



## MHL SPECIMEN COLLECTION AND STORAGE REQUIREMENTS

This Test Specification Guide (TSG) is available to physicians and MHL locations electronically and/or hard copy.

The guide outlines the information needed for procurement of laboratory specimens. It includes the name of test, minimum quantity of specimen required where applicable, specimen storage requirements, and the turn around time.

If you have any questions or concerns regarding any of the test requirements please call the Main Lab at 416-256-7278.

TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
Activated Partial Thromboplastin Time (APTT)	Light Blue Top	2.7 mL citrated blood (light blue tube-to fill line)	1 day	Centrifuge the plasma immediately. Test must be done within 4 hours of blood collection otherwise the plasma should be separated and frozen. Reject specimen if not frozen or if it has superseded 4 hrs.
Alanine amino transaminase (ALT)	SST	1 mL of Serum	1 day	Avoid hemolysis.
Albumin	SST	1 mL of Serum	1 day	
Alkaline Phosphatase (ALKP)	SST	1 mL of Serum	1 day	
Amylase	SST	1 mL of Serum	1 day	
Antibody screening (Blood group)	Lavender Top	4 mL Lavender tube (EDTA tube)	1 day	Tube must be well labeled.
ASOT	SST	1 mL of Serum	1 day	
Aspartate Amino Transferase(AST)	SST	1 mL of Serum	1 day	

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
Anti-HBs	SST	1 mL of Serum	Min. 24 hrs	Grossly hemolysed and lipemic samples can not be used for testing. All patient specimens to be tested in primary tubes.
Bicarbonate (CO2 content)	SST	1 mL of Serum	1 day	Test performed from unopened tube. Fill the tube while collection.
Bilirubin Total	SST	1 mL of Serum	1 day	Protect the specimen from light
Body Fluid Culture		Sterile site and stored in a sterile container. Room Temperature storage required.	5 days	Transport to the Microbiology laboratory ASAP.
Blood Culture	Isolator 10 tube	Blood culture tube. 10 mL of blood in the tube Store at room temperature	6 days	Maintain Sterile conditions. Record the time of collection on the specimen. Send the specimen to the lab ASAP at room temperature. Clotted samples must be redrawn.
Blood film (includes diff. WBC, RBC morphology & platelet test)	Lavender Top	Film made from capillary blood or 4 mL EDTA blood.	1 day	Mix well and make the blood film immediately. Do not refrigerate the blood film slides.
Blood Group (ABO & Rh)	Lavender Top	4 mL EDTA blood.	1 day	Tube must be well labeled.
Blood Group(For Prenatal testing)	2 Lavender Top	4 mL EDTA blood in each tube		Tube must be well labeled.
BUBC (Bilirubin conjugated and unconjugated)	SST	1 mL of serum	1 day	Avoid from light.
Calcium	SST	1 mL of Serum	1 day	
Cervical swab	Genprobe Aptima	Genprobe Aptima Unisex swab Store at Room temperature	3 days	Clearly state the site of collection on the specimen and requisition  For Neisseria Gonorrhoea only.
Chlamydia and GC	Genprobe Panther	Urethral, Urine, Cervical swab	Min. 1 days	After Collection: Storage: 60 Days for Urethral and cervical and 30 Days for Urine at 2-30°C

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Chloride	SST	1 mL of Serum	1 day	
Cholesterol	SST	1 mL of Serum	1 day	
CK	SST	1 mL of Serum	1 day	
CKMB	SST	1 mL of Serum. Avoid hemolysis.	1 day	Specimen free from fibrin and RBC.
Complete blood count (Hgb, WBC, RBC, Diff. Indices and Film report)	Lavender Top	4 mL EDTA blood (lavender tube)	1 day	Mix the tube well.
Coombs test (direct & indirect)	Lavender Top	4 mL EDTA blood (lavender tube)	1 day	Tubes must be well labeled.
Core Ab(Total)	SST	1 mL of Serum	Min. 24 hrs	All patient specimens to be tested in primary tubes. Grossly Haemolysed and Lipemic samples can not be used for testing
Creatinine	SST	1 mL of Serum	1 day	
CSF		Collect in Sterile tube. Store at room temperature	3 days	Specimen should be sent to main lab within 1 hour of collection by taxi, keep at room temperature.
DBIL(Direct Bilirubin	SST	Same as BUBC	1 day	Avoid from light.
Digoxin	SST	1 mL of Serum.	1 day	Avoid hemolysis.
Direct Coombs	Lavender top	4 mL EDTA blood	1 day	
Ear		Clear swab Store at 2-8°C (refrigerate)	2-3 days	

