

## **OTA Tip-of-the-Month – February 2012**

### **How We Apply Negative Pressure Wound Therapy**

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#### **Wound Management:**

When applying a negative pressure wound therapy dressing, we will typically remove all components from the bag and place them on the Mayo stand for convenience. The sponge should be cut to fit the wound. We press the sponge against the wound, using the wound exudates/blood as a template for cutting the sponge to the appropriate size. After trimming, the sponge is applied and held in place with a single staple at each corner, to stabilize it during application of the adherent dressing. We prefer to apply this in smaller strips, to minimize creases that can occur when the entire membrane is applied at once over an uneven surface. The strips should be applied first to the non-dependent area of the wound (i.e. “dry”), with the last strip applied, as described below, to the dependent portion of the wound ( i.e. “wet”), to minimize wound exudates, blood, etc. between the skin-dressing interface, which can prevent a good negative pressure seal.

We apply the suction tube connecting pad (e.g. T.R.A.C.®) and hook it up to suction before applying the last strip of dressing to the dependent portion of the wound. Next, the suction is turned on and the adherent semi-occlusive membrane is placed over the dependent portion of the wound, after it is dried and an immediate seal is gained. If there is a leak, the additional strips of the semi-occlusive membrane can then be applied. In less complex and smaller wounds, the semi-occlusive membrane can be placed in one sheet over the sponge. In this scenario, a hole slightly larger than the size of the connecting pad opening is cut in the dressing and the pad is applied over the hole, and connected to suction (125mmHg). We often use the continuous setting to avoid patient discomfort with intermittent suction. We do not typically use a nonadherent dressing, such as Adaptic® (Johnson & Johnson), when using NPWT on an open wound; however, we do use a non-adherent dressing when using NPWT over a split thickness skin graft (STSG). When using NPWT for wound management, the duration of the dressing is dictated by the wound and is typically left in place for 2 to 5 days before removal or repeat wound debridement and placement of a new negative pressure dressing.

#### **Split Thickness Skin Grafting**

When placing a NPWT dressing over a STSG site, we will apply a single sheet of Adaptic to the wound to provide a barrier between the STSG and the sponge to prevent graft ingrowth into the sponge and subsequent removal of the graft with removal of the sponge. When using NPWT for STSGs we typically use 75mmHg continuous suction and we will leave the dressing in place for 5-7 days prior to removal at the bedside or in clinic.

(Extra Credit Tip from Bill Obrebsky: “A helpful trick for STSGs is to use Hibiclens® instead of mineral oil to keep skin slippery when using the dermatome. Works great - Try it you’ll like it!”)

#### **Surgical Incision**

When using a standard NPWT dressing over a surgical incision, we prefer to line the incision, just lateral to the suture or staples, with thin strips of the adhesive membrane, and narrow strip of sponge (1-2 cm wide) is then cut to the length of the incision. A single staple is placed at each end of the sponge to hold it in place. The semi-occlusive membrane is then applied, followed by the suction pad, ensuring that the sponge beneath the pad is slightly wider than its opening. We typically use 75mmHg to 125mmHg continuous suction for surgical incisions.