yukon hospitals | whitehorse dawson city watson lake

Laboratory Guide to Services

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USER NOTE:

- Any underlined and blue word is a hyperlink to another section in the document or an external website. To use it, press CNTL (control key) while holding the mouse cursor over top of the word, you will now be able to click on the link using the left mouse button.
- At the end of each section, there is the option to “RETURN TO MAIN MENU”, this is a hyperlink to bring you back to the Table of Contents. While hovering over the words, press CTRL (control) key and you can use this hyperlink to return to the Table of Contents.
- Hyperlinks to external websites may also be used by right clicking on the word and selecting the option to “copy hyperlink”. In your web browser you can then “paste” the address.
- The headers have a coloured ribbon along the bottom; it is a quick reference to the order of draw tube colour.

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1.1 PURPOSE

The purpose of this manual is broad in order to inform a diverse group of providers and clientele. This manual does not include all procedural instructions for each group.

This Guide to Services is not intended to be a stand-alone document. It is to be used in conjunction with other references, see table below:

Resource (with hyperlinks)	Content Description
St. Paul's Hospital Accessioning Test Reference	**PRIMARY RESOURCE-** List of orderable Referred Out tests with instructions regarding preferred specimen container, minimum specimen quantity, special instructions**.** **NOTE:** This catalogue is for Referred Out tests ONLY. It does not include instructions for those tests done on-site. For on-site test instructions, refer to the WGH Laboratory Test Reference
St. Paul's Hospital Pathology and Cytology Requirements	Online guide for pathology and cytology specimen ordering, specimen collection criteria and specimen labelling criteria.
BC Cancer Agency Requisitions	Online reference for test requisitions for tumor marker testing, cervical cancer screening, etc. Includes information on specimen requirements, turnaround time, handling and transport instructions.
BCCH & BCCDC e-Lab Handbook	Online guide for tests performed at BC Children's & Women's Hospital and by BC Centre for Disease Control. Includes specimen ordering procedures, processing information, specimen collection instructions, and handling and transport instructions. (Mainly used for serology tests, come virology tests, genetic testing, etc.)

Process improvements and technological changes are constant in Laboratory Science. The WGH Laboratory has been undergoing rapid growth and expansion in recent years to meet the needs of a changing Yukon demographic. For these reasons, printed versions of this document may become rapidly out of date. Always refer to the online version to ensure access to current information and processes. We thank you for your understanding.

Updates are scheduled to occur twice a year:

- March 1st
- October 1st

NOTE: Laboratory Management may increase the number of publication in any given year dependent upon major operational changes.

1.2 HOURS OF SERVICE

OUTPATIENT SERVICES		
Whitehorse General Hospital	**Dawson City Community Hospital**	**Watson Lake Community Hospital**
Booked Appointments for ECG, Holter Monitor, and Glucose Tolerance Tests. Walk-in service for specimen collection/drop off. Monday to Friday 0800-1600	Booked Appointments Only Monday to Thursday 0830-1030; 1300-1430 Friday 0830-1030	Booked Appointments Only Monday to Thursday 0830 – 1100; 1300 - 1530
Closed weekends and statutory holidays		

NOTE: WGH main Laboratory is staffed 24 hours a day, 365 days a year. Blood work needed on weekends and holidays, must be approved and pre-arranged with the Laboratory.

1.3 LABORATORY CONTACT INFORMATION

WGH Laboratory	**DCCH Laboratory**	**WLCH Laboratory**
PHONE		
867-393-8739 Menu Options: **1** - Book/ Cancel an appointment or questions regarding your requisition **2** - Specimen collection and patient reports **3** - Technical specialist with critical results or a Medical professionals who need to speak to a technologist **4** - All other inquiries	**867- 993-4444** Switch board operator can direct your call to the Laboratory	**867-536-4444** Switch board operator can direct your call to the Laboratory
FAX		
Outpatient Laboratory: **867-393-8946** Main Laboratory: **867-393-8772**	867-993-4316 (ATTN:LAB)	867-536-5267 (ATTN:LAB)
MAILING ADDRESS		
WGH Laboratory 5 Hospital Road Whitehorse, Yukon Y1A 3H7	DCCH Laboratory P.O. Box 894 Dawson City, YT Y0B 1G0	WLCH Laboratory P.O. Box 866 Watson Lake, YT Y0A 1C0

1.4 LABORATORY CONTACT DIRECTORY

POSITION	NAME	PHONE NUMBER	EMAIL
WGH Laboratory			
Laboratory Clinical Manager	Simon St. Coeur	867-393-8767	Simon.St-Coeur@wgh.yk.ca
Laboratory Information Manager	Sheri-Lynn Heighington	250-719-8675	Sheri-Lynn.Heighington@wgh.yk.ca
Specimen Management Lead	Nickole Wlasichuk	867-393-9000 ext.8303	Nickole.Wlasichuk@wgh.yk.ca
Core Lead	Marlene Croken	867-393-8927	Marlene.Croken@wgh.yk.ca
Transfusion Medicine Lead	Chad Milford	867-393-9005	Chad.Milford@wgh.yk.ca
Laboratory Information Systems Lead	Ainsley Coates	867-393-8693	Ainsley.Coates@wgh.yk.ca
Laboratory Information Systems Lead	Becky Nash	867-393-8650	Becky.Nash@wgh.yk.ca
Laboratory Quality and Safety Coordinator	Vacant	867-393-9000 ext.8305	Frank.Resch@wgh.yk.ca
Point of Care Coordinator	Patricia Rodgers	867-393-9000 ext.8304	Patricia.Rodgers@wgh.yk.ca
Director, Allied Health Programs	Gregory Shaw	867-393-8871	Gregory.Shaw@wgh.yk.ca
Executive Director, Allied Health Programs	Tanya Solberg	867-393-8934	Tanya.Solberg@wgh.yk.ca
Dawson City Community Hospital			
Laboratory (CLXT)		867-993-4315	
Operations Leader, Dawson City	Lindsay Birss	867-993-4310	Lindsay.Birss@wgh.yk.ca
Watson Lake Community Hospital			
Laboratory (CLXT)		867-536-0240	
Operations Leader, Watson Lake	Sonia.Pourabdi	867- 536-5260	Sonia.Pourabdi@yukonhospitals.ca
SPH Laboratory Medical Consultants			
Switchboard (Lab Physicians on call)		604-682-2344	
YHC Laboratory Medical Director	Dr. Marc Romney	604-806-8188	MRomney@providencehealth.bc.ca
Chemistry Medical Lead	Dr. Andre Mattman	604-806-8190	AMattman@providencehealth.bc.ca
Hematopathologist Medical Lead	Dr. Rodrigo Onell	604-806-8023	ROnell@providencehealth.bc.ca
Hematopathologist Medical Lead	Dr. Hamish Nicolson	604-806-8875	HNicolson@providencehealth.bc.ca
Hematopathologist Medical Lead	Dr. Mohammad Bahmanyar	604-806-9355	MBahmanyar@providencehealth.bc.ca
Microbiology &Virology Medical Lead	Dr. Nancy Matic	604-682-2344	nmatic@providencehealth.bc.ca

1.5 INTRA-TERRITORIAL REFERRAL SCHEDULE

Specimens are sent to WGH from Community Health Centers and the Community Hospitals. Below is a general guideline for routine shipments. Unless specified all shipments are sent via ground courier.

STAT specimens from the Community Hospitals will be sent on the next available mode of shipment to WGH (either by air or road transportation).
NOTE: Routine specimens ready for shipment may accompany the STAT shipment but it is dependent on timing and staffing resources.

Out of Territory referral specimens are sent from WGH laboratory to our supporting partners on a daily basis (refer to Referred-Out Tests: Our Support Team section below for a list of our partners)

Monday	Tuesday	Wednesday	Thursday	Friday
Carcross Health Centre	Carmacks Health Centre	Atlin Health Centre	Carmacks Health Centre	** Dawson City Community Hospital **
** Dawson City Community Hospital **	Faro Health Centre	Beaver Creek Health Centre (Once a Month)	Faro Health Centre	Watson Lake Community Hospital
Mayo Health Centre	Pelly Crossing Health Centre	Carcross Health Centre	Pelly Crossing Health Centre	
Watson Lake Community Hospital	Ross River Health Centre	Dawson City Community Hospital	Ross River Health Centre	
		Destruction Bay Health Centre		
		Haines Junction Health Centre		
		Mayo Health Centre		
		** Old Crow Health Centre **		
		Teslin Health Centre		
		Watson Lake Community Hospital		

**** NOTE:** These shipments are sent via Air North Flights.

SPECIAL NOTE: These schedules are subject to change.

