

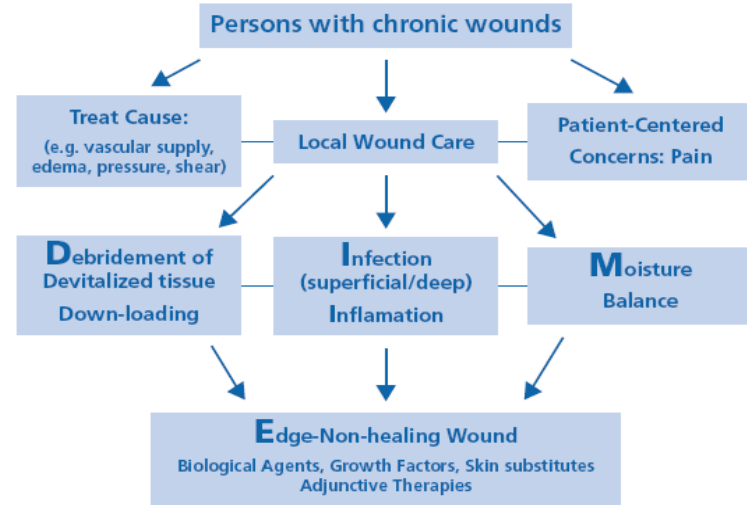
What's new in wound management??

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Wound Bed Preparation Paradigm



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Medical therapies

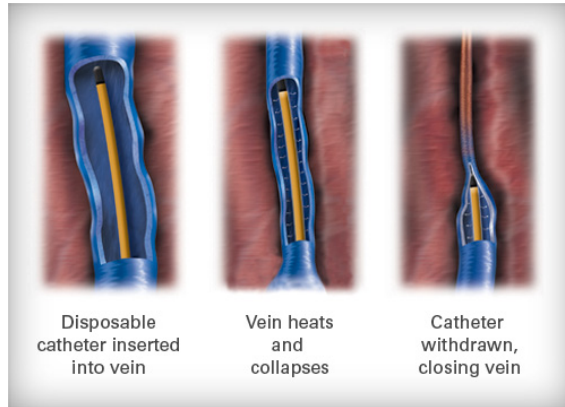
- Pentoxifylline
- Zinc sulphate
- Horse chestnuts (Escin)
- Anticoagulation
- Hydroxythylrutoside (HER) semisynthetic flavonoids
- Diuretics?
- Daflon
- Cilostazol (vasodilator)
- Sulodexide (LMWH + dermatansulfate)
- Topical nitroglycerine
- NSAIDs
- Prostacyclin analogues



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Surgical intervention

- Vein ligation/ stripping
- Radiofrequency ablation (RFA)
- Endovenous laser therapy (EVLT)
- Foam sclerotherapy



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Evidence for compression

- >21 RCT
- Compression better than no compression
- High compression better than low compression
- *Use high compression system best suited to the patient, provider and health care system (modified)*
- *NO difference between short stretch and long stretch*
- *Multi-component is not better*

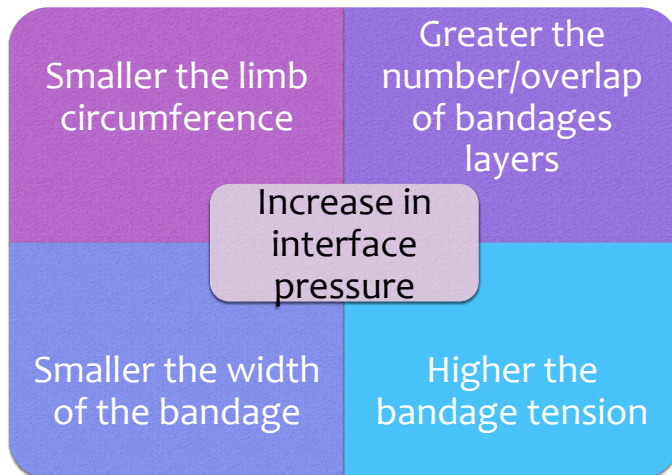


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Laplace's Law-

The interaction of factors that affect the pressure produced by a compression therapy system



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Diagnostic criteria to determine vascular supply for healing

Assessment methods	Comments
ABPI >0.5	sensitivity = 90%; specificity = 95%
Transcutaneous oxygen tension > 30 mmHg	sensitivity = 77% (increases to 100% post exercise); specificity = 83%
Toe pressure >55 mmHg	sensitivity = 8%, the specificity = 96%, the positive predictive value 12%, and the negative predictive value = 94%.
Skin perfusion pressure SPP of 40 mm Hg	sensitivity= 72%; specificity= 88%

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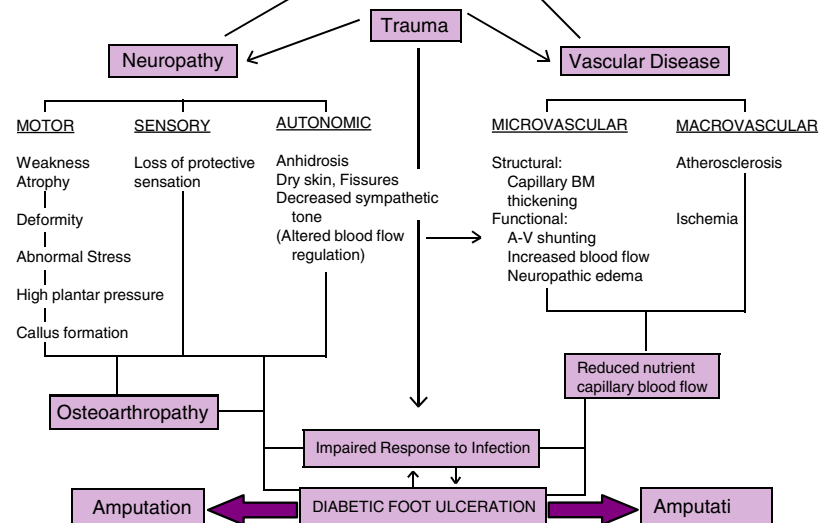
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Foot ulcers (diabetes)



