

Inservice: Wound Care and Dressings

Friday, June 26, 2009

WOUNDS:

- Are injuries of the skin and underlying subcutaneous tissues and muscles (Nursing Manual by Lippincott)
- Are disruptions in the integrity of body tissue (Medical Surgical Nursing by Lois White & Gena Duncan)
- Are breaks in the skin or mucous membrane

CLASSIFICATION

- A. Closed Wounds – tissue is injured but skin is not BROKEN
1. Contusion – it is a bleeding beneath the skin into the soft tissue
 2. Hematoma – well-defined pocket of blood and fluid beneath the skin.
- collection of blood under the skin and tissue.
- B. Open Wounds – are injuries with break in the skin or mucous membrane
1. Abrasion – superficial loss of skin resulting from rubbing or scraping the skin over a rough or uneven surface
 2. Laceration – tear in the skin that can be partial or full thickness cut. Can also be defined as incisional or jagged.
 3. Puncture – occurs when the skin is penetrated by a pointed or sharp object.
 - a) Penetrating when it is entrance wound only.
 - b) Perforating when it is entrance and exit wound.
- generally puncture wounds do not cause serious external bleeding but there may be significant internal bleeding and damage to vital organs.
 4. Incision – an open wound with clean, straight edges usually done with a sharp instrument.
 5. Avulsion – involves tearing off or loss of a flap of skin.
 6. Amputation – traumatic cutting or tearing off of a finger, toe, leg or arm.

WOUNDS usually result from many causes

- Surgical incision
- Trauma caused by accidents, violent acts, falls, vehicle accidents, gunshots, by human or animal bites, frost bites, burns and other types of trauma.

- Pressure Ulcers or Pressure Sores are wounds that occur from poor skin care, and immobility.

WOUNDS can be described in many ways:

- INTENTIONAL WOUNDS are wounds created for therapy.
Ex: surgical incisions and venipunctures for starting IV therapy or for collecting blood specimens.
- UNINTENTIONAL WOUNDS are results from trauma-like falls, vehicular accidents, gunshots, stabbings and other violent acts.

Intentional and unintentional wounds are described to be open wounds.

- CONTAMINATION is another factor in describing wounds.
 - CLEAN WOUNDS are not infected. Microbes have not entered the wounds
Closed wounds are usually clean and so are intentional wounds created under surgical aseptic conditions.
 - CLEAN, CONTAMINATED WOUNDS occur from the surgical entry of the urinary, reproductive, respiratory or gastrointestinal system. These systems are not sterile and contain normal flora (group of bacteria that normally exist in the human system).
 - CONTAMINATED WOUNDS have a high risk of infection. Unintentional wounds are generally contaminated. Wound contamination occurs also from breaks in surgical asepsis and spillage of intestinal contents.
 - INFECTED WOUNDS are also called dirty wounds. They contain a large amount of bacteria and show signs of infection.
 - CHRONIC WOUNDS are those that do not heal easily. (Pressure ulcers, decubitus ulcers, bed sores)
- Another factor in describing wounds is WOUNDS DEPTH.
 - Partial-thickness wounds – the dermis and epidermis of the skin is broken.
 - Full-thickness wounds – dermis, epidermis and subcutaneous tissues are penetrated. Muscles and bones may be involved as well.

PHASES OF HEALING:

1. Inflammatory phase (3 days): bleeding stops; scab forms, blood supply to the wound increases. There is redness, swelling, heat or warmth, pain and loss of function.
2. Proliferative phase (day 3-21): tissue cells multiply to repair the wounds
3. Maturation phase (day 21 to 1-2 years): scars gain strength. Red, raised scars eventually become thin and pale.

