

Wound Care in Corrections



Objectives

- ▶ Provide a better understanding of wound care
- ▶ Will learn assessment basics
- ▶ Understanding different types of wounds
- ▶ Understanding up to date techniques for appropriate wound care treatments
- ▶ Legal Aspects of wound care in our setting

What is a Wound

- ▶ A wound is damage to the integrity of biological tissue, including skin, mucous membranes, and organ tissues caused by a physical means
 - ▶ Acute: Heals in days to up to 2 months uncomplicated and orderly healing
 - ▶ Chronic: Prolonged or lengthy healing process that fails to progress through a normal sequence of repair-take 6 months to years to heal.

Acute Wound Examples



Chronic Wound Examples



Wound Care Needs in Corrections



Trends Noticed in Corrections Related to Wound Care

- ▶ Increase in wounds
- ▶ Increase in costs for wound care
- ▶ Increased hospitalizations related to wound care and infection
- ▶ Utilization of treatment methods that are Substandard
- ▶ Lack of knowledge related to wound care treatments



Standards of Care



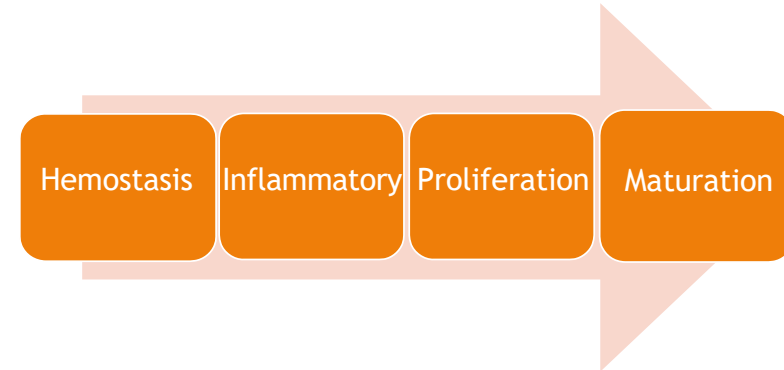
Risk Identification

- ▶ Malnutrition
- ▶ Dehydration
- ▶ Impaired Mobility
- ▶ Weakness/Debilitation
- ▶ Chronic Diseases
- ▶ Sensory Impairment &/or Paralysis
- ▶ Poor tissue perfusion and oxygenation
- ▶ Altered Mental Status
- ▶ Infection
- ▶ Incontinence
- ▶ Obesity
- ▶ Poor Hygiene
- ▶ Advanced Age/Condition
- ▶ Steroid Use
- ▶ Current Skin Impairment, excessive wound drainage

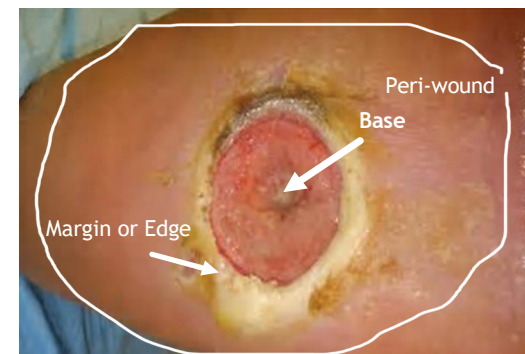
Assessment

- ▶ Look at the patient
- ▶ Review the chart for medical problems/chronic conditions-comorbidities
- ▶ Medications that may interfere with treatment and healing
- ▶ Review history-how long has the wound been there, what has been used to treat, where has the patient received care previously
- ▶ What is the patient willing to do to help treat the wound-this will aid in treatment decisions and outcomes and will help to educate the patient

Healing Phases



Assessment

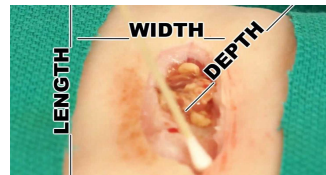


Wound Assessment

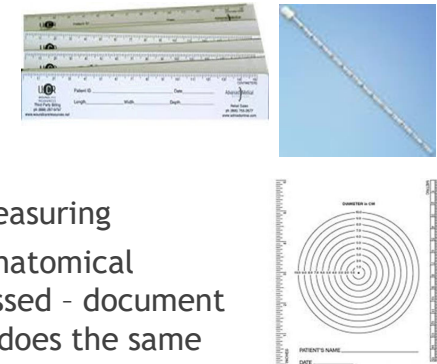
- ▶ Location of Wound
 - ▶ Document specific location Use medical terms to describe location



- ▶ Size of wound



Measurement Tips



- ▶ Adequate lighting
- ▶ Clean wound prior to measuring
- ▶ Place patient in same anatomical position each time assessed - document position so next person does the same
- ▶ Purpose - To track and measure the progression of healing from week to week
- ▶ Measure wound as it lays at rest without lifting
- ▶ Consistency is the key for measurements to be useful
- ▶ Do not measure with every dressing change -why?

