Nursing Station Manual	**Title: Neonatal Screening – PKU Blood Collection Procedure**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

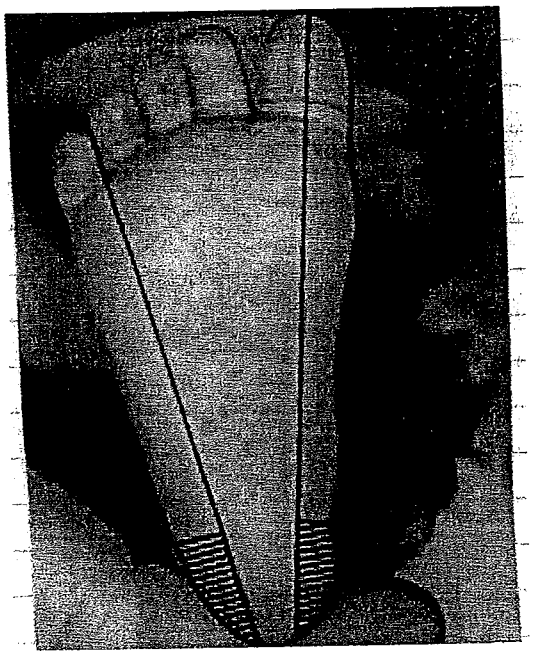
Neonatal Screening – PKU Blood Collection Procedure:

1.0. Procedure:

1.1. Ensure the patient's full name and demographics are on the collection card.

Do not contaminate filter paper by allowing the circles to come in contact with spillage or by touching before or after blood collection.

1.2. Examine the infant's heel.



Hatched area (////////////////) indicates safe areas for puncture site.

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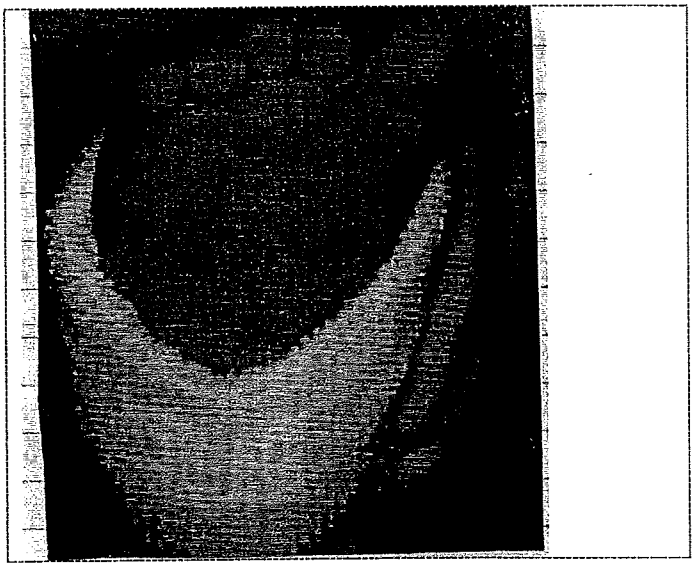
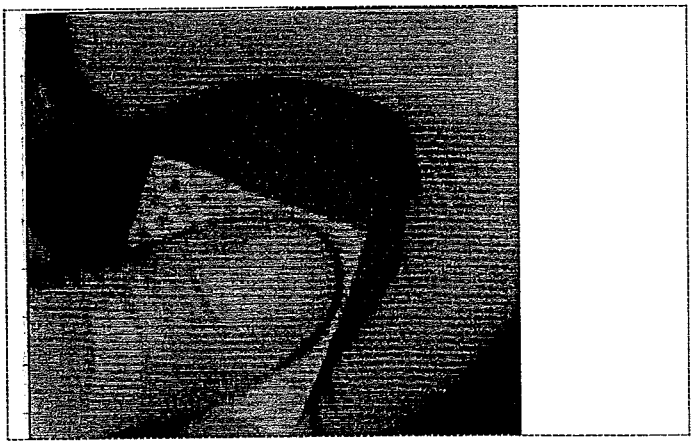
Neonatal Screening – PKU Blood Collection Procedure (continue):

1.3. Warm site with soft cloth, moistened with warm water up to 41°C, for three to five minutes:



1.4. Cleanse site with alcohol prep. Allow the site to dry.



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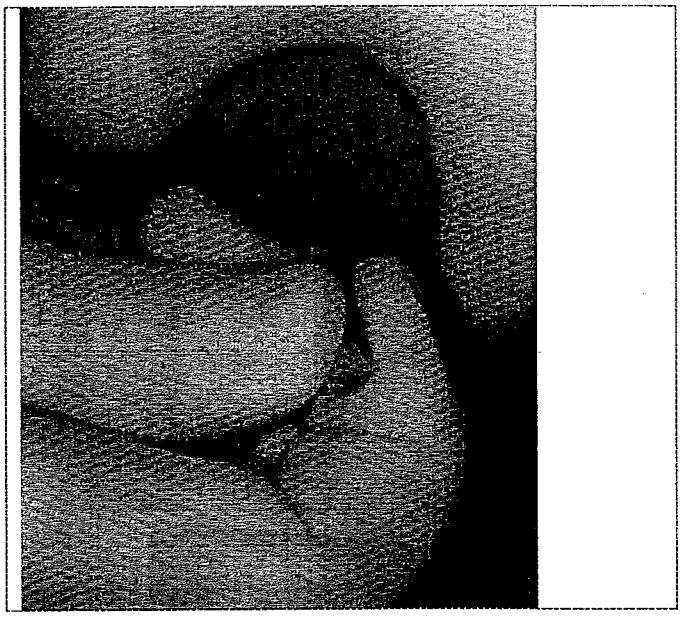
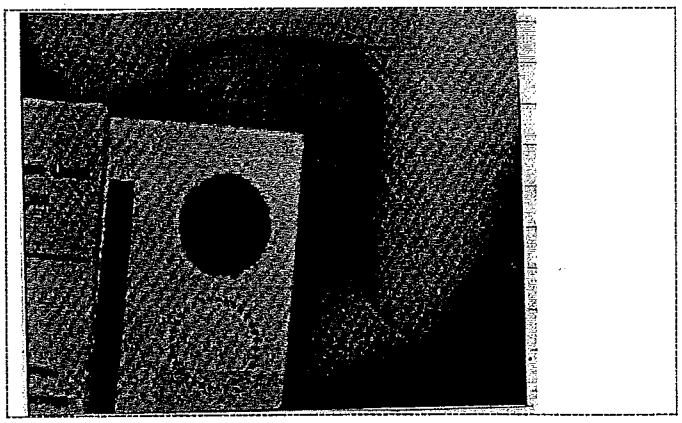
Neonatal Screening – PKU Blood Collection Procedure (continue):