WOUND HEALING TYPES:

1. Primary Intentions – primary closure; wound edges are brought together
2. Secondary Intentions – usually used for contaminated & infected wounds
 - Wounds are cleaned and dead tissues are removed
 - Wound edges are not brought together
 - Healing occurs naturally
 - Healing time is longer; it leaves a larger scar; threat to infection is greater
3. Tertiary Intentions – so-called delayed intentions
 - Leaving a wound open and closing it later
 - Combination of secondary and primary intentions
 - Infection and poor circulation are common reasons for tertiary intentions

COMPLICATIONS OF WOUND HEALING:

1. Hemorrhage – hematoma may occur and possibility of shock due to excessive bleeding
2. Infection
3. Dehiscence – separation of wound layers

WOUND DRESSINGS:

PURPOSE:

1. Protect wounds from further injury and microbes
2. Absorb drainage
3. Promote comfort
4. Cover unsightly wounds
5. Provide moist environment for wound healing
6. Control bleeding for wounds that bleed excessively

DRESSINGS ARE BASED ON:

1. Types of wounds
2. Size
3. Location
4. Amount of drainage
5. Presence or absence of infection

COMMON DRESSING MATERIALS:

1. Gauze in variety of sizes: used to absorb moisture
 - Non-adherent gauze has non-stick surface; removes easily without injuring tissue
2. Transparent adhesive film
 - Prevents bacteria and fluid from reaching the wound but still allows air to circulate
 - Keeps wound moist
 - Allows wound observation without moving the dressing

DRESSING APPLICATION METHODS:

1. Dry to Dry Dressing: simply called dry dressing
2. Wet to Dry Dressing: a gauze dressing saturated with solution is applied over the wound with additional wet dressings applied as needed; solutions act to soften the dead tissues around the wound; the dressing is removed when it dries out
3. Wet to Wet Dressing: a gauze dressing saturated with solution is applied over the wound and kept moist (not allowed to dry out)

SECURING DRESSING:

- Dressing need to be secured to keep bacteria from entering the wound and to absorb drainage
- Non-Allergenic Tapes and Montgomery ties are used to secure dressings
- Tapes should extend beyond each side of the dressing but never to encircle the entire body part
- If swelling occurs, it means that dressing is impairing circulation

HEAT and COLD APPLICATIONS:

Heat and cold applications are often ordered by doctors to promote healing, comfort and reduce tissue swelling.

IMPORTANT: A wound can affect a patient's basic needs and basic needs are just one aspect of a person's care. Remember:

- a) That the person is recovering from a surgery and trauma
- b) Pain and discomfort of present
- c) Handle the person gently
- d) Person's appetite is affected by pain
- e) Always practice standard precautions
- f) Follow Blood Borne pathogen standard
- g) To the elderly delayed healing is a risk.

Bed Sore; Decubitus/Pressure Ulcer

Definition

A pressure ulcer is an area of skin that breaks down when you stay in one position for too long without shifting your weight. This often happens if you use a wheelchair or you are bedridden, even for a short period of time (for example, after surgery or an injury). The constant pressure against the skin reduces the blood supply to that area, and the affected tissue dies.

A pressure ulcer starts as reddened skin but gets progressively worse, forming a blister, then an open sore, and finally a crater. The most common places for pressure ulcers are over bony prominences (bones close to the skin) like the elbow, heels, hips, ankles, shoulders, back, and the back of the head.

Causes

These factors increase the risk for pressure ulcers:

- Being bedridden or in a wheelchair
- Fragile skin
- Having a chronic condition, such as diabetes or vascular disease, that prevents areas of the body from receiving proper blood flow
- Inability to move certain parts of your body without assistance, such as after spinal or brain injury or if you have a neuromuscular disease (like multiple sclerosis)
- Malnourishment
- Mental disability from conditions such as Alzheimer's disease -- the patient may not be able to properly prevent or treat pressure ulcers
- Older age
- Urinary incontinence or bowel incontinence

Stages

Pressure sores are categorized by severity, from Stage I (earliest signs) to Stage IV (worst):

- **Stage I:** A reddened area on the skin that, when pressed, is "non-blanchable" (does not turn white). This indicates that a pressure ulcer is starting to develop.
- **Stage II:** The skin blisters or forms an open sore. The area around the sore may be red and irritated.
- **Stage III:** The skin breakdown now looks like a crater where there is damage to the tissue below the skin.
- **Stage IV:** The pressure ulcer has become so deep that there is damage to the muscle and bone, and sometimes tendons and joints.

