DEPARTMENT OF PATHOLOGY
Dartmouth-Hitchcock
MEDICAL CENTER

Subcutaneous tissue and skin specimens

1. **Burn specimens**
   The surface of burn wounds will become colonized by the patient's microflora and environmental organisms. When the organism load is large, infection of underlying tissue may occur, and bacteremia may ensue. Cultures of the surface alone are misleading; therefore, biopsies of deeper tissue are often indicated. Additionally, organisms may not be distributed evenly in the burn wound, so sampling of different areas of the burn is recommended.
   a. Disinfect the surface of the burn with 70% alcohol and then with a 10% solution of povidone-iodine. Allow the disinfectant to dry prior to collecting the specimen. *Note: Blood cultures should be used to monitor patient status.*
   b. Collect a punch biopsy sample (3 to 4 mm) for quantitative culture. Transport to lab in sterile container (without addition of saline).

2. **Superficial wound, bacterial**
   a. Syringe aspiration is preferable to swab collection.
   b. Disinfect the surface of the wound with 70% alcohol and then with a 10% solution of povidone-iodine. Allow the disinfectant to dry prior to collecting the specimen.
   c. Using a 3 to 5 ml syringe directly or with a 22 to 23 gauge needle, a physician aspirate the deepest portion of the lesion. If a vesicle is present, collect both fluid and cells from the base of the lesion.
   d. If the initial aspiration fails to obtain material for culture, sample wound using an E-swab and place in E-swab transport.

3. **Superficial lesions, fungal**
   a. Clean the surface with sterile water.
   b. Using a scalpel blade, scrape the periphery of the lesion border. Samples from scalp lesions should include hair that is selectively collected for examination. If there is nail involvement, obtain scrapings of debris or material beneath the nail plate. Transport in a sterile container.

4. **Superficial lesions, Mycobacteria (AFB)**
   a. Disinfect the surface of the lesion with 70% alcohol and then with a 10% solution of povidone-iodine. Allow the disinfectant to dry prior to collecting the specimen.
   b. Collect a punch biopsy sample (3 to 4 mm) for culture. Transport to lab in sterile container.

5. **Ulcers and nodules**
   a. Clean the area with 70% alcohol and then with a 10% solution of povidone-iodine.
   b. Remove overlying debris.
   c. Curette the base of the ulcer or nodule.
   d. If exudate is present from ulcer or nodule, collect it with a syringe or sterile swab.

Collection considerations for subcutaneous tissue and skin specimens

Anaerobes	Uncommon in burn, ulcer, nodules, or superficial skin infections; useful following bites and trauma
Bacteria	Syringe aspirates or biopsy specimens are preferable to swab specimens.
Fungi	Useful in diagnosing dermatophyte infection, yeast, filamentous and dimorphic fungi
Mycobacteria	Useful in diagnosing *Mycobacterium marinum*, *Mycobacterium fortuitum*, and *Mycobacterium chelonei* infections
Virus	Useful in diagnosing HSV and varicella-zoster virus. Recovery of HSV and VZV is highest from the youngest lesions (vesicles), than from pustules, ulcers, and crusted lesions.