

**CONSIDERATIONS:**

1. All chronic wounds are considered contaminated. The degree of contamination and the distinction between contamination and infection are difficult to determine clinically.
2. The appearance of the wound may be misleading. Collect a wound culture when signs of infection are present, i.e., induration, fever, erythema and edema, purulent drainage, when a wound fails to heal in a patient who is immunocompromised, or when the wound healing is atypical and iatrogenic factors have been ruled out.
3. If a wound appears infected and contains necrotic tissue or a sinus tract, obtain both a culture for aerobic (with oxygen) and anaerobic (without oxygen) microbes. Contact the laboratory for special instructions or supplies needed for obtaining an anaerobic culture.
4. Swab cultures are of questionable value as multiple bacteria are often present in wound fluid and on wound surfaces, particularly when occlusive dressings have been used. Take a swab culture only when the wound shows clinical signs of infection.
5. When collecting, DO NOT use purulent matter to culture and DO NOT swab over hard eschar. Use a sterile calcium alginate or rayon swab, not a cotton swab. In some cases, a tissue biopsy from the wound may be indicated to accurately diagnose infection.
6. Uses of wound biopsy or needle aspiration techniques for culture (aerobic and anaerobic) are the preferred methodologies.

**EQUIPMENT:**

Gloves  
Sterile normal saline  
Protective bed pad, optional  
Culture swab(s)  
Container to transport specimen to lab  
Laboratory requisition form(s)  
Impervious trash bag

**PROCEDURE:**

1. Use two patient identifiers.
2. Obtain physician order for swab.
3. Adhere to Standard Precautions.
4. Assemble equipment.
5. Explain procedure to patient/caregiver.
6. Use clean technique, remove dressing and discard in appropriate container.
7. Thoroughly and gently rinse the wound with sterile normal saline before culturing. Avoid touching the wound surface with gloved hand or any other object.
8. Use either the Z-stroke or Levine's technique (Modified Swab Technique) to obtain a culture.

9. Moistening the swab with normal saline is recommended prior to specimen collection.
10. Swabs using the Z-stroke entail rotating the swab between the fingers as the wound is swabbed from margin to margin in a 10 point zig-zag fashion.
11. The Levine Technique consists of rotating the swab over a 1 cm square area with enough pressure to express fluid from within the wound tissue. This technique is thought to be more reflective of tissue bio-burden than swabs taken with a Z-stroke. The Levine Technique is best used when in the wound is first clean and there is no necrotic tissue or eschar.
12. Place culture swab in appropriate container immediately, making sure not to touch swab tip or inner surface of collector container.
13. Discard soiled supplies in appropriate container.

**AFTER CARE:**

1. Complete all laboratory requisitions, including specific description and location of culture source and type of culture requested (aerobic/anaerobic).
2. Send culture swab to laboratory as soon as culture is taken because delays in plating may alter the results.
3. Follow agency policy for reporting of laboratory results to physician.
4. Document in patient's record:
  - a. Procedure and observations
  - b. Identity and location of laboratory where cultures taken
  - c. Patient's response to procedure
  - d. Instructions given to patient/caregiver

**REFERENCE:**

Baronowski, S., & Ayello, E. (2011). *Wound Care Essentials: Practice Principles (3<sup>rd</sup> Edition)*. Philadelphia: Wolters Kluwer/Lippincott, Williams & Wilkins.

Stotts, N. (2007). *Wound Infection: Diagnosis and Management*. In R. Bryant & D. Nix (Eds.), *Acute and Chronic Wounds: Current Management Concepts (3<sup>rd</sup> Ed.)*. Rev. P.161-175. St. Louis, MO: Mosby.

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