Moist Wound Healing with Advanced Wound Care Products

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Topical Therapy

Creating the optimal microenvironment for healing:

- Remove necrotic tissue and foreign particles
- Identify and eliminate infection
- Obliterate dead space
- Absorb excess exudate
- Maintain a moist wound surface
- Provide thermal insulation
- Protect the healing wound from trauma and contaminants
Advantages of Moist Wound Healing

- Healing time is reduced
- Patient experiences less pain
- Fewer infections of the wound
- Reduces total cost of wound care
Principles of Moist Wound Healing

- The moisture vapor transmission rate (MVTR) per square meter of skin per day is:
  - 200 grams of moisture through intact skin
  - 7874 grams of moisture through compromised stratum corneum

- A wound that becomes dry will incur further tissue death (dehydration necrosis)
  - Cells needed for healing migrate faster and further in a moist environment
Moist Wound Healing

This means no wound should ever scab or crust! That isn’t moist wound healing...
Students as Patients

- Your patient population is truly unique
- They think they’re invincible
- Usually young, otherwise healthy
- Problems with keeping the dressings on!
- Suggest a MVI with minerals QD
Wound Cleansing Guidelines

- Clean wound – one that is free of necrotic tissue and is granulating and/or epithelializing
- The goal is to minimize the disruption of the wound’s surface
- Normal saline is the solution of choice …
  - No Whirlpool!
Blairex Wound Wash Wash Saline
Blairex Wound Wash Wash Saline

- Sterile normal saline solution
- Painless flushes & cleans wounds of all debris and infection
- Can work upside down even!
- Low psi = will not harm healthy tissue
- Non-stinging, preservative free, remains sterile
Wound Cleansing Guidelines
Necrotic Wounds

- For necrotic wounds the goal is an antimicrobial effect without being cytotoxic to cells required for wound healing
Wound Cleansing Guidelines
Necrotic Wounds

Betadine (Povodone-Iodine)

- Positive aspects
  - Broad spectrum antibiotic
  - Readily available

- Negative side effects
  - Toxic to fibroblasts
  - Never approved for internal use by the FDA
  - Could be systemically absorbed
  - Harsh to intact, uninjured skin
  - Antimicrobial effect only lasts 10 minutes
Wound Cleansing Guidelines
Necrotic Wounds

Dakin’s solution (sodium hypochlorite)

- Positive aspects
  - Has an antimicrobial effect on staph, strep, MRSA
  - Is effective in debriding

- Negative side effects
  - Toxic to fibroblasts
  - Ulcerates granulation tissue
  - Burns intact uninjured skin
  - Antimicrobial effect only lasts 10 minutes
Wound Cleansing Guidelines
Necrotic Wounds

- Acetic Acid (vinegar)
  - Positive aspects
    - Readily available
  - Negative side effects
    - Is only toxic to pseudomonas in concentrations that are also toxic to cells needed for wound healing!
  - There is no place for acetic acid in evidence-based wound care
Wound Cleansing Guidelines
Necrotic Wounds

- Hydrogen peroxide (for blonde wounds)
  - Positive aspects
    - Good mechanical cleanser and debrider
    - Readily available
  - Negative side effects
    - Can cause an air embolism if used to pack or irrigate
    - Ulcerates granulation tissue
    - Antimicrobial effect short lived!
Factors Influencing Dressing Choice

- Anatomical site
- Amount of exudate
- Dead space
- Surrounding skin
- Caregiver ability
- Wound status
Factors Influencing Dressing Choice

- Aggressive therapy vs. palliative care
- Cost
- Availability
- Reimbursement
Advanced Wound Care Products

- Remove impediments to healing
- Do not “speed up” healing
- Biologically active advanced wound care products are available: growth factors, skin substitutes, wound matrixes, manufactured human skin
Types of Dressings

- Gauze -
What’s So Bad About Gauze?

