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
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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, crepitance)
- 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
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
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), Bandaids, 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
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
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
Thank you!