1.5. Puncture heel. Wipe away first blood drop with sterile gauze pad. Allow another LARGE blood drop to form.

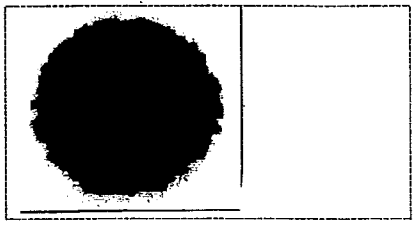


1.6. Lightly touch filter paper to LARGE blood drop. Allow blood to soak through and completely fill circle with SINGLE application to LARGE blood drop. (To enhance blood flow, VERY GENTLY intermittent pressure may be applied to area surrounding puncture site). Apply blood to one side of filter paper only.

Fill remaining circles in the same manner.



1.6.1. Allow a sufficient quantity of blood to soak through to completely fill the pre-printed circle on the filter paper. Fill all required circles with blood. Do not layer successive drops of blood or apply blood more than once in the same collection circle. Avoid touching or smearing spots.



1.7. Allow the card to dry four (4) hours.

1.8. Package according to universal precautions.

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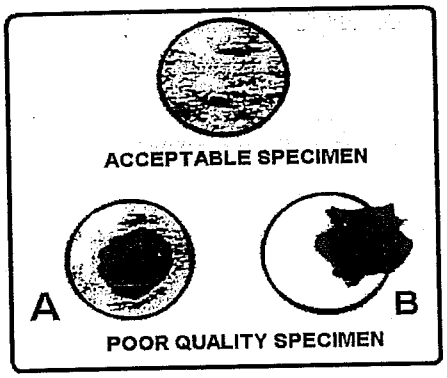
Neonatal Screening – PKU Blood Collection Procedure (continue):

2. Limitations

2.1 Failure to wipe alcohol residue may dilute the specimen and adversely affect test results.

2.2 Puncturing the heel on posterior curvature will permit blood to flow away from puncture, making proper spotting difficult. DO NOT LANCE ON PREVIOUS PUNCTURE.

2.3 Milking or squeezing the puncture may cause hemolysis and admixture of tissue fluids with specimen.



2.4 Do not layer successive drops of blood on the circle spot (Example A: if blood flow diminishes to incompletely fill circles, repeat sampling techniques 1.1 thru 1.10. Note Example B for poor quality specimen with inadequate blood.

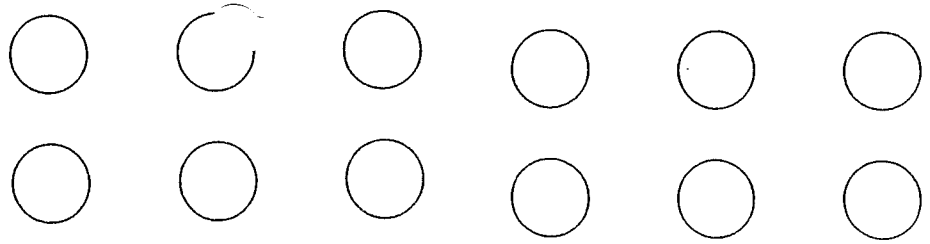
2.5 Avoid touching area within circle before collection and blood spots after collection on filter paper. Do not allow water, feeding formulas, antiseptic solutions, etc. to come into contact with the sample.

2.6 Do not place filter paper in the envelope until thoroughly dry.

2.7 Insufficient drying adversely affects test results.

3.0. Reference

3.1. CLSI Document LA4 – A2: Blood Collection on Filter Paper for neonatal Screening Programs. Second Edition. 1992



Instructions

1. **Full term baby** – Take sample at time of hospital discharge, regardless of age, but preferably over 24 hours of age. Babies sampled at less than 24 hours of age will require a repeat sample.
2. **Premature or ill baby** – Take first specimen at five days of age and second specimen at two to three weeks of age or at time of hospital discharge, whichever comes first. Mark second specimen **'Repeat'**.
3. **Home/midwife assisted birth** – Take sample at two to three days of age.
4. **Collection** – Sterilize skin of heel and puncture with disposable, no more than 2.0 mm lancet. If bleeding is slow, it is helpful to hold limb dependent for a short period before spotting blood on filter paper.
5. **Handling** – Fill **all** circles with blood, apply from **one** side only. Let blood soak through and to the periphery of each circle. Allow to dry on a clean, dry surface at room temperature, **before** placing in plastic cover. Do not handle or contaminate blood spots.
6. **Mail or deliver immediately.**

To: Cadham Provincial Laboratory
750 William Avenue/P.O. Box 8450
Winnipeg, Manitoba R3C 3Y1

For more information call: (204) 945-7980

Filter Paper Lot # W961
MG 8017 (7/00)

Newborn Screening

Lab. No. _____

Health No. _____ Check if repeat specimen ☐

Family (last) name _____

Mother's maiden name (first and last) _____

Address _____

City/Town _____

Hospital _____ **Home birth** ☐

Please use 24 hour notation!
For example, 1:00 p.m. should be written as 13:00 hrs.

