

Optimal wound care for difficult wounds - Do VAC's Suck??

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What is a “Difficult” Wound







“Difficult” wounds

- Chronic
ulcers & long term dehiscent wounds
- Wound complications
significant loss of tissue
- Non healing wounds
underlying pathology or infection

Treatment options

- Surgical debridement
- Grafting - skin and vascular interventions
- Variety of dressings through healing stages
as well as
- Nutritional support
- Prolonged hospitalisation



Is that cost effective ?





Necrotising fasciitis



Open Abdominal Wound - Day 5



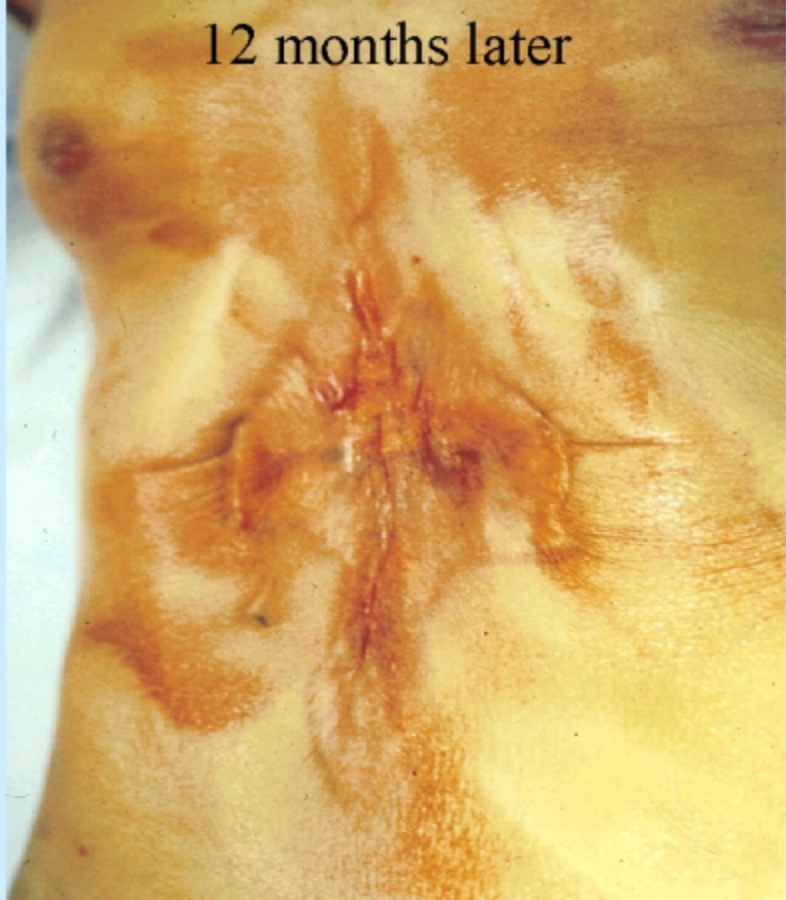
6 months later



9 months later



12 months later



Optimal wound healing - choice of dressing should meet the following requirements

- create moist wound environment
- control exudate levels
- allow gaseous exchange
- provide a constant wound interface temperature
- protect the wound from pathogens, trauma and particulate matter

V.A.C.[®] ATS

VACUUM ASSISTED CLOSURE[™]



Vacuum Assisted Closure

Sub atmospheric pressure technique

- an open cell foam is placed into the wound
- the site is sealed with an adhesive drape
- a controlled sub atmospheric pressure of up to 125mmHg is applied which can be increased to 175mmHg - intermittently or continuously

*This pressure applies a controlled force
uniformly to all tissues on the inner surface
of the wound.*

And in doing so

Assists with:

- drainage of wound exudate
- removal of infectious material or other fluid from the wound
- flap adherence to the wound base

And

- Decreases chronic oedema which leads to increased localised blood flow
- Enhances formation of granulation tissue
- Increases healing time

Cost effective ??



Louis.C.Argenta and Michael J. Morykwas
“Vacuum-Assisted Closure: A New Method for Wound Control and
Treatment:Clinical Experience”
in Annals of Plastic Surgery, vol. 38, No. 6, June 1997, pgs 563 -576

Study in 300 patients: 175 chronic wounds
 94 sub acute wounds
 31 acute wounds

“as an adjunct to surgical procedures”

- increases patient comfort
- decreases patient morbidity
- decreases cost
- decreases length of stay in hospital

S.H. Wu, P.J Zecha et al
*“Vacuum therapy as an intermediate phase in wound closure:
a clinical experience”*
in European Journal of Plastic Surgery,
Vol.23, 2000, pgs 174-177.