- Poor bacterial barrier
- Minimal absorption
- Painful removal
- Overpacks
- No barrier to urine/stool
- Not a moist wound bed

- Costly!
- Leaves fibers behind
- Indiscriminate debrider if wet-to-dry
- Delayed wound closure
- Not skilled nursing?
Advanced Wound Care Products

- Hydrocolloids
  - Hydrogels
  - Alginites
  - Foams
  - Transparent films
  - Hydrofibers
  - Silver dressings
Dressings
Skin Sealant Wipes

- Purpose: minimize skin stripping due to adhesives
- Puts a layer of plastic film on the skin
- Most contain alcohol – newer ones don’t
- Must dry before application of adhesive
- Is **NOT** a skin cleaner or an adhesive

Examples: Skin Prep, Cavilon No-Sting wipes
Skin Sealant Wipes

- Are especially important for your population!
- Dressings may need to be taped on!
- Skin sealants protect the skin from tape and from the potentially macerating effects of wound drainage on skin.
#3M Cavilon No-Sting Wipes
Transparent Film Dressings
Thin Films

- Transparent Films – Tegaderm, Op-Site
Transparent Film Indications

- Shallow wounds to act as a covering to maintain moist wound bed
- Waterproof site from moisture
- May protect from friction and shear
- Promotes autolytic debridement
- May reduce pain by keeping nerve endings in a moist state
- No absorption – can be tricky to apply
Wounds For Transparent Film
Smith & Nephew
OPSITE Post-op Dressing
Op-Site Post-Op Dressing
3 sizes available

- Overall sizes:
  - 2 ½ x 2 in.
  - 6 1/8 x 3 3/8 in.
  - 10 x 3 in.

*pad size in center is smaller
Benefits of Op-Site Post-op Dressing

- Barrier to bacteria and contaminants
- Waterproof, conformable and comfortable
- Easy to apply and remove aseptically
- Allows for monitoring of the peri-wound area
Op-Site Post-op Dressing
How To Apply

- Clean skin with normal saline first
- Make sure you protect the skin with skin sealant
- Change whenever soiled

- Step 1: Remove paper #1 first
- Step 2: Apply the dressing
- Step 3: Remove the stabilizing layer (labeled #2)
Hydrocolloid Dressings
Hydrocolloid Dressings

- Wafers made from gelatin, pectin, colloids, and carboxymethyl-cellulose
- Considered occlusive dressings
- Can be left in place for up to 7 days
- Can be a secondary dressing over a hydrofiber
- One of the oldest advanced wound care products
Hydrocolloids
Hydrocolloid Indications

- Indicated for shallow wounds with minimal to moderate exudate
- Facilitates in creating a moist wound environment to increase fibrinolysis
- Moisture may also reduce pain to nerves
- Facilitates autolytic debridement
- Good for scrapes and abrasions
Advantages of Hydrocolloids

- Waterproof
- Good bacterial barrier
- Absorptive
- Flexible
- Long wear time
- Ease of use
Disadvantages

- Risk of hypergranulation tissue
- Melting down
- Occlusion and odor
- Must be removed appropriately = slowly
- Not for wounds with undermining or tunneling (anaerobes)
- Can be dislodged in the presence of heavy exudate so
- Not for heavily draining wounds
Hydrogels
Hydrogels

- Water or glycerin based
- Available in amorphous gels, sheets, or impregnated in gauze
- Limited absorptive capacity
- Considered hydrators
- Viscosity varies by manufacturer
- Available in sterile one-time usage or in multi-application forms
Hydrogels
Hydrogel Indications

- Assist wound in maintaining a moist wound environment
- Insulator
- Moist wound environment may promote autolytic debridement
- No absorptive capability
Hydrogel with Thin Film Autolytically Debriding Eschar
Wounds for Hydrogel Dressing
Advantages Hydrogels

- Rehydrate the wound bed
- Soothing
- Longer wear time than damp gauze
- Easy to apply and remove
- In gauze form can be used to fill wounds
- Does not leave residue in wounds
- Facilitates autolytic debridement
Disadvantages Hydrogels

- Depends on viscosity for wear time
- Can put a non-adherent dressing over it to keep it moist
- Not absorptive = for dry wounds
- Requires a secondary dressing
Alginate Dressings
Alginate Dressings

– Derived from seaweed
– Soft, non-woven fibers of a cellulose-like polysaccharide
– Available in ropes for filling and flat pads for open wounds
– Weaving techniques vary among manufacturers
Alginate Indications

- Wounds with moderate to heavy drainage
- Wound filling
- May use in infected wounds
- Interacts with wound fluid to form a gel creating a moist wound environment
- Leg ulcers, non-healing surgical wounds, full thickness wounds
Wounds for Alginate Dressing
Advantages Alginates

- High capacity for absorption
- Easy to apply
- May be used under compression
- An atraumatic removal = no pain!
Disadvantages of Alginates

- must be used cautiously on patients allergic to seafood
- looks and smells NASTY when removing old dressing
Aquacel - A Hydrofiber

- Man-made hydrofiber
- More absorptive than an alginate
- Turns into a gel that protects healthy tissue
- & autolytically debrides unhealthy tissue
- OK to use on patients allergic to seafood
- Needs a secondary dressing like foam or hydrocolloid
Hydrofibers

- Aquacel
Aquacel AG ............... 