Baby's birthdate ☐☐☐☐☐☐☐☐☐☐ (Hr. Min. Day Month Year) **Male** ☐ **Female** ☐

Date of sample ☐☐☐☐☐☐☐☐☐☐ (Hr. Min. Day Month Year) _____ Sample taken by (Print name)

Birth weight (grams) _____ **Premature:** Yes ☐ No ☐

Feeding: Breast ☐ Formula ☐ No Milk ☐ TPN ☐

Baby's follow-up physician/midwife: Name/Telephone

_____

_____

Addressograph stamp/Barcode label

Important collection instructions on reverse

Nursing Station Manual	**Title: Capillary Microtainers**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Capillary Microtainers:

1.0. Purpose:

These are micro-collection tubes made of plastic and available with a variety of anticoagulants and additives. The tubes are color-coded by additive to match the coding of evacuated containers. Microtainers are used for all types of dermal puncture collections and most commonly used for pediatric patients.

2.0. Procedure:

2.1. Prior to collection, have all necessary supplies ready.

2.2. Choose the appropriate microtainer.

2.3. If a **CBC** has been ordered, use the EDTA microtainer and **collect this specimen before any biochemistry** samples. Platelets tend to clot rapidly during capillary collection and may affect blood counts. During the procedure, it may be necessary to gently mix the sample to allow the anticoagulant to mix with the blood sample and prevent clotting.

2.4. Once blood is flowing freely, position the container for collection. Micro-collection tubes should be slanted downward. Lightly touch the scoop of the tube to the blood drop, and allow the blood to run into the tube. Tap the container lightly to move blood to the bottom.

2.5. Do not scrape the skin with the container. This causes hemolysis, activates platelets, and contaminates the sample with epithelial skin cells.

2.6. Close the lid after the sample has been collected. Invert the tube 8 to 10 times after filling, if additives are present.

2.7. On the patient's requisition, document that a capillary collection was performed. Ensure that this information is document on the physician's copy as lab results can vary between capillary and venous specimens.

Nursing Station Manual	Title: **Performing a Capillary Collection**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Performing a Capillary Collection:

Universal Blood and Body Fluid Precautions are to be observed during this procedure.

1.0. Purpose:

The following procedure outlines the steps to be taken when performing a capillary puncture. Capillary blood samples may be obtained from toe, heel, finger tip. **Do Not collect blood from the earlobe, central area of an infant's heel, fingers of a newborn, swollen or previously punctured site** (to avoid contamination with accumulated tissue fluid).

2.0. Materials Required:

- Moist warm towel (if required)
- Alcohol swab
- Lancet
- Appropriate collection containers

3.0. Procedure:

3.1. To ensure the identity of the patient. See **"Patient Identification".**

3.2. Select site for specimen collection. **The heel must always be used to collect blood from neonates.** (see next page).

3.3. Warm the site by gentle massage, or by wrapping with a moist warm towel for five minutes.

3.4. Disinfect skin with a swab moistened with 70% alcohol. Allow the skin to air dry.

3.5. If using the heel of a neonate, place the little finger in the flexure of ankle. Encircle heel with thumb and forefinger.

Nursing Station Manual	**Title: Performing a Capillary Collection**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
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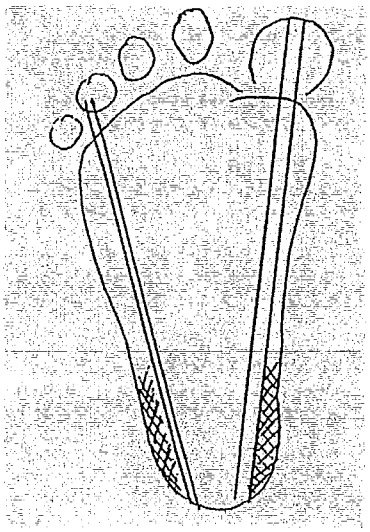
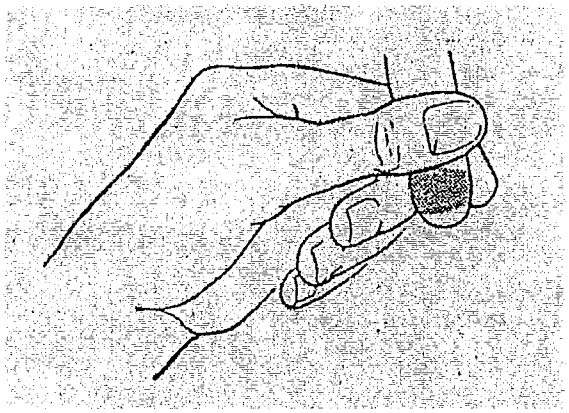
Performing a Capillary Collection (continue):

Heel punctures should be performed on the plantar surface of the heel, in the areas marked by these lines: "XXXXXXXX"





Area of finger puncture – the palmar surface of the distal phalanx of the middle or ring finger of the non-dominant hand. The puncture is made in the central fleshy portion of the finger, slightly to the side of centre and perpendicular to the grooves of the fingerprint.

Area of fingertip puncture.

3.6. Puncture skin with sterile lancet:

3.6.1. Remove the lancet from its packaging.

3.6.2. Hold the lancet firmly between the fingers.

3.6.3. Hold the patient's heel or finger firmly to prevent sudden movement and to facilitate adequate puncturing.

3.6.4. Position the puncturing device above the selected site.

3.6.5. Make a single puncture, perpendicular to the surface of the skin, without delay in one smooth, downward motion.

Nursing Station Manual	**Title: Performing a Capillary Collection**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
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Performing a Capillary Collection (continue):

3.6.6. After the full depth of the blade or tip has penetrated the skin, remove the lancet in one upward motion.

Note: An immediate repeat puncture (double sticking) at the same site must be avoided.