1.6 PRIVACY POLICY

Yukon Hospitals is a public organization and 'health information custodians' under Yukon's Health Information Privacy Management Act (HIPMA). This means we are responsible for collecting, using, disclosing and protecting your personal health information in accordance with HIPMA as well as other applicable laws.

We collect personal health information directly from you or the person acting on your behalf so we can provide safe and excellent hospital care. This information may include your name, photograph, date of birth, address, health card number, health history, records of your visits to Yukon Hospitals and/or other health care providers. Occasionally, we collect personal health information from other sources, if we obtain your consent or if the law permits.

For Further information regarding Patient Privacy please refer to the Patient Privacy at WGH section of the YHC website.

1.7 REQUISITION ORDERING GUIDELINES

- Requisition for laboratory procedures MUST be completed in entirety, including 2 unique patient identifiers. Refer to Patient Identification
- Requisitions for outpatient **booked** appointments (2 Hr. Glucose Tolerance / ECGs/ Holter Monitors) are required to be faxed to the laboratory to book the patient appointment.
    - Fax Number: 867-393-8946
    - **All** other requisitions should be provided to the patient to bring to the OPL
- All requisitions must be signed (electronic signatures are acceptable) and dated by a Medical Practitioner with medical practicing privileges in the Yukon Territory as per Health Canada Accreditation Guidelines, YMC and YHC Medical Bylaws.
- Requisitions should contain contact information for the ordering physician and any copied physicians name should have their fax number.
- For online requisition links, refer to Hyperlinked List of Requisitions.

1.8 BLOOD SPECIMEN COLLECTION GUIDELINES

- Medical Laboratory Staff will collect blood specimens ordered by the physician by venipuncture or skin puncture and are limited to draw from approved blood collections sites, which include antecubital veins and back of hand veins.
  NOTE: If a different collection site is necessary, approval from the patient care provider is required.
- Laboratory Staff DO NOT collect:
    - Arterial blood specimens.
    - Legal specimens for law enforcement (See section 1.10)
- **Laboratory Staff will not collect blood from inpatients with missing or illegible identification bands.** In exception where a clinical condition prevents a patient from wearing an identification band, the Laboratory Staff will obtain the identification of the patient from the attending nurse or physician before blood collection.
- Refer to Section 5 Blood Collection Procedures for more information

1.9 BLOOD COLLECTION PRIORITIES

Tests requests for Inpatients can be ordered with different collection priorities. Below is a summary of the different collection categories available for inpatient collections.
NOTE: The time to report a result (Turnaround Time) is not the same as the collection priority. To see the turnaround time for a specific test please refer to the WGH Laboratory Test Reference.

Laboratory Collection Categories	
Category	**Notes**
STAT	For emergency or critical situations only. All orders from the ER Department are STAT. Orders will be collected ASAP and within 15 minutes from order. Please phone the laboratory when placing a STAT order. **NOTE:** Best efforts will be made to collect STAT specimens within 15 minutes – this will depend upon the number of stat requests throughout the hospital and staffing levels.
URGENT	For specified timed collections or high priority collections that are not stat but cannot wait for the next routine pool collection. Ensure the date and time are specified when ordering tests (examples are peak or trough drug levels). Collections will be within 30 minutes of specified collection time. **NOTE:** Best efforts will be made to collect URGENT specimens within 30 minutes – this will depend upon the number of stat/Urgent requests throughout the hospital and staffing levels.
ROUTINE	Default collection category for inpatients. Orders to be collected in the designated Routine Pool times are specified below. New orders placed in between pool times will be collected in the next established pool, unless requested by phone. • ICU – 05:00 • Inpatient wards – 06:00 • All WGH – 11:00, 14:00 and 18:00
CBN	Specific category that indicates the collection will be done by a nursing staff member and dropped off at the laboratory. This category should NOT be used for blood collections (i.e. Blood Cultures). Appropriate uses of this category are orders for collection with swabs (e.g. MRSA order), or collections by patients (e.g. Urinalysis order). **NOTE:** Orders placed in this category are NOT monitored by laboratory staff and orders may be missed.

1.10 SPECIMEN COLLECTION FOR LEGAL PURPOSES

Medical Laboratory Staff are not authorized under the Criminal Code of Canada (Section 320.4) to collect specimens for Law Enforcement. The Laboratory does not collect or maintain ANY specimen type for legal purposes, there is no chain of custody maintained on any specimen collected by a patient or Laboratory Staff. ALL specimen collections obtained by Laboratory Staff are for medical treatment purposes ONLY.

Specimens collected by Laboratory Staff may be released to Law Enforcement for legal matters when requested by a Subpoena or Search Warrant. Law Enforcement officers may verbally request, directly through the Laboratory, for specimens to be sequestered until they arrive with the required documentation, those specimens will only remain sequestered for a **MAXIMUM** of 15 days (from original request). Law Enforcement officers must present to the Laboratory with the Quality/Risk Manager or Administrator on call, and the required documentation to obtain any specimens collected by the Laboratory. Please refer to YHC Policies LI-100 and LI-140 for more information or contact the Laboratory Manager.

For **Autopsy** requests please see Section 8.3.

1.11 APPOINTMENT BOOKING PROCEDURES for WGH:

ECG, Holter Monitor and 2 hour Glucose Tolerance Laboratory procedures require a booked appointment.

1. Fill out the required Requisition for the patient.
2. Fax completed Requisitions to the Laboratory: 867-393-8946. See specific instructions for some tests in the following pages.
3. For URGENT appointments, phone the Laboratory at 867-393-8739, option 1, to book the appointments on behalf of the patient.

A. Electrocardiogram (ECG/EKG)

1. Refer patients with acute chest pain directly to the WGH ED, not to the Laboratory. A requisition is not required.
2. Pediatric patients may require longer appointment times, so please indicate the age of the child on the requisition before it is faxed.
3. Provide patient with a Patient Information Sheet.
4. Verbally state to the patient:
   - Arrive at least 10 minutes early for the appointment so there is time for check-in. If you are late, there may be delays or your appointment may need to be rebooked.
   - Be prepared to wait. There can be delays if your doctor needs to review the ECG test results. While the actual test is fast, the entire appointment may last 30 minutes.

B. Holter Monitor

1. Provide patient with a Patient Information Sheet.
2. Verbally state to the patient:
   - You must come to the WGH Laboratory to have your Holter Monitor fitted - the fitting appointment will take approximately 20-30 minutes.
   - You must wear the Holter Monitor for a 24 hour period.
   - You must return to the Laboratory the next day to have the monitor removed (10 minutes).
   - Read the Patient Instructions thoroughly to prepare for the appointment.
   - You will complete a diary of your activities for 24 hours.

   NOTE: Holter Monitors are performed from Monday to Thursday only.

C. Oral Glucose Tolerance Testing (GTT) and Gestational Diabetes Screen (GDS)

1. Includes Non-Gestational and Gestational GTT tests.
2. Provide Patient with Patient Information Sheet
   - Gestation Diabetes Screen (50 gram load)
   - 2 Hour Gestation Diabetes (75 gram load)
   - 2 Hour Non-Gestation (75 gram load)
3. Verbally inform patient of the following information:
   - You can continue to take your medications.
   - Drinking a small amount of water is permitted.
   - Arrive 10 minutes early.
   - Read the Patient Information Sheet before the test to prepare for the appointment.

Dose and Collection Procedures for GTT

Procedure	Restrictions	Dose of Trutol 100 (1gm/3mL)	Blood Collections
2 hr. GTT, Non-Gestational (75 gram glucose load)	8 hr. fast; water permitted; take medication(s)	Adult: 225 mL= 75 gm	Fasting Collection 2 hr. Collection
2 hr. GTT, Gestational (75 gram glucose load)	8 hr. fast; water permitted; take medication(s)	Adult: 225 mL= 75 gm	Fasting Collection 1 hr. Collection 2 hr. Collection
Gestational Diabetes Screen (50 gram glucose load)	None	Adult: 150 mL= 50 gm	1 hr. Collection

D. Outpatient Spirometry Testing

This service is **no** longer provided as a WGH Outpatient Service. Please contact TrueNorth Respiratory for more information (867) 667-7120 or visit their website (truenorthrespiratory.com)

1.12 SPECIMEN DROP-OFF

Specimens may be delivered directly to the Laboratory screening area during business hours. Specimens require proper specimen labelling AND must have an accompanying requisition; failure to do so may lead to specimen rejection.

