I. PURPOSE

This procedure provides guidelines on the operation, cleaning and preventative maintenance of the laboratory centrifuge. Centrifuges are used to separate the heavier cells from the liquid portion of the whole blood. Testing is performed on the liquid portion of the whole blood. The liquid portion of the whole blood is called the serum when no anticoagulant is in the tube. When an anticoagulant has been added to a tube, the liquid supernatant is called plasma. This is to be performed by all personnel in the phlebotomy department who have been trained on the use and maintenance on centrifuges.

1. **PPE** : Personal Protective Equipment
2. **RPM** : Rotations Per Minute

II. MATERIALS

<table>
<thead>
<tr>
<th>Reagents</th>
<th>Supplies</th>
<th>Equipment</th>
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</table>
|          | ● Reflective Tape  
|          | ● Tachometer  
|          | ● Stopwatch  
|          | ● Centrifuge Checked  
|          | ● Labels  
|          | ● Site based form for documentation |

III. PROCEDURE

Always wear the appropriate PPE when cleaning centrifuges.

1. **OPERATION**
   a. Power must be on and the centrifuge lid closed to operate the table top centrifuge.
   b. Allow serum collection tube to clot for 20-30 minutes. The tube is sufficiently clotted when a large fibrin clot can be seen when gently rocking the tube back and forth.
   c. Balance the centrifuge prior to running. Balancing a centrifuge is achieved by placing tubes containing equal volumes opposite of each other. A tube filled with water can be used for a balance tube.
   d. Spin specimen for 15 minutes at 3200 rpm’s to ensure there is a complete gel barrier between the cells and serum. A completely spun down SST
when inverted should show no red cells streaming past the gel barrier. Red cells having prolonged contact with the serum can affect chemistry results.

e. Turn the centrifuge timer to 15 minutes. Wait until spinning stops before opening the lid.

2. CLEANING

a. Clean immediately after any spill to prevent corrosives or contaminants from drying on component surfaces
b. Monthly cleaning and disinfecting the interior and exterior of the centrifuge is required.
c. Remove the rotor from the bowl and carefully clean with a mild detergent and rinse and dry completely.
d. Wash the bowl using a mild detergent and rinse and dry completely.
e. Remove the buckets from the centrifuge and clean with a mild disinfecting cleaner. If it is necessary to use 10% Clorox on any metal parts, thoroughly clean with a mild detergent and rinse to remove the chloride residue to prevent corrosion.
f. Dry and reinstall buckets in centrifuge.

3. MAINTENANCE

a. Record all maintenance on the centrifuge Maintenance Log Sheet.
b. Perform preventative maintenance and calibration annually

c. Inspect for wear and damage to components and replace is necessary.
d. Verify proper balance, breaking, alignment and air flow operation.

e. Wipe old lubricant from all rotor pins and buckets with a soft clean cloth.
f. Check the centrifuge timer against your watch for proper operation.

4. CHECKING RPM

a. Centrifuge rpm’s should be calibrated using a tachometer at least annually or as needed.
b. Apply approximately ¼ inch of reflective tape on the center knob in centrifuge such that the edge of the reflective tape bisects the center of the post.
c. Close centrifuge lid.
d. Set timer to 6 minutes.
e. Turn centrifuge on and start your stopwatch.
f. Press the power button on the tachometer to turn on.
g. Press and hold the power button while sighting light beam.
h. Sight the tachometer on the rotating reflective tape.
i. Release the power button when display has stabilized.
j. Record the RPM on the new label. Compare the RPM setting for manufactory /model of centrifuge.
k. Record information on the log sheet.

5. PROCEDURAL NOTES
a. Rest your hand holding the tachometer on top of the centrifuge to keep it steady.
b. A reading of 6000 indicates a “double” reading. The strip of the reflective tape may be centered, instead of one edge of the tape being centered.
c. Wait until centrifuge stops before applying label.
d. Set time back to 9-12 minutes
e. Centrifuges should be checked annually or if there is a problem.
f. Tachometer battery is a regular 9 volt battery.

IV. QUALITY CONTROL
N/A

V. CALCULATIONS/CALIBRATION
N/A

VI. INTERPRETATIONS
N/A

VII. METHOD PERFORMANCE SPECIFICATIONS
N/A

VIII. REFERENCES
N/A

IX. RELATED DOCUMENTS
N/A


X. DOCUMENT HISTORY

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<tr>
<th>Minor Revision</th>
<th>Reason for Change</th>
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<tr>
<td>(Laboratory Director’s Signature on Original Subsequent Document Attached)</td>
<td>2/10/14 New Document Control Format</td>
</tr>
<tr>
<td>Major Revision</td>
<td>6/23/14 Moved to Specimen Collection Manual</td>
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<td>(Requires Laboratory Director &amp; Department Director Signature - where applicable)</td>
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<td>Natalie Depcik-Smith, M.D.</td>
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<td>Robert M. Gay, M.D.</td>
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