3.7. Gently massage the area to produce a rounded drop of blood. Wipe the first drop with a dry cotton swab.

3.8. Collect blood by capillary flow into appropriate containers. Refer to specific procedure for information regarding correct container for specimen. If multiple specimens are to be collected, the EDTA specimen is drawn first to ensure adequate volume and accurate hematology test results. Other additive specimens are collected next; specimens requiring serum are collected last.

3.9. Place a dry cotton ball over the puncture site when blood collection is complete and apply pressure until blood flow ceases.

3.10. Dispose of lancet promptly in a puncture resistant container. See **"Disposing of Sharps"**.

3.11. Label specimen immediately after collection with full name, ID number, date and time of collection is for a timed test. See **"Labeling of Specimens".**

3.12. Sign the test requisition form(s) with her/his initials, the time and date of collection.

4.0. Procedural Notes:

4.1. Bandages are not recommended for use on neonates, or young children. They can present a chocking hazard and can harm their sensitive skin.

4.2. In infants less than one year old, heel puncture is generally performed. With older children and adults, finger punctures are more frequently used.

5.0. Quality Assurance:

5.1. Ensure area is completely dry before puncturing skin.

5.2. Ensure microtainers have not expired.

5.3. Wipe away the first drop of blood to reduce contamination with tissue fluid.

Nursing Station Manual	**Title: Performing a Capillary Collection**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Performing a Capillary Collection (continue):

5.4. Note on requisition that sample is a "micro" sample.

5.5. Do not puncture on side or tip of fingers.

5.6. Reduce hemolysis by reducing heavy pressure on the puncture site and vigorous handling of the microtainer.

6.0. References:

6.1. CLSI HA-A4 – Procedures and Devices for the Collection of Diagnostic Specimens by Skin Puncture.

6.2. Certified Medical Laboratory Assistant/Technician Accreditation Program, Common Core Competency Guidelines, July 2000.

Nursing Station Manual	Title: Therapeutic Drug Monitoring
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Therapeutic Drug Monitoring:

If possible, blood samples for therapeutic drug monitoring should be taken at the optimal sample collection time. Optimal times are different for various drugs. The table below lists the optimal sample collection times for commonly monitored drugs. Optimal sample collection times for other drugs can be obtained from the laboratory staff.

During long-term therapy, blood samples should be taken in the "**steady state**".

The sample is taken at peak concentration or immediately before administration of next dose (trough).

In a suspected toxicity, the samples can be drawn at anytime.

Drug	Time to Peak Concentration	Time to Steady State	Sampling Time
Acetaminophen	30-60 minutes post oral dose	5-20 hours of chronic oral dosing	**Peak 1 Hour Post Dose** **Overdose- 4 hours after ingestion**
Salicylate	20-30 minutes post oral dose	1-5 days of chronic oral dosing	**Peak 1-2 Hour Post Dose** **Overdose-6 hours post-ingestion**
Theophylline (Aminophylline)	Varies on product formulation	Adult – 2 days of chronic oral dosing	**Trough-Immed. Pre Dose** **Peak – 4 hours after dose**
Carbamazepine (Tegretol)	6-18 Hours post oral dose	2-6 days of chronic oral dosing	**Trough- Immed. Pre Dose**
Dilantin (Phenytoin)	Depends on preparation and administration route	Variable 8-50 days depending on patient	**Unimportant but should be consistent each time**
Digoxin	60-90 Minutes after oral dose	5-7 days after chronic oral dosing	**At least 6 Hours Post Dose**
Aminoglycosides (Gentamycin, Tobramycin, Vancomycin)	Peak 0.5-1 Hour after 30 minutes infusion	Adult <30 years 2.5-15 hours of chronic dosing >30 years 7.5-75 hours of chronic dosing	**Peak 0.5-1 Hour after 30 minute infusion** **Trough immediately before next dose**
Phenobarbital		10-25 days	**Trough- immed Pre Dose**
Lithium		3 days	**2 hours after last dose**

NOTE: State hours since drug dose on the lab requisition.

NOTE: Carbamazepine and Dilantin are collected into red top tubes

References:

1) Laboratory Test Handbook; 3rd Edition, 1994.

Nursing Station Manual	**Title: Volume of Blood in Vacutainer Tubes**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
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Volume of Blood in Vacutainer Tubes:

For some tests the volume of blood to the volume of anticoagulant in the tube is critical for proper testing. There are also minimum volumes required for testing. The following chart provides the necessary information:

Tube	Colour of Stopper	Minimum Fill Requirement	Maximum Fill Requirement	Reject specimen if:
No Additive	Red	1 mL	10 mL	Quantity not sufficient for testing
SST Gel & Clot Activator	Yellow/Gold top	1 mL	6 mL	Quantity not sufficient for testing
'K3 EDTA	Mauve/ Lavender	1 mL	4 mL	<1 mL or > 4 mL
3.2% Buffered Na Citrate	Blue	4.5 mL or 2.7 mL	4.5 mL 2.7 mL	< or > 4.5 mL or 2.7 mL Ratio of blood to anticoagulant must be 9:1.
Lithium Heparin	Green	1 mL	4 mL	<1 mL or > 4 mL
SST Microtainer	Yellow with amber tube	400 uL	600 uL	<400 mL or > 600 uL
EDTA Microtainer	Mauve/ Lavender	250 uL	500 uL	<250 uL or > 500 uL

Specimens are automatically rejected if:

- inadequate volume collected into anticoagulant
- volume for testing is inadequate

The specimens must be recollected.

Reference:

Total Quality Management Manual, SLMHC.

