

Wound Management Manual

TABLE OF CONTENTS

Wound Management 101	1
Review Of The Healing Process	2
Wound Glossary.....	3
Pressure Ulcers.....	4
Diabetes And Wound Care	6
Venous And Arterial Signs And Symptoms	7
Nutritional Aspects Of Wound Healing.....	9
Refining Your Assessment Skills	12
Guidelines To Test Or Not To Test! (Need Physician Orders)	14
Debridement And Considerations	15
Wound Care Protocols	17
Pressure Ulcer Protocol.....	18
Venous Leg Ulcer Protocol.....	20
Diabetic Ulcer Protocol.....	22
Arterial Leg Ulcer Protocol	24
Burn Protocol.....	26
All Other Chronic Or Open Wounds	28
Documentation Requirements For Evaluation And Treatment	29
General Goals For Wound Healing For Documentation And Reimbursement	30

Addendum	31
Wound Management Policies	32
Wound Evaluations	33
Measurements Of Wound And Girth.....	35
Wound Assessment Per Visit.....	37
Monthly Recertification Documentation	38
Sterile Technique	39
Clean Technique	40
: Application Of Bandages	41
Dry To Dry Dressings	42
Wet To Dry Dressings	43
Wet To Moist Dressings	44
Transparent Film Dressings	45
Hydrocolloid Dressings	47
Hydrogel Dressings	49
Alginate / Hydrofiber Dressings	50
Wound Packing.....	52
Pulsatile Lavage With Suction.....	54
Whirlpool Treatments	56
Sharps Debridement.....	58
Wound Culture Collection	60
Electrical Stimulation For Wounds.....	61
: Ankle Brachial Index	63
Rubor Of Dependency	65
Venous Filling Time	66

Compression Bandages	67
Silver Nitrate	69
Diabetic Visual Integumentary Screen	71
Diabetic Muscular Screen	73
Diabetic Neurological Screen	74
Wound Management.....	76
Your Skin	77
Signs And Symptoms Of Infection	78
Proper Eating For Wound Healing	79
Protecting Skin From Injury	82
Pressure Ulcers.....	85
Venous Insufficiency	86
Protecting Your Skin And Feet.....	87
Foot Care.....	89
Peripheral Vascular Disease Or Pvd.....	91
Skin Care And Scar Management.....	93
Wound Management.....	94
Admitting Patient Questionnaire.....	95
Questionnaire For Patients With Diabetes.....	97
Questionnaire For Patients With Diabetes	97
Admitting Wound Care Orders	98
Patient Agreement.....	99
Consent To Photograph.....	100
Wound Evaluation Form 1	101

Wound Evaluation Form 2	107
Wound Evaluation Form 3	113
Wound Evaluation Form 4	119
Daily Wound Flowsheet	125
Monthly Plan Of Care Wound Update.....	126
Patient Progress Report.....	128
Wound Management.....	129
Bibliographic References	137
Test Processing Instructions	138
Continuing Education Test	139
Program Evaluation	143

WoundManagement 101

Use these next 15 pages to get a general overview of necessary information to assist with wound management and improve your outcomes.

REVIEW OF THE HEALING PROCESS

LAYERS OF SKIN

1. Epidermis – most superficial layer that is avascular and consists of five layers of stratified epithelium; provides protection
2. Dermis – underlying layer which makes up the bulk of the skin; consists of two layers
 - Papillary layer – loose collagenous and elastin fibers; contain free endings, Meisner's and Pacinian corpuscles
 - Reticular layer – dense collagenous fibersBlood vessels, nerves, lymph vessels, hair follicles, and sweat glands are embedded in the dermis.

TISSUE REPAIR

Inflammatory Phase

- Presents with erythema, edema, and warm temperature
- Vasodilation from histamine response allowing increased blood flow to area causing erythema and warm temperature
- Accumulation of white blood cells (neutrophils) sometimes creating exudate causing edema – neutrophils are phagocytic, fight bacteria and enhance antibiotic function
- Macrophages collect and clean the area; necessary to move to the next stage – stimulate fibroblast activity for proliferative phase

Proliferative Phase

- Macrophages and growth factors attract fibroblasts to migrate to area and release collagen known as fibroplasia
- Endothelial cells from vessels of surrounding tissue migrate to supply nutrients; known as endothelial budding
- Granulation tissue forms out of a gel-like matrix of collagen, hyaluronic acid and fibronectin; beefy red in color ideally
- Reepithelialization occurs when a sheet of epidermal cells migrate across the wound bed therefore resurfacing it

Maturation Phase

- Contraction of the wound bed by myofibroblasts
- Epidermal cell migration
- Decreased vascularity
- Tensile strength of collagen increases but will not exceed 70-80% of original skin
- Collagen aligns to applied stress; **DON'T IGNORE RANGE OF MOTION DURING HEALING**