1.13 LABORATORY SUPPLIED SPECIMEN CONTAINERS

Clients that use the WGH Laboratory to submit their patient samples may require maintaining a stock of specimen containers for patients' at home collection, or for healthcare professionals to obtain from the patient. The order form that lists the collection kits and containers supplied by the WGH Laboratory is found here. All other supplies are ordered through your site's materials management program.

1.14 POINT OF CARE TESTING

Point-of-care testing (POCT) is defined as medical diagnostic testing at or near the point of care—i.e. at the time and place of patient care. POCT is typically performed by non-Laboratory personnel and the results are used for acute clinical decision making. This contrasts with a wider array of tests performed in the medical laboratory (e.g. WGH Laboratory) by Medical Laboratory Technologists.

The WGH Laboratory's Point of Care Coordinator (POCC) provides support to Nurses and CLXTs (Monday to Friday 0800-1600) for use of Point of Care instruments within YHC. One example of approved POCT within YHC is the glucometer program.

Laboratory Services is ONLY responsible for approved POC testing and results performed within Yukon Hospital Corporation. The Laboratory is not responsible for POC testing and results performed outside Yukon Hospital Corporation which includes patient self-testing.

When performing Point of Care testing, every test requested must be recorded and incorporated into the patient's permanent medical record. It is imperative that the POCT results are clear and legible (thermal printouts are not to be used to record results). The following criteria must be recorded for the POCT (DAP Accreditation Standard POC 6.0):

- Patient last and first name, date of birth, health care number
- Time (24 HR) and date (dd/mm/yy) the specimen was collected
- ID of the person performing the POCT
- POCT test results (test name must indicate it is a POCT)
- Time (24 HR) and date (dd/mm/yy) of POCT results

YHC Approved Point of Care Testing		
Whitehorse General Hospital	**Dawson City Community Hospital**	**Watson Lake Community Hospital**
Glucometer Program Pregnancy Test (Urine) – ER department only Urinalysis (Macroscopic) – ER department only	Glucometers Drugs of Abuse (Urine) Pregnancy Test (Urine) i-STAT Chemistry tests (Chem8+) i-STAT PT/INR i-STAT cTnI i-STAT Blood Gas & Lactate (CG4+) Fetal Fibronectin Urinalysis (Macroscopic) CBC (PoCHi) Erythrocyte Sedimentation Rate (ESR) Piccolo (Liver Panel Plus)	Glucometers Drugs of Abuse (Urine) Pregnancy Test (Urine) i-STAT Chemistry tests (Chem8+) i-STAT PT/INR i-STAT cTnI i-STAT Blood Gas & Lactate (CG4+) Fetal Fibronectin Urinalysis (Macroscopic) CBC (PoCHi) Erythrocyte Sedimentation Rate (ESR) Piccolo (Liver Panel Plus)

1.15 OBTAINING LABORATORY RESULTS

Tests are performed in many different laboratories and the method of reporting differs with each one. Depending on the tests in question, results are:

- Automatically available in Meditech
- Faxed; or
- Available in Plexia at physicians' offices.

Laboratory Technologists phone physicians with critical test results as per laboratory policy.

If you are a **Medical Practitioner** and require results, phone the Laboratory at 867-393-8739, select option 2. Please provide the following information when you phone:

- Your full name and authority to access results (see note below)
- Secure fax # to receive results
- Patient's last and first names
- Date of birth
- Patient's health care number
- Date the specimen was collected
- Site or source of the specimen

NOTE: As a physician, if you are not listed on the original requisition as the ordering physician or a "copy to" physician, and are not on record as previously involved in the patient's care, but are **currently** involved in the patient's circle of care, under the HIPMA legislation and Yukon Hospital Policy LI-060, you may access the patients results, pertaining to their **current care,** by faxing (867-393-8772) a request to the Laboratory with the following information.

- Your full name and authority to access results (see note below)
- Secure fax # to receive results
- Patient's last and first names
- Date of birth
- Patient's health care number
- Date the specimen was collected
- Site or source of the specimen

If you are the **Patient** and would like a copy of your laboratory results, please complete the Application for Access to Personal Health Information form, and bring it to the laboratory.
NOTE: On the form under "About your Request", option (b) examine the report, this option is not available for laboratory results, only a printed copy of your report is available.

For **third party consent**, to release your laboratory results to a third party not involved in your current circle of care, please phone the laboratory, press 2 to speak with a Medical Laboratory Assistant to obtain **Consent to Disclose Personal Information form (YHC LI-060-Form 2)**

Patients may request to obtain their specimen(s) collected by laboratory staff upon completion of testing. Release of specimens may be requested in the same manner as obtaining personal laboratory results, noted above. **CAUTION; Patient specimens are considered biologically hazardous material and should be handled and disposed of according to biological safety standards.**

NOTE: 1. Information provided by the Laboratory cannot be interpreted by a Medical Laboratory Assistant, Medical Laboratory Technologist or Combined Laboratory X-Ray Technologist; you will need to address any questions regarding your results with your physician.

2. Results must never be verbally released over the phone to anyone calling in to inquire for the result. All requests must follow the processes detailed above.

1.16 REFERRED-OUT TESTS: OUR SUPPORT TEAM

Certain tests are referred to external reference laboratories when it is not practical to perform such tests on site. The turnaround time of these test results depends on the transportation methods and organization of the laboratory to which the test is sent.

This table lists the referral laboratories outside the Yukon to which we send specimens for testing.

Facility	Website
Dynacare (locations: ON, QU)	https://www.dynacare.ca/
DynaLife (location: AB)	https://dynalifedx.com/
In-Common Laboratories (ICL) (location: ON)	http://www.hicl.on.ca/
Providence Health Care (PHC)	http://www.providencehealthcare.org/
• **St. Paul's Hospital** (SPH)	http://www.providencehealthcare.org
Provincial Health Services Authority (PHSA)	http://www.phsa.ca/
• **BC Communicable Diseases Control (BCCDC)**	http://www.bccdc.ca/
• **BC Children's Hospital**	http://www.bcchildrens.ca/
• **BC Women's Hospital & Health Centre**	www.bcwomens.ca
• **BC Cancer Agency**	http://www.bccancer.bc.ca/
Canadian Blood Services (CBS) BC-Yukon region	http://www.blood.ca/
LifeLabs Medical Laboratory Services (BC)	http://www.lifelabs.com/
Vancouver Coastal Health	http://www.vch.ca/
• **Vancouver General Hospital**	http://www.vch.ca

NOTE: Other Canadian laboratories are periodically used for rare tests. Out of country test requests require approval from the Medical Director- consult the Laboratory Manager at 867-393-8767 for details.

1.17 COMPLAINTS POLICY

YHC welcomes concerns raised from patients/clients, family members and the public regarding the care that we provide.

The concern/complaint management process requires open communication and strong partnerships with patient/clients. First Nations Health Program (FNHP) plays a role in advocating for self-identified First Nations, Inuit and Metis patients and facilitates the complaint process as required.

You may complete the online Feedback form or contact the Quality Improvement team at 867-393-8731 to address any comments/concerns or complaints. The Laboratory Manager is onsite to address immediate concerns or comments in person.
Concerns/complaints are important indicators of patient satisfaction and appropriate treatment and require acknowledgment and recognition.

Also available on our website for review is the Patient Rights & Responsibilities information.

