Appropriate Dressing Selection For Treating Wounds

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Criteria to Consider for an IDEAL DRESSING

Exudate Management
- Be able to provide for moist wound healing by absorbing exudate or adding moisture

Secure Application
- Remain securely in place during all activities

Easy Removal
- Able to be removed without traumatizing the wound bed or surrounding tissue

Extended Wear Time
- Allow for minimal dressing changes to diminish disturbance of the healing process and decrease nursing time required

Cost Effectiveness
- Lower dressing and nursing costs

Comfort
- Allow for patient comfort and provide good quality of life

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Moist Wound Healing – A Standard of Care

Research has shown that **maintaining a moist wound environment facilitates the wound healing process**. The beneficial effects of a moist versus a dry wound environment include:

- Prevention of tissue dehydration and cell death
- Accelerated angiogenesis (allowing cells to migrate across the wound surface)
- Increased breakdown of dead tissue and fibrin
- Increasing the interaction of growth factors
- Pain is significantly reduced

Circumstances where moist wound healing may be contraindicated include intact, dry eschar to the heel or dry necrosis to the foot/toes related to poor vascular perfusion.

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Dressing Categories

The type, or category, of dressing chosen will be dependent upon several clinical assessments made about the wound, including:

- Size, depth, and the presence, location and extent of undermining or tunneling/sinus tract
- Exudate observed including type, color, amount, odor
- Pain, if any
- Wound bed and type of tissue noted (granulation, slough, eschar, etc.)
- Condition of wound edges and peri-wound (rolled edges, erythema, induration, maceration)

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Dressing Categories (cont'd)

Most dressings can be divided into **Primary** dressings and **Secondary** dressings. Primary dressings are applied directly to the wound surface, while Secondary dressings are used as a covering. *Both have important functions in promoting wound healing.*

Primary Dressings:

- Calcium Alginate
- Hydrogel
- Collagen
- Honey Gauze/Alginate
- Hydrocolloid
- Xeroform/Oil Emulsion/Petrolatum dressing

Secondary Dressings:

- Foams
- Transparent Film
- Gauze
- Composite
- Hydrocolloid
- ABD pads

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Calcium Alginate

Description:
Non-woven mass of calcium sodium alginate fibers that form moisture retentive gel on contact with wound fluid; non occlusive, derived from brown seaweed – available as rope or flat dressings. Excellent for absorption of wound drainage as it absorbs up to 20 times its weight in fluid. Also comes with Silver. Requires a secondary dressing

Indications:

- Full thickness wounds/Stage 3 and 4 with moderate to heavy exudate
- Autolytic debridement of yellow slough in deep wounds with uneven wound beds
- Odor control
- May be used on infected wounds
- Facilitates autolytic debridement
- Also comes impregnated with honey
- Dressing change frequency is usually once a day

Disadvantages:

- Not recommended for wounds with light exudate or dry eschar
- If wound bed is dry, the dressing will not form a gel and may adhere to granulation tissue causing trauma

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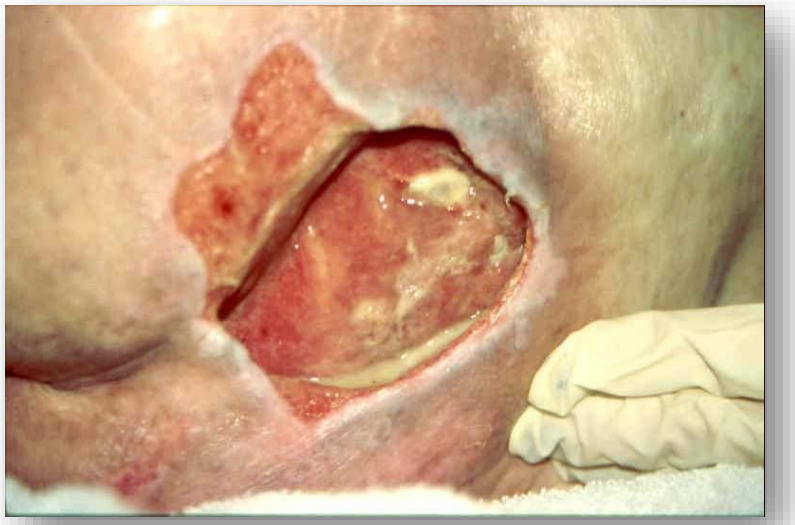
Calcium Alginate

Types of wounds appropriate for use of Calcium Alginates

Infected post ilio-fem bypass graft



Stage 4 sacral pressure injury with heavy exudate (note thick exudate when undermining area pressed)

Foam Dressings

Description:
Mainly made from polyurethane, foams provide an appropriate, moist environment that will prevent cells from dying and promote cell migration across granulation tissue. They come as bordered, non bordered or silicone with adhesive throughout. They insulate the wound bed to promote an optimal temperature for healing and are very effective with painful wounds.

