

Basics of Wound Care

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NO DISCLOSURES

Wound Care: The Basics

- Why do wounds heal?
- What stops them from healing?
- When approached in a systematic manner, the vast majority of wounds can be healed

Example: Diabetic Foot Wound



Diabetic Foot Wound



Diabetic Foot Wound



Diabetic Foot Wound



What Stops a Wound from Healing?

- Presence of necrotic tissue
- Infection
- Wound geometry
- Inadequate arterial perfusion
- Inadequate venous return
- Host factors
 - Diabetes
 - Malnutrition
 - Malignancy
 - Rheumatologic disease

How to heal a wound

- Address the wound as a reflection of underlying host processes (ie, treat the patient and the wound, not just the wound)

Question

- True or false: with good local wound care, and control of patient comorbidities, even complex wounds can heal

History

- How did the wound occur?
- How long has it been present? Have there been wounds there before?
- What therapy has the patient been using?
- Is there pain, unusual drainage?
- Underlying medical problems: esp
 - Diabetes, smoking, malnutrition, malignancy

Physical

- Wound characteristics:
 - Size, shape, geometry
 - Drainage, erythema, smell
 - Presence of necrotic tissue
- Arterial perfusion, venous return
 - For a leg wound to heal, I want palpable pulses and no edema

Treatment

- Cleanse the wound
 - Gloves, warm water with Hibiclens, wound cleanser, clean 4x4 gauze
 - Remove any gross contamination, dirt
- Assess the wound
 - Grossly infected? (pus, erythema, foul drainage, crepittance)
 - Necrotic tissue?
 - Extensive?
 - Unusually painful?

Treatment

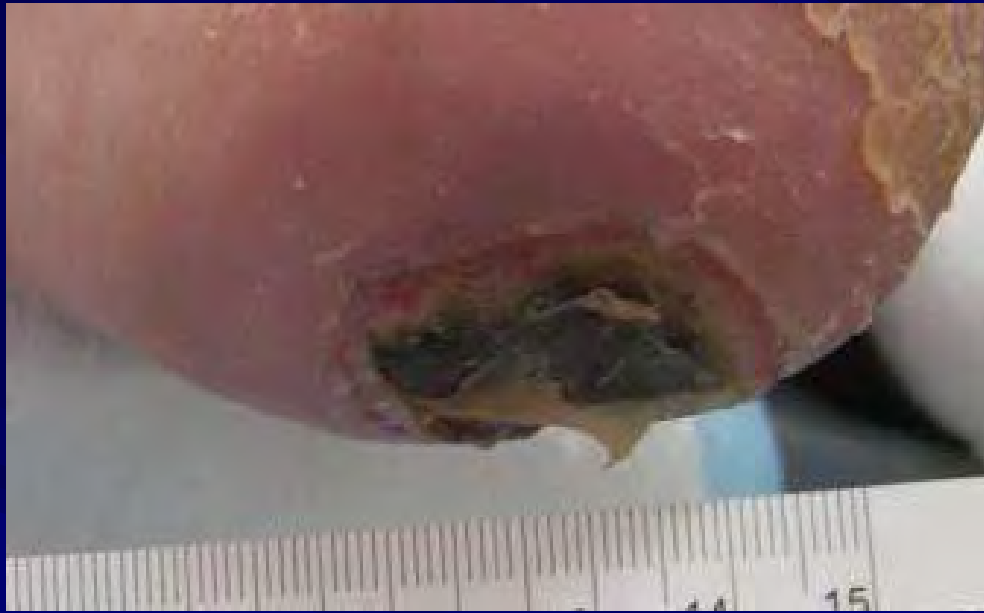
■ Should I debride the wound?

- Need scalpel, forceps, topical lidocaine, good lighting, nursing assistance, ability to stop bleeding

■ Don't debride:

- Marginally viable tissue, if vascular supply is unknown
- Stable dry heel eschar







Treatment

$$Infection = \frac{dose \times virulence}{host\ resistance}$$

- Should I culture the wound?
 - Every wound is colonized with bacteria
 - Wound cultures are important if you believe the wound is infected
 - Clinical signs of wound infection:
 - Erythema, warmth, foul drainage, tenderness of surrounding tissue, fever
- My practice:
 - I do not routinely culture wounds
 - I culture wounds that either
 - Look clinically infected
 - Are clean but not healing as I would expect

Treatment

- Antibiotics do not reach the dead tissue in the wound
- I usually start with ciprofloxacin or levofloxacin, then tailor based on culture results
- Compression is required for effective treatment of cellulitic, edematous leg

Inadequate Compression



Dress the Wound

- Ideal wound is clean, acute, well vascularized, with good moisture balance



Dress the Wound

- Ideal dressing maintains moisture balance
- Comfortable for the patient
- Easy to apply and remove
- Cheap

