Basic Wound Care

SHEILA GUZMAN

INTRODUCTION

The goal of this presentation is to teach others basic knowledge about wounds and how to use a holistic approach to assess and manage them.

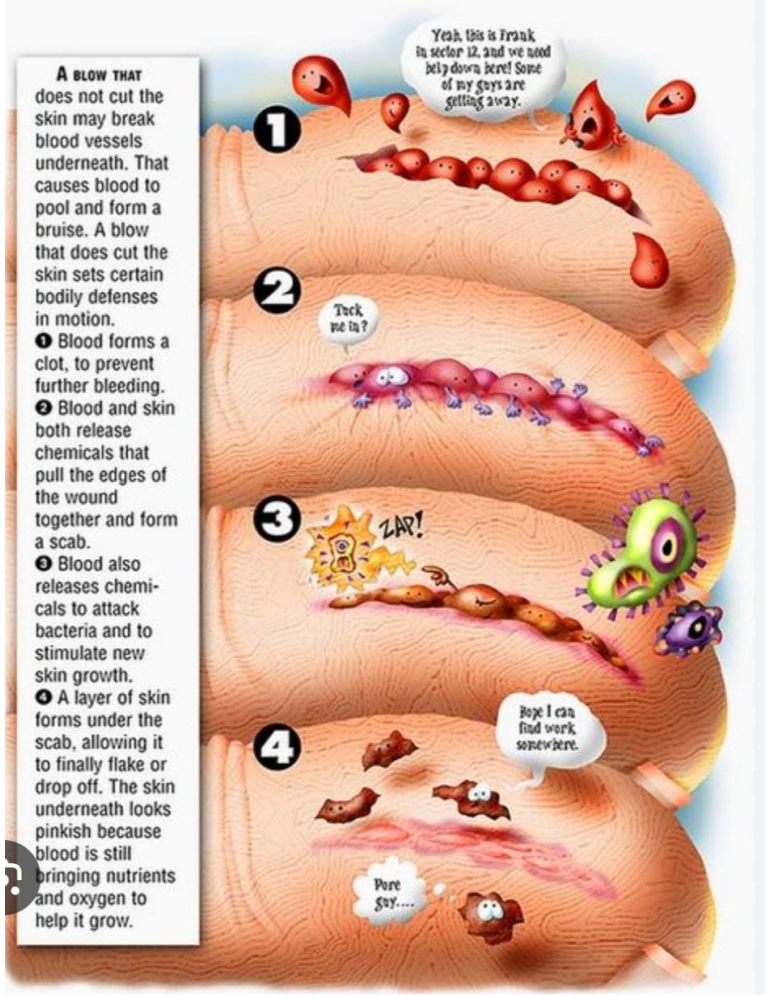
OBJECTIVES

- Define phases of wound healing
- Identify both intrinsic and extrinsic factors that affect wound healing
- Demonstrating differences between acute and chronic wounds
- Discussing components of wound bed preparation
- Explaining what needs to be documented
- Identify three different dressings commonly used in my facility

Phases of wound healing

- Homeostasis- bleeding is controlled by means of clotting cascade. Lasts 1-2 days.
- Inflammation- establishes clean wound bed by eliminating bacteria and debris. Peaks a 3-5 days and lasts until day 10.
- Proliferation-regeneration of blood vessels (angiogenesis), collagen and connective tissue proteins (fibroblasts). Begins on day 1 and lasts between 21-30 days.
- Maturation/Remodeling- provisional collagen is replaced and wound strength increases. Begins during proliferative stage and can last up to 2 years

(Beitz, 2022).



(Kline, 2011)

Differences between Acute and Chronic Wounds

- Acute wounds -wounds that heal in orderly, timely and durable manner. Delays in healing process are typically minimal in these cases.

- Chronic wounds- wounds that **do not** heal in an orderly or timely manner. Known to have pro-longed inflammatory phase and/or stalls in a phase in the healing process.

Intrinsic and Extrinsic Factors that Impact Wound Healing

INTRINSIC FACTORS

- Age
- Immune compromised- HIV/AIDS, cancer
- Psychological stress- stress, anxiety, depression
- Hereditary skin disorders- Epidermolysis bullosa
- Chronic diseases-diabetes, COPD, cardiovascular diseases, liver failure, kidney disease
- Diseases due to impaired blood flow-peripheral vascular or chronic venous disease
- Obesity

EXTRINSIC FACTORS

- Smoking
- Radiation, Chemotherapy
- Infections- local or systemic
- Malnutrition
- Medications- corticosteroids, anticoagulants and angiogenesis inhibitors
- Immobility

What is a "holistic" assessment?

- Holistic assessment is providing care for an individual as a whole, not just focusing on the wound. It is assessment of the patient's overall health status, medical history, skin status, wound etiology, and environmental and lifestyle factors that may affect their ability to heal.

