How I Do It

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The use of tumescence during the creation of recipient sites is a common technique among ISHRS surgeons practicing state-of-the-art hair transplant surgery. It is interesting to consider the different ingredients and concentrations added to tumescent solution that vary from surgeon to surgeon as well. Below, Dr. Jerry Wong describes his approach to the use of tumescence in his practice. In his description, notice how simple and subtle variations in technique can enhance the operating field by improving visualization and protecting the vascular bed.

Variable Tumescence

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We use recipient site tumescence to serve two functions: 1) expansion of the subcutaneous space to increase the separation of the skin surface from the underlying blood vessels, and 2) vasoconstrict the blood vessels in the skin to decrease bleeding while making recipient sites. If the skin bleeds too much, it is difficult to see and cut the slits. What is even worse is when there is too much vasoconstriction and the skin does not bleed at all; it then becomes almost impossible to see.

The ideal situation is when the skin bleeds just the right amount to see the slits but not enough to be a problem. Oftentimes, it is not possible to maintain ideal bleeding when using the same concentration of epinephrine throughout the entire surgery. Some people like to inject tumescence, wait for the vasoconstriction, and then cut slits. I prefer to cut as soon as possible after injecting while the skin is still puffed up because this is when there is maximal separation between the skin surface and the underlying vessels. Thus, when we first start cutting recipient slits, the skin usually bleeds more. The bleeding will slow as we continue to work. As we continue to inject and cut, there will be a point when the bleeding becomes just right (Figure 1). That is when there is enough bleeding to see the cuts but not enough to be a problem. At this point, if we continue with the same epinephrine concentration, we run the risk of too much vasoconstriction and total blanching of the skin. However, if we start reducing the epinephrine concentration, we can maintain this ideal bleeding condition for cutting sites. It is important to note that the subcutaneous space is only 4-8mm below the skin surface and a common mistake is injecting too deep.

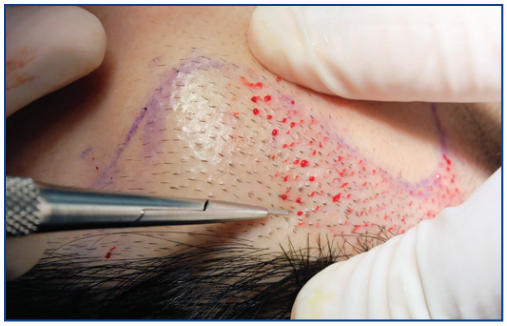

Figure 1. Example of ideal tumescence and hemostasis

A simple way to vary the mixture is to have 2 bowls—one containing the epinephrine solution and the other saline. We can then draw varying amounts of epinephrine solution and saline into the injection syringe to vary the mixture. We can instantly tailor the mixture to our needs.

During mega-session cases, if the crown is the last to be covered very little epinephrine is required. Start the crown with saline only as this may be all that is needed for tumescence. I have found this technique has speeded up site preparation as we can now cut the entire recipient site under ideal conditions. The starting concentration of epinephrine we use is from 1:500,000 to 1:1,000,000.◆