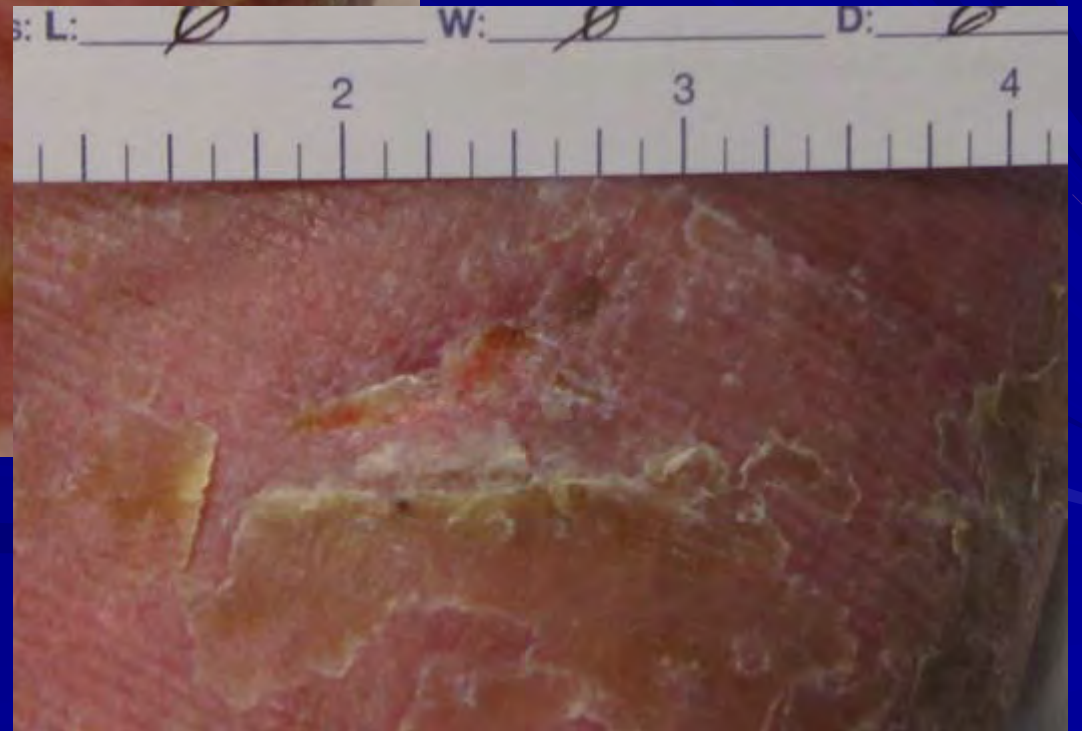
Pick a Dressing – venous stasis wounds

- Venous stasis wounds:
 - Heal with compression
 - Often drain significant amounts of edema
- I typically use an absorbent, nonadherent foam dressing, often with silver
 - Mepilex Ag
- Multiple options for compression:
 - Short stretch bandages
 - Unna's boot
 - Compression stockings
 - Velcro devices

Venous stasis wounds

- The dressing needs to accommodate the wound and the patient's lifestyle
 - Needs to shower daily? Needs a system they can change at home
 - Significant edema? Heavy drainage? May need to return to clinic in 2-3 days for dressing change

Venous stasis wounds





Venous stasis ulcer; note presence of necrotic tissue, cellulitis



Same ulcer after debridement,
antibiotics, compression

Question

- True or False: Compression is not needed for an edematous leg with a weeping venous stasis ulcer

Options for Compression





Compression systems

- Insurance coverage: document “venous insufficiency” and “venous stasis ulcer”

Foam Dressings

 **Mepilex®**



SafetaC
TECHNOLOGY



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Foam Dressings

- Foam dressings may be cut into smaller pieces
- Expensive: Mepilex Ag foam is about \$15 per 4" piece
- Insurance coverage hint: Write a prescription for the patient; document "moderate to heavy drainage."
- May need to use Polymem instead of Mepilex

Unna's Boot

- Medicated paste bandage; can be left in place for one week
- Low cost; low reimbursement
- May cause significant dermatitis
- Works by providing inelastic compression
- Good for patient who has light to moderate drainage, can go significant time without getting the bandage wet

Adhesives

- Lots of options for keeping the dressing on the patient: “paper” tape (Micropore), “plastic” tape (Transpore), Band-aids, Tegaderm
- Older patients often have delicate skin; repeated adhesive removal may cause further trauma, and is painful
- Consider nonadhesive options

Nonadhesive Dressing Fixation

- Coban: cohesive, not adhesive. Sticks to itself.
- Stockinettes, tubigrip: excellent for extremities, digits



Tubigrip

Venous Stasis Ulcers

- Heal by compression
- Care of the wound:
 - Debridement
 - Cleansing
 - OK to shower
 - Gentle, absorbent dressing
 - Mepilex foam
 - Xeroform/4x4/Coban
- Care of the periwound skin: moisturizers
- Weight loss

Traumatic Wounds: cuts and scrapes

- Assess the wound
 - Depth, structures involved
 - Hemostasis
 - Devitalized or necrotic tissue
 - Foreign body presence
 - Infection

Cuts and Scrapes

- Again, dressing should be easy for the patient to use and maintain an optimal wound healing environment
- Bacitracin, telfa, Coban may be a good, gentle option. Long term use of bacitracin is highly associated with contact dermatitis. Consider alginate gels, ie SafeGel
- Foams are often useful as well, but expensive

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STEP 1



Cover

STEP 2



Secure

STEP 3

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Actual Product Size on Side Panel

4 PADS
1.96 IN x 2.95 IN (49 mm x 74 mm)





Diabetic Foot Ulcers

- Multiple factors contribute:
 - Diabetic neuropathy
 - Biomechanical alteration of the foot
 - Impaired wound healing
 - Peripheral arterial disease
- High associated morbidity
 - Diabetics: #1 group of amputees
 - 50% survival at 5 years, following amputation

To sum up...

- Most wounds can be healed
- Optimize:
 - Remove necrotic tissue
 - Address arterial inflow and venous congestion
 - Host factors are important: diabetes, nutrition, smoking
 - There is no perfect dressing, but some are better than others



Ct# 874

DOB: 01/3

*** Appointment
Appt: 03/08/12 10:00 AM
Prov: LIND, BENJAM Dept: Wou
Loc: WCRGH





Thank you!