HORWOOD'S HOME CARE

EST. 2006

Wound Care

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Welcome to our Training Modules

After completing each module there will be an exam that you will take to test your knowledge of what you have learned. To pass the exam you must achieve an 80% score or greater.

Throughout these modules you will notice several things:

- The module name along with the slide number you are current on will show on the left side.
- An arrow at the bottom on the slide indicates that the content of the slide continues unto the next slide.
- A Continued Arrow on top of the slide indicates that the content of the slide is a continuation of the previous slide. Continued
- Good Luck.

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What is a Wound?

- A wound is any type of damage or breakage on the surface of the skin. Wounds can be due to accidents like burns, papercuts, skin tears, surgical or from underlying disease or conditions.
- A wound is an injury to the body classified by the manner in which they were made, surgical or non-surgical.

Types of Wounds

- **Surgical/Incised Wound:** A clean, straight cut usually caused by a sharp edge such as a knife or a surgeon during surgery.

Non-Surgical Wounds

1. **Laceration:** a messy looking wound caused by a tearing or crushing force. Jagged and irregular cuts such as from glass, barbed wire, chain saw or machinery. Bleeding may occur quickly, so it is important to stop the bleeding by covering the wound and applying pressure.
2. **Abrasion:** a wound caused by a scraping force or friction. Tends to not be very deep but can often contain many foreign bodies such as dirt (i.e., after a fall on lose ground). Thoroughly clean and wash the wound to avoid infection.
3. **Puncture**: a deep wound caused by a sharp, stabbing object such as those caused by a nail, bullet, animal bites, knife, or stabbing. May appear small from the outside but may damage deep tissues. Visit the Doctor or Emergency Department to get an up-to-date tetanus injection (if needed). Tetanus must be given within 48 hours of the wound damage to prevent jaw lock.
4. **Contusion**: soft tissue injury with bruising and swelling usually from a blunt force such as falls or accidents (i.e... black eye).
5. **Amputation**: the loss of a body part such as a limb, finger, toe, or ear. Often causes severe bleeding. Bring the body part to the Emergency Department with you. This is a medical emergency. Call 911 to activate the Emergency response system Immediately.

Non-Surgical Wounds

6. **Burns:** wound resulting from a burn caused by chemicals or heat. They require lots of dressing changes and time to heal. Infection and dehydration are two main concerns depending on the amount of body surface burned.
7. **Avulsion:** severe injuries that can cause uncontrolled, life-threatening bleeding. This type of injury typically occurs when skin or a body part is partially or completely torn away. Usually, a result from a serious trauma such as a car, motorcycle accident, explosions, or gunshots. Bleeding will occur instantly and extensively so you would need to call 911 immediately. You may need to apply a tourniquet to stop /control the bleeding.

Wounds can be divided into two categories

1. **Simple Wounds:** are wounds that have been sutured or stapled together by a physician or surgeon or wounds that have a drain tube in place. They usually require simple one-layer dressings.

2. **Complex Wounds:** are wounds that need frequent assessment and a combination of dressings. Complex wounds may be chronic with one or more of the following factors:

- The inability to heal within three months
- The presence of infection
- Impaired circulation such as necrotic(black dead tissue) skin or decreased viability of superficial tissues
- Associated with systemic disorders

The primary types of complex wounds include diabetic foot ulcers, pressure ulcers, venous insufficiency ulcers, infected wounds and those related to immune-suppressive therapy that resist healing with simple treatment.

Factors that affect Wound Healing and the health of the skin

- **Smoking:** nicotine causes the peripheral blood flow to be depressed by at least 50% for more than an hour after smoking just one cigarette. It reduces the amount of circulating oxygen which can interfere with wound healing.
- **Stress:** stimulates the nervous system to constrict the peripheral blood vessels which can decrease tissue blood flow.
- **Hypertension:** risk factor for Peripheral Arterial Disease (PAD) which is a common circulatory problem in which narrowed arteries reduce blood flow to your limbs. It can be a sign of a buildup of fatty deposits in your arteries.
- **Elevated Cholesterol levels:** especially the LDL(low density lipids). Another risk factor to develop PAD or fatty deposits in the arteries.