Study in 26 patients: 8 acute
 7 sub acute
 11 chronic

- VAC used in the intermediate phase in wound closure
- Criteria - bacterial load score of 1 or less (range was 0-4)

Results: Median suction time 17 days (range 6-55)
 Median hospital length of stay 49 days (range 9-92)

**“ VAC accelerated wound closuremost difficult part of the
therapy is determining whether a wound is suitable
for closure or not”**

Other studies show similar results

Michael Morykwas, Louis Argenta et al

“Vacuum-assisted Closure: A new method for wound closure and treatment: Animal studies and basic foundation”

in Annals of Plastic Surgery, Vol.38, No.6, June 1997

D. Evans and L.Land

“Topical negative pressure for treating chronic wounds: a systematic review”

in British Journal of Plastic Surgery, Vol. 54, No 3, pgs 238-242

Auckland Hospital experience of using the VAC system



Financial cost

- **Cost of day's care in Auckland Hospital**

\$940.00

- *plus dressings*
- *plus the cost of the VAC*
- *hidden cost of nursing time*

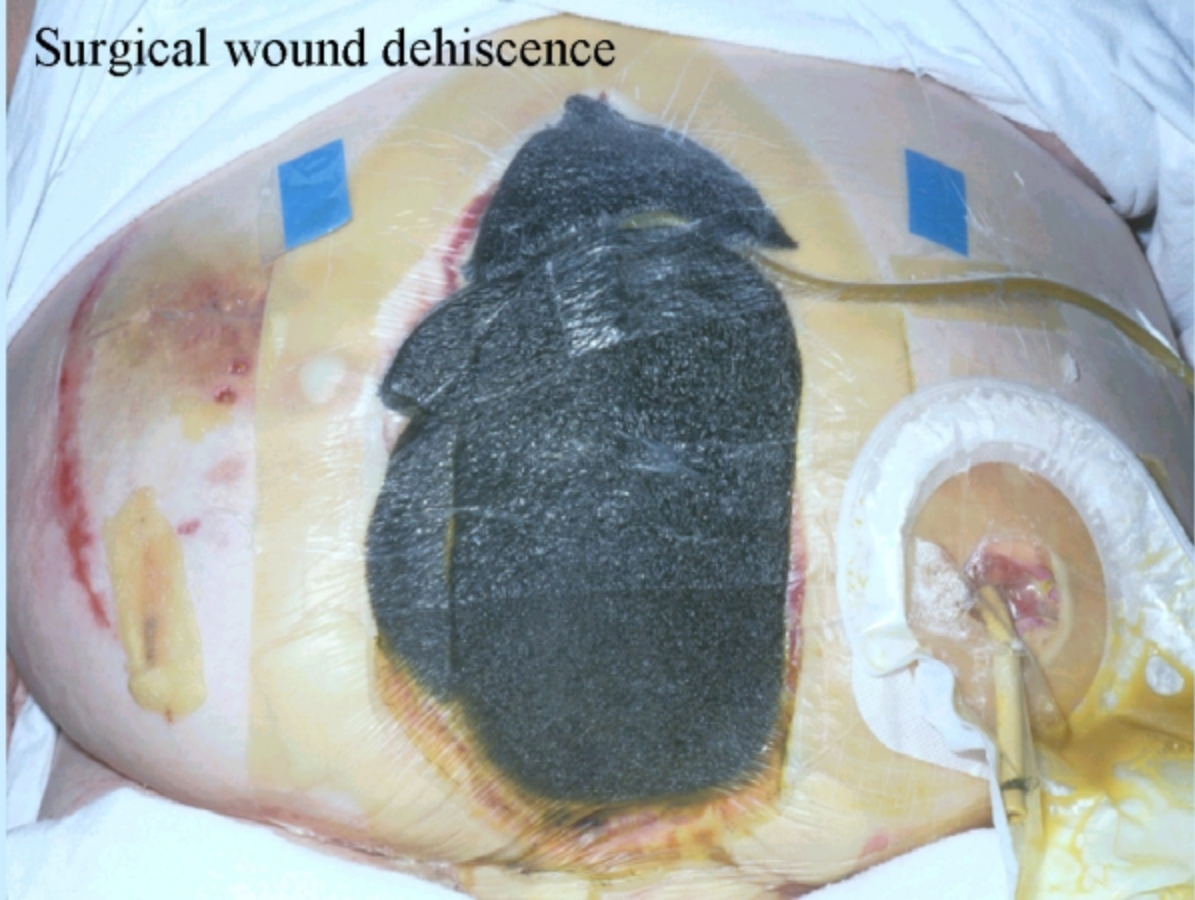
- **Cost of VAC (Feb.2002)**

- Consumables are \$200-250/day
- Vacuum device rented at \$70/day
- 24 hour service included in rental