Assessment

- ▶ Undermining
- ▶ Tunneling



Wound Bed Color and Significance

- ▶ Red - Nothing Red is Dead
- ▶ Pale Pink - poor blood flow
- ▶ Purple - Trauma, engorgement, high bacteria levels
- ▶ Brown - Necrotic
- ▶ Yellow - Necrotic
- ▶ Gray - Necrotic
- ▶ Green - Necrotic
- ▶ Tan - Necrotic
- ▶ White - Maceration

Tissue characteristics seen in wounds

Epithelial Tissue



Granulation Tissue

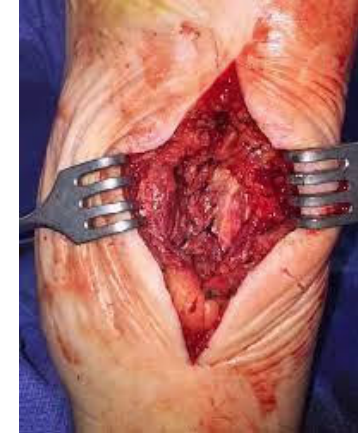


Tissue Characteristics seen In wounds

Hypergranulation



Muscle



Tissue characteristics seen in wounds

Necrotic-Eschar



Necrotic-Slough



Tissue Characteristics seen In wounds

Tendon



Fascia

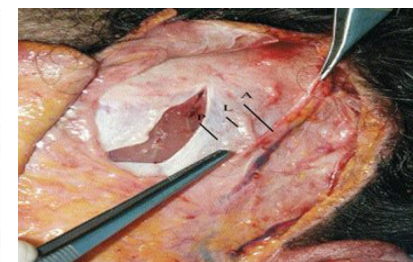


Figure 2 - First application of Aloe vera and collagen-based dressing (June 12, 2006)

Tissue Characteristics seen In wounds

Bone



Wound Margins

- ▶ Defined or undefined
- ▶ Attached or unattached
- ▶ Undermining
- ▶ Fibrotic, Firm, Hyper-keratotic
- ▶ Macerated
- ▶ Epibole
- ▶ Approximated
- ▶ Dehised
- ▶ Necrotic
- ▶ Calloused
- ▶ Scarring

Examples of Wound Margins

▶ Margins



Periwound

- ▶ Color
- ▶ Edema
- ▶ Brawny Edema- Hemosiderin staining
- ▶ Induration
- ▶ Fluctuance
- ▶ Crepitus
- ▶ Texture
- ▶ Maceration
- ▶ Temperature
- ▶ Integrity
- ▶ Weeping
- ▶ Scarring
- ▶ Callous
- ▶ Ecchymosis
- ▶ Denuded
- ▶ Excoriated
- ▶ Papule, Pustule, Lesion

Periwound Examples

Denuded



Macerated



Excoriated



Lesions



Ecchymosis



Hemosiderin Staining



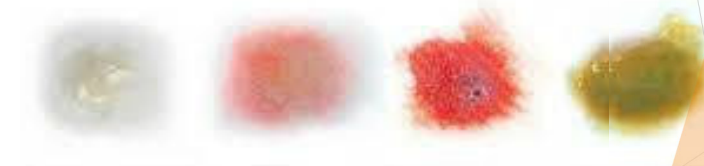
Exudate color

- ▶ Clear/Amber
- ▶ Cloudy/Milky
- ▶ Pink/Red
- ▶ Green
- ▶ Yellow/Brown
- ▶ Gray/Blue



