Pressure ulcer

Dressing Selection Guide, Protocol, & Procedure

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Pressure Ulcer Dressing Selection Guide

After completing the patient and wound assessments, cleanse the wound bed according to your facility's protocol, and choose a wound dressing using the following algorithm.

Refer back to this algorithm at each dressing change. Sometimes it is beneficial to rinse the periwound area, but when QuadraFoam® dressings are used, they continuously cleanse the wound bed, so unless there is visible loose material or contamination in the wound bed, manually cleansing or rinsing the actual wound bed at dressing changes is unnecessary.

PolyMem® promotes autolysis, which should produce increased thin yellow exudate and decreased slough within 3-4 days. Wounds with dry stable eschar suggest underlying circulatory problems. They should be left open to air and assessed daily. If the underlying cause is addressed, autolytic debridement with PolyMem becomes appropriate.

PolyMem dressings should maintain direct contact with the exposed surfaces of the wound, slough, or eschar in order to provide best results. PolyMem should also be in direct contact with as much of the periwound as possible.

PolyMem dressings are available in a variety of configurations that include adhesive cloth-backed dressings, adhesive film-backed dressings and pads without adhesive borders.

PolyMem dressing formulations are also available as primary dressings which are designated "WIC" dressings. **The PolyMem Wic dressings will expand as wound fluid is absorbed. In order to allow for expansion cut the dressing 30% smaller than the wound when placing them in cavities or tunnels.**

PolyMem dressings are available with silver incorporated into the formulation for when antimicrobial benefits are desired. Silver dressings might be appropriate if the patient is 1) at high risk for infection due to medications, poor nutritional status, or other illnesses or 2) if there are signs of possible deep infection, such as thick foul drainage, reddened periwound, excessive drainage and swelling. Deep infections should also be addressed systemically.

Answer the following questions to choose the best dressing for the pressure ulcer:

Are there any narrow tracts or tunnels under the edge of the wound?

YES → Gently **fill all wound tracts with PolyMem Wic® Silver® Rope cavity filler.** If a tract is wide, place an additional rope beside the first piece so the wound surfaces are in contact with the PolyMem Wic Silver Rope **after allowing for expansion**.

PolyMem Wic Silver Rope may be cut to half-width for narrower tunnels.

NO ↓

Is the ulcer deeper than 1.0 cm? Or are the wound edges steep?

YES → **Lightly fill the base of the cavity with PolyMem Wic, beveled and/or cut to about ⅔'s the final desired size to allow for expansion** as it absorbs wound fluid. If the cavity is very deep, use additional layers of PolyMem Wic.

NO ↓

Is the ulcer very heavily draining? Note: wound exudate may dramatically increase for the first 7 – 10 days of QuadraFoam dressing use. This is normal as the dressing works to help recruit fresh nutrients and clean the wound.

YES → Use PolyMem Wic to add a layer of absorption under the secondary dressing in heavily draining wounds. **For shallow heavily draining wounds, extra-thick PolyMem Max®** may be used as a combined primary and secondary dressing.

NO ↓

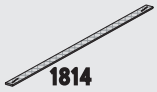
Is the patient diaphoretic or otherwise in need of a secondary dressing with breathable or stretch borders?

YES → **Apply a PolyMem Cloth-Island dressing**. These dressings can act as either a secondary dressing or a combined primary and secondary dressing. The cloth stretch tape border is ideal for mobile areas such as elbows and knees, and for patients with moist skin. **The borders of these dressings are not water-resistant**, so they are not appropriate for sacral and ischial ulcers in incontinent patients.

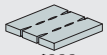
NO ↓

Apply the PolyMem Film-Island dressing or Shapes® by PolyMem dressing that best fits the size and shape of the wound and surrounding intact skin as either a secondary dressing over PolyMem Wic or as a combined primary and secondary dressing. If the patient's skin is cool, initial **adhesion will be improved** if an open palm is placed over the dressing borders momentarily to **warm them in place**. **These dressings are water-resistant**, so they are especially well suited for sacral ulcers on incontinent patients. They are also very low friction, so they tend to stay in place well during repositioning and transfers.