RETURN TO MAIN MENU

2.1 WGH LABORATORY TEST MENU: ON-SITE SERVICES

Chemistry

Serum/ Plasma:

Acetaminophen
Alanine Aminotransferase (ALT)
Albumin
Alkaline Phosphatase (ALP)
Ammonia
Arterial Blood Gas
Aspartate Aminotransferase (AST)
Beta-Hydroxybutyrate
Bicarbonate
Bilirubin- Direct
Bilirubin- Total
Blood Urea Nitrogen
Calcium
Calcium –Ionized (serum)
Carboxyhemoglobin
Chloride
Cholesterol (Total, HDL, LDL)
Cord Blood (Arterial & Venous)
C-Reactive Protein
Creatinine and eGFR (estimated Glomerular Filtration Rate)
Creatinine Kinase
Ethyl alcohol
Ferritin
Gamma (Y)- Glutamyl Transferase (GGT)
Glucose
Hemoglobin A1c
Human Chorionic Gonadotropin
Lactate
Lactate Dehydrogenase
Lipase
Magnesium
Methanol Investigation
Methemoglobin
N-terminal Pro-BNP
Osmolality
Phosphorus
Potassium
Salicylate
Sodium
Thyroid Stimulating Hormone
Total Protein
Triglycerides
Troponin
Uric acid
Venous Blood Gas

Therapeutic Drugs:

Carbamazepine (Tegretol)
Digoxin
Gentamicin
Lithium
Phenytoin (Dilantin)
Vancomycin

Urine: (Random)

Albumin- Creatinine Ratio (ACR)
Calcium
Chloride
Creatinine
Creatinine Clearance
Osmolality
Phosphorus
Potassium
Protein
Protein Creatinine Ratio (PCR)
Sodium

Urine: (24 Hour)

Albumin- Creatinine Ratio (ACR)
Calcium
Chloride
Creatinine
Creatinine Clearance
Magnesium
Phosphorus
Potassium
Protein
Sodium
Urea
Uric Acid

Body Fluids:

Glucose
Lipase
Lactate Dehydrogenase
pH
Protein
Potassium
Sodium

Hematology

Absolute Granulocyte Count & Absolute Neutrophil Count
Blood film review
Cell count (CSF & Sterile Body Fluids)
Complete Blood Count (CBC) with automated 5 part differential
D-Dimer test
Fibrinogen C
Malaria Screen (Antigen testing and Blood Films)
Mononucleosis
Partial Thromboplastin Time
Prothrombin Time (PT/INR)
Reticulocyte Count

Transfusion Medicine

ABO & Rh Typing
Antibody Screen
Compatibility testing (cross match)
Cord Blood Investigation
Direct Antiglobulin Test (DAT)
Transfusion Reaction Investigation

Blood Products & Components

Albumin (5% & 25%)
Cryoprecipitate
Factor VIIa (NiaStase)
Factor VIII
Plasma for transfusion
Hepatitis B Immunoglobulin
Immune Serum Globulin
Intravenous Immunoglobulin (IVIg)
Platelets (Not Stocked, on demand only)
Prothrombin Complex Concentrate
Red Blood Cells
Rh Immunoglobulin (RhIg)
Varicella Zoster Immunoglobulin
Various other Products available from CBS

Urinalysis/ Stool Testing

Fecal Immunochemical Testing (FIT)
Urinalysis - macroscopic & microscopic

- Macroscopic testing includes: colour, appearance, glucose, bilirubin, ketones, specific gravity, blood, pH, protein urobilinogen, nitrite, leukocytes
- Microscopic testing includes: RBCs, WBCs, epithelial cells, urine crystals, bacteria, mucus, amorphous sediment

Drugs of Abuse (Urine)

- Testing includes: Cocaine, Amphetamine, THC, Opioid, Methamphetamine metabolite, Oxycodone, Benzodiazepines, Fentanyl, Buprenorphine

Pregnancy test (Urine)

Microbiology/Virology

Gram Stain (Positive Blood Cultures & Sterile Body Fluid)
C. *difficile* (Antigen and Toxin Assay)
COVID-19 (WGH)
Influenza A&B (WGH)
Respiratory Syncytial Virus (WGH)

Miscellaneous

Fetal Fibronectin
Human Immunodeficiency Virus - POC

Cardiac Procedures

Electrocardiograms (ECGs)
Holter Monitors
NOTE: These procedures are performed by laboratory staff in the outpatient clinic and on inpatients except ER Patients.

2.2 WGH LABORATORY TEST REFERENCE

This reference document provides instructions for each test run at WGH Laboratory:

- Meditech codes (LAB module)
- Preferred specimen container
- Minimum specimen quantity
- TAT (Turn Around Time from time of receipt in the Laboratory)
- Special instructions

NOTE: Before beginning **any Body Fluid collection**, please phone the Laboratory for direction on specimen handling & transport. Specimens need to be transferred immediately into the correct specimen containers.

Turnaround Time Reference (from receipt at testing facility)		
Department	**Status/Test Group**	**Time**
Chemistry/ Hematology/ Urinalysis/ Transfusion Medicine	STAT (on site test)	≤ 1 hour
	In-Patient (on site test)	≤ 90 minutes
	Out-Patient (routine on site test), exception FIT Testing	≤ 24 hours
	Referral (out of territory test)	≤ 24 hours, unless otherwise noted in the vendor test reference.
Microbiology/ Virology	COVID-19 (on site test)	≤ 24 hours
	Respiratory Panel (on site test) (includes COVID-19, Influenza A, Influenza B, RSV)	≤ 24 hours
	C. *difficile* (on site test)	≤ 8 hours
	Gram Stain (on site test)	≤ 1 hour
	Genital Tract Specimens (referral-out of territory)	24-72 hours
	Routine Bacterial Culture (referral-out of territory) (e.g. throat swab)	3 days
	Sterile Specimen Culture (referral-out of territory)	3-7 days
	Stool Specimens (referral-out of territory)	4 days
	Wound Culture (referral-out of territory)	3 days
	COVID-19 (referral-out of territory)	≤ 48 hours

WGH Laboratory Test Reference

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	Acetaminophen	ACTM	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Alanine Aminotransferase (ALT)	ALT	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Albumin	ALB	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Albumin-Creatinine Ratio (ACR)	ACR	Urine Container	3.0 mL freshly voided urine	24 hours		
	Alkaline Phosphatase (ALP)	ALP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Ammonia	AMM	PST	0.5 mL Plasma (Lithium Heparin)	60 minutes	Keep on ice	**WGH site availability only**. Call laboratory for instructions on pediatric collections. *** Deliver to laboratory on ice***
	Arterial Blood Gas	ABG	PICO Syringe	0.7 mL PICO heparinized syringe whole blood	60 minutes	Deliver to laboratory IMMEDIATELY	**WGH site availability only.** Call laboratory for instructions on pediatric collections. *** Deliver to laboratory immediately***
	Aspartate Aminotransferase (AST)	AST	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Beta-Hydroxybutyrate	BETAHYD-WGH	Lithium Heparin (whole blood)	0.5 mL Lithium Heparin whole blood	60 minutes	Deliver to laboratory IMMEDIATELY	**Whitehorse area availability only.** Outside of Whitehorse, collect and send frozen Lithium Heparin plasma.
	Bicarbonate (HCO_3)/ Carbon Dioxide	C02	PST	0.5 mL Plasma (Lithium Heparin)	24 hours	Do not open until analysis	Do not leave opened (uncapped) before testing
	Bilirubin -Direct	BILID	PST	0.2 mL Plasma (Lithium Heparin)	24 hours	Protected from light	Wrap specimen in tin foil to prevent photo degradation. Test added by laboratory when TBIL is elevated. Pediatric order by special request, phone laboratory.
	Bilirubin - Total	BILIT	PST	0.2 mL Plasma (Lithium Heparin)	24 hours	Protected from light	Wrap specimen in tin foil to prevent photo degradation.
	Blood Urea Nitrogen (Urea)	BUN	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Calcium	CA	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Calcium-Ionized (Serum)	CAI	SST	½ filled SST (Serum)	24 hours	DO NOT OPEN DO NOT FREEZE	**WGH site availability only**. Must have minimum half full tube. Place tube on 4°C gel pack immediately; allow tube to clot in fridge for 45-60 minutes. Spin in **refrigerated centrifuge**; deliver to bench on cool gel pack. ***DO NOT OPEN PRIOR TO TESTING*** DO NOT FREEZE**
	Calcium- Urine (random)	UCA	Urine Container	3.0 of freshly voided urine	24 hours		
	Carbamazepine (Tegretol)	CRBM	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Collect prior to next dose. Indicate date and time of last dose.
	Carboxyhemoglobin	COHGB	PST	0.5 mL Whole Blood (Lithium Heparin) – Unopened Tube	60 minutes	Deliver to laboratory IMEMDIATELY	**WGH site availability only**. Deliver immediately to the laboratory. (Included as part of the Venous Blood Gas)
	Chloride	CL	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	Chloride – Urine (random)	UCL	Urine Container	3.0 mL of freshly voided urine	24 hours		
	Cholesterol	CHOL	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Cholesterol- HDL	HDL	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Cholesterol – LDL	Not orderable	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		LDL Cholesterol is a calculation and is not orderable. To perform, both Triglycerides & HDL tests must be ordered.
	Cord Blood pH panel (arterial and venous)	CORDGAS	PICO Syringe	0.7 mL PICO heparinized syringe whole blood – ON ICE WATER	24 hours	Deliver on ice water	**WGH site availability only.** Deliver to the laboratory on ice water.
	C-Reactive Protein (high sensitivity)	CRP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Creatinine and eGFR (estimated glomerular filtration rate)	CREAT	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		The eGFR calculation is not reported on patients ≤ 18 years old
	Creatinine- Urine (random)	CREAU	Urine Container	3.0 mL freshly voided urine	24 hours		
	Creatine Kinase (CK)	CK	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Digoxin	DIG	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Indicate date and time of last dose.
	Ethyl Alcohol (ETOH)	ETOH	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Use NON-alcohol based skin cleanser. Due to the volatile nature of alcohol, specimen tubes should be completely filled and capped to avoid evaporative loss to the atmosphere. Test only orderable for medical -non legal-purposes. **(Referral specimens must have a diagnosis on the requisition for ordered test to be processed.)**
	Ferritin	FER	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Gamma (Y)-Glutamyl Transferase (GGT)	GGT	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Gentamicin-Peak	GENP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Peak levels – collect 1 hour post dose Provide date and time of next dose
	Gentamicin-Random	GENR	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Provide date and time of next dose
	Gentamicin-Trough	GENT	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Trough levels – collect 30 minutes prior to next dose. Provide date and time of last dose
	Glucose –Fasting	GLUF	PST	0.5 mL Plasma (Lithium Heparin)	24 hours	Time of collection must be written on the tube	Time of collection must be written on blood tubes and the requisition* Patient must fast prior to collection.
	Glucose- Gestational Diabetes Screening -50g Challenge test	GLU50GM	PST				Time of collection must be written on blood tubes and the requisition*. Refer to the WGH Laboratory Guide to Services Oral Glucose Tolerance Testing (GTT) and Gestational Diabetes Screen (GDS)
	Glucose – Oral Glucose Tolerance test 75g (Gestational)	GTTGEST	PST				Time of collection must be written on blood tubes and the requisition*. Refer to the WGH Laboratory Guide to Services Oral Glucose Tolerance Testing (GTT) and Gestational Diabetes Screen (GDS)

