

***Topical negative pressure therapy for
wound complications following VEPTR
surgery***

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Wound breakdown in VEPTR

- **Causes**
 - **Dehiscence**
 - **Erosion of implants**
 - **Wound infection**
 - **Chronic illness**
- **Result**
 - **Exposed implants**
 - **Threat of implant loss**

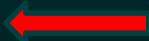
Optimal treatment of open wounds in VEPTR patients

- Objectives
 - Convenient to parents and patient
 - Adequate pain control
 - Maximal salvage of implants
 - Cost-effective
 - Minimal hospitalization cost

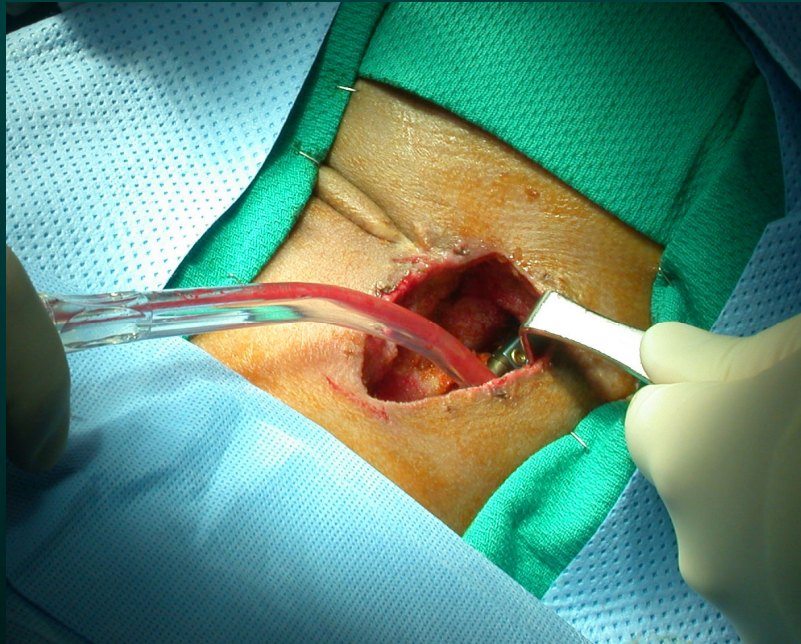
Optimal treatment of open wounds in VEPTR patients

- Debridement
- Antibiotics
- Wound care
 - Immediate closure
 - Delayed primary closure
 - Secondary closure
 - Implant removal
 - Last resort

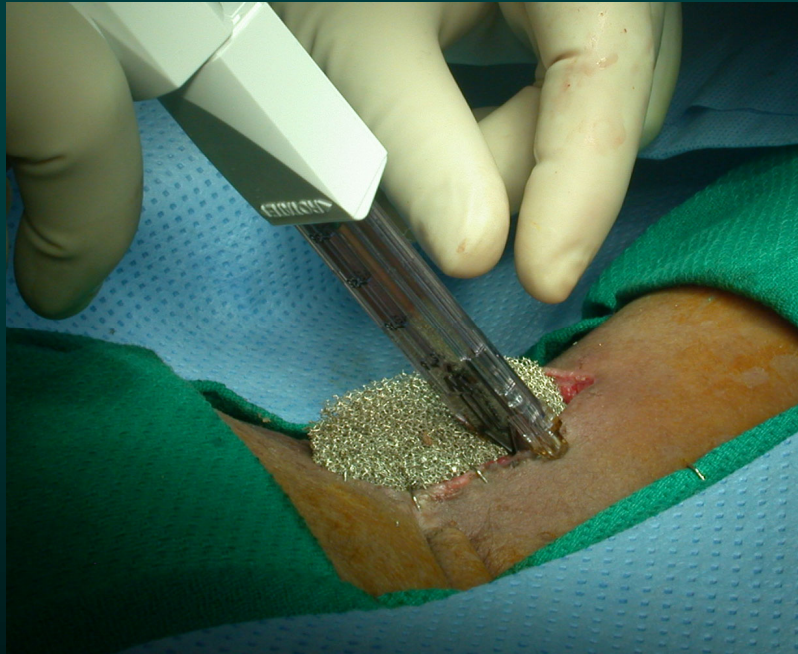
Primary indication for
negative pressure
therapy



Negative pressure therapy



Negative pressure therapy



Negative pressure therapy



Advantages of negative pressure therapy

- Closed wound
- Home care
- Optimal wound environment
- Painless
- Does it detract from implant salvage?

Negative pressure therapy

- **14 Patients**
 - 7 Boys, 7 girls
 - Mean age 69 (12-104) months
 - 5 had Negative pressure therapy twice
 - Average follow-up 21 months
 - Average duration of negative pressure treatment = 14.5 days

Negative pressure therapy

- **Etiology**
 - **Dehiscence 2**
 - **Deep wound infection 17**
- **Bacteria**
 - **MSSA 6**
 - **MRSA 4**
 - **Other 4**

Results

- *Healing Mode*
 - *Secondary intention- 11 Patients*
 - *Delayed primary healing– 6*
 - *Combination – 2*

Results - Implant salvage

- **Single application**
 - **9 Patients**
 - **6 Implant removals**
- **Two applications**
 - **5 Patients**
 - **4 Implant removals**
- **Total**
 - **14 Patients**
 - **10 Implant removals = 70.2%**

Reimplantations

- **10 Removals**
 - **5 Reimplantations attempted**
 - **Average time to reimplantation 7 months**
 - **5 Reimplantations not attempted**
 - **Poor soft tissue usual cause**
 - **2 had no loss of of previously gained correction**
 - **3 lost correction**
 - **3/19 Applications = 15%**

Discussion

- **Emans (2005)**
 - 3 Infections
 - 1 Removed; 1 reimplanted, 1 toxic shock syndrome
- **Song (2007)**
 - 3/7 removed
- **J Smith (SRS 2009)**
 - 19 infections / 16 patients
 - 13 superficial, 6 deep
 - IV antibiotics 58 days (10-150 days)/ orals 34 days (2-126 days)
 - 2 Failed after oral antibiotics alone

Our series

- **High incidence of initial deep infections**
 - Our initial selection process eliminates many with poor soft tissue coverage
 - Used for more difficult infections
- **Advantages of this treatment method are vast**
 - Salvage rate is not as high as in other series
 - Is consistent with long term salvage rate for deep infections at this hospital

Removal of implants is not the end of the world

- Other implants remain
- Reimplantation is often possible
- Success in overall management is the rule despite infection and implant removal