Nursing Station Manual	Title: Urine Specimens
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Urine Specimens:

1.0. General Information:

Urine is continuously formed by the kidneys. It is actually an ultrafiltrate of plasma from which glucose, amino acids, water and other substances essential to body metabolism have been reabsorbed.

2.0. Purpose:

To obtain a urine specimen that is truly representative of a patient's metabolic state. It is often necessary to regulate certain aspects of specimen collection which may include the time of collection, length of collection period, and diet.

3.0. Scope:

3.1. **Ideally all urine specimens must be transported promptly to the laboratory for testing. Store specimens at 4 degrees Celsius to maintain the samples integrity. Urines for culture will be accepted up to 24 hours from time of collection if refrigerated and urinalysis specimens will be accepted for a period up to 4 hours after collection.**

3.2. Urines for culture (C & S) from remote locations must be submitted to the Laboratory using the NCS Transport Tubes with preservative.

3.2.1. After collection of the urine following the collection procedure for C & S, into a sterile container; urine is poured into the transport vial to the fill line.

3.2.2. Transport vials less than ½ full will be rejected.

3.2.3. The transport vial must be capped tightly, then mixed to dissolve the tablet.

3.2.4. Specimens contained in the transport vials are stable at room temperature for up to 5 days after collection.

3.3. Urine samples must be received by the laboratory labeled with the patient's full first and last name. The date and time of collection should also be documented and sent with a completed requisition. If a culture has been ordered the clinical diagnosis and treatment should be provided to the referral laboratory. The label must be placed on the container and not the cap.

Nursing Station Manual	Title: Urine Specimens
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Urine Specimens (continued):

4.0. Materials:

Collection Containers:

4.1. Single-Voided Specimens:

The primary collection container should be clean and have a capacity of at least 50-100 ml with an opening of at least 5 cm to allow easy collection of urine by both men and women. The container should have a wide base to avoid accidental spillage and should be capped so that it can be transported without leakage. The container and cap should be free of interfering substances that would change the constituents to be tested for analysis.

4.2. Timed Collections:

For many chemical constituents, quantitative excretion rates are important. A container designed for a 24-hr or overnight urine collection should have a capacity of 2-3 L. The container should be constructed from materials that prevent adherence of urine constituents, and contamination from the exterior when closed. The container should also allow for the use of recommended preservatives.

4.3. Secondary Containers:

These are containers used for basic urinalysis and should allow for easy filling from the primary container without risk of spillage. The tube should be translucent to allow a clear view of the sample and be designed for centrifugation.

5.0. Procedures:

Types of Specimens:

5.1. Random Specimen:

Is a portion of a single voided urine without defining the volume, time-of-day, or detail of patient preparation. This is usually the unavoidable case in acute situations. Random urine specimens are associated with many false negative and some false positive results.

5.2. First Morning Specimen:

This is the ideal screening specimen. It is also essential for preventing false-negative pregnancy tests and for evaluating orthostatic proteinuria. This is the most concentrated specimen, thereby assuring detection of chemicals and formed elements that may not be present in a dilute random specimen. It also allows time for possible bacterial growth in the urinary bladder. First morning urine should be voided immediately after an overnight bed rest before breakfast and other activities. It is recommended that the early morning urine be voided after an 8-hr period of recumbency, and after not less than 4 hours storage time in the urinary bladder (even if the bladder was emptied earlier during the night).

Nursing Station Manual	Title: Urine Specimens
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Urine Specimens (continued):

5.3. Mid-stream Clean Catch:

This is the urine specimen of choice as it can be used for routine urinalysis and bacteriologic examination.

5.3.1. Patient's hands should be washed and dried thoroughly.

5.3.2. Remove lid from container and set aside. Do not touch the inner surface.

5.3.3. Provide the patient with the necessary cleansing material (ie. antiseptic towelette) and a sterile container. They must be thoroughly instructed in the methods for cleansing the genitalia and for collecting only the midstream portion of the urine. This will minimize the contamination of specimens by commensal bacteria.

5.3.3.1. **Females:** Squat over the toilet, separate the skin of the vulva and use the towelette provided, wash the area from front to back. Continue to hold the skin folds apart, pass a small amount of urine into the toilet, and then urinate into the container.

5.3.3.2. **Males:** Wash the tip of the penis with the towelette provided. Retract foreskin. Pass a small amount of urine into the toilet, and then urinate into the container.

5.3.3.3. Patients should wash with water only for microbiology specimens as the use of antiseptics and soaps may affect the viability of bacteria.

5.3.4. Replace the lid securely on the container and label with the patient's full name, date and time of collection.

5.3.5. Complete the necessary requisitions. Indicate clinical diagnosis, medication and any special requests if any.

5.3.6. If samples are not promptly delivered to laboratory, refrigerate.

5.4. Catheter Specimen:

This specimen is collected under sterile conditions by passing a hollow tube through the urethra into the bladder. The most commonly requested test on a catheter specimen is a bacterial culture.

In-dwelling catheter urine is collected at replacement or by sterile puncture of an in-dwelling catheter. Urine analysis specimens must not be taken from the collection bag of a permanent in-dwelling catheter.

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Urine Specimens (continued):

5.5. Suprapubic Aspiration:

Occasionally, urine may be collected by external introduction of a needle into the bladder. Because the bladder is sterile under normal conditions, this collection method provides a sample for bacterial culture that is completely free of extraneous contamination. The benefit of this technique is that it allows for a clear-cut decision on the presence or absence of urinary tract infection. The specimen also can be used for cytological examination.

5.6. Bagged Specimens:

This collection method is most commonly used on pediatric patients. Soft, clear plastic bags with adhesive are attached to the genital area of both boys and girls.

Specimens for culture may also be obtained using a clean-catch cleansing procedure and a sterile collection bag. A thorough perineal cleansing must be done to avoid contaminating the specimen with fecal flora. Care must be taken not to touch the inside of the bag when applying it.

