Specimen Collection Manual
# Blood Specimen Collection
- Venipuncture
- Blood Culture
- Finger Stick
- Heel Stick

## Microbiology Specimen Collection
- Throat Swab
- MRSA Swab
- Sputum

## Non-Blood Samples
- Urine/Fluids

## Special Procedures
- Testing Procedures

## Specimen Processing
- Receiving, Storage, Packaging for Transport of Specimens & Centrifuge Operation
- Add on Testing
- Aliquoting

## General Guidelines
- Comprehensive Test Menu
- Stat Test Menu
- Supply Ordering
- Courier pickup (lab specimens only)

## Appendix
- Order of Draw Guide
- Microbiology Quick Reference Guide
- Clean Catch– Female
- Clean Catch– Male
- Random Urine Collection –Female
- Centrifuge Operational Technical Skills
- Add on Testing form
- Draw Sites
St. Luke’s Laboratory
Blood Specimen Collection
Venipuncture

This procedure describes best practices for collection of blood specimens by venipuncture, to include vacutainer, syringe, and butterfly systems.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
4. Assemble supplies (vacutainer tubes, alcohol swab, tourniquet, and needle/vacutainer device).
5. Cleanse the site and apply the tourniquet.
6. Insert the needle smoothly at a 15-30 degree angle.
7. Place tubes in vacutainer following correct order of draw.
8. Mix specimen containers gently after removing from vacutainer system.
9. Release the tourniquet and remove the needle. Activate the safety device.
10. Apply pressure until bleeding stops and bandage the patient’s arm.
11. Label all specimen containers with patient information (Name, date of birth), date and time of collection, and phlebotomist initials.
12. Dispose of all supplies in appropriate receptacles, including tourniquets.

Helpful Hints:

- If using a syringe, or a butterfly device with syringe, after removing the needle from the patient’s arm, add an adapter. Fill tubes according to order of draw, mixing gently as tubes are filled.
- If a transfusion is anticipated, specimen collection must occur at a St. Luke’s hospital campus. Prenatal screening and ABO/RH testing do not require a signed transfusion request form.

References:

- St. Luke’s Patient Identification Policy
- St. Luke’s Laboratory Venipuncture Procedure
- Order of Draw Guide: Appendix I
**St. Luke’s Laboratory**

**Blood Specimen Collection**

**Blood Culture**

*This procedure describes best practices for collection of blood specimens when blood cultures are ordered.*

**PROCEDURE**

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
4. Assemble supplies (blood culture bottles, alcohol swab, chlorhexidine, tourniquet, and needle/vacutainer device).
5. Cleanse the site using chlorhexidine. Scrub vigorously for 30 seconds and allow to dry for 60 seconds. Do not touch the site after cleansing, if you do, you must clean site again. Apply the tourniquet.
6. Cleanse the top of each blood culture bottle with an alcohol prep pad. Leave pad on top of vial until blood is ready to be injected into bottle.
7. Insert the needle in patient’s arm smoothly at a 15-30 degree angle.
8. Place blood culture bottles (and tubes if applicable) in vacutainer following correct order of draw.
9. Mix specimen containers gently after removing from vacutainer system.
10. Release the tourniquet and remove the needle. Activate the safety device.
11. Apply pressure until bleeding stops. Bandage the patient’s arm.
12. Label all specimen containers with patient information (Name, date of birth), date and time of collection, and phlebotomist initials. Use green stickers to note draw site.
13. Dispose of all supplies in appropriate receptacles, including tourniquets.

**Helpful Hints:**

- A separate draw is not required for blood cultures. The only difference in this process from the general venipuncture are:
  
  1) cleansing of site with chlorhexidine
  2) cleaning top of the blood collection bottle with alcohol prep pad

**References:**

- *St. Luke’s Laboratory Blood Culture Procedure*
- *Order of Draw Guide: Appendix I*

<table>
<thead>
<tr>
<th>Amount per Venipuncture</th>
<th>BACTEC Plus Aerobic Vial</th>
<th>BACTEC Plus Anaerobic Vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 – 20 ml</td>
<td>Split equally between aerobic and anaerobic vials</td>
<td></td>
</tr>
<tr>
<td>13 – 16 ml</td>
<td>8 ml</td>
<td>5 – 8 ml</td>
</tr>
<tr>
<td>10 – 12 ml</td>
<td>5 – 7 ml</td>
<td>5 ml</td>
</tr>
<tr>
<td>5 – 9 ml</td>
<td>entire blood amount</td>
<td>0</td>
</tr>
</tbody>
</table>
St. Luke’s Laboratory
Blood Specimen Collection

