-11-2025

Accepted Date: 15-12-2025

Published Date: 23-12-2025

Abstract

Background: Female hairline transplantation has become increasingly common as aesthetic standards shift toward a softer, more rounded frontal contour. However, achieving a natural-looking female hairline requires not only correct positioning of the hairline outline but also precise reconstruction of the native hair flow pattern. Among the most critical yet under-recognized concepts are the Diverting Point (DP) along the frontal hairline and the Part Line (PL) that extends from the vertex to the frontal region.

Objective: To present a practical, reproducible method for female hairline design by identifying and connecting the DP and PL, thereby restoring natural hair direction, facial framing and mid-scalp density.

Methods: A series of female patients underwent Follicular Unit Transplantation (FUT)-based hairline transplantation using follicle implanters. Preoperative evaluation included assessment of hairline shape preferences and donor characteristics. During surgery, the DP was located along the frontal hairline border and the PL was traced from the vertex toward the frontal area. These two landmarks were intentionally connected to re-establish smooth directional transitions. Curved donor hairs were preferentially used to enhance the natural feminine contour.

Results: Reconstruction based on the DP-PL connection produced natural, inverted U-shaped female hairlines despite inherent asymmetries in individual hair flow patterns. Postoperative follow-up (6-12 months) demonstrated consistent improvement in frontal framing and mid-scalp density. The technique effectively balanced aesthetic harmony with biological authenticity by respecting native directional changes.

Conclusion: Accurate identification and integration of the diverting point and part line are essential for achieving a natural, balanced and feminine hairline in female hair transplantation. This method provides a reliable framework that goes beyond geometric symmetry and focuses on reproducing physiologic hair flow, thereby improving surgical outcomes.

Keywords: Female Hairline Transplantation; Hair Flow; Diverting Point; Part Line; Follicular Unit Transplantation (FUT); Aesthetic Hair Restoration; Hair Direction Design

Introduction

Hair transplantation has become increasingly popular in recent years. As techniques have matured and outcomes become more predictable, the number of female patients seeking hair transplantation has risen rapidly. Many women pursue surgery for central (mid-scalp) hair loss, often in combination with anterior hairline correction [1-3]. Female pattern hair loss typically presents as reduced hair density from the mid-scalp to the frontal area, with or without destruction of the frontal hairline. For female patients, it can be particularly distressing to have both a high, broad forehead and mid-scalp thinning at the same time [4]. When correcting a high and wide female forehead, the aesthetic focus of hairline transplantation usually includes:

- Lowering the mid-frontal and frontotemporal hairline
- Narrowing frontotemporal recession
- Creating an inverted U-shaped hairline

- Forming or enhancing a widow's peak
- Increasing hair density immediately around and behind the hairline [3,5]

In this article, the author presents her experience in feminizing the hairline and reinforcing mid-scalp density by deliberately positioning the diverting hair flow along the forehead and clearly distinguishing the transition from vertex to frontal area. Proper identification and connection of these flow changes can improve facial contour, symmetry and the natural appearance of the female hairline.

Methodology

The author routinely uses Follicular Unit Transplantation (FUT) combined with follicle implanters for aesthetic hair restoration. Before performing female hairline transplantation, a thorough consultation is carried out regarding the patient's preferences for hairline height, shape and curvature [5]. At the same time, the donor "hair reservoir" is evaluated to confirm that it can provide an adequate number of grafts with suitable hair characteristics [6]. To outline a natural and aesthetically pleasing female hairline, curved hairs are preferred whenever possible. An elliptical donor strip is designed slightly toward the occipitotemporal region. The curvature of the hair shafts is examined to decide whether harvesting should be closer to the right or left ear. Because a certain shaft thickness is needed to create a visible and stable frontal contour, hair is harvested slightly near the auriculotemporal area, avoiding hair that is overly fine. After design and donor assessment are completed, transplantation begins. Several anatomic and flow characteristics distinguish the female hairline from the male hairline:

- The male forehead tends to be flatter, with hair flowing mainly in an anterior direction
- The female forehead is usually rounder and more tapered, resulting in a broader range of hair directions, with hair commonly dividing to both the right and left sides

There is typically a Part Line (PL) extending from the vertex whorl to the frontal area (Fig. 1), which guides the division of hair to either side. In addition, there is a Diverting Point (DP) along the border of the female frontal hairline where the hair direction changes (Fig. 2) [7].

During female hairline transplantation, the key principle is to identify and connect:

1. The Part Line (PL) of hair flow from vertex to frontal area
2. The Diverting Point (DP) located along the frontal hairline

By distinguishing and joining these two landmarks, the surgeon can reproduce a natural transition of hair direction and create a harmonious frontal contour.

Figure 1: The blue concentric circle marks the position of the Diverting Point (DP) along the forehead hairline.

Figure 2: The blue curved line marks the connection of the Diverting Point (DP) with the Part Line (PL) of the hair flow change from vertex to frontal area.

Results

The aesthetic goal in female hairline transplantation is an inverted U-shaped hairline. Patients often request a low and narrow bilateral curve as the definition of beauty and youthfulness. Although this inverted U-shape is frequently described as a bilaterally symmetric mirror image, in reality the situation is more complex. First, the "symmetric" oval contour does not simply extend in a perfectly mirrored fashion from the mid-frontal point to both lateral sides of the face. Second, the hair flow directions along the hairline are not exact mirror images from the center point. Under the natural condition of hair diverging to both sides, there is always a Diverting Point (DP) along the frontal hairline border when tracing hair flow changes from the frontal region back toward the vertex. This DP must be connected with the Part Line (PL) to reconstruct a natural pattern.

Importantly, the DP often does not lie on the same side as the PL. In some patients, the PL and DP may span nearly the entire crown from right to left or vice versa. Deliberately identifying both landmarks and creating a connection between them allows the surgeon to control the change in hair direction and the distribution of hair flow more precisely. Using this method, the final inverted U-shaped hairline appears natural despite underlying asymmetries in hair flow. By strategically positioning and linking the DP and PL, the surgeon can overcome these asymmetries and still achieve an aesthetically pleasing, balanced frame for the face. Postoperative photographs at 6-12 months demonstrate improved hair density and harmonious frontal contours (Fig. 3-8).

Figure 3: Before op.

Figure 4: After op one year.

Figure 5: Before op.

Figure 6: After op six months.

Figure 7: Before op.

Figure 8: After op six months.

Conclusion

By accurately locating the Diverting Point (DP) along the frontal hairline and the Part Line (PL) of hair flow from the vertex to the frontal region and then connecting these two landmarks surgeons can more easily create a natural-looking, bilaterally balanced facial contour while also enhancing hair density behind the forehead. This approach emphasizes that successful female hairline transplantation depends not only on the overall shape of the hairline but also on the subtle but crucial details of hair direction and flow.

Conflict of Interest

The authors declare no conflict of interest.

Funding

None

Acknowledgement

None

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