

Pressure Ulcers eCourse

Module 5.3: Cleansing and Debridement

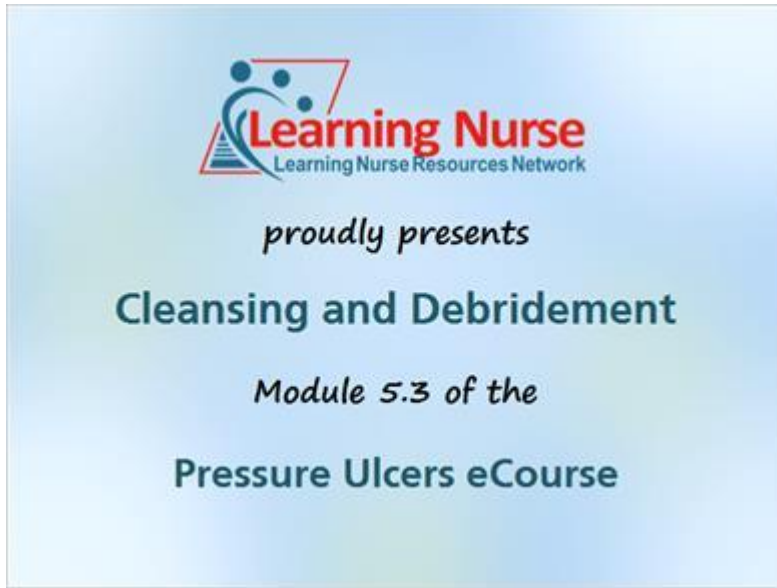
Handout

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Cleansing and Debridement

1. Cleansing and Debridement

1.1 Section Title



Narration

No narration, only music.

1.2 Topics



Narration

MARK: Hello. I'm Mark, here with Jill. We are back to talk about pressure ulcer wound cleansing and debridement. Is that correct Jill?

JILL: Yes, it is! Let's get started.

1.3 Cleansing

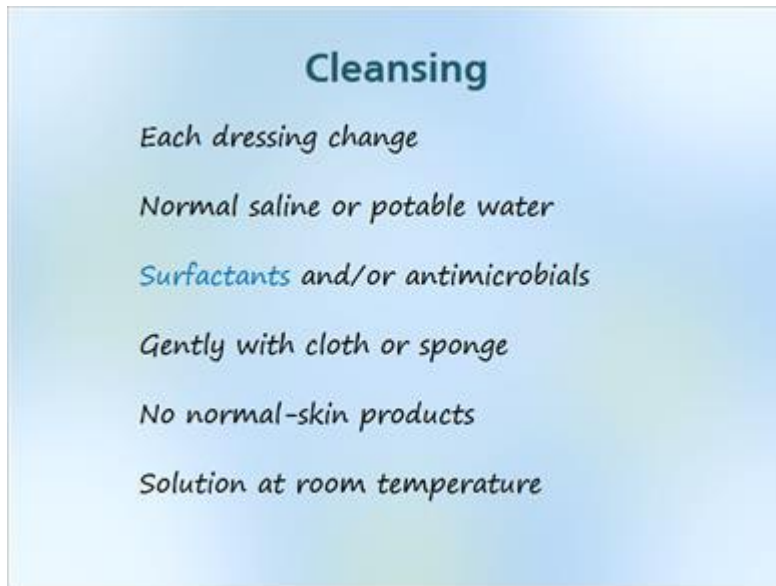


Narration

JILL: Wound cleansing is the process of using fluids to remove surface contaminants, bacteria and remnants of previous dressings from the wound surface and its surrounding skin. Cleansing is not “sterilizing” a wound. It is “washing out” a wound. If the wound materials cannot be removed gently with fluids, then a more specific mechanical technique such as debridement is required.

MARK: Okay, so how often should be “wash” a pressure ulcer?

1.4 Cleansing 2



Narration

JILL: The pressure ulcer and surrounding skin should be cleansed at each dressing change.

MARK: Okay. And what should we use to wash the wound?