Products especially well suited for pressure ulcer care:


1814


5733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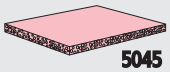
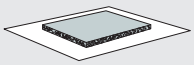
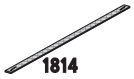

5045


1766


1886


3709

Cavity, Undermining, Tunneling Rope Dressing


1814

1814*† 0.4″ x 14.0″

Wic and Wic Silver Cavity Filler


5733

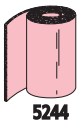
5733† 3.0″x 3.0″

Also available in:
1333*† 3.0″x 3.0″
5712 3.0″x 12.0″

Non-Adhesive Pad Dressing


5033

5033 3.0″x 3.0″
5244 4.0″x 24.0″


5244

Also available in:
5044 4.0″x 4.0″
5055 5.0″x 5.0″
5077 6.5″x 7.5″
5124 4.0″x 12.5″

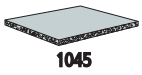
Non-Adhesive Silver Pad Dressing


1124

1124* 4.25″x 12.5″

Also available in:
1044* 4.25″x 4.25″
1077* 6.5″x 7.5″

Non-Adhesive Max and Max Silver Pad Dressing


1045

1045* 4.0″x 4.0″

Also available in:
5045† 4.5″x 4.5″
5088 8.0″x 8.0″
1088* 8.0″x 8.0″

Adhesive Cloth-Backed and Cloth-Backed Silver Dressings


7203

7203 2.0″x 2.0″ (1.0″x 1.0″ pad)
7031 1.0″x 3.0″ (1.0″x 1.0″ pad)


7031

Also available in:
7405 4.0″x 5.0″ (2.0″x 3.0″ pad)
7606 6.0″x 6.0″ (3.5″x 3.5″ pad)
7042 2.0″x 4.0″ (2.0″x 1.5″ pad)
1766*† 6.0″x 6.0″ (3.5″x 3.5″ pad)

Adhesive Oval-Shaped and Oval-Shaped Silver Film-Backed Dressings


8015

8015 2.0″x 3.0″ (1.0″x 1.5″ pad)
1823* 2.0″x 3.0″ (1.0″x 2.0″ pad)


1823

Also available in:
8023 2.0″x 3.0″ (1.0″x 2.0″ pad)
8053 5.0″x 3.5″ (3.0″x 2.0″ pad)
8086 6.5″x 8.2″ (4.0″x 5.7″ pad)
1815* 2.0″x 3.0″ (1.0″x 1.5″ pad)
1853* 5.0″x 3.5″ (3.0″x 2.0″ pad)
1886*† 6.5″x 8.2″ (4.0″x 5.7″ pad)

Adhesive Film-Backed Dressings


405

405 4.0″x 5.0″ (2.0″x 3.0″ pad)
3042 2.0″x 4.0″ (2.0″x 1.5″ pad)


3042

Also available in:
203 2.0″x 2.0″ (1.0″x 1.0″ pad)
606 6.0″x 6.0″ (3.5″x 3.5″ pad)
3031 1.0″x 3.0″ (1.0″x 1.0″ pad)
3412 4.0″x 12.5″ (2.0″x 10.0″ pad)

Adhesive Sacral and Sacral Silver Film-Backed Dressings


1709

1709* 7.2″x 7.8″ (4.5″x 4.7″ pad)

Also available in:
3709† 7.2″x 7.8″ (4.5″x 4.7″ pad)

Non-Adhesive Tube Dressing


5335

5335 3.5″ x 3.5″

3 & 4-digit numbers are reference numbers followed by the dimensions of available products
** Reference numbers beginning with the "1" indicate silver dressings*
*† Included in "**Products especially well suited for pressure ulcer care**" box*

See Package Insert for complete instructions

Pressure Ulcer Treatment Protocol

(Text Summary)

I. Addressing the Underlying Causes:

The existence of a pressure ulcer should trigger the implementation of the entire prevention section of this protocol with increased intensity to prevent further damage and facilitate wound healing. Special attention should be given to

- managing incontinence and diaphoresis
- maintaining skin hygiene and moisture
- optimizing hydration and nutrition
- choosing appropriate support surfaces
- repositioning, avoiding friction and sheer

When repositioning the patient, avoid putting pressure over the area of the wound as much as possible. Spinal cord injured pressure ulcer patients need a total contact seat on which to sit for three one-hour intervals a day.

II. Assessment:

A. Perform an initial complete health history and physical, following up on deficits that can be corrected

B. Weekly wound assessments should include:

- **Anatomic location** of the wound
- **Stage or Grade** of the ulcer
- **Size** in centimeters, including any tunnels or tracts with locations
- **Type of tissue** in the wound base as a percentage of the whole
- **Exudate** amount, consistency and type
- **Odor**
- **Wound edges**, or margins: presence of epibole
- **Periwound** condition – texture, color, temperature, any rash
- **Wound pain** (both persistent and incident-related) assessed using a pain scale

Pain, financial burden, social isolation and functional status should be included in the treatment program evaluation and overall plan of care.

