Although at the time the term “follicular unit transplantation” (FUT) was not yet in common use, FUT, as such, essentially began with Bobby Limmer who introduced graft dissection using stereoscopic microscopes around 1987.

It is impossible to accurately predict the extent and area of future hair loss in every patient. The best we can offer is an educated guess based on family history, the patient’s age, and the current extent of hair loss. Those considered poor candidates are usually obvious, but if there are any doubts about whether any particular patient is or is not a suitable surgical candidate, then it is best to delay surgery. Prescribe finasteride and follow them for at least 12 to 18 months to see how well they respond to medical therapy.

How large an area we can cover and the density achievable is dependent entirely on the available donor hair supply. Available donor supply is, again, dependent on donor density and scalp laxity. For example, in patients with good to excellent density and a loose scalp, where it is possible to harvest 4500+ grafts from the first surgery, there is a very good chance that during the course of two procedures we will have moved roughly 6000+ grafts and that this will provide fairly good coverage for most patients with Norwood class VI baldness. Patients with average density and tight scalps are always worrisome because in these individuals we may not get more than 3500 grafts in total over two surgeries. These patients may not be good candidates unless the recipient area is smaller and the patient is unlikely to have extensive hair loss in the future.

The key words in ultra-refined follicular unit transplantation are precision and attention to detail because, regardless of the technique employed, sloppy work will always produce substandard results. In this text, I outline, step by step, the routines that we use at our clinic and the thought processes behind some of the things we do. There are very few references in these chapters as most of the materials presented here have been developed by and are based on the work done at Hasson and Wong.

In this chapter, we start by discussing hairline design. I label hairlines using the distance from the mid-brow to the center of the hairline, and most of our hairlines range from 6.5 to 8 cm. A 7-cm hairline works well in the majority of patients, and
this is where most of my hairlines are placed. Younger males will often push for a lower hairline. A lower (6.5-cm) hairline may be used if these conditions are met:

1. The current hair loss is not extensive (Norwood class III at most).
2. There is excellent donor hair and laxity.
3. There is no family history of extensive hair loss.

Anything lower than 6.5 cm is too low because people with hairlines this low usually have minimal hair loss and multiple passes may be required to build up sufficient density to recreate a hairline this low. Strong temple points are required to balance a low hairline and, as hair loss continues, further transplants are required, not only for the top but also for the temples. Even if hair supply is not an issue, it is really difficult to make a 6-cm hairline look natural. Because of its coarseness, donor hair looks best at 7 cm or higher. We may place it at 6.5 cm and it may still look alright, but when placed at 6 cm it seems just too coarse and looks out of place.

People with a low (6-cm) residual frontal tuft can be a challenge. With very few exceptions, it is a mistake to design a 6-cm hairline to incorporate the entire tuft. It is far better to design a 7-cm hairline starting behind the tuft. If, after the transplant grows out and the tuft returns and looks a little odd, it can be shaved back or the hair can be removed with a laser. When designing the top hairline we have to remember the hairline consists of the top and temples. The top line has to balance with the temples to achieve a balanced natural look. If the temples are receded and temple work is not indicated because of insufficient donor hair, then a higher hairline, with an upslope, will create balance. A lower, flat hairline will look top heavy (Fig. 1).

The routine I use to draw the hairline is quite simple.

1. Measure and mark a short horizontal line 7 cm above the mid-brow level.
2. Mark a point on this line dividing the face in equal left and right halves. This can be done quickly and easily by holding the marking pen over the nose and bisecting the face into equal halves.
3. From this midpoint draw the top hairline laterally, keeping it on a horizontal plane or a slight upslope when viewed from the front.

Fig. 1. Patient showing marking for upslope, flat, and downslope hairline design