I. PURPOSE:
A. To ensure the proper collection of specimens for testing

II. SPECIMEN COLLECTION FOR FLOW CYTOMETRY OF HEMATOLOGICAL DISORDERS:
A. **Personnel must confirm the patient identity by checking at least two identifiers before collecting a specimen.**
B. **All collection supplies must be used within expiration date and stored per the manufactures' instructions.**
C. Specimen Collection of Peripheral Blood
1. Collection:
a. Collect peripheral blood aseptically into a sterile EDTA (lavender top) blood collection tube or Sodium Heparin (green top) tube.
2. Requirements for peripheral blood
a. A minimum of 2 ml of whole blood is required.
b. For peripheral blood a white cell count and a differential count should be performed on the same day by the requesting facility.
c. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.
3. Transportation:
a. Maintain and transport peripheral blood samples at room temperature ($20^{c}$ to $25^{O}$C).
b. Transport samples in a seal-able plastic biohazard bag.
c. Avoid drastic temperature changes, such as $<10^{0}$ C or $>37^{0}$ C. It may be necessary, in hot weather, to pack the specimens in a container which has insulating material around it and place this container inside another that contains a cold pack (ice pack) and some type of absorbent material. This will help maintain the specimen at ambient temperature.
d. NOTE: DO NOT PLACE BLOOD SPECIMENS DIRECTLY ON ICE OR REFRIGERATE. DO NOT FREEZE.
e. Local guidelines for transporting samples should be used within state; Federal guidelines should be used for interstate shipping.
4. Specimen Rejection:
a. Sample quality: Check with supervisor or medical director for instructions if any of the following situations occur.)
i. Sample is older than 24 hours.
ii. Clots are visible.
iii. The blood is hemolyzed or frozen.
iv. Abnormalities in light-scattering patterns reveal a compromised specimen in such instances where the specimen was exposed to drastic temperature changes.
b. Clerical:
i. The identifying name on the specimen tube does not match the requisition sheet.
D. Specimen Collection of Bone Marrow
1. Collection:
a. Collect bone marrow aseptically into a sterile $K_3$EDTA (lavender top) blood collection tube. (ACD or heparin is acceptable anticoagulants if $K_3$EDTA is not available.)
2. Requirements:

a. A minimum of 2ml of bone marrow is required.
b. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.

3. Transportation:
   a. Maintain and transport bone marrow samples at room temperature ($20^0$ to $25^0$ C)
   b. Transport samples in a reseal-able plastic biohazard bag.
   c. Avoid drastic temperature changes, such as $<10^0$C or $>37^0$C.
      i. In hot weather, pack specimens in a container which has insulating material around it and place this container inside another that contains a cold pack (ice pack) and some type of absorbent material. This will help maintain the specimen at ambient temperature.
      **ii. NOTE: DO NOT PLACE BONE MARROW SPECIMENS DIRECTLY ON ICE OR REFRIGERATE. DO NOT FREEZE.**
      iii. State, local and/or state guidelines for transporting samples should be used. Federal guidelines should be used for interstate shipping.
      iv. NOTE**:** Use reliable overnight carriers to ensure delivery the following day.

4. Specimen rejection:
   a. Sample quality: (Check with supervisor or medical director for instructions if any of the following situations occur.)
      i. The specimen has been collected >24 hours before processing.
      ii. Clots are visible.
      iii. The marrow is hemolyzed or frozen.
      iv. Abnormalities in light-scattering patterns will reveal a compromised specimen, such as being exposed to drastic temperature changes ($<10^0$ C or $> 37^0$ C).
      v. The identifying name on the specimen tube does not match the requisition sheet.

E. Specimen Collection of Lymphoid Tissue

1. Collection:
   a. Place the lymphoid tissue in a conical tube with RPMI medium. Tissue for flow cytometry should only be collected after tissue has been submitted for histology in formalin or BS fixative.

2. Requirements:
   a. A minimum of 0.5 $cm^3$ of tissue, in a conical tube containing RPMI medium, is required. If less tissue is available, please contact the lab at 210-617-4445.
   b. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.

3. Transportation:
   a. Maintain and transport lymphoid tissue samples at 4 degrees Celsius.
   b. Transport samples in a sealed plastic biohazard bag.
   c. Local guidelines for transporting samples should be used within state; Federal guidelines should be used for interstate shipping.

4. Specimen rejection:
   a. Sample quality: (Check with medical director for instructions should any of the following occur.)
      i. Sample has not been stored at $4^0$ C or delivered immediately to the flow lab.
      ii. The specimen has been collected >24 hours before processing.
      iii. The sample has not been kept moist.

iv. The sample is frozen or fixed.
v. Abnormalities in light-scattering patterns will reveal a compromised specimen, such as being exposed to drastic temperature changes (<4° or > 37° C)

b. Clerical:
i. The identifying name on the specimen tube does not match the requisition sheet.