WGH Laboratory Test Reference

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	Glucose – Oral Glucose Tolerance test 75g (NON-Gestational)	GTT2	PST	0.5 mL Plasma (Lithium Heparin) Time of collection must be written on the tube.	24 hours	Time of collection must be written on the tube	Time of collection must be written on collection tubes and the requisition*. Refer to the WGH Laboratory Guide to Services Oral Glucose Tolerance Testing (GTT) and Gestational Diabetes Screen (GDS)
	Glucose Random	GLU	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Hemoglobin A1c	HA1C	EDTA (lavender top)	2 mL EDTA whole blood	24 hours		**DO NOT** centrifuge.
	Human Chorionic Gonadotropin (HCG)	HCG	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Lactate	VLAC	PST	0.5 mL Whole Blood (Lithium Heparin)	60 minutes	Deliver to laboratory IMMEDIATELY	**WGH site availability only**. DO NOT use tourniquet when collecting blood. Deliver to laboratory immediately.
	Lactate Dehydrogenase (LD)	LDH	PST	0.5 mL Plasma (Lithium Heparin)	24 hours	DO NOT refrigerate or freeze	**Room Temperature storage and transport.** Do NOT refrigerate or freeze.
	Lipase (LIP)	LIP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Lithium	LITH	SST (red or gold top)	0.5 mL serum (SST)	24 hours		**DO NOT use Lithium Heparin** Tube – interferes in assay. Collect just prior to next dose unless toxicity is suspected. Provide Date and Time of last dose.
	Magnesium	MG	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Methanol Investigation	METHINV	PST	0.5 mL Plasma (Lithium Heparin)	60 minutes		**WGH site availability only.** Use non-alcohol skin cleanser. Due to the volatile nature of alcohol, specimen tubes should be completely filled and capped to avoid evaporative loss to the atmosphere.
	Methemoglobin	BGVMETH	PST	0.5 mL Whole Blood (Lithium Heparin) – Unopened Tube	60 minutes	Deliver to laboratory IMMEDIATELY	**WGH site availability only**. Deliver immediately to the laboratory. (Included as part of the Venous Blood Gas)
	N-terminal Pro-BNP	BNP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Osmolality	OSMO	SST (red or gold top)	0.5 mL serum (SST)	24 hours		Specimens should remain capped until processing. Specimens not processed within 30 minutes of centrifugation must be refrigerated at 2-8 °C. Specimens should be at room temperature before processing.
	Osmolality-Urine	UOSMO	Urine container	3.0 mL freshly voided Urine	24 hours		Specimen should be at room temperature before processing.

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	Phenytoin (Dilantin)	PTN	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Collect just prior to next dose unless toxicity is suspected. Provide Date and Time of last dose.
	Phosphorus	PHOS	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Phosphorus – Urine (random)	UPHOS	Urine Container	3.0 mL of freshly voided urine	24 hours		
	Potassium	K	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Potassium – Urine (random)	UK	Urine Container	3.0 mL of freshly voided urine	24 hours		
	Salicylate (ASA)	SAL	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Sodium	NA	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Sodium – Urine (Random)	UNA	Urine container	0.5 mL freshly voided urine	24 hours		
	Thyroid Stimulating Hormone (TSH)	TSH	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Total Protein	TP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Total Protein – Urine (random)	UTP	Urine Container	3.0 mL of freshly voided urine	24 hours		
	Total Protein-Creatinine Ratio – PCR (random)	UPRCRR	Urine Container	3.0 mL of freshly voided urine	24 hours		Specimen can be frozen.
	Triglycerides	TRIG	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Troponin	TROP	PST	0.5 Ml Plasma (Lithium Heparin)	60 minutes		Freeze specimen if in transit for > 48 hours
	Uric Acid	URIC	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		
	Vancomycin – Random	VANCR	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Provide date and time of next dose if available
	Vancomycin - Peak	VANCP	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Peak levels – collect 1 hour post dose Provide date and time of next dose
	Vancomycin – Trough	VANCT	PST	0.5 mL Plasma (Lithium Heparin)	24 hours		Trough levels – collect 30 minutes prior to next dose Provide date and time of next dose
	Venous Blood Gas	VBG	PST	0.5 mL Whole Blood (Lithium Heparin) – Unopened Tube	60 minutes	Deliver to laboratory IMMEDIATELY	**WGH site availability only**. Deliver immediately to the laboratory.

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	**24 HOUR URINE: (see collection instructions)**						
	Albumin-Creatinine Ratio, 24 hour urine	UMALBCR24	24 hour Urine container	No preservative needed	24 hours		
	Calcium, 24 hour urine	UCA24		No preservative needed			Acidify with HCl prior to analysis. Store refrigerated during collection. Can be collected in acid- Add 10-20 mL of 6M HCl to container prior to collection
	Chloride, 24 hour urine	UCL24		No preservative needed			
	Creatinine, 24 hour urine	UCREAT24		No preservative needed			Can be collected in acid. Add 10-20 mL of 6M HCl to container prior to collection
	Creatinine Clearance, 24 hour urine	UCRCL		No preservative needed			Order a **creatinine test** and submit PST for testing. Blood should be drawn during the 24 hours of urine collection but is acceptable to collect within the 24 hours before or after the urine collection. Submit patient height and weight for calculation.
	Magnesium, 24 hour urine	UMG24		Add 10-20 mL of 6M HCl to container prior to collection			
	Phosphorus, 24 hour urine	UPHOS24		No preservative needed if testing within 2 days			Acidify before analysis with HCl. Can be collected in acid- Add 10-20 mL of 6M HCl to container prior to collection
	Potassium, 24 hour urine	UK24		No preservative needed			
	Protein, 24 hour urine	UTP24		No preservative needed			
	Sodium, 24 hour urine	UNA24		No preservative needed			
	Urea, 24 hour urine	UUREA24		No preservative needed			
	Uric Acid, 24 hour urine	UURIC24		Add 10 mL of 5% NaOH to container prior to collection			