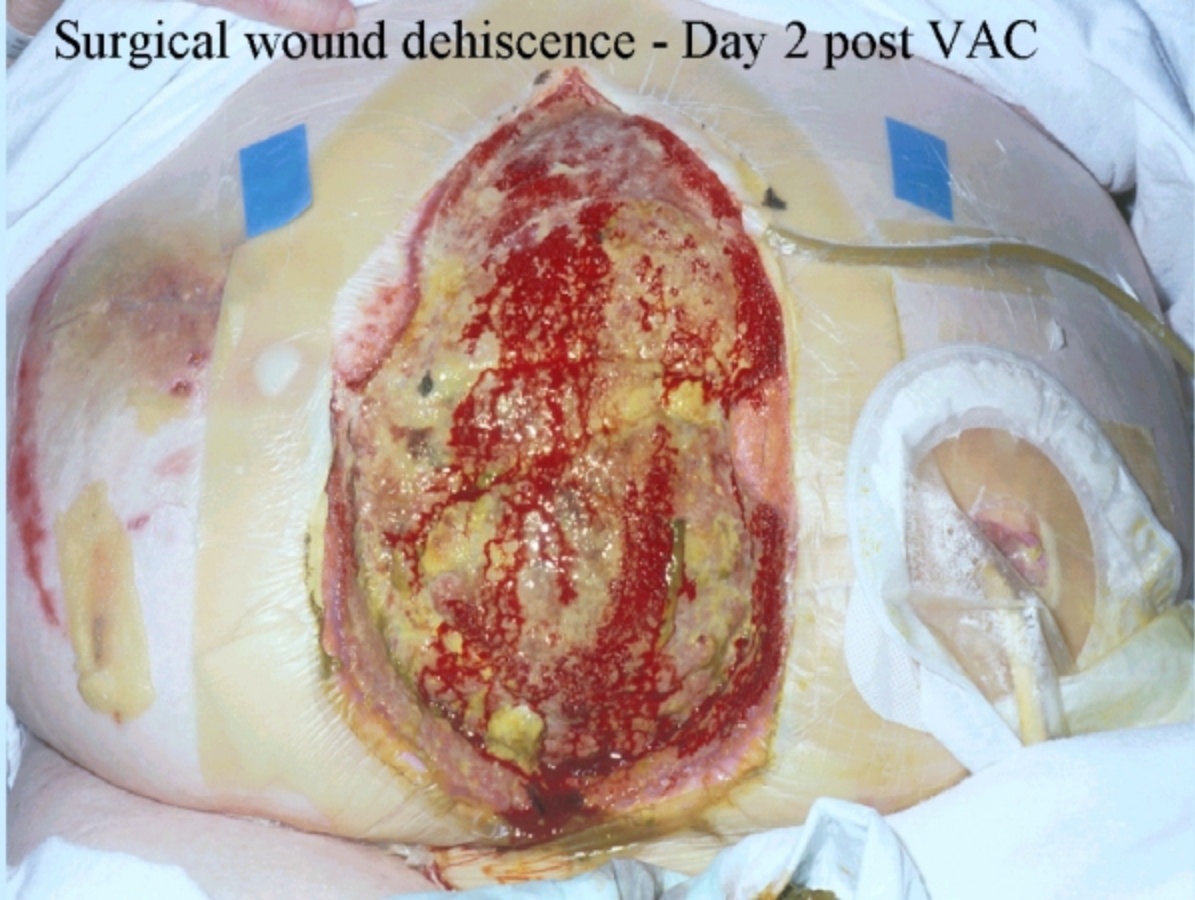




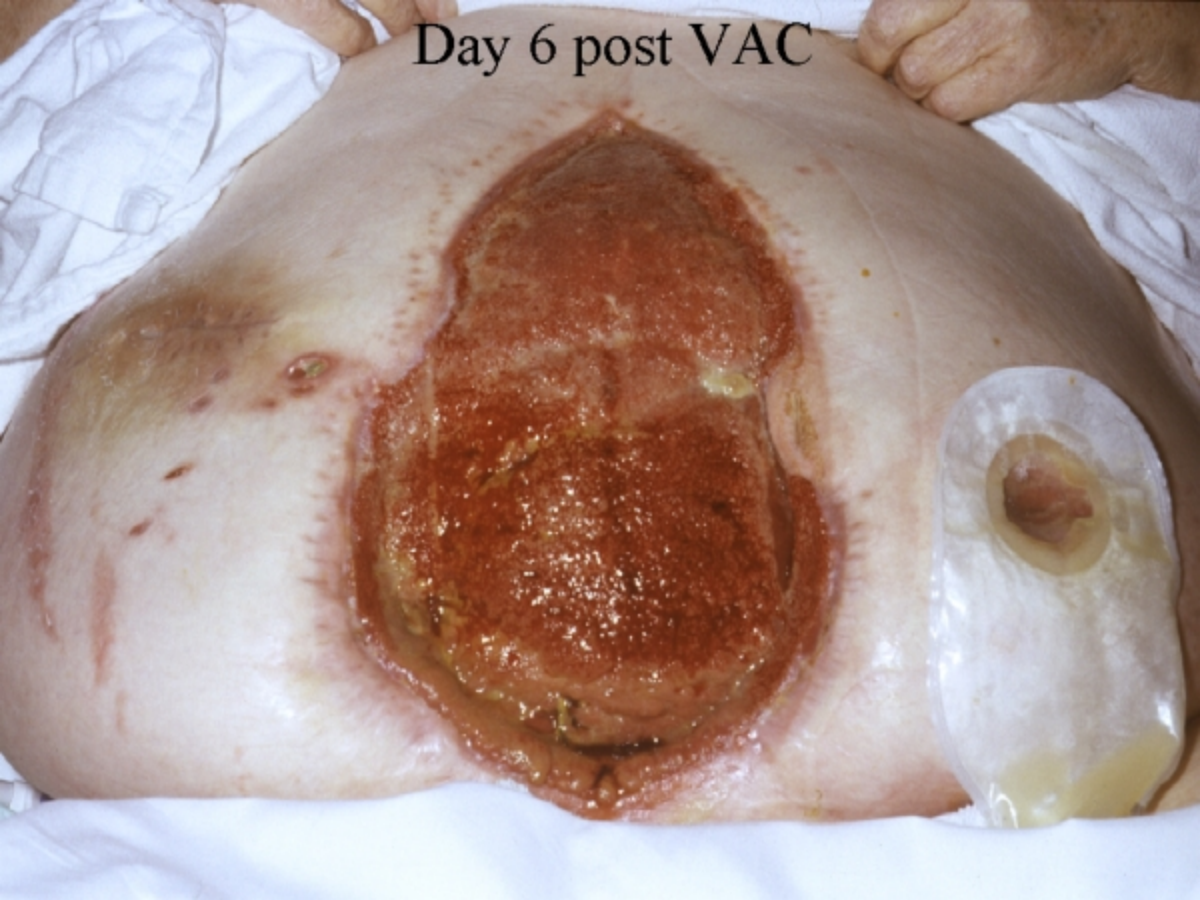
Surgical wound dehiscence



Surgical wound dehiscence - Day 2 post VAC



Day 6 post VAC



Skin grafting

- preparing wound bed prior to graft
- post grafting ensures the graft adheres to wound bed
- reduced the length of stay considerably
- decreased scarring
- cost effective in reduced dressing changes/
nursing time /pain medication requirements

What the VAC dressing doesn't do



Contraindications

- Malignancy in the wound
- Untreated osteomyelitis
- Fistulas to organs for body
- Necrotic tissue with eschar present
- Exposed arteries or veins


Precautions

- Patients with active bleeding
- Patients on anticoagulants
- Difficult wound haemostasis
- Blood vessels should be adequately protected with overlying fascia, tissue or other protective barriers.

Tip for new players

DO NOT attach the VAC system to the hospital wall suction unless you can guarantee the amount of suction will remain steady





Pancreatic fistula



Summary

When used in selected wounds as an adjunct to surgery in either the preoperative or intermediary phase of healing,

The VAC system has been shown in clinical studies on wound care to significantly

- Reduce wound healing time
- Decrease pain medication requirements
- Decrease length of stay in hospital





With acknowledgement to