The collection bag must be checked frequently for urine flow and after a period of one hour the probability of contamination increases. Negative cultures reliably exclude UTI's but borderline results require further investigation by catheterization or suprapubic aspirate.

5.7. 24-Hour Specimen:

Since urinary substances are excreted in varying concentrations throughout the day, it is necessary to collect timed specimens, in order to accurately quantitate some substances such as creatinine, protein. electrolytes, and hormones. To obtain an accurately timed specimen, it is necessary to begin the collection period with an empty bladder and to end the collection period with an empty bladder.

5.7.1. Select a time early in the morning (7 or 8 am) to begin the procedure. (The procedure can be modified and started at any time of the day by empting the bladder and noting the time).

5.7.2. At this time, empty the bladder and discard the urine. Document the date and time, as this will indicate the start of the collection period.

5.7.3. From this point onward for 24 hours, **ALL** urine is to be saved into the container provided. At the end of the 24-hour period empty the bladder and save this urine. Document the date and time of the last collection of urine.

5.7.4. The container that is used for collecting the 24-hour specimen should be kept at refrigeration temperature during the entire collection time.

5.7.5. In order to get an accurate test result, it is important that all urine excreted during the timed period be collected and that the timing be exact.

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5.7.6. Some 24-hour collections require the addition of a chemical preservative. Patients and staff should be made aware to take the necessary precautions when handling the containers.

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Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Urine Specimens (continued):

5.7.7. Diet restrictions are also required for some tests. Patients must be informed which foods to avoid as it may lead to misleading results.

6.0. Related Documents:

For additional information and procedures see the following:

1. LifeLabs Laboratories Collection Manual.
2. PHL Collection and Procedure Manual.

Nursing Station Manual	Title: Stool Specimens
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
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Stool Specimens (continued):

2.3. Stool for Ova and Parasites:

2.3.1. Submit 1 specimen per day for 3 days.

2.3.2. Anti-diarrhoeal medication, radiological dyes (barium) and antibiotics interfere with identification of intestinal protozoa.

2.3.3. To collect the specimen:

2.3.3.1. The patient must be instructed to collect the bowel movement into a clean, dry, wide-mouthed container. The stool must not be contaminated by urine or water.

2.3.3.2. Emulsify stool in SAF fixative immediately. Place some stool into a sterile container, also. Send both specimens to the Lab.

2.3.3.3. Place enough specimen in the SAF fixative vial to raise the level of the medium to the "fill" line on the vial.

2.3.3.4. Tighten the cap and shake the SAF fixative vial until the mixture appears homogeneous.

2.3.3.5. Label the 2 specimens with the patient's name, date and time of collection.

2.3.3.6. Complete the laboratory requisition indicating clinical diagnosis and medication.

2.3.3.7. Transport specimens to laboratory as soon as possible. Do not refrigerate.

2.4. Stool for Clostridium difficile:

2.4.1. Choose specimens only from individuals with diarrhea or symptoms of pseudomembranous colitis or antibiotic-associated diarrhea. Specimens must be watery, not formed.

2.4.2. One specimen per 24 hours. Specimens that will be delayed by more than 1 day must be frozen and shipped on ice.

2.4.3. Once toxin is detected, additional tests are unnecessary. Do not use C. difficile testing as a "test for cure". Toxin may be detectable long after clinical symptoms have resolved.

2.4.4. To collect the specimen:

2.4.4.1. The patient must be instructed to collect the bowel movement into a clean, dry, wide-mouthed container. The stool must not be contaminated by urine or water.

2.4.4.2. Transfer to a dry sterile collection container.

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Stool Specimens (continued):

2.4.4.3. Label the container with the patient's name, date and time of collection.

2.4.4.4. Complete the laboratory requisition indicating clinical diagnosis and medication.

2.4.4.5. Transport specimen to laboratory as soon as possible.

2.5. Stool for Virus:

2.5.1. Collect stool as early in the illness as possible.

2.5.2. Refrigerate specimen if transport delayed.

2.5.3. To collect the specimen:

2.5.3.1. Use the Virus TM kit or sterile container, depending on the virus to be detected, provided by Public Health. Please call PHL at 1-877-604-4567 to inquire about specimen requirements.

2.5.3.2. Using the wooden spoon provided, place approximately one teaspoon of faecal material into the sterile container.

2.5.3.3. Close the container TIGHTLY.

2.5.3.4. Label the container with the patient's name, date and time of collection.

2.5.3.5. Complete the laboratory requisition indicating clinical diagnosis and medication.

2.5.3.6. Transport specimen to laboratory as soon as possible.

4.0. References:

4.1. KRRLP Microbiology Manual, Specimen Collection, Stool

4.2. Para-Pak Enteric Plus Transport System, insert

4.3. MOH-LTC Laboratory Branch, Specimen Collection Guide available on www.oahpp.ca

Nursing Station Manual	**Title: Sputum Collection**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Sputum Collection:

1.0. Purpose

To ensure proper collection of sputum sample.

2.0. Collection

2.1. For collection of sputum for culture, TB or cytology, a separate sterile bottle must be used per test per day. The laboratory will not divide a specimen for multiple tests. Only one sputum specimen per day will be cultured. For culture collection instruction, see Microbiology section. For TB, collect three specimens on 3 consecutive mornings.

2.2. Whenever possible, the patient should collect a first morning sample. For culture only, the patient should rinse his/her mouth out before collecting the specimen. This will help to minimize contamination of the specimen with normal oral flora. The patient should cough deeply and immediately expectorate the specimen into a sterile container. Avoid holding the specimen in the mouth. Saliva is not acceptable.