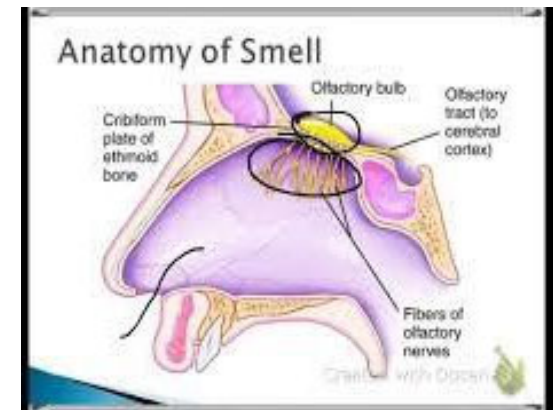
Exudate Assessment

Know Your
Exudate



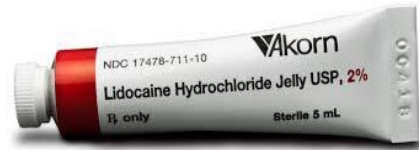
Wound odor

- ▶ Strong
- ▶ Foul
- ▶ Pungent
- ▶ Fecal
- ▶ Musty
- ▶ Sweet



Pain

- ▶ Documentation



Types of Wounds

- ▶ Pressure Injuries
- ▶ Venous
- ▶ Arterial
- ▶ Diabetic/Neuropathic
- ▶ Surgical Wounds/Traumatic Wounds
- ▶ Burns

Pressure Injuries

Stage 1



Stage 2



Stage 3



Stage 4

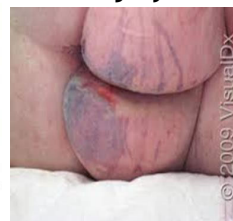


Unstageable



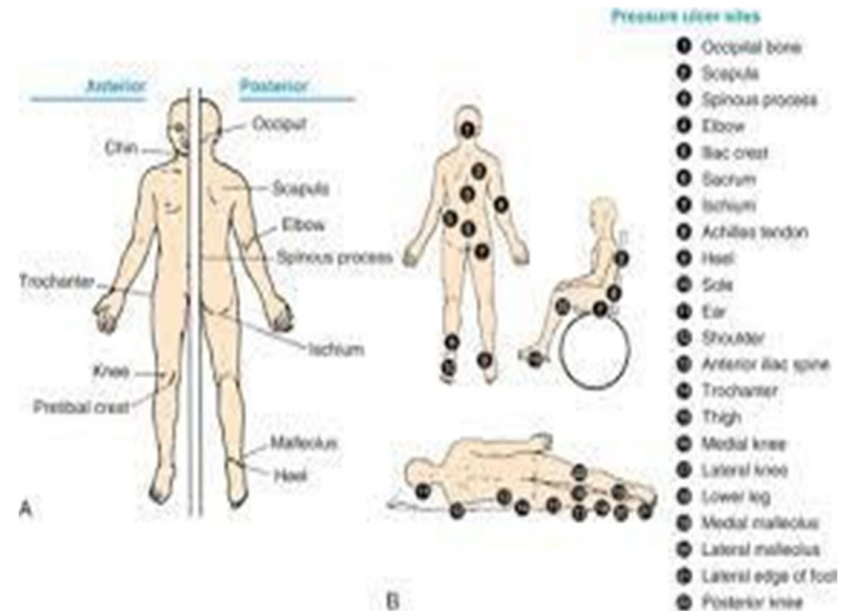
FIGURE 2. Unstageable pressure ulcer in which the base is partially covered by slough

Suspected deep Tissue Injury



These wounds are caused by pressure

Pressure Injury Location



Treatment-Pressure Injuries



- ▶ Stage 1: Protect and relieve pressure from the area
- ▶ Stage 2: Clean with NS, use transparent film, hydrogel, hydrocolloid or bordered foams
- ▶ Stage 3: Cleanse with NS, hydrogel, calcium alginates, cover with foam, minimize use of tape-bordered foams work well, debridement of necrotic tissue, may consider NPWT, takes weeks to months to heal
- ▶ Stage 4: Same as Stage 3, may need antibacterial or antimicrobial treatment, may need surgery to close flaps grafts
- ▶ Do not debride stable heel ulcers

Moisture and Chemical

Ostomy Appliances

- ▶ Properly fitting appliances-no gap around stoma
- ▶ Use hydrocolloid rings to fill in gaps
- ▶ Use ostomy powder for irritation
- ▶ Crusting technique for skin gaps
- ▶ Do not use ointments or creams as this will cause the problem to get worse and appliance not to stick
- ▶ Urostomy-use drainage bag at night
- ▶ Treat yeast with topical powder using crusting technique

Moisture and Chemical

- ▶ Manage Moisture
 - ▶ Moisture wicking underpads and garments
 - ▶ Inter-dry for skin folds
- ▶ Skin protectants
 - ▶ Barrier films and creams for every dressing change order
- ▶ Good skin care and hygiene



