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## Journal

THE NEWS LETTER OF THE EUROPEAN SOCIETY OF HAIR RESTORATION SURGERY

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WINTER 2004 - VOLUME 4

### ESHRS® Journal

ESHRS Journal published each semester,  
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46, avenue Foch 75116 Paris France.  
Printed in France.

ESHRS' Administrator : Alain de Neufville

# The Ziering Tunnel Technique : A New Technique for Reducing Donor Closure Tension in Hair Transplant Surgery

Dr. Craig Ziering, Dr. Rick Lin, Dr. James Calder  
(USA)

Today's hair transplant surgeon is faced with many challenges. One of the biggest challenges a hair transplant surgeon faces today is the management of previously harvested donor sites.<sup>1-3</sup> When patients have had multiple procedures, the management of the previous donor site becomes difficult due to extensive scarring, previous open donor (punch) excisions, and poor elasticity.

Many well-known techniques exist for assisting the surgeon in closing a wound that doesn't approximate easily. Traditional undermining and debulking are helpful but have their limitations in scalp surgery. Deep plane fixation as well as the more invasive tissue expansion, skin grafts and flaps are useful, but these procedures come with higher complication rate.<sup>4</sup> For this surgical challenge, we propose a simpler solution called the Ziering Tunnel

Technique. This technique is easy to perform and has been utilized successfully in over three hundred patients.

The technique involves the use of Steven's tenotomy scissors and the development of small tunnels along the inferior and superior incision lines. The tunnels should measure 0.5 - 2.0 cm in depth and be oriented parallel to the galeal plane and perpendicular to the incision lines. The number of tunnels should

vary according to the length of the incision and should be 2-3 cm apart along the inferior margin and 4-6 cm apart along the superior margin.

The incisional margin should be penetrated at a 90 degree angle (to the incision line) and the instrument advanced with as little tissue trauma as possible. Dissection is targeted to the subgaleal space between the pericranium and the galea aponeurotica or the subcutaneous fat layer beneath the level of the hair



Figure 1

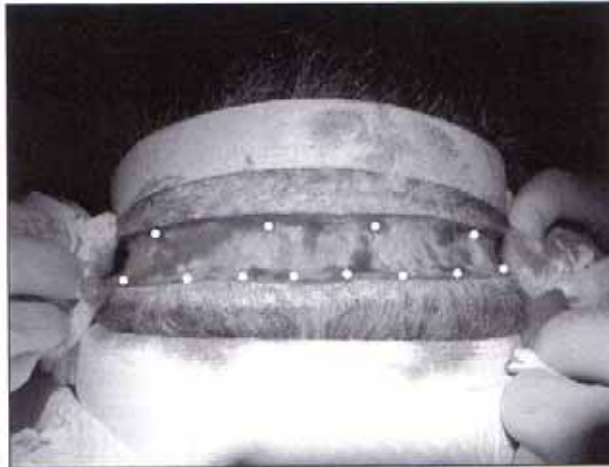


Figure 3



Figure 4



Figure 6

follicle in anatomic settings where the galea is absent (inferior to the occipitalis muscle).

After the desired depth of 0.5 - 2.0 cm has been achieved, the dissection scissors should be opened slowly such that the tips of the scissors separate approximately 1 cm. Close the scissors and slowly withdraw the scissors. A tunnel is thereby created with a conical shape that is less than 2 cm in width at its base and tapers to a point at its inception.

The resultant disruption of the dermal tissues facilitates tissue motion through the proposed mechanism of mechanical creep. This achieves good tissue approximation akin to that achieved with intra-operative tissue expansion techniques (e.g. tissue expanders or skin stretching devices) but without the attendant effort or degree of tissue trauma. The two wound edges can now be approximated effortlessly. ZTT is a technique that can be

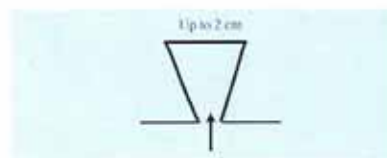


Figure 5

utilized to alleviate the challenge of the difficult donor closure. This technique is effective and simple to perform. We feel that this technique should be added to every hair transplant surgeons' armamentarium for the management of difficult donor site closures.

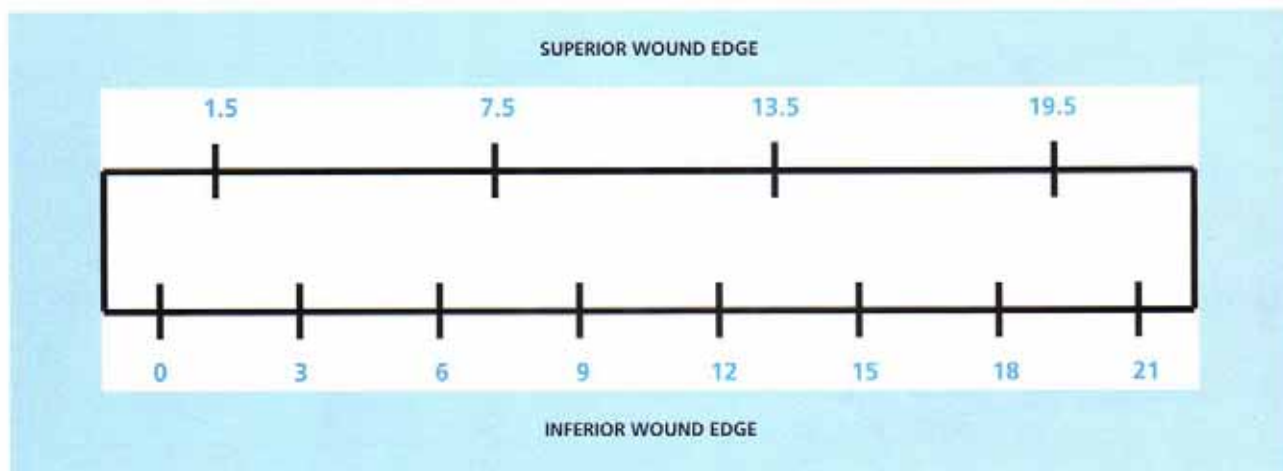


Figure 2 : Proper placement of the tunneling site