2.3. Label the container with the patient's name, date and time of collection, and indicate that it is a sputum sample.

2.4. Complete the laboratory requisition and indicate clinical diagnosis, tests requested and medication.

2.5. Transport the specimen to the lab as soon as possible and refrigerate.

3.0. Quality Assurance

3.1. Ensure agreement of information on the requisition and container label.

3.2. Ensure refrigeration, if testing delayed.

3.3. Ensure suitability of container.

3.4. Ensure suitability of container.

4.0. Reference

4.1. KRRLP Microbiology Policy and Procedure Manual, Specimen Collection, Sputum
4.2. MOH-LTC , Laboratories Branch, Specimen Collection Guide.

Nursing Station Manual	**Title: Seminal Fluid**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
Approved by: Laboratory Director	Review Date:

Seminal Fluid:

1.0. Purpose:

This procedure provides instructions for the collection of seminal fluid. **Arrangements and appointments must be made directly with the SLMHC Laboratory before testing can be done.**

2.0. Procedure:

Fertility Studies:

2.1. The patient should be advised to remain sexually inactive for 48 to 72 hours prior to sample collection; abstinence should not exceed 5 days. The days of abstinence should be documented on the patient's report.

2.2. Fertility samples must be delivered to the hospital laboratory within an hour of collection. The specimen should be protected from extremes of temperature and placed inside a shirt or jacket during transport by the patient. Patients coming from more than an hour's drive of the hospital should collect the sample on the premises.

2.3. Collection containers must be sterile and free of chemical or soap residue. Soft plastic containers must not be used, but hard plastic is acceptable.

2.4. The specimen should be obtained by masturbation without the aid of lubricant, which may interfere with sperm viability. Condoms are not to be used. All the fluid must be submitted for analysis. Incomplete collections may not be reliable representations, especially if the first portion, comprising the highest concentration of spermatozoa, is lost.

2.5. The specimen container should be labelled with the patient's full first and last name. The time of collection and receipt to the laboratory must be documented.

2.6. If the sample is not tested immediately, it should be kept warm (37°C). The sample must be observed within 1.5 to 2 hours after collection to obtain an accurate measurement of motility.

Post Vasectomy:

2.7. Patients are instructed to submit a sample for a sperm count at 6 to 8 weeks' post vasectomy, after at least ten ejaculations.

2.8. The patient is to follow steps 2.1 – 2.5., except the sample does not have to be protected from variations of temperature. The patient may freeze semen samples if this is more convenient and transport samples to the hospital at a later date. Document specimen handling.

2.9. If the sample is not tested immediately, it may be placed on the heating block. If workload does not permit testing that same day, the specimen may be frozen.

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Seminal Fluid (continued):

2.10. A patient is considered sterile when two consecutive semen samples, collected at least one month apart are sperm-free. The presence of one spermatozoon in the centrifuged specimen, motile or non-motile, live or dead, is taken as a positive result.

2.11. A copy of the patient's results should be forwarded to the family physician and surgeon.

3.0. Procedural Notes:

3.1. The main indications for semen analysis are infertility and determination of the completeness of vasectomy. The validity of diagnostic semen testing is entirely dependent on appropriate and complete specimen collection, which, in turn, is dependent on the patient being well informed and in compliance with appropriate procedures.

3.2. To ensure an informed patient, he and his partner must be provided with concise, understandable, written instructions. A specimen container should be provided to the patient.

3.3. Personnel must be able to maintain professionalism and candour during verbal instructions about acceptable collection procedures.

3.4. Because semen quality is responsive to sexual stimulation, stress, and illness, diagnostic testing should be done on 2 to 3 specimens collected over a period of 4 to 6 weeks.

3.5. Arrangements for Post-Vasectomy and/or Fertility Studies of Seminal Fluid must be made with the SLMYHC Laboratory prior to testing.

Nursing Station Manual	**Title: Chlamydia Test**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Approved by: Laboratory Director	Review Date:

Chlamydia Testing:

1.0. Principle:

1.1. To ensure the proper collection of specimens for Chlamydia testing.

2.0. Scope:

2.1. In accordance with quality management practice, Public Health **will only accept** the following specimens for Chlamydia Nucleic Acid Amplification testing:

- GEN-PROBE APTIMA UNISEX SWAB
- Male and Female Urines using the GEN-PROBE APTIMA urine Preservative Transport Kit from PHL

2.2. The specimens are also tested for GC.

2.3. The following specimens are **unacceptable:**

- Specimens without a patient identifier
- Specimens with site not clearly indicated on both the specimen and requisition
- Vaginal specimens, unless hysterectomy indicated
- Male swabs labelled "penis" or "penile". Male swabs must be labelled "urethral"
- Eye, rectal, pharyngeal swabs
- Test of cure or follow up
- Sexual Assault/Medical Legal

2.4. Chlamydia **culture kits are used** in the following instances:

- Test for cure or follow up (test one week after completion of treatment)
- Sexual Assault
- Pre-pubertal patients
- Eye, rectal, pharyngeal swabs
- Seminal prostatic

3.0. Procedure:

3.1. Follow the collection instructions located on the package of the collection kit/swabs.

3.2. Collection Instructions are also available on the Public Health Lab Website, www.oahpp.ca. Go to Public Health Laboratories then to Specimen Collection Guide, Testing Guidelines.

4.0. References:

4.1. Public Health Laboratory Collection Manual.

Nursing Station Manual	Title: Stool Specimens
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/05/2012
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Stool Specimens:

1.0. Purpose:

There are numerous infections that can be detected and treated through the analysis of stool specimens. Such infections often cause the patient to have gastroenteritis, enteritis, or colitis. Through various testing methods the diagnosis can be found and the correct treatment provided to the patient.