Finger Stick

This procedure describes best practices for collection of blood specimens by capillary puncture of the finger, commonly used for point-of-care testing.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
4. Assemble supplies (microtainer/strip, alcohol swab, dry gauze, and retractable lancet device).
5. Cleanse the site.
6. Place the lancet onto the pad of the finger (index, ring, or middle) perpendicular to the fingerprint.
7. Puncture the site with the device.
8. Wipe away the first drop of blood with dry gauze.
9. Gently apply pressure to the tissue surrounding the puncture site.
10. Place blood onto strip or into microtainer following order of draw.
11. Mix specimen containers gently after filling to at least the minimum volume line.
13. Label all specimen containers with patient information (Name, date of birth), date and time of collection, and phlebotomist initials.
14. Dispose of all supplies. Gauze, tourniquet, alcohol, can be disposed of in gray trash receptacles.

Helpful Hints:

- To improve blood flow to the patient’s hand, an approved heat pack may be applied. Place the heat pack on the finger and apply for 5-6 minutes.

References:

- St. Luke’s Patient Identification Policy
- Order of Draw Guide: Appendix I
St. Luke’s Laboratory
Blood Specimen Collection
Heel Stick

This procedure describes best practices for collection of blood specimens by capillary puncture of the heel, commonly used for infants 12 months and younger.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
5. Warm the site using an approved heat pack for at least 3 minutes.
6. Cleanse the site.
7. Place the lancet onto the heel of the foot.
8. Puncture the site with the device.
9. Wipe away the first drop of blood with dry gauze.
10. Gently apply pressure to the tissue surrounding the puncture site.
11. Place blood into microtainer following order of draw.
12. Mix specimen containers gently after filling to at least the minimum volume line.
13. Apply pressure until bleeding stops. DO NOT APPLY BANDAGE.
14. Label all specimen containers with patient information (Name, date of birth), date and time of collection, and phlebotomist initials.
15. Dispose of supplies. Gauze, tourniquet, can be disposed of in gray trash receptacles.

Helpful Hints:
- Do not excessively milk (squeeze) the foot, it causes hemolysis and alters patient results.
- Avoid repeated use of the same site and areas with a hematoma.
- For PKU, completely saturate the 5 circles without touching the heel. Use of a plastic capillary tube would equal 1 circle. Complete appropriate paperwork.

References:
- St. Luke’s Patient Identification Policy
- St. Luke’s Laboratory Heel Stick Procedure
- Order of Draw Guide: Appendix I

Good Specimen  Bad Specimen
St. Luke’s Laboratory
Microbiology Specimen Collection
Throat Swab

This procedure describes best practices for collection of throat specimens necessary for culture or point-of-care testing.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
4. Gather appropriate swab and tongue blade, referencing Microbiology Specimen Collection Guide.
5. Collect the specimen by instructing the patient to tilt head backward, open mouth and say ahhhh, depress tongue with tongue blade, vigorously sweep between tonsillar pillars, without touching lips, teeth, tongue, and cheeks, and carefully remove swab without striking oral structures.
6. Immediately place swab into transport tube, breaking the applicator shaft at the pink breakpoint line. Screw on the cap.
7. Label specimen containers with patient information (Name, date of birth), date and time of collection, and collector initials.
8. Dispose of all supplies in gray trash receptacle.

Helpful Hints:
• Swabs are to be stored and transported at room temperature.

References:
• St. Luke’s Patient Identification Policy
• Microbiology Quick Reference Guide: Appendix II
This procedure describes best practices for collection of MRSA nasal specimens.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
5. Collect the specimen by inserting the swab into the nostril, rotate the swab against the interior nares applying pressure. Repeat in the second nostril with the same swab.
6. Immediately place swab into transport tube, breaking the applicator shaft at the scored breakpoint line. Screw on the cap.
7. Label specimen containers with patient information (name, date of birth), date and time of collection, and collector initials.
8. Dispose of all supplies in gray trash receptacle.

References:

- St. Luke’s Patient Identification Policy
- Microbiology Quick Reference Guide: Appendix II
This procedure describes best practices for collection of sputum specimens for culture.