Factors that affect Wound Healing and the health of the skin

Continued

- **Metabolic Disorders:** can impair wound healing such as Diabetes, Renal Disease, Bowel disorders, COPD (Chronic Obstructive Pulmonary Disease),PVD(Peripheral Vascular Disease) and CHF(Congestive Heart Disease) can result in a decrease in the supply of oxygen to a wound,
- **Medications:** such as steroids can suppress granulation tissue. Chemotherapy and Radiation can deplete the oxygen source to a wound.
- **Nutrition:** you need an adequate dietary intake of protein, carbohydrates, fats, vitamins, and minerals such as zinc and magnesium. Many Doctors or Dietitians may order a multi-vitamin or a high protein diet or supplements such as boost or Nutren.

Factors that affect Wound Healing and the health of the skin

Continued

- **Surgery:** some anesthetic agents cause vasodilation and can cause excess amounts of body heat to evaporate, which can influence wound healing.
- **Advanced Age:** changes occur with our skin as we age and there tends to be a decrease in the intake of nutrients and fluids. Most elderly tend to heal more slowly.
- **Alcoholism:** can impair liver functioning and alter the production of protein and other essential elements needed for tissue repair.

Signs and Symptoms of Infection in a Wound

Any wound that is not properly cleaned and covered can allow bacteria, viruses, or fungi to enter through the opening in the skin, leading to infection. All wounds are at risk of infection. The effects of a wound infection may be local (just at the site) or systemic (throughout the body).

Signs and Symptoms of Infection in a Wound

Continued

Symptoms of Local Infection:

- Abnormal odor: even after cleaning
- Changes in sensation or pain at the wound site
- Abnormal drainage/discharge green(pus) or bloody
- Warmth, redness, swelling. discoloration
- Delayed wound healing

Symptoms of a Systemic Infection:

- Increased temperature/fever(not always present in the elderly).
- Felling of unwell, tired and fatigue
- Chills
- Headache
- Loss of appetite
- Restlessness

Signs and Symptoms of Infection in a Wound

Continued

The best way to prevent sepsis (bacteria in the blood) is to prevent wound infections. Sepsis occurs when the body overreacts to infection. Releasing chemicals into the bloodstream that can cause organ failure and death. Report and signs and symptoms of wound infection to the Family/Support Person or Doctor/NP. A septic wound is a medical Emergency requiring professional attention. Treatment with antibiotics and I/V fluids is usually necessary.

Principles of Wound Prevention

1) Management of Moisture: keep Client clean and dry from perspiration,(sweat) pee or stool.

2) Do not use harsh chemicals on your skin that can damage them or make them overly dry.

3) Use lotion on your skin daily to keep the skin moist.

4) Maintain a healthy diet.

5) Ensure you have adequate fluid intake. 8-10 glasses a day.

6) If bedridden, turn and position the client or do a 30-degree position shift every 2-3 hours to relieve pressure.

7) Assess your feet daily and ensure the client wears proper footwear that is not slippery and make sure there is nothing that is rubbing their feet.

8) Maintain adequate Glucose(sugar) levels if you are Diabetic. High blood sugar slows healing.

9) Maintain correct positioning for Client's who sit in a chair such as a wheelchair, Geri-chair for prolonged periods of time.

10) Apply the most appropriate dressing to the wound.

Purposes of a Dressing

- Absorb drainage
- Keep the wound moist
- Improve circulation
- Prevent contamination
- Provide comfort
- Prevent further injury/infection
- Some are used to provide chemical debridement

There are two techniques that can be used when applying dressings to a wound

1) **Sterile/Aseptic Technique:** requires sterile technique and equipment such as sterile scissors to cut the dressings if needed. Most dressings when brought are pre-packaged as sterile. Care must be taken when cleaning the wound and re-applying the new dressings to maintain sterile technique to prevent any germs/bacteria from entering the wound. Dressings are opened and placed on the sterile field and used at that time. Sterile gloves are used for the procedure after the old dressings have been removed using just clean gloves. The sterile field has to be set up with all the needed dressing supplies before putting on the sterile gloves. This technique is used mostly in hospitals, with most new surgical wounds, and for certain medical procedures.
2) **Clean/Non-Sterile Technique**: involves handwashing, maintaining a clean environment by preparing a clean field, using clean gloves and sterile dressings. Most appropriate for long term care, home care and for clients receiving routine dressings for chronic wounds such as venous ulcers. All dressing supplies should be stored off the floor, away from heat or light and secure from pets. Gloves used for wound care should not be stored in the bathroom or under a sink.