First Aid

Once a pressure ulcer is identified, steps must be taken immediately:

- Relieve the pressure on that area. Use pillows, special foam cushions, and sheepskin to reduce the pressure.
- Treat the sore based on the stage of the ulcer. Your health care provider will give you specific treatment and care instructions.
- Avoid further trauma or friction. Powder the sheets lightly to decrease friction in bed. (There are many items made specifically for this purpose -- check a medical supplies store.)
- Improve nutrition and other underlying problems that may affect the healing process.
- If the pressure ulcer is at Stage II or worse, your health care provider will give you specific instructions on how to clean and care for open ulcers. It is very important to do this properly to prevent infection.
- Keep the area clean and free of dead tissue. Your health care provider will give you specific care directions. Generally, pressure ulcers are rinsed with a salt-water rinse to remove loose, dead tissue. The sore should be covered with special gauze dressing made for pressure ulcers.
- New medicines that promote skin healing are now available and may be prescribed by your doctor.

TREATMENTS:

Treating bed sore is much more difficult than preventing one.

- Bed sores at the early stage usually heal by themselves once pressure is removed.
- General health can be improved by taking protein and calorie supplements that helps in speedy healing.
- Protective covering helps in healing process once the skin is broken. Teflon coated or petroleum jelly impregnated gauze has the advantage of not sticking to the healing wound. Deeper sores use special dressings that contain gelatin-like material that can help new skin grow.
- Washing gently with soap or use of disinfectants (providone – iodine) if the sore appears infected. However, cleansing too harshly can also slow healing process.
- Sometimes a doctor needs to debride to remove the dead materials with a scalpel.
- Sometimes chemical agents are used instead.
- Transplants are done on deep bed sores. But unfortunately, this process is not always possible to patients who are older, frail and malnourished.
- Antibiotic drugs are given when infections develop within the sore.
- Longer treatment of antibiotic may be required when bones beneath the sores become infected (called osteomyelitis).

DO NOT

- DO NOT massage the area of the ulcer. Massage can damage tissue under the skin.
- Doughnut-shaped or ring-shaped cushions are NOT recommended. They interfere with blood flow to that area and cause complications.

Signs of an infected ulcer include:

- A foul odor from the ulcer
- Redness and tenderness around the ulcer
- Skin close to the ulcer is warm and swollen

Fever, weakness, and confusion are signs that the infection may have spread to the blood or elsewhere in the body.

Prevention

If bedridden or immobile with diabetes, circulation problems, incontinence, or mental disabilities, you should be checked for pressure sores every day. Look for reddened areas that, when pressed, do not turn white. Also look for blisters, sores, or craters. In addition, take the following steps:

- Change position at least every two hours to relieve pressure.
- Use items that can help reduce pressure -- pillows, sheepskin, foam padding, and powders from medical supply stores.
- Eat healthy, well-balanced meals.
- Exercise daily, including range-of-motion exercises for immobile patients.
- Keep skin clean and dry. Persons with incontinence need to take extra steps to limit moisture.

It remains true that decubitus ulcers are generally considered preventable and the development of decubitus ulcers is generally evidence of some form of deviation in the standard of care (neglect) usually nutrition, hydration, hygiene, positioning or infection control. Many paralyzed or terminal individuals with very poor nutrition can remain free of decubitus ulcers. This is accomplished by good patient care often being provided by family members and non-licensed hired caregivers. Professional medical personnel generally provide only a minimum amount of medical assistance in these home care settings. PREVENTION IS GENERALLY ACHIEVED BY DILIGENT CARE.

COMMON SITES FOR BED SORES:

1. Shoulders
2. Elbows
3. Lower back
4. Hips
5. Buttocks
6. Knees
7. Ankles
8. Heels

SUMMARY

In most situations, decubitus ulcer formation is preventable and not excusable. Accepting decubitus ulcer formation as inevitable does not facilitate an environment of optimum care.

In almost all situations, the development of massive decubitus ulcers is evidence of some form of deviation in the standard of nursing care (neglect). Generally the neglect is in more than one area, i.e., hygiene, nutrition, infection control, protection and positioning. It would be a very rare exception for this to not be true.