Wound Jeopardy: Name That Wound

Session 142

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Wound Jeopardy

Name That Wound

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Initial Wound Care Consult

- History
- Physical Examination
  - Detailed examination of the wound
- Photographs
- Cultures
- Procedures
  - TCOM
  - ABI
  - Debridement
- Management Decisions

A Detailed History and Physical (wound) Exam allows **CLASSIFICATION** of the wound based on **Appearance** and **Etiology**

Initial Wound Care Consult

History & Physical

- History
  - **Etiology,** Onset, Healing/Deterioration
  - Current and Previous Wound Care Strategies
  - PMH, Chronic Medical Problems
  - Medications
  - Surgical History, Debridement, STSG
  - Vascular Evaluation & Intervention
  - Nutritional History

Initial Wound Care Consult

History & Physical

- Physical Examination
  - Complete Head to Toe Exam
    - Skin Turgor, Muscle Mass
    - Distal Extremity Sensation, Hair Loss…
  - Vascular Examination
    - Pulses, Dependent/Elevation
    - Venous Reflux, Edema
  - Wound Evaluation

Initial Wound Care Consult

Wound Examination

- Appearance and Characteristics
  - Size, depth, undermining, tunneling
  - Color – granulation, necrotic/fibrin tissue
  - Drainage – amount, consistency, odor
  - Periwound – erythema, tenderness, induration
  - Sub Dermis – bone, joint, tendon, fascia

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WOUND CLASSIFICATION
guides
Treatment
and
Management

Wound Classification
Guides Treatment & Management

- **Etiology**
  - Provides an algorithm or strategy for the global management of the patient, with the ultimate goal of achieving wound healing
- **Appearance**
  - Generally guides the wound care management regarding the use of topicals and dressings

Wound Classification
Based on Wound Etiology

- Pressure
- Venous
- Diabetic
- Surgical
- Arterial

Wound Classification
Guides Treatment & Management

- **Etiology**
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Pressure Ulcer
Definition

- **A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction. A number of contributing or confounding factors are also associated with pressure ulcers; the significance of these factors is yet to be elucidated.**

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Notes

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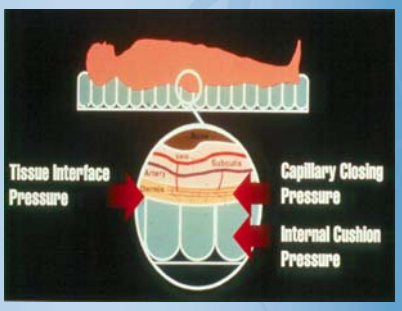
Pressure Ulcer



Pressure Ulcer

- Soft tissue is compressed.
- Circulation becomes impaired, depriving the tissue of oxygen and nutrients which results in tissue death.
- Injury begins in deep tissues…

Pressure Ulcer Staging

- The National Pressure Ulcer Advisory Panel has redefined the stages of pressure ulcers, including the original 4 stages and adding 2 stages on deep tissue injury and unstageable pressure ulcers. This work is the culmination of over 5 years of work beginning with the identification of deep tissue injury in 2001.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

- Suspected Deep Tissue Injury
- Stage I
- Stage II
- Stage III
- Stage IV
- Unstageable

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

Suspected Deep Tissue Injury

- Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear.
- The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

Stage I

Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

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Pressure Ulcer Staging

Stage II

Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

Stage III

Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

Stage IV

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer Staging

Unstageable

Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

The National Pressure Ulcer Advisory Panel, Pressure Ulcer Stages, February 2007.

Pressure Ulcer

- **Treatment**
  - Pressure Relief – Redistribution
  - Minimize Sheer and Friction
  - Nutritional Support
  - Management of Incontinence

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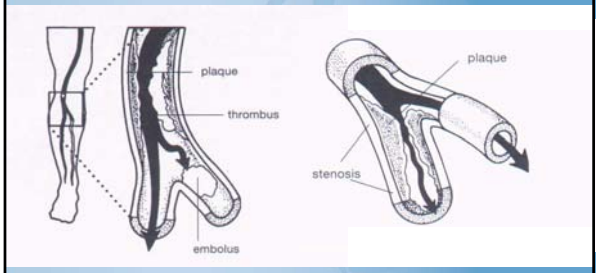
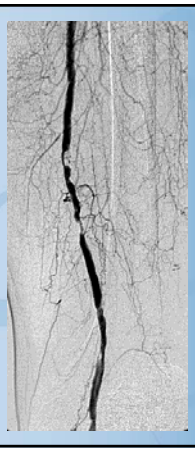
Arterial Ulcers

- Arterial insufficiency ulcers are due to a disease process caused by hardening of the arteries (arteriosclerosis) or by the occlusion of the artery by plaques or fats (athrosclerosis).
- These ulcers are frequently located on the lower leg, the foot or the toes.