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
HEMATOLOGY	Absolute Neutrophil Count and Absolute Granulocyte Count	ANC/AGC	EDTA (lavender top)	1.0 mL EDTA whole blood	24 hours		CBC must be ordered with this test. Special cases ONLY (e.g. Chemo patients) Blood films must be made within **6 hours** of collection. Information on making a blood film can be found in the WGH Laboratory Guide to Services, How to prepare a Blood Film. Do NOT freeze specimen.
	Cell Count – Fluid	*Refer to Body Fluid Section below*					
	Complete Blood Count (CBC) with automated 5 part differential	CBC	EDTA (lavender top)	1.0 mL EDTA whole blood	24 hours		Blood films must be made within **3 hours** of collection. Information on making a blood film can be found in the WGH Laboratory Guide to Services, How to prepare a Blood Film. Do NOT freeze specimen.
	Dimer Test	DIM	Sodium Citrate (blue top)	FILL tube completely	24 hours	DO NOT refrigerate	DO NOT refrigerate! If not able to process testing within 4 hours, centrifuge, remove plasma from cells and freeze at -20 °C
	Fibrinogen C	FIB-C	Sodium Citrate (blue top)	FILL tube completely	60 minutes	DO NOT refrigerate	DO NOT refrigerate! If not able to process testing within 4 hours, centrifuge, remove plasma from cells and freeze at -20 °C
	Malaria Screen	MAL	EDTA (lavender top)	1.0 EDTA whole blood 4 Thick and 6 Thin Blood Films	60 minutes	Blood films must be made within **1** hour of collection	CBC must be ordered with this test. Must provide travel history: countries visited, dates. Call Laboratory for more information. Blood films must be made within **1 hour** of collection. WGH Laboratory Guide to Services, The Blood Film Thick Film Technique for Malaria Screen, provides instructions on making a thick blood film.
	Mononucleosis Screen	MONO	SST	0.5 mL serum	24 hours		If not able to process testing within 2 hours, centrifuge, remove serum from gel and freeze at -20 °C
	Partial Thromboplastin Time	PTT	Sodium Citrate (blue top)	FILL tube completely	24 hours	DO NOT refrigerate	DO NOT refrigerate! If not able to process testing within 4 hours, double-spin and freeze at -20 °C Double-spin: centrifuge, remove plasma from cells to transport tube, centrifuge again, and then remove plasma again to second transport tube.
	Prothrombin Time (PT/INR)	INR	Sodium Citrate (blue top)	FILL tube completely	24 hours		DO NOT refrigerate! ***If not able to process testing within 24 hours, centrifuge, remove plasma from cells and freeze at -20 °C***
	Reticulocytes	RETIC	EDTA (lavender top)	1.0 EDTA whole blood	24 hours		CBC must be ordered with this test. Specimen stable for 72 hours, refrigerated at 2-8 °C.
	Semen Analysis – Infertility	SAINF-PANEL	Sterile Container	Transport to laboratory immediately	24 hours	Keep warm (Close to body temperature)	Drop off at laboratory Monday to Friday from 8:00 to 15:00.
	Semen Analysis – Post Vasectomy	SAPV	Sterile Container	Transport to laboratory immediately	24 hours		Drop off at laboratory Monday to Friday from 8:00 to 15:00.

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Ensure specimens are labelled with 2 unique identifiers and requisitions are completed in their entirety to ensure appropriate testing
BODY FLUIDS (includes Chemistry, Hematology and Microbiology testing)	**Cerebral Spinal Fluid**						
	Cell Count	CSFCELLCTWDIFF	CSF Tube- no additive	1.0 mL of CSF	60 minutes	Deliver to laboratory IMMEDIATELY	**WGH site availability only.**
	Culture	CSF		0.5 mL of CSF	7 days		Specimen **referred to SPH at room temperature** on next available flight. Initial Gram Stain performed at WGH.
	Glucose	CSFGLU		0.5 mL of CSF	60 minutes		**WGH site availability only**.
	LDH	CSFLDH		0.5 mL of CSF			
	Total Protein	CSFTP		0.5 mL of CSF			**WGH site availability only.**
	VDRL	VDRL-CSF		0.5 mL of CSF	4 days		Specimen referred to BCCDC – send refrigerated.
	Viral	VIR-CSF		0.5 mL of CSF			
	Dialysate Fluid						
	Cell Count	DIACELLCTWDIFF	EDTA (lavender top)	1.0 mL of fluid	24 hours	Deliver to laboratory IMMEDIATELY	
	Culture	DIAL	Sterile Container	1.0 mL of fluid		Keep refrigerated	Specimen **referred to SPH at 2-8 ºC** on next available flight. Gram Stain and culture performed at SPH
	Glucose	DIAFGLU	Red Top	1.0 mL of fluid		Deliver to laboratory IMMEDIATELY	**WGH site availability only**
	Lipase	DIAFLIP					**WGH site availability only**
	Lytes (Sodium, Potassium)	DIAFLYT					
	Pericardial Fluid						
	Cell Count	PCCELLCTWDIFF	EDTA (lavender top)	1.0 mL of fluid	60 minutes	Deliver to laboratory IMMEDIATELY	
	Culture	Refer to Sterile Fluid Culture					Store and Transport at 2-8 ºC
	LDH	PCFLDH	Red Top	1.0 mL of fluid		DO NOT refrigerate	If other testing ordered, separate specimen into a second Red Top Tube and store at room temperate until processed.
	Peritoneal Fluid	*Includes Paracentesis or Ascites*					
	Cell Count	PTFCELLCT	EDTA (lavender top)	1.0 mL of fluid	60 minutes	Deliver to laboratory IMMEDIATELY	
	Culture	Refer to Sterile Fluid Culture (*For Peritoneal Dialysate refer to Dialysate Fluid Culture*)					Store and Transport at 2-8 ºC
	Glucose	PTFGLU	Red Top	1.0 mL of fluid			**WGH site availability only**
	Lipase	PTFLIP	Red Top				
	LDH	PTFLDH	Red Top	1.0 mL of fluid		DO NOT refrigerate	If other testing ordered, separate specimen into a second Red Top Tube and store at room temperate until processed.
	Total Protein	PTFTP	Red Top	1.0 mL of fluid		Deliver to laboratory IMMEDIATELY	**WGH site availability only**
	Pleural Fluid	*Includes Thoracentesis*					
	Cell Count	PLFCELLCTWDIFF	EDTA (lavender top)	1.0 mL of fluid	60 minutes	Deliver to laboratory IMMEDIATELY	
	Culture	Refer to Sterile Fluid Culture					Store and transport at 2-8 ºC
	Glucose	PLFGLU	Red Top	1.0 mL of fluid			**WGH site availability only**
	LDH	PLFLDH	Red Top	1.0 mL of fluid		DO NOT refrigerate	If other testing ordered, separate specimen into a second Red Top Tube and store at room temperate until processed.
	pH	PLFPH	Red Top				
	Total Protein	PLFTP	Red Top	1.0 mL of fluid		Deliver to laboratory IMMEDIATELY	**WGH site availability only**

WGH Laboratory Test Reference

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Ensure specimens are labelled with 2 unique identifiers and requisitions are completed in their entirety to ensure appropriate testing
BODY FLUIDS continued	**Sterile Fluid**	*Includes Amniotic Fluid* ***(ALL NON-STERILE*** *FLUIDS should be ordered as a* ***WOUND CULTURE (REFER TO MICROBIOLOGY BELOW)***					
	Culture	CULT	Sterile Container	0.5 mL of Fluid	7 days	Deliver to laboratory IMMEDIATELY	Initial Gram Stain performed at WGH. Specimen referred to SPH on next available flight. CSF and Synovial fluid sent at room temperature, all other sterile fluids sent at 2-8 ºC
	Synovial Fluid						
	Cell Count	SYNCELLCTWDIFF	EDTA (lavender top)		60 minutes	Deliver to laboratory IMMEDIATELY	
	Culture	Refer to Sterile Fluid Culture					Store and Transport at room temperature
	Crystals		Red Top	*This is a referred out test, please refer to the St. Paul's Test Reference Manual for instructions.*			
URINE AND STOOL Testing	Fecal Immunochemical Test (FIT)	FITS	FIT collection kit	See kit instructions	5 days		Specimen requires refrigeration after collection. Deliver to laboratory within 48 hours of collection. Test within 15 days of collection. DO NOT FREEZE.
	Urinalysis (includes macroscopic and microscopic)	UA	Urine container	10 mL of freshly voided urine	24 hours		Refrigerate specimen if delayed in transport ≥ 2 hours
	Drugs of Abuse (Urine)	UDOA	Urine container	2.0 mL of freshly voided urine	24 hours		Freeze specimen if delayed in transport ≥ 2 hours UDOA includes Fentanyl Screen. Any physician with ordering privileges in Yukon is permitted to order UDOA for **medical diagnosis and/or treatment** of a patient **ONLY**. The Laboratory does not perform testing for legal purposes on any specimen including UDOA, please refer to section 1.10.
	Methamphetamine Screen (Urine)	UMETHS	Urine Container	2.0 mL of freshly voided urine	24 hours		This test is ordered verbally, please contact Laboratory. Freeze specimen if delayed in transport ≥ 2 hours
	Pregnancy (Urine)	PREG	Urine Container	2.0 mL of freshly voided urine	24 hours		
MISCELLANEOUS	Fetal Fibronectin	FFN	FFN Swab	See kit instructions	60 minutes	Keep swab upright in transit.	Send swab to Laboratory immediately at room temperature, if there is a delay in transit, please refrigerate. Keep tube in upright position while in transit.
	Human Immunodeficiency Virus Test (HIV)	HIVPOC	EDTA (lavender tube)		60 minutes		Test is provided for acute/emergent cases, not available for monitoring.

