

Score! Scoring Donor Strip with a Depth Controlled 18 Gauge Needle

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Various donor harvesting techniques require superficial scoring of the donor strip's border before dissection. Examples include Dr. Pathomvanich's tension donor dissection, Dr. Sandoval's blunt dissection method, Dr. Haber's donor spreader (a modified iconoclast), and, most recently, Dr. Rose's needle driver based spreader presented at the ISHRS 14th Annual Scientific Meeting. All these techniques provide minimal transection of follicles during harvesting.

We started using a Haber donor spreader last year and have realized its benefits, such as rapid harvesting, minimal transection, and very little bleeding. We did discover that if the scoring, or partial-depth incision, did not cut through the collagen-rich dermis, laceration could occur when the spreader separated the tissue. Scoring too deep, on the other hand, increased the risk of transecting the follicles or severing larger vessels and nerves.

Because of the individual and ethnic variation in scalp thickness, it can be difficult to estimate the depth of scoring. Further complicating the matter is that these partial-depth incisions are made parallel to the hair shaft instead of perpendicular to the surface of the skin, therefore lengthening the actual depth of the incision. To overcome this problem, we developed a simple and inexpensive scoring method using a modified 18 gauge needle.

Below is a description of this method:

1. First determine the proper depth. After marking the donor area to harvest, a 1mm punch is used to extract a 2- to 3-hair follicular unit from the donor area. The graft is examined carefully under loupe magnification and the depth of dermis (whitish part rich in collagen) is measured. Because the extracted follicular unit follows the direction of the hair shaft, it provides an accurate measure of the depth of incision necessary to cut through the dermis.

This step, however, eventually became unnecessary in our practice because our clinic treats almost exclusively patients of

Chinese decent. After measuring the distance from the epidermis to the dermal papilla and the thickness of dermis in the direction of hair follicles on more than 10 patients, we found the follicles to be consistently 6mm in males and 5mm in females, and the dermis to be 4mm in males and 3 mm in females.

2. Based on the measured result in step 1, bend the tip of an 18 gauge needle to the necessary depth. The bent angle is approximately 30 degrees. (Figure 1.)



Figure 1. The tip of an 18G needle is bent at a determined depth.

3. Push the tip of the bent needle into the scalp and slightly tilt it toward the direction of the scoring; the needle tip's sharp edge can now be used to trace around the marked donor area. Once complete, the appropriate area is scored to the right depth and a Haber donor spreader can be used to dissect the donor area without fear of laceration.

We have scored using this method on over 100 patients and have enjoyed great success. A sample strip is shown in Figure 2.

Some advantages of our method include:

- Accurately controlled depth and angle for scoring
- Flexibility in the shape of donor area
- Convenience of an 18G needle
- Minimal risk of damaging large nerves or vessels ✧



Figure 2. An isolated donor strip with virtually no transection at the edge.



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