- A man-made hydrofiber that is very absorptive
- With silver added for a sustained antimicrobial effect, non toxic to healing cells
- Hydrofiber will autolytically debride if needed
- Atraumatic to granulating tissue = a painless removal
- Can use saline to clean wound
Silver Impregnated Antimicrobial Dressing
Absorbent Dressing
Apósito antimicrobiano con impregnación argéntica
Apósito absorbente
Pansement antimicrobien imprégné à l'argent
Pansement absorbant

Sterility is guaranteed unless pouch is damaged or opened prior to use.
La esterilidad de su contenido se garantiza en tanto el empaque se mantenga intacto antes de usarlo.
La stérilité de ce produit est garantie tant et aussi longtemps que le sac n’a pas été endommagé ou ouvert avant l’utilisation.

5
.71 in. x 17.5 in./1.8cm x 44.5cm


403712
Important to Remember…

- You CAN NOT judge how the wound is healing by the look or smell of the old dressing!!
Silvasorb Gel

- Instead of Neosporin / Polysporin
- For dry or lightly draining wounds - all types
- Continuous antimicrobial protection
- Helps manage bacterial burden of wound
- Non-staining = won’t tarnish wound bed
- Needs a cover dressing,
- 3 day wear time
SILVASORB® GEL
SILVER ANTIMICROBIAL WOUND GEL

Uses:
- Donates Moisture
- Partial and Full-Thickness Wounds

Change Frequency:
- Up to 3 Days

Features:
- Antimicrobial Silver
- Non-Stinging
- Non-Staining

1.5 FL OZ TUBE  1 PER BOX  LATEX FREE

N: 08327-0309-09
Medihoney Dressings

- Made from honey derived from the pollen & nectar of specific *Leptospermum* species of plants from New Zealand
- Cleans and debrides wounds due to its high osmolarity, lowers wound bed pH, which ↑ oxygen diffusion & ↓protease activity
Medihoney Dressings

- Non-toxic, natural & safe
- The only species of honey that’s been shown in RCT to help wounds that have stalled...jumpstarts the healing process
- Manuka honey
Medihoney Dressings

- Medihoney paste – thicker, 100% honey
- Medihoney gel – newer, 80% honey
- Medihoney calcium alginate – absorbs
- Medihoney Honeycolloid - with and without adhesive
Calcium Alginate Dressing
with Active Leptospermum Honey

WOUND & BURN DRESSING
MEDIHONEY™

- The MEDIHONEY™ Dressing contains 90% Active Leptospermum Honey.
- For moderately to heavily exuding wounds.

Sterile, packaged in unopened, undamaged pouch.

Product components from the UK and New Zealand.
Packaged and Sold in Canada.

Glenbrook, Inc., 501 Shings Road
Seattle, WA 98104
011803403102
www.dermasciences.com
Foams
Foam Dressings

- Composed of polyurethane foam
- Hydrophilic properties
- Vary in thickness
- May have film backing on outer surface
- Available in adhesive or non-adhesive sheets, pillows or wafers
Foam Indications

- Able to absorb light to heavy amounts of exudate
- Semi-occlusive
- Fills in dead space
- Maintain moist wound environment
- May retard hypergranulation tissue
Foam Sizes
Advantages Foam Dressings

- Also good for:
  - cuts
  - scrapes
  - burns
  - abrasions
Advantages Foam Dressings

- Absorb under compression garments
- Insulates wound bed
- Easy to apply
- Adhesive & non-adhesive foams
- Gentle on friable skin
- Does not adhere to wound bed
Negative Pressure Wound Therapy – the VAC

- A porous sponge is cut to fit wound, and secured with a thin film drape. A suction disc is placed over a hole you cut in the drape & connected to a suction machine that can be programmed to provide continuous or intermittent suction at various levels of negative pressure.

- Goes from 50-150mmHg
Benefits of VAC Tx

- Negative pressure minimizes the amount of secondary intention healing needed to close wound
- Eliminates pooled exudate
- Increases blood flow to wound
- Assists in tissue granulation
- Provides a moist, closed environment for healing
A PORTABLE SYSTEM FOR ADVANCED WOUND HEALING.
Negative Pressure Wound Therapy

- Wound VAC – vacuum assisted closure
Some examples....
Student Wound
Student Wound – Bike Fall
Soft Cloth Tape
Soft Cloth Tape
Questions?