PURPOSE:

The purpose of this SOP is to give direction on processing critical bone marrow specimens. These are considered irretrievable specimens.

SCOPE:

Processing Department

RESPONSIBILITY:

The Medical or Section Director is responsible for ensuring that the procedure is in compliance with CAP and CLIA regulations. The Director must review and approve this procedure at appropriate intervals. The Medical Director may delegate some of the responsibilities to other CLIA/CAP qualified personnel.

The Processing Supervisor/Manager will have the overall responsibility for implementing this procedure. The supervisor/manager is responsible for ensuring that the procedure is followed accurately and that competency documentation is appropriate.

All processors performing this procedure are required to have appropriate training and competency approved. They are responsible for reading, understanding and competently performing this procedure without deviation.

EQUIPMENT: Standard for order entry.

SUPPLIES:

Bone Marrow Kit, which should include two (2) biopsy core samples in screw top cups, two slide boxes, a purple top (1 or more) and one or more Green Top Sodium Heparin tubes (GT).

PROCEDURE:

Bone Marrow:

1) Bone Marrow Kits should be expedited as soon as they arrive at Central due to the specimen integrity, need for testing, and the time it takes to prepare the samples.

2) Typically bone marrow kits come in a box and contain several components

    a. Tissue containers that contain a **core sample (usually 2)** and **Slide sets (usually 2)** in slide cases
        i. These will go to Histology once the order is completed with a copy of all paperwork and a Tissue log with the BMR sticker on it.

b. Green Top (**GT -sodium heparin**) tubes with bone marrow in each tube (usually 2-4)

   i. One of these will usually have **RPMI** added, this will be the specimen to **send to flow with the MDX lymphoma sticker**

   ii. Another one will be labeled with a Chromosome Analysis, ARUP sticker and will go to send-out station

   iii. On occasion there is a Clarient Reference Lab send-out that requires a GT tube

      1. **NEVER SEND OUT ALL SPECIMENS**, save some in house for additional testing if needed

   iv. **Any GT specimen not used for send-outs is sent to MDX**.

c. There will be a complete CBC report or at least one purple top with whole blood for CBC/Heme Profile testing

   i. If there is only one Purple Top (PT), label with MDX label and send to MDX first

      1. The CBC analyzer will contaminate trace amounts of other patients' blood due to the shared needle on the analyzer.

   ii. If there are two PT's present with blood, send the tube with blood for the CBC to Chemistry and the other to Molecular (lymphoma label) for testing

      1. Again check the labeling to see if one PT is blood and the other PT is bone marrow

      2. **Bone Marrow always goes to Molecular**

d. Please see **Processing and Disposition of Flow Specimens Flowchart** for appropriate routing for the Purple Top(s) and flow specimens.

Important Considerations:

1) Often one green top included is an **aspirate** and will be labeled as such and should be sent to flow

2) It is critical that the specimen is sent out ASAP as it is only listed as stable for 48 hours refrigerated, 24 hours ambient

   a. ARUP will accept the specimen within 72 hours, but the results may be negatively impacted

   b. Clarient, if ordered, is a critical specimen and sent out as soon as possible

c. In the event that a diagnostic code is not available the sample should be sent to ARUP and the client needs to be contacted as soon as possible to obtain the diagnosis code and ARUP updated with the diagnosis code

d. **Do not hold** specimen if Diagnostic code is not given

Bone Marrow Order Entry

1) All bone marrow orders should be treated as a priority and completed immediately

a. Due to the time sensitive nature, any issues should be attempted to be resolved directly by processing rather than by use of a hold for client services

2) Have a Histology Tissue Log

3) Empty the bone marrow kit completely and document all specimens received.
   a. Return the box and insert to Supplies

4) If the order is interfaced, interface the non BMR component first and process the blood work

5) On occasion the Histology and Blood components will be combined on one accession, but typically are separated.

6) If the specimen is a manual order, it should be completed in L4

a. The orders are completed using the HemePath tab and the Comprehensive Analysis order option at the top of the requisition
   i. There may be additional components to add as well and the entire requisition should be read carefully

b. The send-out components are labeled with their corresponding tests. It is important that the diagnostic code(s) is (are) included as without them ARUP will place a hold on the order

7) Any extra specimens should be labelled with a REQ barcode and sent to flow

a. Label on the requisition where each specimen is being sent
   i. Example, three (3) Green Top Bone Marrow (GTBM) Flow, 1 GT BM Arup, 1 PT Chem/Flow, slides and raw samples to Histology

b. A tissue log with the Histology component and accession(s) is imaged before being sent with the specimen to Histology
   i. Do a direct hand off of the bone marrow to histology as the samples take considerable time to process

8) Please see the coordinator or supervisor with any questions.

REFERENCES: Processing and Disposition of Flow Specimens

RELATED DOCUMENTS: Histology Tissue Log

APPENDIX I: None