**Autologous Wound Closure**

The goal of caring for any wound is wound closure. The gold standard is to close the wound with autologous tissue, the tissue from the same individual harboring the wound. For chronic wounds, historically the autologous wound closure was in the form of split-thickness skin grafts containing both epidermis and dermis. To obtain such closure most often required a trip to the operating room and a painful donor site. Xpansion® micro-autografting has provided a technique to close the wound in the Wound Clinic with a split-thickness skin graft while minimizing the size of the donor site by allowing expansion of the graft up to 1:100.

**Micro-autografting Technique**

Normal human skin consists of epidermis and dermis. The combination prevents shearing off of the epidermis from a healed wound because of the rete pegs holding the epidermis to the dermis. Xpansion micro-autografts consist of both epidermis and dermis. Meek’s theory of expansion: Each segment of skin will allow epidermis to migrate from its edges in all directions. By creating micro-autograft segments, migration can occur in multiples allowing greater and greater expansion of a given size of skin graft. A patented, hand-powered, pre-calibrated dermatome is used to harvest a moderately thick split-thickness skin graft (0.012-0.016 in.). A patented mincer is used to mince the graft in two different directions to produce micro-autografts that can then be placed onto the wound with the included spatula. Histology of biopsies of healing micro-autografts have demonstrated that initial orientation of the grafts does not affect the eventual closure.

**Successful Wound Bed Prep**

The key to success in any skin grafting procedure is proper wound bed preparation. All necrotic tissue must be removed from the wound. Debris, slough, bacteria, and deleterious cytokines also need to be removed. Irrigation and soaking the wound with Vashe® Wound Therapy Solution softens and helps to further debride the wound. Application of Drawtex® Hydroconductive Dressing will draw off the remaining deterrents to healing and leave the wound bed prepared to accept the micro-autografts.

**Case Study Results**

Example of prepared wound (left) and after application of micro-autografts (right). Micro-autografts covered with nonadherent perforated dressing (left) and 8 days post-grafting (right). Six-week follow-up of micro-autografted wound (left) and donor site (right). Five-month long-term follow-up of micro-autografted wound (left) and donor site (right).

**Protocol**

1. Wound bed preparation
   - Key to success.
   - Necrotic, nonviable tissue, debris, and slough must be removed.
   - No active bleeding.
   - Tissue bacteria level must be minimized, ideally 10^5 or fewer bacteria per gram of tissue.

2. Surgical technique
   - Donor site must have hair removed, be surgically prepped, and anesthetized.
   - Graft is harvested with dermatome using a sawing motion.
   - Dermatome should only be advanced in a sawing motion perpendicular to the direction of the harvest.
   - Graft is minced in both directions after adding saline.
   - Minced graft is transferred and evenly spread on recipient wound with spatula.

3. Postoperative care
   - Nonadherent perforated dressing can be used (e.g., bridal veil or Mepitel®) as contact layer.
   - Secure nonadherent dressing to wound with Steri-Strips®.
   - Maintain a moist environment (e.g., hydrogel or moisture-holding dressing).
   - Splint or immobilize if in mobile area.
   - Outer dressing can be changed at 5-7 days leaving contact layer intact.
   - Vashe irrigation and/or soak can be used at dressing changes.
   - Contact dressing can be gently teased off graft at 10-14 days using saline irrigation to prevent any dressing adherence.
Why Use Xpansion Micro-autografting Kit?

- Autologous wound closure is the gold standard.
- Epidermis and dermis provide the most durable closure.
- Minimal donor site required.
- Procedure can be performed in Wound Clinic under local anesthesia.
- The micro-autograft can be expanded up to 100 times the size of the donor site.
- Orientation of the micro-autografts does not matter.

Ordering Information

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<th>Product</th>
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<th>Price</th>
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<td>Xpansion micro-autografting kit</td>
<td>00319</td>
<td>1-4 Kits $639.00 Per Kit</td>
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<td>5-9 Kits $589.00 Per Kit</td>
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References:

CAUTION: Federal law restricts this device to sale by or on the order of a physician.

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Fort Worth, TX 76107
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