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Estradiol	SST	1 mL of Serum	1 day	Thaw the specimen once only.
Erythrocyte Sedimentation Rate (ESR)	SST	4 mL EDTA blood	1 day	Must be done on the same day as blood collection.
Eye Swab		Clear Swab	2-3 days	Store at room temperature
Ferritin	SST	1 mL of Serum	1 day	Hemolyzed specimen should not be used.
FOBT (CCC)	FOBT card	FOBT Collection Kit	1 day	Please provide special instructions to patient as provided in the collection kit.
Folate(Serum)	SST	50 µL of Serum	1 day	(Avoid hemolysis) Fasting specimen is recommended
Free PSA	SST	1 mL of Serum	1 day	Thaw the specimen once only.
Free T3	SST	1 mL of Serum.	1 day	Avoid hemolysis.
Free T4	SST	1 mL of Serum.	1 day	
FSH	SST	1 mL of Serum	1 day	
Gamma Glutamyl Transferase(GGT)	SST	1 mL of Serum	1 day	Haemolysed sample with Hgb concentration greater than 1.5 g/L should not be used.
Glucose	Grey Top Or SST	1 mL of Serum or plasma (sodium fluoride)	1 day	
Glucose Tolerance Test (GTT)	Grey Top	Sodium Flouride tube Please see special instructions	1 day	75 gms glucose orally  For Pregnant patients: Fasting, 1 hour and 2 hour specimen required. For all Other patients: Fasting and 2 hour specimen required.

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
				(Urine sample is NOT required for GTT testing)
Glucose Challenge test(GCT)	Grey Top	Sodium Flouride tube	1 day	50 gms. glucose orally 1 hour specimen after oral dose of glucose.
Hemoglobin H Preparation	Lavender Top	4 mL EDTA	3-5 days	Preparation must be done same day of collection
Hepatitis A IgM	SST	1 mL of Serum	Min. 24 hrs	All patient specimens to be tested in primary tubes. Grossly Haemolysed and Lipemic samples can not be used for testing
Hepatitis A total Antibody	SST	1 mL of Serum	Min. 24 hrs	Grossly hemolysed and lipemic samples can not be used for testing. All patient specimens to be tested in primary tubes.
Hepatitis B IgG	SST	1 mL of Serum	Min. 24 hrs	Grossly hemolysed and lipemic samples can not be used for testing. All patient specimens to be tested in primary tubes.
Hepatitis B surface antigen ( HBsAg)	SST	1 mL of Serum	Min. 24 hrs	All patient specimens to be tested in primary tubes. Grossly hemolysed and lipemic samples can not be used for testing
Hepatitis C Antibody (HCV)	SST	1 mL of Serum	Min. 2 days	Grossly hemolysed and lipemic samples can not be used for testing. All patient specimen to be tested in primary tubes
Hb Electrophoresis (includes estimation of Hb A2 and detection estimation of variants)	Lavender Top	4 mL EDTA blood	7 days	Must be kept refrigerator (2-8 °C) if testing is not done same day
HDLC	SST	2 mL of Serum	1 day	
HSCRp	SST	1 mL Serum	1 day	
Infectious Mono	SST	1 mL Serum	1 day	