JILL: For clean pressure ulcers with no debris, use normal saline or drinking water. If neither of these is available, regular tap water – that has been boiled and cooled, can be used.

MARK: What if the wound is dirty?

JILL: If the pressure ulcer has debris or is “dirty”, a cleansing solution with surfactant and an antimicrobial agent is recommended. Use until the wound becomes clean. The wound should be gently scrubbed with a cloth or sponge. Do not use aggressive scrubbing or a coarse sponge as this can cause mechanical trauma to the wound. It also increases susceptibility to infection.

MARK: Can we use normal soap to clean a pressure ulcer wound?

JILL: No Mark. You should not use any products intended for intact skin. Also, any solution that is used should be kept at room temperature so as not to cool down the wound bed.

MARK: That is all really good information. What's next?

1.5 Cleansing 3



Narration

JILL: In addition to cleansing the pressure ulcer wound, we also need to make sure that we cleanse the skin surrounding the wound. Cleansing the periwound skin with normal saline solution has been found to significantly decrease the wound and periwound microbial counts.

MARK: How often should we do periwound cleansing?

JILL: Daily periwound cleansing should be part of a standard pressure ulcer care protocol.

MARK: Okay.

1.6 Cleansing 4



Narration

JILL: One way to clean pressure ulcers wounds is to use an irrigation solution with sufficient force. To remove the debris, the force of the irrigation stream has to be greater than the adhesion forces holding back the debris to the wound bed. This means that an irrigation force of between 4 and 15 pounds per square inch (PSI) is required. A stream at this pressure is adequate to remove the debris without damaging the tissue. It will also cleanse the wound without driving the bacteria into the wound.

MARK: What do we use to do this irrigation?

JILL: One way to produce pressured irrigation is to deliver the irrigant from a syringe through a needle or catheter. A 19 gauge needle with a 35 milliliter syringe will produce 8 PSI of an irrigant delivered through it. If this procedure is used, there are a couple of other important points that need to be considered. First, infection control precautions should be applied when using any type of irrigation device to prevent environmental contamination. Second, it is important to contain and properly dispose of used irrigation solution.

1.7 Debridement

Debridement

Debride devitalized tissue

Necrotic tissue removed because it:

- *is **nidus** for infection*
- *prolongs inflammatory phase*
- *mechanically obstructs contraction*
- *impedes **epithelialization***
- *masks fluid collections or abscesses*
- *limits full assessment capability*

Narration

JILL: Let's now turn our attention to debridement. You should debride devitalized tissue within the wound bed or edge of pressure ulcers when appropriate to the individual's condition.

Devitalized tissue is tissue that is devoid of vitality or life. It is normally moist, yellow, green, tan or gray. It may become thick and leathery with dry black or brown eschar. Mark, why do you think dead wound tissue should be removed?

MARK: There are number of good reasons for debriding. Necrotic tissue is a nidus for infection. It prolongs the inflammatory phase of wound healing. It mechanically obstructs contraction. It slows down epithelialization. Devitalized tissue may also mask underlying fluid collections or abscesses and limit our ability to do a full assessment of the ulcer depth.

JILL: For all those reasons, a thorough initial debridement of the pressure ulcer and the epithelial edge should be done to encourage wound healing. It may be necessary to do follow-up maintenance debridement.

1.8 Debridement Methods

Debridement Methods

Debridement methods include:

- sharp and surgical
- hydro-surgical water knife
- autolysis
- enzymatic
- mechanical



Narration

JILL: There are several different methods of debridement. Sharp or surgical debridement uses scalpels, curettes, scissors, forceps and rongeurs. This is the most expeditious form of debridement. This method decreases surface bacterial burden and removes senescent cells, converting a chronic wound into an acute wound. Mark, why don't you do the next one?

MARK: Sure. A new surgical tool for debridement is the hydro-surgical water knife. This instrument can be regulated to precisely control the depth of debridement by setting the pressure calibration.