- 2–3% PWD develop a foot ulcer/ year
- 25% lifetime risk of developing a foot ulcer
- cost of diabetic foot ulcers (not requiring amputation): US\$993 to US\$17 519 (1998)
- Foot ulcers precede 84 percent of all nontraumatic lower limb amputations in PWD
- Diabetic associated lower-extremity ulcers are responsible for 92,000 amputations annually

Diabetes Mellitus



Ingrown nails

- pincer nail (overcurvature of the nail plate that may be genetic with an adult onset), subcutaneous ingrown toenail, and hypertrophy of the lateral nail fold.



Nail care

correctly trimmed toenail



Your nail edge should grow past the flesh of your toe. Cut your nails straight across and don't cut too low at the edges.

incorrectly trimmed toenail



Cutting your nails too short and into a curved shape can make your nail more likely to grow into your skin.

How to trim your toenails correctly

DFU prevention



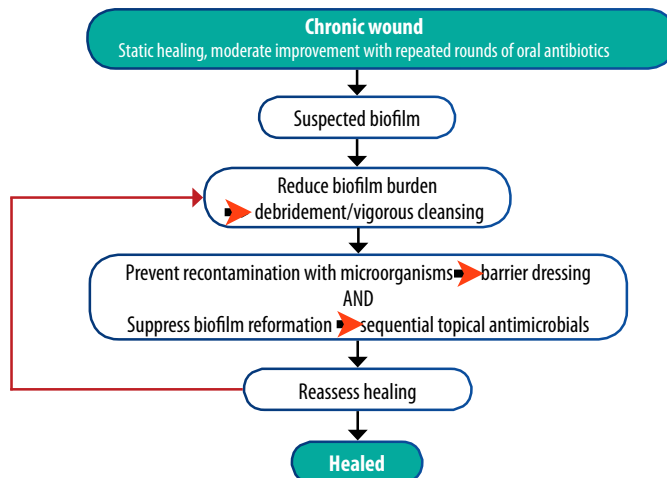
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Transitional Approach to Tissue Protection

Deep open wound	Shallow wound	Newly closed wound	Closed wound x 2-4 Weeks
<ul style="list-style-type: none"> Total Contact Cast (TCC)  	<ul style="list-style-type: none"> Removable Cast Walkers Felted Foam  	<ul style="list-style-type: none"> Carville Healing Sandal Diabetic Healing Shoe  	<ul style="list-style-type: none"> Depth Shoe with Rocker Sole  

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Practical approach to biofilm management



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Silver

Benefits	Limitations/cautions
<ul style="list-style-type: none"> *Variety of forms and vehicles available to optimize moist healing environment (gel, cream, powder, foam, alginate, hydrofiber, collagen, and fabric/cloth) *Minimal systemic absorption (ionic silver dressings) *Ionized silver (Ag^+) has potent antimicrobial property *Ag^0 has anti-inflammatory property 	<ul style="list-style-type: none"> *Ionization requires aqueous environment *Not appropriate for wounds that do not produce exudate *Tissue staining and formation of pseudoeschar (with silver sulfadiazine and silver nitrate) *Indications of cytotoxic effect on host cells, specifically fibroblasts and keratinocytes *Electrolyte leaching with topical silver nitrate (for use on burns) *Can develop <i>argyria</i> from long-term use (permanent blue or grayish discoloration of the skin) *May cause burning and pain (Dressings with high silver concentration)

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Honey

Benefits	Limitations/cautions
<ul style="list-style-type: none"> ● Good debriding agent for stubborn fibrin ● May reduce inflammation and wound pain ● May help neutralize odor ● Contains antioxidants 	<ul style="list-style-type: none"> ● Effects may not always be the same due to varying honey composition and method of production ● Increase in wound drainage due to osmotic effect ● Decreased effectiveness with high volume of exudate (diluting effect) ● Increased time to soften some dressing materials ● Not appropriate for dry necrotic wounds

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Iodine

Benefits	Limitations/cautions
<ul style="list-style-type: none"> *Available as a solution that can be used to paint on wounds *Cadexomer iodine is hydromorphous (can both absorb and donate moisture) *PVP-I and polyethene glycol dressing is not likely to adhere to wound base *Small molecules allow penetration into biofilms 	<ul style="list-style-type: none"> *Thyroid function should be monitored related to increased serum iodine levels, especially for prolonged use, large vascular wounds and patients with uncontrolled thyroid disease *Sensitivity *Cadexomer iodine can harden when dried up *Use with caution in inflammatory type wounds (iodine is pro-inflammatory)

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PHMB

Benefits	Limitations/cautions
<ul style="list-style-type: none"> *PHMB molecule has multiple binding sites *Low risk with respect to tissue toxicity and contact sensitization (not released into wound bed) *Structurally similar to naturally occurring antimicrobial peptides (AMPs) *Available as dressings (foam, packing strips/ropes, rolls) and cleansing solutions *High tensile strength material for packing *Can be combined with antiseptics such as povidone iodine 	<ul style="list-style-type: none"> *Certain gauze format is loosely woven and it may adhere to wound base and/or leave behind gauze fragments *Gauze format has limited absorptive capacity *Certain dressings do not donate PHMB to wound surface and they are less effective at dispersing antimicrobial action beyond the wound bed to the periwound.

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