

Taking the Ouch Out of Wound Care

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Wound pain

- Nurses assessment, management, and documentation of pain related to wound care is inadequate.

Hollinworth, 1995

- Patients with pressure ulcers have pain which is poorly managed

Dallam, et al, 1995

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Pain

Is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

IASP & AHRQ, 1979

Pain is whatever the experiencing person says it is and exists whenever he says it does.

McCaffery, 1969

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Physiologic Consequences of Unrelieved Pain

- *Prolonged stress response triggered by unrelieved pain has negative effects!*
- Cardiac
- Respiratory
- GI
- Musculoskeletal



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Physiologic Consequences of Unrelieved Pain

- Immune System
- Delayed healing
- Cognitive/behavioral
- Future Pain



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Functions of skin

- Protection from
 - Fluid and electrolyte loss
 - Mechanical injury
 - Ultraviolet injury
 - Pathogens
- Temperature regulation
- Fluid and electrolyte balance
- Metabolism
- Sensation
- Synthesis
- Communication

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Skin in older adults

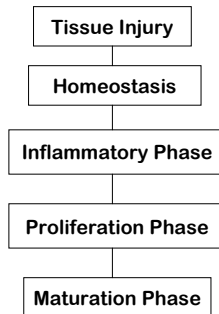
- Decreased in
 - Dermal thickness
 - Fatty layers
 - Collagen and elastin fibers
 - In the rete ridges which increases the ability of the epidermis and the dermis to slide against each other.

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Skin in older adults

- Decrease in
 - Sensation and metabolism
 - In sweat glands
 - Subcutaneous tissue
 - Circulation
 - Time for epidermal regeneration
 - Damage from the sun

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Healing Points

- Induration, heat, discomfort, redness, and swelling are part of the inflammatory phase.
- Chronic inflammation occurs when the injury to the tissue isn't resolved.
- Wound infection prolongs the inflammatory phase and disrupts the proliferation phase.
- Poor nutritional status means poor wound healing.

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Pressure ulcer pain

- Pressure ulcers are serious wounds that cause considerable pain, suffering, disability, and even death.

NPUAP, 1989

Majority of patients with pressure ulcers report pain at rest or with dressing changes. 18% rated it as horrible or excruciating.

Szors & Bourguignon 1999

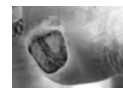
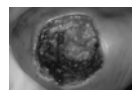
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Pressure ulcer pain

- Pain is believed to be from the release of noxious chemicals from damaged tissue, erosion of tissue planes with destruction of nerve terminals, regeneration of nociceptive nerve terminals, infection, dressing changes, and debridement.

Pieper 2000



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Arterial ulcer pain

- Intermittent claudication
 - Night when legs are elevated
 - Exercise
- Cramping, burning or aching
- Blood flow is inadequate to meet the needs of tissue



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Venous ulcer pain

- Ranges from none to mild ache to sharp pain
- Greatest in evening secondary to edema
- Thrombus, incompetent valves, gravitational pressure from standing, and venous stasis can provoke or prolong pain



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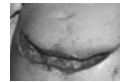
Neuropathic ulcer pain

- **Allodynia:** localized hypersensitivity or pain produced by a usually nonpainful stimulus
- **Hyperalgesia:** an exaggerated response to a painful stimulus
- **Dysthesias:** Unpleasant sensation such as pins and needles
- **Hypoesthesia or anesthesia:** reduction or loss of all sensation.

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Surgical & trauma wound pain

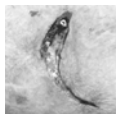
- Tissue, muscle, and nerves are damaged.
- Skin tears are a trauma wound.
- Pain is caused by the release of chemicals from damaged cells, the inflammatory response, and damaged neurons.



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Surgical & trauma wound pain

- Sudden change or increase in pain in a healing wound can herald infection.
- Pain well controlled during the healing process lessens the likelihood of a chronic pain syndrome developing.



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Burns

- 1st degree
 - Redness
 - Edema
 - Warmth
 - Pain
- 2nd Degree or partial thickness
 - Red
 - Painful & tender
 - Moist
 - Blisters form and rupture



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Burns

- **Deep Partial thickness**
 - Necrotic epidermis
 - Underlying dermis pearly or waxy white
 - Wound surface dry and may be soft.
 - Pain mild to moderate
- **3rd Degree or full thickness**
 - Pearly white or charred
 - Surface eschar inelastic
 - Usually painless



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Burn wound pain

- May be thermal, chemical, electrical, radiation.
- Pain begins immediately after injury R/T neural endplates becoming exposed to the air or neurons damaged.
- Pain is caused by the release of chemicals from damaged cells, the inflammatory response, and damaged neurons.



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Extravasation Wounds

- Extravasation wounds can result from different types of vesicants which infiltrate when given IV.
- Some damage on a cellular level, some cause vasoconstriction leading to loss of blood supply.
- Pain is related to the stage of extravasation.



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Extravasation Wounds

- 1st pain is related to the inflammatory response and damage to tissues and nerves.
- As progression continues there is cellular breakdown with release of cellular contents and continuing damage to nerves.



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Incident pain-debridement

- Debridement is the removal of necrotic tissue, exudate, and metabolic waste from a wound to improve or facilitate the healing process.

Baranoski & Ayello

- It can be sharp/surgical, mechanical, enzymatic, or autolytic.