F. Specimen Collection of Body fluids
1. Collection:
a. Collect spinal fluid (CSF) in a sterile container.
b. Collect pleural fluid/ascitic fluid in a ratio of 1 ml of sodium heparin or ACD to 100 ml of fluid.
2. Requirements:
a. CSF - a minimum of 5 ml is required.
b. Pleural fluid / ascitic fluid - a minimum of 20 ml is required.
c. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.
3. Transportation:
a. Maintain and transport samples at 4 degrees Celsius.
b. Transport samples in a sealed plastic biohazard bag.
c. Local guidelines for transporting samples should be used within state; Federal guidelines should be used for interstate shipping.
4. Specimen rejection:
a. Sample quality: (Check with the supervisor or medical director for instructions should any of the following situations occur.)
i. Sample has not been stored at $4^0$ C or delivered immediately to the flow lab.
ii. The specimen has been collected >24 hours before processing.
iii. The sample is frozen or fixed.
iv. Abnormalities in light-scattering patterns will reveal a compromised specimen, such as being exposed to drastic temperature changes (<4° or > 37° C)
b. Clerical:
i. The identifying name on the specimen tube does not match the requisition sheet.

III. SPECIMEN COLLECTION FOR CHROMOSOME ANALYSIS OF HEMATOLOGIC DISORDERS:

A. **Personnel must confirm the patient identity by checking at least two identifiers before collecting a specimen.**
B. **All collection supplies must be used within expiration date and stored per the manufactures' instructions.**
C. Specimen Collection of Bone Marrow
1. Collect approximately 1.0-2.0ml of the first aspirate aseptically in a Sodium Heparin Vacutainer (green top). If Sodium Heparin vacutainers are unavailable, then an EDTA Vacutainer (lavender top) may be used. Mix by inversion immediately. Store the specimen at room temperature until ready for delivery or pick-up by lab Courier.
D. Specimen Collection of Peripheral Blood
1. Peripheral blood may be used if the white blood cell count is increased and if ~7-10% or more blasts are present. Collect 5.0ml aseptically in a Sodium Heparin Vacutainer (green top). If Sodium Heparin vacutainers are unavailable, then an EDTA Vacutainer (lavender top)

may be used. Store the specimen at room temperature until ready for delivery or pick-up by lab Courier.

E. Specimen Collection of lymphoid or fresh tissue
   1. A minimum of 0.5 $cm^3$ of tissue, in a conical tube containing RPMI medium, is required. If less tissue is available, please contact the lab at 210-617-4445.
   2. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing and placed inside a sealed biohazard bag.
   3. ***NOTE: In order to perform chromosome analysis, the tissue specimen must NOT be put in formalin or any other fixative.***

F. Local guidelines for transporting samples should be used within state; Federal guidelines should be used for interstate shipping.

G. **NOTE:** Avoid freezing or heating above 35°C.

H. Please send with the specimen:
   1. Physician's name and contact numbers
   2. Hospital information (i.e. patient's ID number, address to mail report, etc.)
   3. Provisional diagnosis
   4. Patient's name, sex, date of birth
   5. Specimen type
   6. Date of collection
   7. Billing information
   8. Any pertinent patient history

I. **NOTE: In case of bone marrow or other transplant, sex of the DONOR is essential for interpretation of the results.**

J. **NOTE:** Specimens collected in anticoagulants other than the above are not desirable for optimal quality. In the best interest of the patient, the specimen will be processed; however, the quality may be less than optimal.
   Samples should be placed in a sealing biohazard specimen bag to protect against leakage and properly packed in a Styrofoam container during transport.

IV. SPECIMEN COLLECTION FOR MORPHOLOGIC EVALUATION OF HEMATOLOGIC DISORDERS:

A. **Personnel must confirm the patient identity by checking at least two identifiers before collecting a specimen.**

B. **All collection supplies must be used within expiration date and stored per the manufactures' instructions.**

C. Specimen Collection and Handling of Bone Marrow for Aspirate Smears
   1. Collection:
      a. Collection of the bone marrow aspirate for aspirate smears is ideally performed at the bedside. If this is not possible, the aspirate should be in anticoagulant for a maximum of two hours prior to making aspirate smears.
      b. An aliquot of aspirate is placed on a watch glass. The watch glass is rotated to expose particles. The particles are aspirated in a fine tip pipette and placed on a properly labeled glass slide. Excess blood is removed from the slide by aspirating it back into the pipette, being careful not to remove the particles. A second glass slide is placed on top of the slide containing the specimen allowing the weight of the glass slide to spread the particles (Note: pressure should not be applied!). Once spreading has occurred, the two

slides are gently slid apart in a direction toward the end of the slide containing the specimen.

2. Requirements:
   a. Ideally, five well-made bone marrow aspirate slides are prepared.
   b. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.
   c. Shipping:
      i. Slides must be completely dried prior to packaging for send out.
      ii. Slides are placed in a plastic slide holder and shipped to CorePath in the provided shipping box.