JILL: Autolysis is a highly selective form of slow debridement occurring naturally in all wound types. Macrophages phagocytize bacteria, and endogenous proteolytic enzymes selectively liquefy and separate necrotic tissue and eschar from healthy tissue. Moisture retentive dressings such as hydrocolloids, films and hydrogels can be used for autolytic debridement. This type of debridement should NOT be used if there is any infection or extensive necrotic tissue. It is also inappropriate for large ulcers with undermining and sinus tracts, or in individuals with compromised immunity.

MARK: Enzymatic debridement involves using enzymes from plants in combination with urea to digest the proteins in necrotic tissue. This method is fast-acting and usually has no effect on viable tissue. However, it is expensive and available only by prescription.

JILL: The last method of debridement is mechanical debridement. This method uses wet-to-dry saline dressings, hydrotherapy, or pulsatile lavage to remove debris. This method is a non-selective form of debridement resulting in the removal of both devitalized as well as viable tissue. It can be painful and cause maceration or infection.

1.9 Debridement Selection



Debridement Selection

Factors when selecting a debridement procedure:

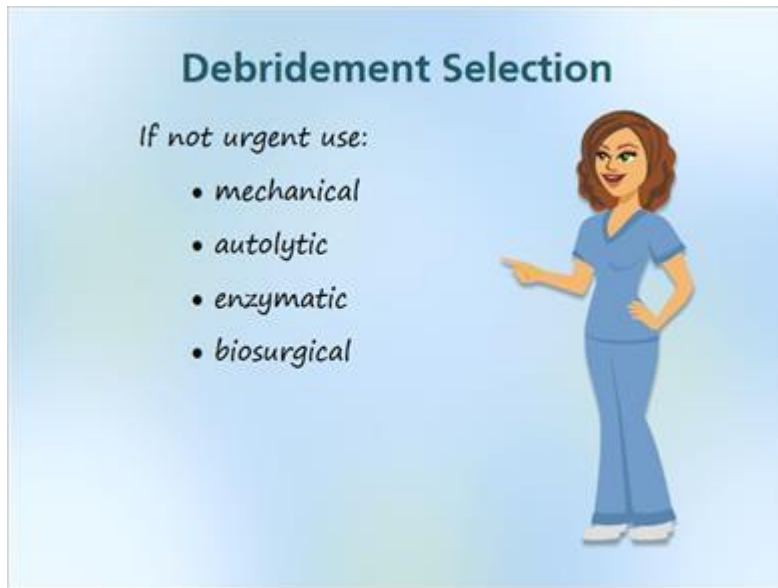
- *patient's condition*
- *goals of care*
- *ulcer/periulcer status*
- *necrotic tissue*
- *care setting*
- *professional accessibility and capability*

Narration

MARK: How do we know which debridement procedure is best for a particular pressure ulcer and patient?

JILL: Good question. First, some general considerations; in the later slides we will provide more details. The factors that we need to consider when choosing a debridement method are: the patient's overall health and condition; the goals of care for that patient; the status of the pressure ulcer and the surrounding skin; the type, quantity and location of the necrotic tissue; the care setting; and, the availability of professionals who have the competence to perform certain procedures.

1.10 Debridement Selection 2



Narration

JILL: Now for some recommendations. When there is no urgent clinical need for drainage or removal of necrotic tissue, we should use mechanical, autolytic, enzymatic or biosurgical methods of debridement.

1.11 Debridement Selection 3



Narration

JILL: We should consider surgical debridement if the pressure wound exhibits: advancing cellulitis, crepitus, fluctuance or sepsis secondary to the ulcer-related infection.

1.12 Sharp Debridement

Sharp Debridement

By competent professional
Sterilize instruments
Use caution for:

- *immune incompetence*
- *compromised vascular supply*
- *lack of antibacterial coverage*

NOT with anticoagulant therapy nor with bleeding disorders



Narration

JILL: Now a bit more on sharp or surgical debridement. This type of debridement must be performed by a specially trained, competent, qualified and licensed professional consistent with local, legal and regulatory statutes.

MARK: So what you are saying, not just any nurse can perform sharp debridement. You need to be trained and authorized to do so.