Arteriosclerosis / Atherosclerosis





Arterial Ulcer

- **Treatment**
  - Vascular Diagnostics
  - Endovascular Intervention
  - Surgical Revascularization
  - Adjunctive Management
    - Hyperbaric Oxygen Therapy
    - Circulator Boot Therapy
    - Pharmacotherapeutics

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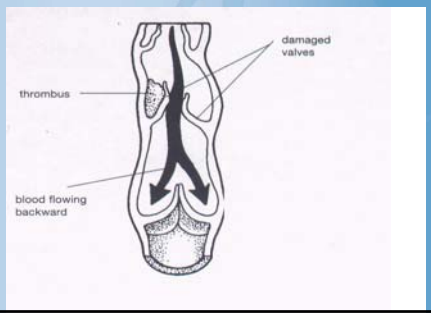
Venous Ulcers

- The valves in the veins of the leg do not function properly and venous blood does not completely leave the veins, resulting in venous hypertension. Fluid leaks from the vessels and forms edema in the tissue.
- The swelling and tissue pressure that results causes ulceration, usually located on the ankle or calf.

Venous Disease



Venous Ulcer

- **Treatment**
  - Compression Therapy
  - Vascular Diagnostics
    - Venous Ablation (EVLT)
    - Subfascial Endoscopic Perforating Vein Surgery (SEPS)

Neuropathic (Diabetic) Ulcers

- Results from damage to peripheral nerves (usually from diabetes) causing decreased sensation which allows for undetected and inappropriate pressure to the plantar surface of the foot.
- The ulcers occur on the plantar surface of the foot and often present with callous formation.

Notes

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Diabetic Ulcer

- **Treatment**
  - Offloading
  - Glycemic Control
  - Bioburden Reduction
  - Arterial Vascular Assessment

Surgical Wounds

- Surgical wounds that have been closed through primary intention (staples, sutures) are usually quick to heal and form a minimal scar.
- Surgical wounds that have been left open due to contamination or infection, heal by secondary intention. Connective tissue must fill in the defect.

Surgical Wounds

- **Treatment**
  - Moist Wound Healing
  - Management of Chronic and Acute Disease Processes
  - Nutritional Support
  - Management of Fluid and Electrolytes

Wound Classification
Guides Treatment & Management

- Etiology
  - Provides an algorithm or strategy for the global management of the patient, with the ultimate goal of achieving wound healing
- **Appearance**
  - Generally guides the wound care management regarding the use of topicals and dressings
  - Débridement decisions

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Wound Classification
Based on Wound Appearance

- Necrotic
- Infected
- Draining
- Granular

Wound Classification
Guides Treatment & Management

- **Appearance**
  - Generally guides the wound care management regarding the use of topicals and dressings

Necrotic Wounds

- Dead, avascular tissue.
- May appear black, gray, yellow, or tan in color.
- Staging often cannot be accomplished until the wound is débrided to a viable tissue base is viable.

Necrotic Wounds

- **Treatment**
  - Debridement
  - Soften and remove the necrotic tissue
  - Decrease bioburden
  - Control infection

Notes

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Infected Wounds

- **Studies show that wounds with more than 100,000 organisms/gram of tissue will not heal.**
- **All wounds are contaminated… But not all wounds are necessarily infected.**
- **Overgrowth of microorganisms capable of tissue destruction.**
  - accompanied by local or systemic symptoms
  - Induration, Fever, Edema, Erythema (IFEE)
- **Infection prolongs the inflammatory process, causes additional tissue damage, and prevents healing**.

Infected Wounds

- **Treatment**
  - Wound cleansing
  - Debridement
  - Control infection
  - Limit bioburden/biofilm

AHRQ: "Institute appropriate systemic antibiotic therapy for patients with bacteremia, sepsis, advancing cellulitis, or osteomyelitis. Systemic antibiotics are not required for [wounds] with only clinical signs of local infection."

Draining Wounds

- Wounds with excessive drainage
  - Tissue edema
  - Lymphatic drainage

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Draining Wounds

- **Treatment**
  - Control and absorb
    - prevent the drainage
  - Protect the periwound
    - prevent maceration
  - Consider the possibility of colonization

Granular Wounds

- Desired healing process for wounds which involves the growth of small blood vessels and connective tissue in a full thickness wound
- Red wounds with a "beefy" appearance
  - Angiogenesis
  - Granulation Tissue

Granular Wounds

- **Treatment**
  - Provide a balanced moist wound environment
  - Prevent hemagglutination
  - Limit bioburden/biofilm

Wound Management

Based on Wound Etiology

- Pressure — Offload
- Venous — Compression
- Diabetic — Diabetic Control, Offload
- Surgical — Moisture, Control Bioburden
- Arterial — Revascularization

Notes

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Wound Management
Based on Wound Appearance

- Necrotic → Debridement
- Infected → Control Bioburden
- Draining → Absorption
- Granular → Provide Moisture

Name That Wound

Thank You…

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