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IUD –Gram stain		Sterile container	2 days	Room Temperature storage
Iron (Fe)	SST	1 mL of serum.	1 day	
Indirect Coombs	Lavender Top	4 mL EDTA	1 Day	
Joint fluid		Sterile container Store at room temperature	2-3 days	Specimen should be sent to main lab within 1 hour of collection, keep at room temperature.
Lactate Dehydrogenase (LDH)	SST	1 mL of Serum of heparinized plasma	1 day	Avoid hemolysis
LH	SST	500 µL Serum Separate within 2 hours or centrifugation.	1 day	Thaw the specimen once only.
Lipase (LIPA)	SST	1 mL of Serum	1 day	Grossly lipemic specimen should not be used.
Malarial Parasite	Lavender Top	4 mL EDTA blood	Critical Urgent	Shall be prepared within one hour of collection. All SCCs and doctor's offices have to call at main lab for STAT pick-up. The time of processing shall be noted if the specimen is held longer than one hour from collection.
Microalbumin		10 mL of urine in conical tube.	1 day	Centrifuge turbid specimens.
Miscellaneous (includes wound, skin, all abscess, joint discharge, umbilical, mouth)		Clear Swab	2-3 days	Store at Room temperature
Nasal Smear for Eosinophil count		2 nasal swabs	1 day	One from each nostril
NBIL (Neo-natal Bilirubin)	SST	Same as BUBC	1 day	Avoid form light.

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
Nose		Clear Swab Store at Room temperature	2 days	
Occult Blood (Non-CCC)		Occult Blood Collection Kit	1 day	Please provide special instructions to patient as provided in the collection kit.
Occult Blood (FOBT-CCC)		FOBT Collection Kit	1 day	Please provide special instructions to patient as provided in the collection kit.
Phosphorus	SST	1 mL of Serum	1 day	Avoid hemolysis
Pinworm prep. Enterobius vermicularis		Scotch tap container with paddle	2 days	Sample should be delivered to the laboratory within 24 hours of collection. Hold samples under refrigeration throughout holding/transit period.
Platelet count	Lavender Top	4 mL EDTA blood	1 day	
Pleural/peritoneal fluid		Sterile container Store at room temperature	3-7 days	Specimen should be sent to main lab within 1 hour of collection
Potassium	SST	1 mL of Serum or heparinized plasma. Avoid hemolysis	1 day	Do not refrigerate prior to centrifugation.
Progesterone	SST	500 µL Serum Separate within 2 hours of centrifugation.	1 day	Thaw the specimen once only.
Prolactin	SST	500 µL Serum Separate within 2 hours of centrifugation.	1 day	Thaw the specimen once only.
Prothrombin Time (PT)	Light Blue Top	2.7 mL citrated blood	1 day	Centrifuge the plasma immediately. Test should be performed within 24 hours. If greater than 24 hours rejected.
Seminal Fluid / Prostate Fluid		Sterile container.	2 days	Store at Room temperature
PSA	SST	500 µL of Serum.	1 day	Thaw the specimen once only. Avoid hemolysis. Separate the serum within 2 hours after centrifugation.
RBC Folate	Lavender Top	500 µL Whole blood (EDTA )	1 day	

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
Rectal (for enteric)		Clear swab Store at room temperature	3 days	Please note that a rectal swab is a sub-optimal specimen for the culture of enteric bacterial pathogens and a false negative report may result. Stool is preferable.
Rectal -ESBL		Clear swab	2 days	Store at Room temperature
Reticulocyte Count	Lavender Top	4 mL EDTA blood	1 day	
RF Factor	SST	1 mL Serum	1 day	
Rubella	SST	1 mL of Serum	Min. 24 hrs	All patient specimens to be tested in primary tubes. Grossly hemolysed and lipemic samples can not be used for testing
Sickle test	Lavender Top	4 mL EDTA blood	1 day	
SLE (LE Screen serology)	SST	1 mL of Serum	1 day	
Sodium	SST	1 mL of Serum	1 day	
Sputum		Sterile container	2 days	Mouth should be rinsed with water prior to specimen collection. First early morning specimen is preferable. Deep cough specimen, saliva is unsuitable. Multiple specimens usually a minimum of three morning specimens on successive days are required Store at 2-8°C
Stool (Culture and Sensitivity)	Stool container with pink fluid (enteric transport media)	Fill to line. Mix well.	3 days	Store at 2-8°C.
Stool (Ova and Parasites)	Stool Container (S.A.F. transport media)	Fill specimen to line, mix well	3-5 days	Keep specimen at room temperature.
Testosterone	SST	1 mL of Serum	1 day	Thaw the specimen once only.
Throat		Clear Swab	2 days.	Store at 2-8°C (refrigerate)