Not Pressure

Incontinence Related Dermatitis- Moisture and chemical

- ▶ Inflammation of skin from prolonged contact with urine or stool



Venous Wounds

- ▶ 70% of lower extremity wounds are venous
- ▶ Require long term management even when healed



Venous Disease

Cause

Venous Pressure and valve damage from pregnancy, obesity, trauma, DVT, extended period of standing, CHF, muscle weakness, age, family hx

Location

Medial aspect of lower extremities generally above the malleolus, ankle

Assessment findings

Minimal pain, unless infection is present (rare), peripheral pulses present, capillary refill WNL, skin temp WNL, ruddy base, erythema or brown staining (hemosiderin staining) to surrounding tissue, shallow, irregular margins, moderate to heavy exudate, granulation tissue present



Venous Ulcer Treatment

- ▶ ABIs
 - ▶ Multilayer Compression wraps
 - ▶ Local wound care-debridement
 - ▶ Topical steroids -TMCc...
 - ▶ Oral antibiotics for infection and cellulitis
 - ▶ IV antibiotics for progressive signs and symptoms
 - ▶ Use of emollients to help reduce dryness itching and skin fissures
 - ▶ Elevation of lower extremities
 - ▶ Leg exercises
 - ▶ Graduated compression upon healing
 - ▶ Avoid stationary standing
- ▶ Dressings
 - ▶ Alginates and hydrofiber dressings
 - ▶ Silver dressings
 - ▶ Collagen dressings
 - ▶ Honey Impregnated
 - ▶ NPWT with compression



Compression



Venous Disease Treatment Post Healing

- ▶ Compression
- ▶ Used to control edema once acute phase is diminished - need 20-40 mmHg pressure
- ▶ Can be removed for bathing and sleep
- ▶ Washable and reusable
- ▶ Cons - hard to put on, costly, difficult to use with open wounds
- ▶ Need to be replaced every 3-6 months
- ▶ Teds are not appropriate for long term compression
- ▶ Teds provide 13-18 mmHg pressure

Compression after Healing



Arterial Ulcer Treatments

- ▶ Check pulses and ABIs
- ▶ Do not use compression
- ▶ Do not debride stable eschar or gangrene leave open to air and paint with betadine, alcohol or skin sealant to keep dry
- ▶ Debride unstable necrotic tissue only
- ▶ Control moisture -alginates hydrofibers
- ▶ Refer limb threatening wounds
 - ▶ Revascularization - bypass grafting
 - ▶ Angioplasty stent placement
- ▶ Topical treatments for local infection-silver, cadexomer iodine, topical antiseptics
- ▶ Systemic antibiotics for bacteremia, sepsis, advancing cellulitis or osteomyelitis
- ▶ Odor-topical antiseptics or charcoal dressings
- ▶ Consider hyperbaric oxygen treatments
- ▶ Pain Management



Arterial

Cause

- ▶ Problem with the blood flow to the arteries, the arteries become narrow and blocked

Location

- ▶ Between toes, tips of toes, over phalangeal heads, lateral malleolus, mid tibia and sites with repeated trauma

Assessment findings

- ▶ Deep, round, oval, uniform edges, punched out, pale or necrotic wound bed, surrounding tissue inflammation-tight shiny appearance, rare granulation, loss of hair on foot and ankle, thick toenails, pallor on elevation and dependent rubor, cyanosis, decreased temperature, decreased pulses and extreme pain



Diabetic/Neuropathic Wounds

- ▶ Cause-Peripheral Neuropathy

Atherosclerotic changes decrease oxygen to nerves causing atrophy disrupting nerves in the legs and feet.

Sensory Neuropathy: Causes loss of protective sensation.

Motor: Affects the muscle strength that keeps structures of the foot intact-foots changes shape

Autonomic: Decreased sweating and oil production -lead to dry skin, causing cracking, fissuring, and callous formation



Diabetic/Neuropathic Wounds

- ▶ Three primary injury causes:
 - ▶ Ill-fitting shoes(low pressure) caused by prolonged or constant pressure **most common**
 - ▶ Weight bearing areas (repetitive moderate pressure) -repeated pressure and shear on the soles of the feet
 - ▶ Penetrating Injuries (high pressure) Caused by a single exposure traumatic event
- ▶ Location Below the ankle common areas: Plantar foot, metatarsal head areas, heels
- ▶ Assessment findings: Base is red, callus formation surrounding area, painless, even wound margins , round or oblong over boney prominence