Dressing Supplies

a) **Cleansing Solution:** Normal saline is the most common solution used in wound care. They come prepackaged in single use at 50ml or bottles of 250 or 500ml. The solution and inside the bottle are considered clean. The outer bottle and rim are considered dirty and must not come in contact with the wound or the opened sterile dressing supplies. The solution is normally poured into the dressing container before starting the dressing and before putting on sterile gloves. The solution can also be poured directly onto sterile gauze for cleansing the wound. Mark the date on the bottle (if using) and throw away what is not used after 24hrs. It is sometimes more beneficial to use the single use normal saline when doing dressings daily or every second day.

b) **Wound Cleanser Spray:** Commercially prepared cleaner that comes in a spray bottle ready to use. There is an expiry date on the bottle. The outer part of the bottle is considered dirty and must not touch the open sterile dressings or the wound. It is not recommended for use on deep wounds.

c) **Gauze Dressings:** Usually used to cleanse and dry the wound and sometimes as a dressing layer to absorb drainage. They are purchased in different sizes 2x2 and 4x4. They come in prepackaged packs of two and larger ones of 50 or 100.The prepackaged ones are sterile. Once the package is opened and not all used, the contents is considered clean but not sterile. The unused clean dressings need to be stored in a dry clean area for later use. If the wound requires sterile dressings use the pre-packaged packs of two.

Dressing Supplies

Continued

- d) **Gloves:** available in prepackaged sterile (1 pair per pack) or clean multiple pairs in a box. The inside package of the sterile gloves is considered sterile unless touched. Open the gloves with caution to prevent contamination.
- e) **Garbage:** use a brown paper lunch bag or plastic garbage bag to put all the soiled dressings and other garbage into. This helps to prevent the spread of bacteria and decrease any odor in the room when doing dressings. Turn down the outer rim of the bag before placing soiled items inside. After the dressing is complete turn up the rim of the bag, fold or tie up prior to disposal.

Dressings

- There are many types of prepackaged dressings available to use for wound care. The type and purpose of the dressings that is needed for the Client you are working with will be explained to you during your delegation by the Agency Nurse/LPN.
- Some dressings are used for absorbing drainage, others may contain silver or iodine to help with wound healing. You will be shown the dressings and the proper way to apply and change them during the delegation process by the Agency Nurse/LPN.

How to make your own Saline Solution

1. Boil 4 cups of water on the stove for 20 minutes.
2. Add 1 Teaspoon of salt and let the solution cool.
3. Pour into a clean jar with a lid.
4. Make a new solution each day.

How to correctly Apply/Don Sterile Gloves

1. Choose the right glove size for your hand.
2. Remove any jewelry from your hands.
3. Perform Hand Hygiene/ Hand Sanitize.
4. Open the outer package to expose the inner sterile layer.
5. Place the inner package on a clean, dry surface and unfold to expose the gloves.
6. Using only your thumb and index finger, grasp the folded cuff of the glove.
7. Slip the hand into the glove. Leave the cuff of the glove folded.
8. Pick up the second glove by sliding the gloved hand under the cuff of the glove.
9. In a single movement, slip the second glove onto the ungloved hand. Do not touch any other surface.
10. Adjust the fingers and unfold the first cuff by gently slipping the fingers of the other hand inside the fold.
11. When the hands are gloved, they must only touch sterile devices or dressings and contents on the sterile field that is previously prepared before starting wound care. Keep your hands in front of you, above your waist. Do not touch anything outside the sterile field.