WOUND GLOSSARY

Definitions

- Autolytic – natural degradation of devitalized tissues with enzymes or moisture
- Colonization – presence of large numbers of replicating bacteria with or without a host response that does not impede healing
- Contamination – presence of non-replicating bacteria that does not impede healing
- Cross-hatching – Sharps debridement in perpendicular movement to loosen eschar to allow penetration of moist wound dressing
- Debridement – removal of nonviable tissue
- Demarcation – distinct, defined area of ischemic tissues that has hardened or mummified
- Denuded – loss of epidermis, superficial abrasion
- Desiccation – Drying out of a wound bed or structure in wound bed
- Edema - swelling
- Epiboly – rolled edges due to reattachment of skin to itself
- Epithelialization – new skin over healed wound
- Erythema - redness
- Eschar – thick, dry non-viable tissue
- Exudate – drainage or pus from an open wound
- Granulation tissue – viable tissue growth in an open wound with good vascular supply
- Hemosiderin – stained tissue or skin resulting from leakage of blood and fluid into interstitial spaces of tissue over time with excessive edema
- Hypergranulation tissue – granulation tissue that has exceeded skin level
- Hyperkeratosis – excessive callus tissue
- Induration – hardness at wound edges indicating further involvement or infection
- Infection – defined as 10^4 or 10^5 organisms per gram of tissue causing a systemic response in host
- Intermittent Claudication – pain in calves or posterior lower legs when walking after short distances due to poor circulation or arterial insufficiency
- Maceration – excess moisture at wound edges or periwound; may appear as white peeling tissue
- Necrosis – nonviable tissue
- Periwound – skin around open wound
- Purulent – thick drainage or exudate from open wound indicating infection
- Sanguinous – bloody drainage from an open wound
- Serous – watery drainage; varies in color but typically clear or yellow
- Serosanguineous – watery drainage with a bloody tint
- Sinus Tracts – non-visible area of wound extending into or out from wound that is narrow; has an entry but no exit point
- Slough – moist non-viable tissue
- Tunneling – non-visible area of wound extending into or out from wound that is narrow and connects to another wound; has an entry and exit point
- Undermining – non-visible area of wound extending under periwound

PRESSURE ULCERS

Pressure Ulcer Stages – AHRQ (formerly AHCP) guidelines

- Stage 1 – An observable pressure related alteration of intact skin whose indicators as compared to an adjacent or opposite area on the body may include changes in one or more of the following: skin temperature (warmth or coolness), tissue consistency (firm or boggy feel), and/or sensation (pain, itching).
- Stage 2 – Partial thickness skin loss involving epidermis and/or dermis. The ulcer is superficial and presents as a blister, abrasion, denuded area, etc.
- Stage 3 – Full thickness skin loss involving damage or necrosis of subcutaneous tissue which may extend down to but not through underlying fascia. The ulcer presents as a deep crater with or without undermining of adjacent tissue.
- Stage 4 – full thickness skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone or supporting structures
- Unstageable – wound bed covered with necrosis and unable to identify extent of injury

DO NOT STAGE A WOUND COVERED WITH ESCHAR OR BLISTER AND NEVER BACKSTAGE A HEALING WOUND.

- **“Unable to identify extent of injury secondary to eschar therefore unable to stage.”**
- **“Wound is a healing Stage 4 with 100% granulation tissue to skin level.”**

Extrinsic Factors

- Pressure – a perpendicular force
- Friction – a parallel force
- Shear – combination of friction and pressure
- Trauma
- Treatment choices

Intrinsic Factors

- Advanced age
- Anemia
- Chemotherapy or Radiation Rx
- Circulatory impairment
- Dehydration

- Immobilization
- Incontinence
- Infection
- Medications
- Moisture
- Nutritional deficiencies
- Psychological factors
- Sensory loss
- Stress
- Temperature changes
- Smoking - #1 deterrent in wound healing
- Obesity
- Diabetes
- Unconsciousness

Prevention is the KEY!

- Turning the patient every two hours at least
- Positioning
- Wheelchair pressure relief
- Cleaning the skin
- Specialty beds and mattresses / cushions
- Nutrition
- Patient and/or caregiver education
- Moisture control
- Daily inspections

Goals of Support Surfaces

1. Minimizes pressure under bony prominences
2. Controls the pressure gradient in the tissue
3. Provides stability for performing functional activities
4. Allows independent or assisted weight shifts
5. Allows transfers
6. Controls the temperature at the tissue interface
7. Controls the moisture at the skin surface
8. Lightweight
9. Low cost
10. Durable
11. Minimizes deformities