Traumatic

- ▶ Injury to Skin & Soft Tissue
 - ▶ Lacerations
 - ▶ Skin Tears
 - ▶ Abrasions
 - ▶ Avulsions
 - ▶ Crush injuries
 - ▶ Traumatic amputation
 - ▶ Punctures
 - ▶ Penetrating wounds
 - ▶ Surgical wounds
 - ▶ Self Harm



Diabetic/Neuropathic Treatment

Prevention is the key: Foot Exams annually for all diabetics - Monofilament testing

- ▶ Need glucose in good control-Target A1c: 7.0

Active Ulcer:

- ▶ Limit standing and walking as much as possible - provide wheelchair, walker, crutches off-loading shoe not medical shoe
- ▶ Topical treatments: Removal of callus to peri-wound, removal of biofilm to the wound bed, use of topical antimicrobial dressings
- ▶ Iodoflex, Iodosorb, Aquacel Ag, Hydrofera blue, Medical grade honey, use hydrogels if dry
- ▶ No occlusive dressings
- ▶ Monitor for infection



Traumatic

- ▶ Wound Care varies based on size and closure methods
 - ▶ Keep moist wound environment
 - ▶ Dressing changes daily or less often



Burns

Type

- ▶ Thermal
- ▶ Electrical
- ▶ Chemical
- ▶ Ultraviolet

Severity

- ▶ Superficial
- ▶ Superficial partial-thickness
- ▶ Deep partial-thickness
- ▶ Full-thickness



Burn Categories

Superficial



Superficial Partial Thickness



Deep Partial Thickness



Full Thickness



Burn treatment



- ▶ Superficial and partial thickness
 - ▶ Keep moist with petrolatum gauze (Xeroform) and bulky dressing until healed. Change every 1-3 days.
- ▶ Deep partial thickness
 - ▶ Hydrogel then Calcium alginate with silver followed by Xeroform and wrap with bulky dressings
 - ▶ Medihoney is also effective in burn care treatment as a topical antimicrobial

The use of silvadine cream in burn care is no longer recommended as a first line agent because it requires BID dressing changes, is difficult to remove at dressing changes and has shown to delay healing.

Burn Center Referral



- ▶ Burns to refer:
 - ▶ Burns with associated trauma-fracture.
 - ▶ Burns with pre-existing medical problems that could complicate management
 - ▶ Burns of hands, feet, genitalia, perineum or major joints
 - ▶ Electrical Burns
 - ▶ Inhalation injury
 - ▶ Partial Thickness on greater than 10% of body
 - ▶ Full thickness burns
- Wrap with saran wrap prior to sending to burn center-
do not apply creams and ointments

Wound cleaning

▶ Cleaning



Wound Care Treatment

Treat cause affecting healing

- ▶ Edema
- ▶ Nutrition
- ▶ Medications
- ▶ Glucose control
- ▶ Infection
- ▶ Mobility concerns

Principles to follow

- ▶ Necrotic tissue – Debride
- ▶ Too wet - Absorb
- ▶ Dry - Add Moisture
- ▶ A cavity - Fill it
- ▶ Infection - Kill it
- ▶ Bleeding - Stop it
- ▶ Odor - Eliminate it
- ▶ Provide thermal insulation
- ▶ Use a dressing that does not have to be changed daily- Less is better

Dressing selection

Correct Type of Dressing



Moisture Balance



Dressing Selections Tips

- ▶ Lightly Pack Dead Space Fluff don't stuff



Substandard Care

- ▶ Use of normal Saline Wet to Dry Dressings



Treatment Selection Tips

- ▶ Protection



Litigation Concerns

Hurt us

- ▶ Lack of skin assessments
- ▶ Specialty equipment not available for use
- ▶ Delayed or lack of elevation of care
- ▶ Improper care and treatment
- ▶ Lack of Documentation
- ▶ Lack of follow-up

Help Us

- ▶ Good documentation
- ▶ Patient education
- ▶ Documentation of Non-adherence to treatment plan
- ▶ Preventative equipment
- ▶ Skin Assessment
- ▶ Involving providers in plan of care
- ▶ Appropriate care and treatment

Test your Knowledge

What Stage?



What Stage?



Describe treatment options

Test your Knowledge

What Stage?



What Stage?



Describe treatment options

Test Your Knowledge

What type of wound?



What type of Wound?



What would you consider as treatment options?

Test your Knowledge

What Stage?



What Stage?



Hands-on
Wound Assessment

Thank You



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