PROCEDURE

1. Verify provider orders.
3. Perform hand hygiene and use appropriate PPE.
5. Ask the patient to rinse their mouth. The patient should take three or four slow deep breaths and then cough after a full inhalation.
6. Cap the container immediately after collection.
7. Label specimen containers with patient information (name, date of birth) date and time of collection, and collector initials.
8. Dispose of all supplies in gray trash.

Helpful Hints:
- Specimens with saliva or post nasal discharge will be rejected.
- 2-3 tablespoons may be necessary if multiple test are ordered.

References:
- St. Luke’s Patient Identification Policy
- Microbiology Quick Reference Guide: Appendix II
St. Luke’s Laboratory
Non-Blood Samples
Urine/Fluids

This procedure describes best practices for patient self-collection of urine.

PATIENT INSTRUCTIONS

Provide patients with written instruction sheet from specimen collection service manual.

1. Clean Catch: Female: Appendix III
2. Clean Catch: Male: Appendix IV
3. Random urine collection for Chlamydia/GC testing (dirty catch): Appendix V & VI
4. Pediatric uBAG
5. 24 Hour Urine
6. Post-Vasectomy Semen
7. Stool Collection

PROCEDURE: Prior to specimen collection

1. Verify provider orders.
2. Provide patient appropriate collection instructions and collection kit.

PROCEDURE: After specimen collection

1. Verify at the time of specimen drop off that it is labeled with patient name and date of birth.
2. Verify provider orders. For 24-hour urine, ask for patient’s height and weight and perform venipuncture if needed.

Helpful Hints:
- Patient education/instructions for collection can be printed from Specimen Collection service manual online (website below).

References:
- St. Luke’s Specimen Collection:
  http://www.stlukesonline.org/specialties_and_services/laboratory/specimen_collection/index.php
## Testing Procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TB Gold</strong></td>
<td>Kits may be obtained from the Reference Lab.</td>
</tr>
<tr>
<td>Glucose Tolerance 1 hour</td>
<td>Follow one hour procedure. Clarify with provider if patient needs to be fasting.</td>
</tr>
<tr>
<td>Glucose Tolerance 3 hour</td>
<td>Collections are scheduled at the Boise &amp; Meridian hospitals, refer to website in references section (below) for current phone numbers and additional information.</td>
</tr>
<tr>
<td>ABO/RH</td>
<td>Transfusion test request form does not need to be signed.</td>
</tr>
<tr>
<td>Heavy Metals</td>
<td>Requires special collection containers (urine and blood). Please refer to the Laboratory services manual for specific instructions.</td>
</tr>
<tr>
<td>Chain of Custody/Drug Testing</td>
<td>Refer to Occupational Health at St. Luke’s. Locations and phone numbers can be found at website in references section (below).</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Do not use an alcohol pad to cleanse site. Do not open the tube.</td>
</tr>
<tr>
<td>Ionized Calcium</td>
<td>Tube cannot be opened. Collect two or more tubes if additional tests are included.</td>
</tr>
<tr>
<td>Sweat Chloride</td>
<td>Collections are scheduled at the Boise campus, call to schedule. Refer to website in references section (below) for current phone numbers and additional information.</td>
</tr>
<tr>
<td>Semen Analysis</td>
<td>Andrology services are scheduled at the Boise hospital, refer to website in references section (below) for current phone numbers and additional information.</td>
</tr>
<tr>
<td>Kit Collect</td>
<td>Follow specific instructions as provided in the kit. Adamol.</td>
</tr>
<tr>
<td>HIV</td>
<td>Specimen should not be aliquoted and must remain in the primary tube.</td>
</tr>
</tbody>
</table>

**References:**

- St. Luke’s Laboratory Scheduling for Glucose Tolerance Testing, Sweat Chloride Testing, Autologous Donation, Andrology Services, and Therapeutic Phlebotomy:
  
  [http://www.stlkesonline.org/specialties_and_services/laboratory/general.php](http://www.stlkesonline.org/specialties_and_services/laboratory/general.php)

- St. Luke’s Occupational Health Clinics:
  
This procedure describes best practices for packaging of specimens to testing sites while maintaining specimen integrity. Also describes best practices for processing blood specimens by centrifugation to maintain specimen integrity.

PROCEDURE

1. Verify provider orders and specimen requirements. Wear appropriate PPE when handling specimens.

2. Make sure specimen is labeled correctly before transport.

3. Verify if centrifugation is necessary before transport.

4. Check specimen stability and temperature requirements. Aliquot if necessary.

5. Maintain specimen at recommended temperature until transport.

6. Place all specimens from one individual patient into single biohazard bag. Prior to courier arrival, place all individual specimen bags with the same temperature requirements into one large biohazard bag.

