Skin, Bone and Wound Culture Specimen Collection

Subcutaneous Tissue, Debridements and Skin Specimens
The patient's normal skin flora or environmental organisms may colonize the surfaces of burn wounds and ulcers. When the organism load is large, infection of underlying tissue may occur, and bacteremia may ensue. Cultures of the surface of these wounds may be misleading. It is important to debride and send several areas for culture. Disinfect the surface of the burn/ulcer with alcohol and then with iodine. Remove any overlying debris. Curette the base of the nodule or ulcer. If exudate is present, collect with a syringe or sterile curette swab.

- Culture - Place specimen in the appropriate transport medium (See Table 2).
- Pathologic examination - Place a portion of tissue in 10% neutral buffered formalin.

Tzank Preparation (Herpes): A direct scrape procedure is preferred. A cotton swab or other similar material should not be used to obtain a sample because diagnostic cells will become trapped in the fiber matrix. Pre-moisten the suspect lesion with saline. If possible, choose a fresh vesicle that has not ruptured and crusted. Open the fresh vesicle or the crust from a ruptured lesion with a disposable needle. Scrape the margin of the lesion using the edge of a metal spatula, scalpel blade, or glass slide. The edges of the lesion have the best yield of diagnostic cells.

a. Prepare a glass slide: label with the patient's name and date of birth using a #2 pencil or alcohol proof pen.
b. Quickly and carefully spread the material onto the slide. Fix immediately using 2-3 pumps of commercial spray fixative. Hold the fixative bottle 6-10 inches away from the glass slide to avoid artifacts.
c. Let the slide dry before placing it into a plastic or cardboard slide holder. Store at room temperature until the slides are transported to the laboratory.

Superficial Wounds
Disinfect the surface of the wound with alcohol and then iodine. Aspirate the deepest portion of the lesion. If a vesicle is present, collect both fluid and cells from the base of the lesion.

- Culture - To obtain material for culture sterile, nonbacteriostatic physiologic saline may be injected subcutaneously if no material is obtained from the initial aspiration. Place the specimen in nutrient broth obtained from the Microbiology laboratory or place the aspirated material into the proper transport container (See Table 2).
- Pathologic examination - Submit a separate portion of tissue placed in 10% neutral buffered formalin for pathology examination.

Bite Wounds
Do not culture fresh bite wounds since infectious agents will most likely not be recovered during this time. Aspirate pus from the wound at the time of incision, drainage, or debridement of infected wound. Place the specimen into an appropriate transport container (See Table 2).
Deep Wounds
Disinfect the surface with alcohol and then iodine. Aspirate the deepest portion of the lesion.

- Culture - If collection is performed at surgery and cultures are requested, a portion of the abscess wall should also be sent. Tissue or fluid is superior to a swab specimen for culturing. If swabs must be sent, collect one for culture and another for gram stain.
- Pathologic examination - Place tissue for pathology examination in 10% neutral buffered formalin.

Bone
Obtain a bone section at the time of surgery. Small sections of suspected infected area should be absent.

- Cultures - Place the specimen into a sterile screw-capped tube with a small amount of saline to counteract drying. Entire appendages or large pieces of bone are unacceptable. Transport the specimen to the laboratory for processing as quickly as possible since anaerobic cultures will most likely be obtained.
- Pathologic examination - submit a separate portion of tissue in 10% neutral buffered formalin.

Punch Skin Biopsies
Disinfect the skin surface with alcohol and an iodine solution. Excess iodine may be removed after completion of the procedure with alcohol to prevent burning or irritation. Collect a 3-4 mm. sample with a dermal punch.

- Cultures - Submit the specimen in a sterile container with a small amount of saline. DO NOT ADD FORMALIN. Transport to the laboratory as soon as possible for processing.
- Pathology examination – Place a separate specimen for routine histology in formalin and into Zeus fixative for immunofluorescence studies.

Soft Tissue Aspirate
Disinfect the area with alcohol and iodine. Aspirate the deepest portion of the lesion or sinus tract. Avoid contamination by the wound surface.

- Cultures - Place the aspirate in the appropriate transport media (See Table 2) and send to the laboratory for processing as soon as possible.
- Pathologic examination – Place a separate piece of tissue into 10% formalin and transport to the laboratory.

Skin Lesions for HSV or VZV PCR
1. Clean the surface of the lesion with sterile saline. If the lesion is crusted over remove it.
2. Unroof the vesicle and collect fluid with a sterile swab. OR
3. Scrape the base of an open vesicle with a sterile scalpel blade and then rub the base vigorously with a sterile swab.
4. Place swab in the viral transport media and break or cut the shaft below the handle.
Bone Marrow Aspirate
Labels to place on the specimens for the various departments can be obtained from Client Services at 518-262-4549.

- Hematology - Use the first-aspirated material for Hematology analysis. Place aspirate in a lavender-top, EDTA (liquid) tube. Place a "Heme" sticker on the tube OR prepare smears.
- Cultures - Obtain media from the laboratory. At the point of service, directly inoculate media for culture (blood culture vials, fungal and/or AFB media).
- Cell markers - Place at least 2 ml of aspirate in a green-top, heparin tube or place the pre-heparinized specimen in a red-top tube. Place a "Flow" sticker on the tube. Specimens that are collected without anticoagulant need to be handled expeditiously because clotted specimens cannot be analyzed.
- Cytophenetic testing - Place 1-2 ml of aspirate in a green-top, heparin tube. Place a "Cyto" label on the tube.
- Label all tubes with patient name, date of birth, date and time of collection.

Bone Marrow Biopsy
- Pathologic examination - Place the bone marrow biopsy in B-Plus Fix and label with the "Histo" sticker.

Spinal Fluid
- The first tube collected may be contaminated with tissue debris or skin bacteria and should be used for chemical or serological tests.
- The second tube collected is sent to cytology. No preservatives are needed. Refrigerate fluid until transported to the laboratory.
- The third tube collected generally is sent for microbiological tests. However, the most turbid tube should go to microbiology.
- The fourth tube collected is for hematologic testing.
- Up to 20 mls of spinal fluid can be safely removed from an adult, although this amount is not usually required. Suggested volumes are:
  o 1 ml for routine cultures
  o 0.5 ml for viral PCR
  o 2 ml each for fungal and 3-5 mls for mycobacterial culture.
  o 2-3 ml for cytology examination, (1 ml minimum).

Ommaya reservoir fluid
Clean the Ommaya reservoir site with antiseptic solution and alcohol prior to the removal of Ommaya fluid to prevent the introduction of infectious agents. Remove the Ommaya fluid via the reservoir unit. Place fluid in a sterile screw-capped container and transport to the laboratory as soon as possible.