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Incident pain-debridement

- Topical or local anesthetic
- Medicate before and after
- Avoid wet to dry dressings
- Consider OR for large deep wounds



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Incident pain-debridement

- Consider alternatives to sharp surgical debridement
 - Hydrogels, hydrocolloids, Hypertonic saline solution, or enzymatic agents
- Medicate before, during, and after as appropriate.



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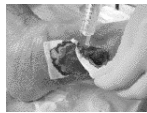
Cyclic pain



- Regularly scheduled interventions such as dressing changes.
- Perform when patient is less fatigued
- Premedicate
- If dressing has dried out, dampen it
- Avoid cytotoxic agents

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Cyclic pain



- Avoid aggressive packing
- Avoid drying out wound or wound bed
- Protect periwound area
 - Skin protectant, barriers

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Cyclic pain



- Monitor for pain during the intervention(s)
- Minimize daily dressing changes
- Avoid tape on fragile skin
- Montgomery straps if appropriate

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Cyclic pain

- Consider Ostomy appliance for heavily draining wound
- Time-out
- Provide analgesia as needed when repositioning



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Persistent pain

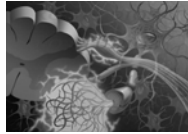
- Medicate appropriately
 - Long Acting
 - PCA
 - ATC
 - Breakthrough medication
- Control edema



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Persistent pain

- Control infection
- Non-pharmacological interventions
- Use of air mattress



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Pain Medications

*Mild Pain

- Acetaminophen
- Few side effects when taken appropriately.
 - Maximum 4000mg in 24 hours

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Pain Medications

*Mild Pain

- NSAIDs (OTC & Prescription)
 - Narrow margin between therapeutic and toxic levels
 - NSAIDs are protein bound so may displace other drugs.
 - All are found by FDA to increase risk of a cardiovascular event

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Pain Medications

*Mild Pain



- NSAIDs (OTC & Prescription)
 - Avoid use if patient has a history of renal impairment, CHF, concurrent volume depletion, or using diuretics.
 - Avoid if patient has a history of bleeding disorders or is using an anticoagulant.
- The risk for gastric and renal toxicity is increased in the elderly and unusual drug reactions, including cognitive impairment, constipation, and headaches are also common.

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Pain Medications

*Moderate to Severe Pain

Opioids

- Codeine (Tylenol # 3)
 - Most constipating
 - Little benefit beyond 60 mg
 - Some lack enzyme to convert to usable form
- Hydrocodone (always combination)
 - Elixir has less acetaminophen
- Oxycodone

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Pain Medications

*Moderate to Severe Pain

Opioids

- Morphine
 - M6G metabolite which can accumulate with poor renal or hepatic function increasing adverse effects.
- Hydromorphone
- Fentanyl
- Methadone

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Adjutants/Co-analgesics

- Anti-anxiety drugs- Lorazepam (Ativan), and alprazolam (Xanax)
 - Diazepam (Valium) should be avoided in the older adult
- Anticonvulsant- Gabapentin (Neurontin), Pregabalin (Lyrica) carbamazepine (Tegretol), and clonazepam (Klonopin)
 - Gabapentin and pregabalin relatively safe to use in the older adult



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Adjutants/Co-analgesics

- Tricyclic Antidepressants- (nortriptyline, desipramine, imipramine)
 - amitriptyline (Elavil) should be avoided in the elderly
- Corticosteroids- (Decadron and Prednisone)
 - R/T wound care; delayed healing by suppression of the inflammatory response as well immunosuppression.



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Adjutants/Co-analgesics

- SNSRIs
 - The mixed serotonin and norepinephrine selective uptake inhibitors may be effective without anticholinergic effects of the tricyclics
 - Venlafaxine (Effexor)
 - Duloxetine (Cymbalta)
- Topical Anesthetics
 - Lidocaine 2% gel



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Breakthrough Pain

- Short acting opioid
- 10%-15% of total 24hr dose
- Increased need of breakthrough medication should increase long acting.

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Constipation

- Does not resolve with tolerance
- If bowel surgery not involved patient should be started on bowel regimen as soon as opioids or other constipating analgesics are started.
- One stool softener/laxative bid



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Basic Comfort Measures

- Decrease lighting and noise
- Privacy
- Repositioning
- Pressure relieving devices
- Immobilization (when appropriate)



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Cognitive Behavioral Interventions

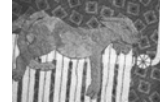
- Evaluate for cognitive ability to participate.
- Relaxation
- Distraction
- Guided Imagery
 - Should not be used in patients with severe cognitive impairment or psychosis.
- Music Therapy



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Nonpharmacological

- Heat/cold
 - Use with a wound should require a Provider order.
 - Use cautiously in older adults to prevent damage to fragile skin.
 - Avoid cold with PVD



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Pain friendly dressings

- Hydrogel
- Calcium alginate
- Hydrocolloidal
- Foam
- Transparent



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Patient Education

- Harmful effects of pain (including impaired healing)
- Pain management
- Addiction fears
- Non-pharmacological treatment



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What's new?

- Use of gabapentin (Neurontin) or pregabalin (Lyrica) with acute neuropathic pain
- Morphine gel
 - Peripheral mu receptors are dominant in tissue activating with the inflammatory response
 - Morphine mixed with Intrasite gel is place directly in the wound.
 - Cannot be used on heavily draining wounds.



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What's new?

- Lidocaine patches (Lidoderm)
 - Not absorbed systemically
- Use of Actiq or Fentora during dressing changes



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