Removing/Doffing Sterile Gloves

1. Grasp the outside edge of one cuff with gloved hands, avoid touching the wrist.
2. Pull the glove off, turning it inside out and place it in your hand.
3. Hold the removed glove in your gloved hand.
4. Slide an ungloved finger or thumb under the cuff of the remaining glove.
5. Peel the glove off inside out over the previously removed glove.
6. Discard the gloves.
7. Perform Hand Hygiene/Hand Sanitize after glove removal.

Non-Sterile/Clean Gloves

They usually come in prepackaged boxes of 100 gloves a box. Each glove can fit the right of left hand. They serve as a barrier between the Home Support Worker and the Client. They can be used to remove Client's dressings and to complete the dressing if Client is using just clean technique. Do not re-use them or wash them and re-use. They are disposable after use.

How to Apply/Don Clean Gloves

1. Ensure you have the correct size of glove for your hand. They come in sizes: XS, S,M,L, and XL.
2. Remove any jewelry from your hands
3. Perform Hand Hygiene/Hand Sanitize
4. Touching only the cuff/wrist area of the glove lift a glove out of the box.
5. Put on the first glove by opening the glove at the cuff/wrist area and inserting your hand into the glove. Adjust the glove on your hand and slide it up over your wrist area.
6. Using your bare hand reach into the box and take out another glove touching only the cuff/wrist area of the glove.
7. Glove the second hand by being careful not to touch your forearm area.
8. Adjust the glove and slide it over the wrist area.

Doffing/Removing the Clean Gloves

1. Grasp the outer edge of the wrist area , fold it over and peel the glove away from the hand , turning it inside out as you remove it.

2. Hold the removed glove in your gloved hand.

3. Slide an ungloved finger or thumb under the cuff of the remaining gloved hand without touching the exterior of the glove.

4. Peel the glove off inside out over the previously removed glove.

5. Discard the gloves.

6. Perform Hand Hygiene/ Hand Sanitize.

Importance of Good Client Skincare

1. Inspect the Clients skin when doing their personal care or Bath/shower. Observe for any redness, rash, or broken areas of skin.
2. Use a mild cleansing agent when doing skin care or bathing .
3. Avoid using hot water in the bath/shower or basin to perform care.
4. Avoid excessive rubbing of the skin.
5. Use lotion after bathing/shower.
6. Keep Client's skin clean promptly after they are incontinent.
7. Do not massage over bony areas.
8. Re-position bed-bound or chair bound Client at least every two -three hours.
9. Report any skin issues to Family/Support person promptly.
10. Use pressure relieving cushions or pads if ordered for Client.

Performing Wound Care on a Client

1. Check the Client's flowsheet for any allergies, especially to dressing supplies. Ask the Client or family as well.

2. Gather the needed supplies :
   a) Dressing supplies
   b) Cleansing solution or spray
   c) Tape (if needed)
   d) Scissors (if needed). Sterile ones if using sterile technique.
   e) Gloves: clean and sterile if using sterile technique
   f) Paper/plastic bag for garbage
   g) Clean workspace to lay supplies or set up sterile field if using sterile technique.

Performing Wound Care on a Client

Continued

3. Perform Hand Hygiene/Hand Sanitize.

4. Explain the procedure to the Client.

5. Position the Client to provide easy access to the wound.

6. Arrange sterile field if using sterile technique by opening a dressing tray by touching only the outer edges. Pour the saline solution from a bottle or single bullet into the dressing container. Open the sterile dressing supplies you will need to do the dressing and let it fall onto the sterile field. Open a pair of sterile scissors if needed onto the tray. Do not touch the supplies on the tray or contaminate the sterile field when placing the dressing supplies onto the field.

7. Put on clean gloves and gently remove the old dressings. Use scissors if needed to cut tape or remove Kling.

8. Observe the amount, color, and odor of drainage on the removed dressings.

Performing Wound Care on a Client

Continued

9. Place the soiled dressings in the garbage bag.

10. Remove clean gloves and Perform Hand Hygiene/Hand Sanitize (if using sterile technique). If using clean technique continue on to the cleaning step.

11. Don sterile gloves if using sterile technique. Use the steps as outlined earlier in the module.

12. Hold the spray bottle one inch from the wound bed. Aim the nozzle at the wound and squeeze to spray, directing the stream of cleanser along the base and sides of the wound(if using the cleansing spray solution). Do not touch the bottle to the wound.