Helpful Hints:
- If testing has special requirements (short stability, special processing) referral and transport to a hospital campus is recommended.
- Lawson order # for small specimen bags: 101432; Lawson order # for large specimen bags: 122263

Centrifuge Operation

1. Check specimen requirements before centrifuging.

2. Verify specimen is clotted before centrifuging.

3. Make sure the centrifuge is balanced properly.

4. Close the lid and press start or go.

5. Verify the rotor has stopped completely before removing specimens.

6. Remove all specimens and place upright in rack until transported to testing location.

Helpful Hints:
- Verify centrifuge speed, time, and temperature requirements.
- Contact Clinical Engineering at (208) 381-2087 if centrifuge malfunctions.

References:
- Centrifuge Operation Technical Skills Checklist: Appendix VII
St. Luke’s Laboratory
Specimen Processing

Add-on Testing
This procedure describes best practices for adding tests to previously collected specimens.

PROCEDURE

1. Fax completed add-on request form to customer service at (208) 381-8870. Physician signature is required to add tests to previously collected specimens.
2. Do not duplicate the add-on request in EPIC.
3. Customer service will add on test(s) if possible. If unable to add on, customer service will contact the requesting clinic or physician.

Helpful Hints:
- Check Comprehensive Test Menu for stability to add on. Specimen stability charts are part of the Laboratory Services Manual.
- Specimens are kept refrigerated for 7 days at the Reference Laboratory. Please contact the laboratory with any add-on questions.

Aliquoting

1. Determine if aliquoting of the specimens is needed.
2. Wear appropriate PPE for aliquoting.
3. Verify the specimen is appropriate for desired test.
4. Consult the Comprehensive Test Menu for the amount needed and stability.
5. Aliquot into the appropriate container and carefully approximate the volume.

Helpful Hints:
- Reprint of label may be required.
- Some tests require special aliquot tubes (heavy metals, light protected).

References:
- St. Luke’s Laboratory Aliquoting Procedure
- Add-On Testing Order Form: Appendix VIII
St. Luke’s Laboratory
General Guidelines
Comprehensive Test Menu

This procedure outlines how to access the St. Luke’s Comprehensive Test Menu, which provides specimen collection and processing information.

PROCEDURE

1. Refer to website for specimen collection and processing instructions for specific tests.

2. Website:
   http://www.stlukesonline.org/specialties_and_services/laboratory/general.php

3. If you are unsure or unable to find the test required, please contact Lab Customer Service at (208) 381-8829.

Helpful Hints:

- If you find discrepancies in the Comprehensive Test Menu, contact Customer Service at (208) 381-8829. The test menu is updated on an as-needed basis for changes to tests, methods, and specimen requirements.
This procedure provides information on STAT testing requests.

PROCEDURE

1. Assess the need for STAT testing and refer to your site’s STAT workflow.
2. Collect the specimen and process according to protocol.
3. If courier pick up is needed, call SL dispatch: 381-2506

STAT Tests: Offered for courier services

- BNP
- Body Fluid cell count w/ manual differential
- CBC w/ manual differential
- C. Difficile
- Chemistry panel (CMP, BMP, Lytes, Glucose)
- D-dimer
- Digoxin
- Gram stain
- Neonatal, bilirubin
- PT/PTT
- Serum pregnancy (qualitative and quantitative)
- Troponin I
- UA Microscopic

Helpful Hints:

- St. Luke's Dispatch: (208) 381-2506.
- Do not call for a courier until sample is packaged and ready for transport.
Supply Ordering

This procedure describes the process for ordering lab supplies.

PROCEDURE

1. All specimen collection supplies are orderable through MyBC/Lawson.

2. Specialty tubes may be obtained from the Reference Laboratory by contacting (208) 381-8854, or by faxing the Supply Request form to (208) 381-8879.

Helpful Hints:
- Specialty tubes may take some time to be ordered and delivered. Please plan accordingly.
- It is important to maintain your inventory and check expiration dates.

Courier Pickups (lab specimens only)

1. Collect patient sample.

2. Package sample and be sure it is ready for transport.


4. St. Luke’s dispatch will send appropriate courier to pickup sample (pickup will be same day).

Helpful Hints:
- See the STAT testing guidelines (page 14) for STAT testing procedures.