2.0. Procedures:

2.1. Stool C & S:

Refer to Microbiology Section

2.2. Occult Blood:

The purpose of these kits is to test for the presence of stool occult blood. Collection kits can be provided to the patient by the laboratory, family physician, or hospital. There are various occult kits manufactured so prior to testing verify that the testing reagent and kit match.

2.2.1. Patients should not receive vitamin C for 1-3 days and during testing. Red meats and peroxidase-rich vegetables (turnips, horseradish, mushrooms, broccoli, cauliflower, artichokes, radishes, bean sprouts, apples, oranges, bananas, cantaloupes, grapes) should also be avoided for 3 days and during testing. Otherwise the patient should eat a well balanced diet including fiber such as bran cereals, fruits and vegetables.

2.2.2. Alcohol and aspirin, especially together, and other gastric irritants should be avoided.

2.2.3. For accurate results, apply samples from bowel movements collected on three different days to the slides.

2.2.4. Each slide should be labelled with the patient's full name, date and time of collection.

2.2.5. Samples should not be collected if blood is visible in stool or urine (e.g. menstruation, active hemorrhoids, urine infection). For best results do not allow stool to come in contact with toilet bowl water. Use clean, dry container for collection.

2.2.6. Using wooden sticks provided, apply a small amount of sample to cover box A. From a different part of the stool apply a thin smear to cover box B.

2.2.7. Do not store slides in the fridge or place in moisture proof plastic bags. Use the paper envelope provided, which will allow samples to "air dry".

2.2.8. After completion of all three kits, and allowing the last kit to air dry overnight, deliver the samples back to the Nursing Station or the Laboratory.

Nursing Station Manual	**Title: Oral Glucose Tolerance Test**
Section: General Specimen Collection Instruction	Original Preparation Date: January 2006
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Oral Glucose Tolerance Test:

1.0. Purpose:

The glucose tolerance test is a diagnostic tool in patients who have symptoms suggesting problems in carbohydrate metabolism. It tests the efficiency of the body's insulin-releasing mechanism and glucose-disposing system.

2.0. General Information:

- The oral glucose tolerance test (OGTT) also tests for diabetes mellitus and for other disorders of carbohydrate metabolism. Hyperglycemia, or elevated blood sugars, is most commonly caused by diabetes; hypoglycemia, or low blood sugars, may be due to endocrine disorders or metabolic disruptions.
- When a glucose tolerance test is to be performed, the patient should be given complete instructions about the procedure so his or her cooperation can be assured. For best results, the patient should eat normal, balanced meals for at least 3 days prior to the test.
- Twelve hours prior to the beginning of the test, the patient should fast completely.
- Other beverages, including tea or coffee are not allowed. The patient is permitted to have water during testing.
- Cigarette smoking and gum chewing (including sugarless) should be discouraged as they stimulate digestion and interfere with the results.
- The patient must start and finish a glucose drink within 5 minutes. Document the completion time on the requisition.
- If the patient should vomit during the procedure a physician should be notified and most likely the test will have to be discontinued and restarted on another date.
- The patient should remain in the hospital for the entire procedure and physical activity should be minimized.
- All specimens for testing should be collected in the same manner. Do not alternate between venous and capillary samples.

3.0. Procedure:

3.1. Hyperglycemia – 2-Hour OGTT:

3.1.1. The patient should follow the 3- day diet.

3.1.2. Prior to the glucose drink test the patient's fasting blood sugar by dermal puncture.

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Oral Glucose Tolerance Test (continued):

3.3.2. Collect fasting blood glucose level by dermal puncture.

3.3.3. If the blood glucose is < 7.0 the prenatal patient is given a 75g glucose drink. **If the glucose result is > 7.0 do not proceed with the test until ordering physician has been notified. Physician will advise whether to proceed or have the patient eat breakfast and return to the laboratory 2 hours after eating to have their blood glucose checked.**

3.3.4. If the drink is given, instruct the patient they must not eat, drink etc. for the next 2 hours.

3.3.5. At 60 and 120 minutes collect blood glucose levels by dermal puncture.

3.4. Hypoglycemia - 5 Hour GTT:

The purpose of this glucose tolerance test is to detect the presence of abnormally low blood glucose levels.

3.4.1. The patient should follow the 3-day diet.

3.4.2. An outpatient form is required due to the length of time the patient is required to stay in hospital. The lab is to contact the admitting department to prepare the necessary documents.

3.4.3. Prior to the glucose drink test the patient's fasting blood glucose level by dermal puncture.

3.4.4. If the fasting blood sugar is <7.0 then proceed to give the patient 75g of glucose drink.

3.4.5. **If the patient's blood glucose is >7.0 do not give the glucose drink until ordering physician has been notified. Physician will advise whether to proceed or will instruct the patient to have breakfast and return to the laboratory in 2 hours to have their glucose level checked.**

3.4.6. Remind the patient of the instructions of the procedure, i.e. No eating, drinking, smoking etc. for the next 5 hours.

3.4.7. **The patient must remain in hospital for the next 5 hours.** Throughout the procedure ask the patient how he/she is feeling. The client may be required to stay in the outpatient department for the entire tolerance test. If there are any patient concerns or blood glucose levels drop extremely low consult a physician before continuing with the procedure.

3.4.8. A blood glucose level is done at 30 minutes. Glucose levels are then tested at 1, 2, 3, 4, and 5 hour's time. All glucose monitoring is done by dermal puncture. **If the patient's glucose levels drops to 3.0 mmol/L consult a physician.** They may discontinue testing or check the glucose level every 30 minutes.

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Oral Glucose Tolerance Test (continued):

3.4.9. Upon completion of the glucose tolerance test provide patient with a meal. Contact the kitchen and indicate which patient is to be provided with a meal, free of charge. The patient can then proceed to the cafeteria for lunch. All patients are strongly encouraged to eat prior to departing the hospital. If a patient declines, document the situation on both the outpatient form and lab requisition.