III. Debridement and Wound Bed Cleansing:

A. Initial Debridement

- Do not debride wounds on patients who are terminally ill or have insufficient arterial flow for healing, such as dry stable eschar on non-infected heels. Assess these wounds daily.
- If cellulitis or sepsis is present, immediate surgical debridement of eschar and slough is indicated.
- In all other cases, use moisture-retentive dressings to cleanse the wound bed through autolytic debridement. Improvement should be seen in 72 – 96 hours.

B. Cleansing

- Initial wound cleansing should be as thorough as the patient's condition permits. Ideally, wounds should be irrigated at 4 and 15 psi with a surfactant-containing wound cleanser.
- PolyMem dressings usually meet all subsequent wound cleansing needs. Obvious loose wound bed debris can be removed at dressing changes. Change dressings after showering to protect the wound.

IV. Pain Management:

Wound pain usually includes both persistent (background) pain and incident-related pain (from dressing changes, repositioning, debridement, etc.). New pain may indicate a developing infection.

- Manage pain by eliminating the source (cover wound, adjust support surfaces, reposition patient, etc).
- PolyMem dressings can often reduce excess wound inflammation and edema by inhibiting the nociceptor response. PolyMem can also often help decrease spasticity in spinal cord injured patients.
- When local measures are not able to eliminate or control the source of pain, analgesics should be provided as needed. If opioids are used patients should be given stool softeners as well. Neuropathic pain often responds to antiseizure and antidepressant medications rather than opioids.

V. Dressings:

- Dressings should absorb excess exudate, fill dead space, maintain a moist wound environment, allow gaseous exchange, provide thermal insulation, protect the wound from contamination and relieve pain.
- Dressings can be chosen using the accompanying Pressure Ulcer Dressing Selection Guide.
- PolyMem dressings should be changed, at minimum, when the exudate visible through the clear semipermeable outer membrane reaches the approximate wound edge (this can be drawn on the top of the dressing). Changing the dressings more often is advisable to facilitate the removal of large quantities of slough. When PolyMem dressings are used, dressing changes do not usually include additional wound bed cleansing or rinsing.

VI. Evaluation:

- Evaluate pressure ulcer healing using a validated tool such as the PUSH tool or the PSST tool.
- Reverse-staging ("down-staging") is not appropriate because the damaged tissue is replaced with scar tissue, not the same type of tissue that was lost when the wound formed.
- Partial-thickness pressure ulcers (Stage I and II) should show evidence of healing within 1 – 2 weeks.
- Full-thickness pressure ulcers (Stage III and IV) should show a reduction in size within 2 – 4 weeks.
- If the goal of care is healing and no progress is being made after two weeks of appropriate care, reassess the overall plan and look for complications, such as infection, squamous cell carcinoma or fluid collection in the soft tissues.

VII. Infection:

- Local signs of infection in a chronic wound include: strong odor, purulent exudate, induration, friable or discolored granulation tissue, pocketing of the wound base, increased pain and/or delayed healing.[1]
- If a clean-appearing wound is not healing despite four weeks of optimal wound care and patient management, a two week trial of a topical antimicrobial is appropriate. An independent study shows PolyMem Silver dressings are a tissue-friendly dressing that incorporates antimicrobial benefits.
- A quantitative swab culture using the Levine technique should be obtained if signs of infection increase.
- Systemic response to infection such as cellulitis, leukocytosis or fever should lead to the prescription of systemic antibiotics for an effective but brief period.
- When clinical signs of infection do not respond to treatment, osteomyelitis and joint infection should be ruled out.

VIII. Adjunctive Therapies:

When following all recommendations fails to lead to pressure ulcer healing, consider adding:

- Electrical stimulation in Stage III and Stage IV pressure ulcers
- Clonidine, which often increases perfusion and oxygenation in hypoxic wounds.

IX. Surgical Treatment Options:

- Direct closure, skin grafts and local flap grafts are not recommended for pressure ulcer closure due to their extremely high failure rates.
- Musculocutaneous or fasciocutaneous flap surgery can provide quick closure for Stage III and IV pressure ulcers, but the patient must be medically stable and compliant with off-loading.

Pressure Ulcer Treatment Procedure

(After Initial Cleansing And Debridement)

Goal: The desired outcome of this procedure is to maximize healing while minimizing recurrence, complications and pain associated with pressure ulcers. Interim goals include: reducing slough and odor; decreasing pain, edema and erythema; increasing convenience to the patient; and facilitating wound closure by improving systemic factors to promote wound healing and providing a wound environment conducive to healing.

Implementation of the complete pressure ulcer protocol should result in significant cost savings due to a diminished pressure ulcer incidence and shorter treatment times. Treatment costs should also be reduced.