JILL: Yes, that is correct Mark. In addition, it is important that the instruments used in surgical debridement be sterilized.

MARK: I would think that this type of debridement should be used with caution in the presence of immune incompetence, compromised vascular supply to the limb, and lack of antibacterial coverage in systemic sepsis. Relative contraindications probably include anticoagulant therapy and bleeding disorders.

JILL: Yes, those are cautions we need to keep in mind.

1.13 Referrals



Narration

JILL: One option that we have in dealing with serious pressure ulcers is surgery. We should refer individuals with Category III and IV pressure ulcers for surgical evaluation. This is particularly true if the pressure ulcers have undermining, tunneling, sinus tracts, and extensive necrotic tissue that cannot be removed by other debridement methods.

1.14 Debridement Pain



Narration

JILL: Some of the debridement procedures we spoke about can be painful. Therefore it is important we appropriately manage pain. How do we do that Mark?

MARK: In my experience, we use adequate pain control measures. This means that we provide additional pain medications prior to doing the debriding. If we use topical pain medication, we found that it usually takes 20 to 30 minutes to take effect.

JILL: Yes, those are good suggestions.

1.15 Maintenance

Maintenance Debridement

Maintenance debridement until:

- covered with granulation tissue
- free of necrotic tissue



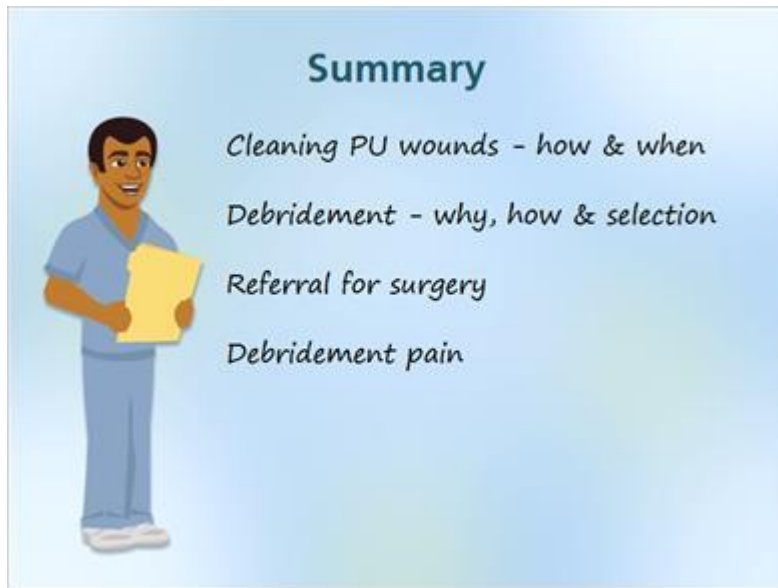
Narration

JILL: Unlike acute wounds that may only require an initial debridement, chronic wounds may require maintenance debridement of the base as well as the non-migratory hyper-proliferative epithelial edges. Therefore, we need to perform maintenance debridement on a chronic pressure ulcer until the wound bed is covered with granulation tissue and is free of any necrotic tissue.

MARK: I guess that the schedule for doing maintenance debridement depends on how fast the wound is healing.

JILL: Yes, and the data from regular ongoing assessments.

1.16 Summary



Narration

JILL: This brings us to the end of this module on cleansing and debriding pressure ulcer wounds. Would you please briefly summarize what we covered, Mark?

MARK: Sure thing. We started out our discussion talking about cleansing pressure ulcer wounds. We covered the fluids to use; how and how often to do it; cleaning the area around the wound; and how to do irrigation cleansing.

The next section was about debridement. We discussed why we need to do debridement of pressure ulcer wounds; the different debridement methods; how to select the most appropriate debridement method; and the need for maintenance debridement. We finished our presentation discussing the need for referral of some patients for surgery; and the importance of managing pain during the debridement process. Did I miss anything?

JILL: I think you summarized it very well. Thanks for doing that. Bye for now. We will see you again soon.

MARK: Bye.

1.17 The End



No narration, only music.