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen Stability	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
TRANSFUSION MEDICINE	ABO & Rh Typing	ABO	EDTA (lavender top)	2.0 mL of EDTA whole blood	24 hours	7 days at 2-8 ºC	Not to be used for Pre-transfusion testing
	ABO & Rh Typing Baby (<6 months)	ABOBABY	EDTA (lavender top)	0.5 mL of EDTA whole blood	24 hours	7 days at 2-8 ºC	Not to be used for Pre-Transfusion testing
	Antibody Screen	ABSC	EDTA (lavender top)	2.0 mL of EDTA whole blood	24 hours	7 days at 2-8 ºC	Not to be used for Pre-Transfusion testing
	Cord Blood Investigation (ordered on new born)	CORD	EDTA or Red Top tube	1.0 mL of whole blood	24 hours	7 days at 2-8 ºC	Order on Newborn of Rh Negative Mothers ONLY. Order RhIG Requirement for Mother at the same time.
	Direct Antiglobulin Test (DAT)	DAT	EDTA (lavender top)	0.5 mL of EDTA whole blood	24 hours	7 days at 2-8 ºC	Also referred to as Direct Coombs Test
	Type and Screen (pre-Transfusion)	TS	EDTA (lavender top)	Two x 6.0 mL of EDTA whole blood	<1 hour or same day	96 hours - 30 days at 2-8 °C	Blood Bank ID (wristband) system must be used.
	Prenatal Investigation	PRENAT	EDTA (lavender top)	6.0 mL of EDTA whole blood	10 days	Specimen referred to CBS for testing	Order early in Pregnancy. Test Rh Negative mothers again at 24- 28 weeks gestation. Blood must be collect **before** RhIG is given.
	Paternal Perinatal Investigation	PTPRENAT	EDTA (lavender top)	6.0 mL of EDTA whole blood	10 days	Specimen referred to CBS for testing	Requested by CBS when maternal partner has clinically significant red cell antibodies.
	Transfusion Reaction Investigation	TXRXN	Varies	Lab will direct	ASAP	N/A	Testing performed according to clinical situation.
	Blood Components and Products ***(for current information about these blood components and products visit: https://professionaleducation.blood.ca/en/transfusion/clinical-guide-transfusion)***						
	Albumin 5%	A5	N/A	N/A	10 minutes	N/A	
	Albumin 25%	A25	N/A	N/A	10 minutes	N/A	
	Cryoprecipitate	CRYO	N/A	N/A	45 minutes	N/A	Blood Group required order if not done. Product issued as pooled.
	Factor VIII	F8	N/A	N/A	10 minutes	N/A	Hemophilia A patients ONLY.
	Frozen Plasma	FFP	N/A	N/A	30 minutes	N/A	Blood Group required.
	Hepatitis B Immunoglobulin	HBIG	N/A	Communities require approval	10 minutes	N/A	CMOH approval Required via YCDC
	Immune Serum Globulin	ISG	N/A	Communities require approval	10 minutes	N/A	CMOH approval Required via YCDC
	Intravenous Immunoglobulin (IVIG)	IVIG	N/A	N/A	10 minutes	N/A	Prior Approval required – call Laboratory
	Platelets	PLTS	N/A	N/A	24 hours	N/A	Not stocked in WGH laboratory. Blood Group required, order if not complete. Issued by Adult Dose.
	Prothrombin Complex Concentrate	PCC	N/A	N/A	15 minutes	N/A	For URGENT Warfarin (Coumadin) Reversal and other indications.
	Recombinant Activated Factor VII	F7A	N/A	N/A	10 minutes	N/A	Pathologist approval Required – call Laboratory.
	Red Blood Cells	RC	N/A	N/A	Varies clinically	Refer to group and screen	Group and Screen required. Indicate number of units required.
	Rh Immunoglobulin (RhIG)	RHIG	N/A	Communities need to request RhIg via fax	10 minutes	N/A	Blood Group required; issued to Rh Negative females only
	Subcutaneous Immunoglobulin	SCIG	N/A	N/A	24 hours	N/A	Requires enrollment in Home Infusion Program
	Varicella Zoster Immunoglobulin	VZIG	N/A		10 minutes	N/A	CMOH approval Required via YCDC
	Various Other Blood Products	N/A	N/A	N/A	24 hours	N/A	Call Laboratory to discuss.

	Test Name		Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Ensure specimens are labelled with 2 unique identifiers and requisitions are completed in their entirety to ensure appropriate testing
MICROBIOLOGY/ VIROLOGY	**Gram Stain (smear)**	**NOT orderable (included in culture order) – DO NOT MAKE SLIDE (*WGH Gram Stain only done on Positive Blood Cultures and Sterile Body Fluids, others completed at SPH)***					
	Antibiotic-Resistant Organisms (ARO SCREEN):						
	CPO Screen	Please order on the WGH Microbiology Laboratory paper requisition	Copan eSwab	Indicate source of collection	2 days		Follow department specific guidelines for collection Referred to SPH – send refrigerated
	MRSA: MRSA – Groin MRSA – Nares MRSA – Other MRSA – Perianal		Copan eSwab	Indicate source of collection	2 days		Follow department specific guidelines for collection Referred to SPH – send refrigerated
	VRE: VRE - Rectal VRE - Other (wound)		Copan eSwab	Indicate source of collection	2 days		Follow department specific guidelines for collection Referred to SPH – send refrigerated
	GENITAL TRACT SPECIMENS:						
	Chlamydia (CT) & Gonorrhea (GC) by NAT – Endocervix or Urethra	Please order on the WGH Microbiology Laboratory paper requisition	Aptima Unisex Swab	Indicate source of collection	24 hours		Endocervix-white swab to remove excess mucous, discard, use blue swab to collect specimen Urethra – Use blue swab to collect specimen Referred to SPH – send room temperature
	Chlamydia (CT) & Gonorrhea (GC) by NAT – Rectal or Vaginal		Aptima Multitest (Orange) Swab	Indicate source of collection	24 hours		Includes Lympho-granuloma venereum (LGV) Referred to SPH – send room temperature
	Chlamydia (CT) & Gonorrhea (GC) by NAT -Urine		Urine container AND Aptima Urine (Yellow) tube	"First catch" urine (the first 15-20 mL of voided urine)	24 hours	Collected into Sterile Container and then transfer to Urine Aptima Tube	Patient should not void urine for 1 hour prior to collection. Collect the first voided portion of the urine no more than 30 mL into the Sterile container. Transfer to the Aptima Urine tube using a sterile pipette before shipping. Midstream urine collections (E.G. for Urine Culture) are not suitable to STI collections Referred to SPH – send room temperature
	Genital Culture (Vaginitis)		Copan eSwab	Indicate Source of collection	3 days		Referred to SPH – send refrigerated
	Gonorrhea Culture (not usually recommended)		Copan eSwab	Indicate source of collection	3 days	Deliver to laboratory as soon as possible	Referred to SPH – send refrigerated
	Group B Strep Screen		Copan eSwab	Pregnancy only	3 days	Deliver to laboratory as soon as possible	Refer to Health & Social Services' Prenatal Checklist for further details on schedule of testing. Referred to SPH – send refrigerated
	Trichomonas by NAT		Aptima Multitest (Orange) Swab		24 hours		Referred to SPH- send refrigerated. Vaginal swab is the only suitable source for testing.

