



Diagnostic  
Pathology  
Medical  
Group, Inc.

## BONE MARROW SPECIMEN COLLECTION AND HANDLING INSTRUCTIONS

- Both a bone marrow aspiration and a core biopsy should be performed whenever feasible, as they are often complimentary to each other. *In many cases, an accurate and complete diagnosis can not be made without either.*
- Use Bouin's fixative for all bone marrow core biopsies and clot specimens. *Remember, as with all specimens, if a bone marrow biopsy spends too much time in the unfixed state, the specimen may be compromised.*
- Provide a peripheral blood smear with a bone marrow biopsy if available. *It may be invaluable for diagnosis in many cases.*
- If an **acute leukemia or a lymphoproliferative disorder** is in the differential diagnosis, submit an aspirate specimen for flow cytometry study, if available. In this case, the preferred anticoagulant is sterile sodium heparin. 1–5 ml of bone marrow is needed.
- If an **acute leukemia, a myelodysplastic syndrome, a myeloproliferative disorder or a lymphoproliferative disorder** is in the differential diagnosis, submit a specimen for cytogenetic study, if available. In this case, the preferred anticoagulant is sterile sodium heparin. 1-2 ml of bone marrow is needed.
- Whenever possible, make several smears at bedside and submit. Some cases require special stains, which can be performed on additional unstained smears. If needed, some molecular studies such as FISH or PCR can also be performed on unstained smears.
- If **extra clotted or anticoagulated** aspirate material is available, submit it in Bouin's fixative along with the primary specimen. Do not submit extra aspirate material unfixed.
- Review and follow the instructions for labeling the containers and completing the requisition as detailed in **Biopsies to be Submitted in Fixative: General Instructions**.
- **Always** package the bone marrow and peripheral smears in a separate bag from the biopsy core or clot specimen submitted in fixative. The acidic fumes from the Bouin's (or formalin) cause permanent artifact in smears, rendering them microscopically unreadable.
- **Always** enclose a copy of the most recent CBC. Clinical history should also be provided, **as it is necessary** for an accurate diagnosis in most cases.