Indications:
- Full thickness wounds/Stage 3 and 4 with moderate to heavy drainage
- Autolytic debridement of yellow slough with uneven wound beds
- May be used on infected wounds
- Change QOD to q 3 days depending on drainage amount
- Can be used as a primary or secondary dressing

Disadvantages:
- Should not be used on wounds with light drainage
- Not indicated for 3rd degree burns
- Not for wounds with dry eschar

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Foam Dressings (cont'd)

Types of wounds appropriate for use of a Foam Dressing

Mixed vascular wound to lower leg

Very painful wound to lower leg

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Hydrogel Dressings

Description:
Semipermeable hydrophilic polymers composed primarily of water or glycerin; available in gel or impregnated gauze form to add moisture to dry wound beds comes with Silver. Requires a secondary dressing

Indications:
- Supports autolytic debridement
- Maintain moist wound surface
- Pain relief in radiation damaged tissue and superficial burns
- Dressing change frequency is usually once a day

Disadvantages:
- Not indicated for heavily draining wounds
- May contribute to peri-wound maceration
- Not indicated for management of chickenpox, shingles lesions or 3rd degree burns.

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Hydrogel Dressings (cont'd)

Types of wounds appropriate for use of a Hydrogel Dressing

By adding moisture to this wound it will assist in autolytic debridement and help decrease the amount of necrotic tissue

Exposed tendons require moisture to keep the sheath intact and prevent drying and death of the tendon.

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Hydrocolloid Dressings

Description:
Occlusive wafer dressing, containing hydrophilic colloidal particles (pectin, gelatin, elastomers) in an adhesive compound laminated onto a flexible water resistant outer layer. Also comes as pastes or powders as used with ostomies.

Indications:
- Autolytic debridement of light to moderate amount of slough/necrosis
- Prevents secondary infection from contamination
- Maintains moist wound surface
- Provides limited absorption
- Change every 2-3 days

Disadvantages:
- Occlusive properties can promote wound infection in high risk patients (anaerobic infection)
- May dislodge with shearing or friction
- Dislodges with heavy exudates
- May tear fragile surrounding skin when removed
- Unpleasant odor upon removal

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Hydrocolloid Dressings

Types of wounds appropriate for use of a Hydrocolloid Dressing

Partial thickness skin loss on the buttocks secondary to friction/shear/moisture. Hydrocolloid can remain intact for several days.

Scattered areas of partial and full thickness wounds can be covered with hydrocolloids and left in place for 3-5 days depending on exudate amounts.

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Collagen Dressings

Description:
Used as a primary dressing, collagen stimulates the growth of new granulation tissue. It supports hemostasis, wound debridement, angiogenesis, fibroblast activity, re-epithelialization and wound remodeling. Requires a secondary dressing.

Indications:
- For use on partial and full thickness wounds or any stage pressure ulcer with minimal to heavy drainage
- May be used in infected wounds
- Conforms to any wound shape
- Helps maintain a moist wound environment
- Available in sheets or as particles
- May be used with hydrogels, Santyl

Disadvantages:
- Not indicated for wounds with 100% dry slough or eschar

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Collagen Dressings (cont'd)

Types of wounds appropriate for use of a Collagen Dressing

Any and all wounds *(except with dry eschar/slough)*

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Honey Dressings

Description:
Promotes a moisture balanced environment that eliminates bacteria and multi-resistant bacteria in the wound bed. Cleanses and debrides while lowering overall wound pH. Comes as gel, impregnated gauze or impregnated alginate. Requires a secondary dressing.

Indications:

- For use on partial and full thickness wounds or any stage pressure ulcer with minimal to heavy drainage
- Promotes autolytic debridement
- Change every 1-2 days, depending on drainage amount

Disadvantages:

- Not indicated for 3rd degree burns
- Not indicated for patients with sensitivities to honey

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Honey Dressings (cont'd)

Types of wounds appropriate for use of a Honey Dressing

Pressure Injuries

Diabetic/Neuropathic Wounds

Skin Tears

Surgical Wounds

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Transparent Film Dressings

Description:
Semi-permeable adhesive membrane made from polyurethane that creates a waterproof bacterial barrier. Very conforming to difficult to apply areas of the body. Can be used as a primary dressing over superficial, lightly draining wounds or as a secondary dressing to help with adherence of dressings.

Indications:
- For use on partial thickness or Stage 1 or 2 wounds with minimal drainage as a primary dressing
- Acts as “second skin” to prevent friction injuries
- Promotes autolytic debridement
- Allows for visualization of wound bed

Disadvantages:
- Not indicated for moderately or heavily exudating wounds
- May tear fragile peri wound skin

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Transparent Film Dressings (cont'd)

Types of wounds appropriate for use of a Transparent Film Dressing

Remodeling phase of a healing lower leg wound with minimal exudate

Full thickness burn wound almost healed with small areas open exudating very minimally

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Composite Dressings

Description:

Composite wound dressings are comprised of multiple layers and incorporate a semi- or non-adherent pad that covers the wound, absorptive layers that can manage exudate, and an outer layer that is water-proof thus providing a barrier to bacteria and other contaminants. Each layer of the dressing is physiologically distinct in its function to aid in wound healing. Can be used as a primary or secondary dressing.

Indications:

- For use on partial or full thickness or any stage wounds with none to light exudate
- Promotes autolytic debridement
- Safe to use with infected wounds

Disadvantages:

- Requires healthy, intact peri-wound skin

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Composite Dressings (cont'd)

Types of wounds appropriate for use of a Composite Dressing

Lateral lower leg wound used as a primary dressing to absorb drainage and prevent adherence to wound bed

Vascular leg wound used as a secondary dressing with an enzymatic debrider

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