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
TIBC (Total Iron Binding Capacity)	SST	2 mL of Serum	1 day	
Total β-HCG	SST	1 mL of Serum.	1 day	RBC may cause depressed results due to hemolysis. Avoid hemolysis. Never process a grossly hemolyzed specimen. Always test sample from primary tube, never aliquot.
Total Protein	SST	1 mL Serum.	1 day	
Triglycerides	SST	1 mL of Serum	1 day	
TSH	SST	1 mL of Serum	1 day	
Urea	SST	1 mL of Serum	1 day	
Urethral		Genprobe Aptima unisex swab and Charcoal swab	3 days	Transport at room temperature.
Urethral for Trichomonas		Clear Swab	2 days	Store at Room Temperature
Uric acid	SST	1 mL of Serum,	1 day	Centrifuge and separate the serum within 4 hours of collection.
Urinalysis	16 x 100 mm plain plastic tube	Random urine specimen needed Store at 2-8°C (Refrigerate)	1 day	Transport and store between 2-8 degrees Celsius.
Urine (Culture and Sensitivity)	Sterile Urine container	Sterile container Midstream urine specimen.	2 days	Store at 2-8°C (Refrigerate)
Urine (Pregnancy test)	16 x 100 mm plain plastic tube	Early morning specimen	1 day	Store at 2-8°C (Refrigerate)
Urine for Schistosoma haematobium		Urine in plain sterile container	2 days	Collection of urine between noon and 3 pm
Vaginal		Clear swab Store at room temperature.	1 day	Adult vaginal swabs are screened only for Trichomonas vaginalis, Bacterial Vaginosis and yeast. Transport at room temperature.

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TEST	VACUTAINER	MINIMUM SPECIMEN REQUIREMENT AND SAMPLE VOLUME	TURN AROUND TIME	COMMENTS
Vaginal/Rectal		Clear swab Store at room temperature.	3 days	Vaginal/anorectal swabs obtained between 35-37 weeks gestation are optimal for isolating GBS and have been shown to yield as many as 20% more positives than vaginal swabs alone. (Please submit a single swab from both vaginal introitus and rectum for prenatal group B screening). Transport at room temperature.
Vitamin B <sub>12</sub>	SST	1 mL of Serum	1 day	Separate the serum within 2 hours of centrifugation .Store in a tightly stopper bottle. Thaw the specimen once only
VRE/MRSA surveillance		Clear swab Store at room temperature	3 days	
Vitamin D	SST	1 mL of Serum	1 day	

**NOTE: All serum tubes (SST) must be centrifuged as per TSG instructions after collection.**

The specimens are stored according to OAML guidelines:

- Routine biochemistry serum tubes are kept at room temperature before testing except special tests
- CBC and INR tubes are kept at room temperature before testing.
- Microbiology specimens follow the storage guidelines provided in the above table.

All additional test requests are evaluated on individual test basis whether it is suitable or not. If it is suitable then do the additional test, If not, collect a new sample.

Defined (Required) sample volumes of blood are periodically reviewed by MLT to ensure that they reflect current laboratory standards and practices.

MHL locations shall meet the criteria for specimen collection and separation as per TSG document.

If blood is drawn at Physician's offices then they are responsible for meeting the specimen collection and separation criteria as per TSG document. MHL provides them centrifuge to meet the criteria.

*Tests, not mentioned in the above list, are referred out tests. Please refer to reference laboratories' (Life Labs, Dynacare, Public health) online TSG or call Med Health Main Lab. (416-256-7278).*

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