Table 6. Abridged Wound Healing Society Guidelines for Nonhealing Wounds

TYPE OF WOUND	GUIDELINE	PRINCIPLE	EVIDENCE LEVEL*
All extremity wounds	Gross arterial disease must be ruled out.	Venous, DFU, and pressure ulcers can exist in the presence of arterial insufficiency.	I
All extremity wounds	Patients with rest pain or gangrene should be referred to a vascular surgeon.	Wounds in patients that have these characteristics may progress rapidly and require amputation if not treated.	I
All extremity wounds	Wounds that do not demonstrate any response to treatment after 6 weeks should be biopsied.	Malignancies, vasculitis, collagen-vascular diseases may present as non-healing wounds.	III
Pressure Venous DFU	For wounds with greater than 10^6 colony forming units/gram of bacteria, topical antibiotics should be used to decrease the bacterial load.	Bacterial infections impair wound healing. Systemic antibiotics do not effectively decrease the wound bacterial load whereas topical may be effective.	I
Pressure Venous DFU	Debride necrotic tissue.	Necrotic tissue is a nidus for infection and source of further inflammation thereby impairing wound healing.	I
Pressure Venous DFU	Maintain adequate tissue perfusion and oxygenation.	Adequate tissue perfusion/oxygenation is required for wound healing.	I
Pressure Venous DFU	Achieve local moisture balance by management of exudates.	Local moisture balance is needed to facilitate granulation and reepitheliazation of the wound. Too much exudate may impair the wound healing process.	I
Pressure Venous DFU	Treat distant infections.	Blood borne infections may seed wound site.	II
Pressure Venous DFU	Nutrition assessment should be done for all patients at risk for developing non-healing wounds.	Adequate nutrition is needed for wound healing.	II
Pressure Venous DFU	For infections not confined to the wound, systemic antibiotics are effective.	Once an infection has spread outside the wound antibiotics are needed.	II
Pressure Venous DFU	Wounds should be cleansed at each dressing change with a neutral, non-irritating, non-toxic solution.	Irrigation and cleansing removes loose impediments to wound healing.	II
Pressure Venous DFU	Choose a dressing that will remain in place and minimize, shear friction, skin irritation, and pressure.	Additional tissue damage may occur with an improper dressing choice or placement.	II
Pressure Venous DFU	Radical procedures, such as amputation, should be avoided whenever possible.	Amputation, hemipelvectomy have significant morbidity and mortality and do not address the underlying problem.	II

Key: DFU = Diabetic foot ulcer

(*continued*)

Table 6. Abridged Wound Healing Society Guidelines for Nonhealing Wounds (continued)

TYPE OF WOUND	GUIDELINE	PRINCIPLE	EVIDENCE LEVEL*
Pressure Venous DFU	Give vitamin and mineral supplementation if deficiencies are suspected.	Wound healing is impaired in some vitamin deficiencies.	III
Pressure Venous DFU	Consider negative pressure therapy for Stage III or IV wounds that fail conventional therapy.	Increases wound perfusion, formation of granulation tissue, and decreases bacterial load.	Pressure I DFU I Venous II
Pressure	Use pressure reducing surface for all patients at risk for developing a pressure ulcer.	Pressure reducing devices reduce incidence of pressure ulcers by 60%.	I
Pressure	A wound should be closed surgically if it does not respond to wound care.	Wound closure decreases protein loss, fluid loss, prevents wound infections.	II
Pressure	Establish repositioning schedule.	Prolonged pressure over bony prominences leads to ulcer formation.	II
Pressure	Maintain the head of the bed at the lowest possible level.	Elevation of the head of the bed produces shear forces as well as friction between the skin and the bed.	II
Venous	The use of high compression system is indicated for treatment of all venous ulcers.	Venous hypertension causes edema which is decreased by compression.	I
Venous	Skin grafting without attention to the underlying venous disease is contraindicated.	Closing the wound does not address the underlying etiology of the wound and is therefore prone to recurrent wound formation.	I
Venous	Pentoxifylline used in conjunction with a compression system improves healing.	Improvement to the microcirculation of the extremity should aid the healing process.	I
DFU	Recombinant PDGF is effective in treating DFU.	PDGF improves wound healing.	I
DFU	HBO may reduce amputation rate.	HBO increases the amount of oxygen delivered to the wound and may improve wound healing.	I
DFU	Acceptable methods for offloading pressure include: crutches, wheelchair, walker, protective footwear, and total contact casts.	Relieving pressure maximizes the healing probability	I
DFU	Protective footwear should be prescribed for any patient at risk for a DFU.	The incidence of DFU may be decreased by using protective footwear.	II
DFU	Good foot care and daily inspection will reduce the occurrence of DFU.	Good foot care will decrease the risk of wound formation and inspection will catch the wound at an early stage.	II
DFU	Optimizing glucose control improves wound healing.	Abnormal glucose levels impair wound healing and increase probability of an infection.	III

Key: DFU = Diabetic foot ulcer; PDGF = platelet derived growth factor; HBO = hyperbaric oxygen

* Level I: At least two randomized clinical trials (RCT) support the intervention or guideline. Level II: Less than level I, but at least one RCT and expert opinion supporting the intervention or guideline. Level III: Suggestive data, but lacking RCT or clinical series.