D. Specimen Collection and Handling of Bone Marrow Aspirate for Bone Marrow Clot
   1. Collection:
      a. Ideally, approximately 8-10ml of aspirate are obtained at the bedside. Once an aliquot of the bone marrow aspirate has been provided in EDTA and Sodium Heparin vacutainers for the ancillary studies and on the watch glass for the aspirate smears, the remainder of the aspirate must remain in the syringe until it has clotted (Note: if the practitioner has heparinized the syringe prior to aspiration, the specimen may not clot). Once the specimen has clotted the plunger is removed from the syringe and the clot is dumped into the provided container of 10% neutral buffered formalin, through the backside of the syringe.
   2. Requirements:
      a. Ideally the clot should be at least a 2ml volume.
      b. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.
   3. Shipping
      a. The clot is placed in the 10% neutral buffered formalin and the jar is sealed with parafilm. Two patient identifiers are placed on the specimen jar along with the specimen type (e.g. Bone marrow clot).
      b. The specimen is shipped in the provided shipping box along with the provided frozen cold pack that should be separated from the specimen by the cardboard divider.

E. Specimen Collection of Bone Marrow Core Biopsy and Touch Imprints
   1. Collection:
      a. Touch Imprints
         i. Once the core biopsy is obtained, it is place on a piece of gauze in the fresh state (prior to placing in formalin). Any blood clot on the surface of the core biopsy is removed with forceps and placed in the jar of formalin. The core biopsy is then placed on an appropriately labeled glass slide and gently rolled along the surface of the slide with another glass slide or forceps, without applying pressure.
      b. Core Biopsy
         i. Once the touch imprints are prepared, the biopsy is place in the provided container filled with 10% neutral buffered formalin.
   2. Requirements
      a. Bone Marrow Core
         i. Ideally a core biopsy should be at least one cm long and be free of crush and aspiration artifact.
      b. Touch Imprints

i. At least 5 well-made touch imprints should be prepared

c. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.

3. Shipping
   a. The core biopsy is placed in the 10% neutral buffered formalin and the jar is sealed with parafilm. Two patient identifiers are placed on the specimen jar along with the specimen type (e.g. Bone marrow core).
   b. The Touch imprints must be dried and then they are place in the provided plastic slide mailer.
   c. The specimen is shipped in the provided shipping box along with the provided frozen cold pack that should be separated from the specimen by the cardboard divider.

F. Handling of Previously Prepared Glass Slides and Paraffin Blocks of Tissue
   1. Shipping
      a. Slides
         i. Slides prepared at another institution and sent to CorePath for consultation should be placed in appropriate slide mailers and wrapped in a manner that prevents breakage.
      b. Paraffin Blocks
         i. Paraffin Blocks should be placed in a placed bag and shipped in a manner that will guarantee that exposure to heat will not cause melting of the block. This may include shipping along with a cold pack and/or avoiding shipping by non-climate controlled methods.
      c. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.

V. SPECIMEN COLLECTION FOR COMPREHENSIVE CANCER RISK ASSESSMENT:

**A. Personnel must confirm the patient identity by checking at least two identifiers before collecting a specimen.**

**B. All collection supplies must be used within expiration date and stored per the manufactures' instructions.**

C. Specimen Collection and Handling of Buccal Swabs
   1. Collection
      a. Obtain the sample at least one hour after eating, drinking, or cleaning of teeth. For best results, rinse mouth with water immediately prior to sampling.
      b. Open the analysis kit and complete the accompanying paper work. Write patient's name and date on the outside of each plastic swab tube.
      c. Remove the swab from the tube, taking care not to touch the white swab head. Use two swabs per patient.
      d. Insert the swab into the patient's mouth and rub firmly against the inside of the check or underneath the lower and upper lip. For standard DNA collection rub for a minimum of 45 seconds.
         i. Important- use reasonable, firm and solid pressure.
      e. Place swabs back into each tube. Do not touch swab head.
      f. Seal the tube securely with the cap provided and repeat procedure
   2. Requirements

a. The sample must come with a complete requisition form that has been completed and signed by a person authorized to request testing.
b. Obtain and submit 2 swabs per patient.

3. Shipping

a. Place the sealed tubes and complete requisition form in the provided shipping box.
b. State, local and/or state guidelines for transporting samples should be used. Federal guidelines should be used for interstate shipping.

VI. REJECTION OF SPECIMENS:

A. Specimens may be rejected for the following reasons:
1. Gross contamination.
2. Specimen container unlabeled or unidentified.
3. Improper specimen for requested procedure.
4. Insufficient specimen quantity.
5. Specimen sent in improper container.
6. Specimen received frozen.
7. Sample delivered with lack of paper work/patient information.
8. Broken glass Slides
9. Melted paraffin Blocks
10. Improper fixation of specimen
11. NOTE: *The supervisor is to be notified before any specimen is rejected. If the specimen is to be rejected, the Director or Supervisor will notify the requesting physician of the reason.*

VII. SPECIMEN COLLECTION FEEDBACK:

A. CorePath will provide feedback to collectors of specimens on issues relating to specimen quality and labeling using the Specimen Collection Feedback Form (GE-FM-0340) or via verbal communication.

Send specimen to:

**CorePath Laboratories**
2020 Babcock Road, Suite 30
San Antonio, Texas 78229

**For timely processing, the specimen should be received by 4:30pm on the weekdays.**

Please call the laboratory at **210-617-4445.**