Equipment:

- Clean gloves
- Impervious disposable bag
- Disposable ruler and 2 soft-tipped applicators for gauging the depth of cavities, tunnels and/or sinus tracts.
- System for tracing the wound and/or a digital camera, depending upon facility documentation standards
- PolyMem, PolyMem Max and/or PolyMem Wic Wound Dressing (standard or PolyMem Silver)
- PolyMem Wic Silver Rope cavity filler if the wound includes any tunnels, fistulas or sinus tracts.

PROCEDURE	RATIONALE/EMPHASIS
I. Uncover: Assess for persistent wound pain. Enquire regularly about procedural pain throughout the dressing change. Put on gloves. Remove the wound dressing and dispose of the soiled disposable materials appropriately.	**I.** Pre-medication for pain prior to dressing changes is rarely needed,* because PolyMem dressings contain a moisturizer and are non-adherent to the wound surface, reducing the risk of disrupting healing tissues during dressing changes.
II. Assess: At least once a week, thoroughly assess all pressure ulcer parameters, including both persistent and procedural pain. Measure, trace and/or photograph wounds according to facility documentation standards. Use cotton-tipped applicators to measure the depth of any undermining, sinus tracts, fistulas, tunnels and cavities.	**II.** Assessment is essential for both documentation and follow-up. Most patients experience dramatic persistent and procedural pain relief with PolyMem dressings. Expect quick formation of granulation tissue and a steady decrease in wound bed size.
III. Fill any sinus tracts, fistulas or tunnels with PolyMem Wic Silver Rope cavity filler. Fill undermining and cavities with layers of PolyMem Wic or PolyMem Wic Silver bevel-cut to $^{2}/_{3}^{rds}$ the diameter and depth of the wound to allow for expansion as the dressings absorb exudate.	**III.** PolyMem Wic Silver Rope slides easily in and out of narrow wound spaces completely intact. PolyMem Wic and PolyMem Wic Silver have no membrane to limit their expansion, so cutting them smaller than the wound size and with a bevel is a prudent precaution to prevent risk of undue pressure on the wound edges from their expansion as they absorb exudate.
IV. Cover the wound with an appropriate PolyMem secondary dressing (see Pressure Ulcer dressing selection guide). Cloth bordered PolyMem dressings are ideal for diaphoretic patients. Shapes by PolyMem bordered dressings are water-resistant, which is important for patients with incontinence. Substitute PolyMem Silver for the standard pink dressings when antimicrobial effects are desired.	**IV.** With the PolyMem formulation, the dressing change process is simple – just remove the old dressings and place new dressings in and on the wound. No wound bed rinsing is routinely performed during the dressing change process because PolyMem dressings provide continuous cleansing of the wound. PolyMem absorbs up to ten times its weight in exudate, decreasing the risk of maceration.
V. Assess for causes of delayed healing such as inadequate pressure redistribution, nutritional deficits or infection and implement recommended interventions for these problems, using Ferris' pressure ulcer educational material.	**V.** Patients who adhere to treatment protocols usually experience a steady decrease in wound slough and wound size. Poor nutrition, inadequate pressure redistribution and infection are the most common reasons for non-healing in pressure ulcers.
VI. Follow-up: If the wound is not significantly cleaner and/ or smaller after four weeks of optimal wound care and patient management, a two week trial of antimicrobial PolyMem Silver is warranted. If there is still no improvement, the patient should be evaluated for potential osteomyelitis. If the wound appears hypoxic, clonidine may be beneficial. Electrical stimulation can also be attempted.	**VI.** Infection is a common cause of poor pressure ulcer healing. ~20% - 25% of non-healing pressure ulcers have underlying osteomyelitis. Clonidine and electrical stimulation are the two adjunctive therapies with solid evidence showing effectiveness.
VII. Document wound location, stage or grade, dimensions, type of tissue, exudate, odor, wound edges, periwound condition, persistent and dressing change wound pain, dressings used, teaching, and proposed intervention strategies such as pressure redistribution devices.	**VII.** Comprehensive documentation allows other clinicians to quickly determine appropriate interventions for the patient, enhancing the quality of care provided.

* Occasionally a patient may experience discomfort upon application of PolyMem due to the dramatic pulling of the exudate from the wound. This discomfort, which rarely occurs after the first few dressing changes, can easily be prevented by dripping saline onto the wound bed and then applying the PolyMem dressing onto this wet surface.

REFERENCES

1. Burd, A., et al., A comparative study of the cytotoxicity of silver-based dressings in monolayer cell, tissue explant, and animal models. Wound Repair Regen, 2007. 15(1):94-104.