

## **PERIPHERAL SMEAR/BONE MARROW EVALUATION**

### **SPECIMEN LABELING**

NOTE: All primary specimen containers **MUST** be labeled with 2 identifiers at the time of collection. Submitted slides may be labeled with a single identifier, but two identifiers are preferred. Examples of acceptable identifiers include but are not limited to: patient name, date of birth, hospital number, requisition number, accession number, unique random number. A location (e.g. hospital room number) is **NOT** an acceptable identifier.

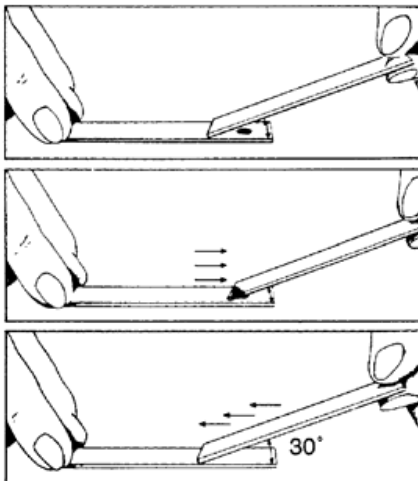
### **PERIPHERAL SMEAR EVALUATION BY PATHOLOGIST**

Submit two unstained and unfixed, properly made peripheral smears from a finger stick or from a freshly drawn EDTA tube. Please send the EDTA tube of blood, when available, and submit the most current hematology results.

**Clinical History.** Peripheral smears should be obtained before therapy has begun, if possible. Please include past treatment (recent transfusions, Iron, B12, or Folate therapy, etc.), current drugs, and family history of hematologic disease. Include a brief summary of the patient's physical findings, e.g. fever, sore throat, with specific notation as to whether palpable lymph nodes and/or splenic or hepatic enlargement is present. Include specific questions which the attending physician needs addressed, e.g. anemia of unknown etiology, ruling out leukemia or metastatic disease, pancytopenia, etc.

**Blood Smear Preparation.** It is essential that properly prepared smears be submitted to accurately assess the patient's status. Blood smears can be made from the blood remaining in the needle by pushing a small drop of blood onto the slide with the last evacuated tube. Alternatively, EDTA anticoagulated blood may be used if the smear is made within 1 hour of collection.

1. Put a small drop of blood on one end of slide.
2. Draw spreader slide toward drop at a 30 degree angle until it touches the drop of blood. The blood will spread behind the spreader slide by capillary action and should be allowed to spread the full width of the spreader slide.
3. Push the spreader slide smoothly and quickly down the slide producing a feathered edge. If no feathered edge is present, repeat with a smaller drop of blood.
4. Allow the smear to air dry. With a lead pencil, label the slides with patient's full name.



## BONE MARROW PROTOCOL

1. Submit two unstained and unfixed properly made peripheral smears from a finger stick or from a freshly drawn EDTA tube. Please send the EDTA tube when available, and submit the most current hematology results.
2. Indicate how many bone marrow samples were submitted on the patient (and whether bilateral or not).
3. Submit 8-10 smears made from the bone marrow particles. Some smears made from crushing the particles in the middle of the slide may be submitted. It is sometimes helpful to rinse the aspiration syringe with EDTA or heparin (before obtaining aspirate). This may prevent the aspirate from clotting before smears are made. Touch preparations should be prepared by repeatedly touching the biopsy specimen to glass slides and exerting a gentle downward pressure. A rotary or smearing motion should be avoided since rupture and destruction of cells will result. Additional bone marrow aspirate specimens may be collected in heparin and/or EDTA depending on what additional special studies may be required. See below:

HEPARIN	Flow cytometry, cytogenics, FISH
EDTA	Molecular tests (PCR based)

4. Submit the bone biopsy and the marrow clot in separate bags containing Formalin.
5. Submit all the samples and the requisition in one box, but **protect the blood samples and the slides from the formalin specimens by packaging them separately within the box. If the smears are exposed to formalin vapors, they will be essentially unreadable.**
6. **Clinical history is extremely important** and can influence interpretation. Please include history and indication for marrow examination. (See section on clinical history under “Peripheral Smear Evaluation By Pathologist”)
7. **If a “dry tap” is obtained** (no aspirate or no marrow particles in aspirate) a needle biopsy (with touch preparations) is necessary for adequate marrow evaluation.