What needs to be documented related to assessment and wound care in medical record

- Baseline documentation should include:
  - Head to toe assessment by systems
  - Wound etiology
  - Detailed description and duration of wound
  - History of previous wounds
  - Factors that can interfere with healing such as co-morbid conditions and medications
  - Plan of care
- Initial and serial assessments should include:
  - Wound assessment and progress
  - Interventions (with specifics on what is used like products, equipment settings, etc.
  - Patient response to care
  - Plan moving forward

(BARONOSKI, AYELLO, NIEZGODA, & LENGEMO, 2016, AS CITED IN R. B. TURNBULL, JR MD SCHOOL OF WOC NURSING EDUCATION, 2022B)

Wound Bed Preparation

- Wound bed preparation begins with cleansing the wound focusing on selecting the appropriate agent and technique to use to cleanse the wound. The goal in cleansing the wound is to remove as much devitalized tissue, bacterial burden and exudate as possible with damaging viable tissues found within the wound bed.
- In clean wounds noncytotoxic solutions such as saline, tap water and commercial wound cleansers are appropriate to use with a bulb syringe to provide a gentle flush pressure.
- In necrotic or infected wounds (also known as dirty wounds) use of irrigation is required to effectively reduce bacterial loads and remove avascular tissue and debris using low pressure. Agents used for cleansing may be noncytotoxic or cytotoxic antiseptics such as sodium hypochlorite (dilute bleach), acetic acid (vinegar), hydrogen peroxide, povidone-iodine and silver.
- Whenever irrigation with any degree of pressure is used to cleanse a wound, it is essential to wear personal protective equipment.

Dressing Classifications, Indications and Contraindications

- Impregnated gauze dressing saturated with products such as petroleum, zinc compounds, chlorohexidine gluconate and hydrogel just to name a few. They provide moisture to the wound, absorb exudate and have antimicrobial properties.
  - Indications for impregnated gauze dressings- used on partial to full thickness wounds, skin tears/grafts burns and chronic wounds
  - Cost effectiveness of gauze dressings are much higher when factoring in time, frequency of dressing changes and cost of the person performing the care.

Impregnated Petrolatum used in my facility

Nursing order for use of Xeroform after circumcision is would be as follows:

- Xeroform is to be applied upon completion of the procedure, if not applied immediately by the person who performed the procedure. Dressing is to be changed daily and prn. Frequent assessments should be done for signs of bleeding, swelling, and during diaper or dressing changes. Provide pain management as needed. Educate caregivers on to care for the site and monitor for signs of infection.

Dressing Classifications, Indications and Contraindications

- Hydrogel dressings available in gel sheets/dressings and viscous liquids are used to hydrate the wound. Solid gel sheet dressings can absorb drainage and provide a cooling effect.
  - Indications for hydrogels- used in wounds that are deep, with tunnels, or shallow with minimal exudate, on minor burns or damaged tissue, and promote autolytic debridement.
  - Contraindications- can cause maceration of periwound, not for wounds with large amounts of drainage, may need a secondary dressing.

Hydrogel use in my Facility

- Nursing order for use of Hydrogel in sutureless closure of infant's born with gastroschisis would be as follows:
  - CarraDres clear hydrogel sheet wound dressing is to be applied over the open, reduced gastroschisis site immediately. Entire site must be fully covered. Dressings may be changed every 5 days and reinforced as needed between dressing changes. Monitor infant's abdomen for distention, signs of infection, bleeding or excessive drainage. Notify the surgical team of any changes in the infant or wound's status.
  - Parental consent must be provided for bedside sutureless closure.

Dressing Classifications, Indications and Contraindications

- Silver dressings

Summary

- Discussed phases of wound healing and how intrinsic and extrinsic factors can interfere with the process.
- Learned what holistic assessment is and how it is used to guide treatment plan.
- Importance of wound bed preparation
- Learned about different dressing classifications
- Documentation of assessment, interventions and patient responses

REFERENCES

- Beitz, J. M (2022). Wound healing. In L. L. McNichol, C. R. Ratliff, & S. S. Yates (Eds.), *Wound, Ostomy and Continence Nurses Society core curriculum: Wound management* (2nd ed., pp. 39-52). Wolters Kluwer.
- Kline, M. (2011). *Cut & Dried*. DogFoose. http://dogfoose.com/2011/03/cut-dried/
- Jaszarowski, K & Murphree, R. W. (2022). Wound cleansing and dressing selection. In L. L. McNichol, C. R. Ratliff, & S. S. Yates (Eds.), *Wound, Ostomy and Continence Nurses Society core curriculum: Wound management* (2nd ed., pp. 157-168). Wolters Kluwer.
- R. B. Turnbull, Jr MD School of WOC Nursing Education. (2022a). [Lecture notes on wound assessment part 1].
- R. B. Turnbull, Jr MD School of WOC Nursing Education. (2022b). [Lecture notes on wound assessment part 2].

- Berti-Hearn, L. (2022). Back to the basics: wound assessment, management and documentation. *Home Healthcare Now, 40*(5) pp. 245-251. Wolters Kluwer Health. HHN0922_Masthead_Deepak.indd (lww.com)