13. If using clean technique and using saline solution open the sterile 2x2 or 4x4 and pour some saline solution onto the gauze. Hold the gauze by the four corners only. Do not touch the center of the gauze that will touch the wound. Wipe from the center of the wound to the outer edge. Wipe from the top to bottom of wound. One wipe down and throw out. Use a new gauze with each wipe.

Performing Wound Care on a Client

Continued

14. If using clean technique and using the single use bullet saline solution you can twist off the top and squeeze directly onto the wound to cleanse. Wipe as above with gauze to cleanse and dry the wound. If using this method, you may want to have a blue under pad or absorbent pad under the wound area as the solution will run out over the wound edges.

15. If using sterile technique your saline solution would have been poured into your dressing tray when preparing your sterile field. Moisten the sterile 2x2 gauze in the saline solution. Squeeze out the excess using the tray forceps or your hands if you have sterile gloves on. Cleanse the wound wiping top to bottom inner to outer as above using a new sterile gauze each wipe.

16. Dry the wound to at least one inch beyond the end of the wound using the same wiping method as cleansing the wound.

Performing Wound Care on a Client

Continued

17. Apply the new sterile dressings by holding the outer corners of the dressings as you place them on the wound. Do not touch the center that will touch the wound bed.

18. Secure the dressing with tape if needed. Most dressings are self- adhesive. If using Kling, ensure you do not wrap too tightly around an arm or leg that has a wound.

19. Dispose of any garbage in the paper/plastic bag and throw into the garbage can.

20. Remove gloves and perform Hand Hygiene/Hand Sanitize.

21. Return any unused, unopened dressing supplies to the storage area.

22. Document the procedure on the Client's Flowsheet.

23. Report any changes or issues of concern to the Family/Support Person or Continuing Care Nurse or Doctor/NP.

Potential Problems

1. **Changes in Drainage:** Changes can occur in amount of drainage, color, odor, or thickness. Some of these changes can indicate an infection in the wound. A change in color from clear, bloody to pus colored or if you notice a foul odor from the wound would indicate a possible infection. As the wound heals a decrease in the amount of drainage would be normal. Notify the Family/Support Person or CCN or Doctor/NP as an assessment of the wound or swab may be needed.
2. **Changes in Wound Size:** the surrounding skin or tissues around the wound can develop swelling, redness, become warm or blistered or broken. The wound can also increase in size, become deeper or wider. The CCN may measure the wound when they do their wound assessments on their visits. Some of these changes can indicate an infection of the wound. Notify the Family/Support Person or CCN or Doctor/NP if you suspect a wound infection.

Potential Problems

Continued

3. **Fever/Chills:** this can be an indication of a systemic infection. Other symptoms such as feeling unwell, tired, restless or a headache may occur. Report to Family/Support Person but seek Medical Assistance Immediately.

4. **Dressings becoming soiled through with Drainage or Misplaced:** If dressings are not done daily, they can come off the wound or become loose or soak through with drainage. Keep the wound completely covered at all times. Ensure the dressing is secured to the skin. Replace dressings if off the wound or soiled through. Ensure adequate layers are applied or use a dressing that absorbs more drainage.

5. **Skin Irritation or Rash in area of tape or Dressing:** Always use non-allergic tape when possible. Client's can develop an allergy to a dressing or what's contained in the dressing i.e., silver. Always ask the Client about any allergies to dressing supplies before starting the dressing. Be careful when removing tape and dressings from the wounds. Kling wrap can be used to secure the dressings and prevent tape from touching the skin on the arms or legs. Ensure you don't wrap the Kling too tightly. Report these changes to the Family/Support person and CCN.

Potential Problems

Continued

6. **Contamination occurs during the procedure:** if doing a dressing that requires sterile technique and the dressing supplies , tray or your hands become contaminated during the procedure stop and remove gloves. Perform Hand Hygiene/Hand Sanitize. Re-start with new sterile supplies and new sterile gloves.

When you notice any problems or concerns when doing wound care on the Client always report it. This module is Client specific only. Other Client's may use different dressing supplies and delegation would be needed for each Client separately.