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Ensure specimens are labelled with 2 unique identifiers and requisitions are completed in their entirety to ensure appropriate testing
MICROBIOLOGY/VIROLOGY	**ROUTINE CULTURES:**						
	Ear	Please order on the WGH Microbiology Laboratory paper requisition	Copan eSwab	Indicate Right or Left Ear	3 days		Referred to SPH – send refrigerated
	Eye		Copan eSwab	Indicate Right or Left Eye	3 days		Referred to SPH – send refrigerated
	Mouth/Tongue (YEAST ONLY)		Copan eSwab	Indicate source of collection	3 days		Referred to SPH – send refrigerated
	Nose		Copan eSwab		3 days		
	Respiratory Suction (e.g. Bronchoalveolar lavage)		BAL Collection Container	Deliver to laboratory immediately	3 days	Deliver to laboratory IMMEDIATELY	Sterile Container can also be used as an alternative specimen collection container. Referred to SPH – send refrigerated
	Sputum		Sterile Container	2.0 mL fresh specimen	3 days	Deliver to laboratory IMMEDIATELY	Referred to SPH – send
	Throat		Copan eSwab	Indicate source of collection	3 days		Provide patient history, including allergies to Penicillin & previous antibiotic treatment.
	Urine		Sterile Container AND Boric Acid Tube	Indicate type of collection. Transfer to Boric Acid Tube within 2 hour of collection at room temperature or within 12 hours if refrigerated	3 days		Indicate if patient is pregnant or a Kidney Transplant recipient. Transfer from Sterile container to Boric Acid Tube with sterile pipette. Mix well to dissolve tablet. Referred to SPH – send refrigerated.
	STERILE SITE SPECIMEN:						
	Blood Culture	Please order on the WGH Microbiology Laboratory paper requisition	BacT Alert aerobic and anaerobic bottles	Follow information on collecting blood cultures in Section 7.4	7 days	Deliver to laboratory IMMEDIATELY DO NOT refrigerate	Deliver to laboratory as soon as possible (STAT testing) – Bottle incubation performed at WGH Gram Stain done at WGH on Positive Blood Culture Bottles Fungal Culture requests on blood cultures will extend incubation to 21 days Positive bottles referred to SPH for testing – send room temp.
	Sterile Body Fluid		Sterile Container	Indicate source of collection	5 days	Deliver to laboratory IMMEDIATELY	Initial Gram Stain performed at WGH (except for Dialysate Fluids). Specimen referred to SPH on next available flight. CSF and Synovial fluid send at room temperature, all other sterile fluids send at 2-8 ºC
	Tissue/Biopsy		Sterile Container	Indicate site of collection	3 days	Deliver to laboratory IMMEDIATELY	Referred to SPH – send refrigerated.

WGH Laboratory Test Reference

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity	TAT (upon receipt at the testing Laboratory)	Specimen special instructions	Additional Comments NOTE: Ensure specimens are labelled with 2 unique identifiers and requisitions are completed in their entirety to ensure appropriate testing
MICROBIOLOGY/VIROLOGY	**STOOL SPECIMENS:** (*If you suspect a Gastrointestinal (GI) Outbreak, please contact the Yukon Communicable Diseases Control office at 867-667-8323*)						
	C.*difficile* Antigen and Toxin	CDIFF	Sterile Container	Loose or watery stools ONLY	≤ 8 hours	Deliver to laboratory as soon as possible, store specimen at 2-8 ºC	Testing performed at WGH Deliver to laboratory immediately. Formed solid stools are not appropriate specimen types for testing and will be rejected.
	Culture	Please order on the WGH Microbiology Laboratory paper requisition	Starplex Sterile Container with spoon		4 days	Deliver to laboratory as soon as possible, store specimen at 2-8 ºC	Do Not contaminate with urine, water or soil. Referred to BCCDC- send refrigerated.
	Ova and Parasite		SAF Fixative Container	Deliver to laboratory immediately	4 days	Deliver to laboratory as soon as possible, store specimen at 2-8 ºC	Do Not contaminate with urine, water or soil. With spoon (attached to lid of sample container), add 2 or 3 spoonful's of fresh sample to the liquid (SAF preservative) in the container. Mix well and screw lid on tightly. Referred to BCCDC - refrigerated
	WOUND/ ULCER/ ABCESS CULTURE:						
	Any site not considered a sterile location (includes aspirates, fluids, swabs and biopsies)	Please order on the WGH Microbiology Laboratory paper requisition	Copan eSwab or Sterile Container	Indicate source of location	3 days		Indicate if Superficial wound or Deep wound (>2cm deep) Do not send syringe filled with Fluid, please transfer to sterile container and label with patient information
	VIROLOGY: *(If you suspect an Influenza-Like-Illness (ILI) or COVID-19 Outbreak, please contact the Yukon Communicable Diseases Control office at 867-667-8323)*						
	COVID-19 (WGH) – must follow the approved algorithm for onsite testing	WGH-COVID	Copan UTM (Red) swab	Aptima swabs **ARE NOT** an acceptable collection device	24 hours	Deliver to laboratory IMMEDIATELY	This testing is for onsite testing at WGH. Must meet approved algorithm for onsite testing. If not collected with appropriate collection device, testing will be forwarded to BCCDC or rejected for recollection.
	Respiratory Panel (WGH) – must follow the approved algorithm for onsite testing	WGH-VIR RESP	Copan UTM (Red) swab	Aptima swabs **ARE NOT** an acceptable collection device	24 hours	Deliver to laboratory IMMEDIATELY	Panel includes – COVID-19, Influenza A, Influenza B, RSV This testing is for onsite testing at WGH. Must meet approved algorithm for onsite testing.
	COVID-19 (BCCDC)	RESP-VIRAL	Copan UTM (Red) swab		24 hours	Deliver to laboratory IMMEDIATELY	

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2.3 DCH and WLH Laboratory Test Menu: On-site Services

CHEMISTRY

Alanine Aminotransferase (ALT)
Albumin
Alkaline Phosphatase (ALP)
Amylase
Arterial Blood Gas
Aspartate Aminotransferase (AST)
Bicarbonate (TCO2)
Bilirubin – Total
Blood Urea Nitrogen (BUN)
Chloride
Creatinine
Gamma Glutamyl Transferase (GGT)
Glucose
Lactate
Potassium
Sodium
Total Protein
Troponin I
Venous Blood Gas

CARDIAC PROCEDURES

Electrocardiograms
Holter Monitors

HEMATOLOGY

Complete Blood Count with Automated 3 part Blood Film review
Erythrocyte Sedimentation Rate (ESR)
Prothrombin Time/ INR

URINALYSIS & MISCELLANEOUS

Urinalysis - macroscopic & microscopic

- *Macroscopic testing includes: colour, appearance, glucose, bilirubin, ketones, specific gravity, blood, pH, protein urobilinogen, nitrite, leukocytes*
- *Microscopic testing includes: RBCs, WBCs, epithelial cells, urine crystals, urine casts, bacteria, mucus, amorphous sediment*

Drugs of Abuse (Urine)

- *Testing includes: Cocaine, Amphetamine, THC, Opioid, Methadone metabolite, Oxycodone, Benzodiazepines, Fentanyl, Buprenorphine, Methamphetamine*

Pregnancy test (Urine)

Fetal Fibronectin Test

2.4 DCCH AND WLCH LABORATORY TEST REFERENCE

This reference document provides instructions for each test run at DCCH and WLCH Laboratory:

- Meditech codes (through the LAB module)
- Preferred specimen container
- Specimen type and Minimum specimen quantity
- TAT (Turn Around Time from time of receipt in the Laboratory)
  NOTE: Testing performed onsite is considered STAT. All remaining tests will be referred to WGH or other referral testing facilities. Turnaround time for these tests is from receipt at the testing facility. Please refer to WGH Laboratory Test Reference for WGH on site testing turnaround times.
- Analyzer (the method in which testing is performed)
- Special instructions

	Test Name	Meditech (Lab Module) Test Code	Preferred Specimen Container	Minimum specimen quantity and special instructions	TAT (upon receipt at the testing Laboratory)	Analyzer	Additional Comments NOTE: Specimens should be gently inverted immediately after collection
CHEMISTRY	Arterial Blood Gas CG4+ (pH, pCO_2, pO2, BE, HCO_3,, O_2 SAT, Lac)	CG4-ART	ABG Syringe	0.5 mL of whole arterial blood	≤ 1 hour	i-STAT (CG4+)	This test is ordered verbally, please contact laboratory Do not use direct skin puncture for testing Test immediately, do not put sample on ice
	Chemistry Panel CHEM8+ (Na, K, CL, CO_2, Glu, BUN, Crea, Hct)	CHEM8+	PST (Mint-green top)	0.5 mL of lithium heparin whole blood	≤ 1 hour	i-STAT (CHEM8+)	If doing comparison or critical result confirmation, PST tube must be centrifuged within 2 hours of collection and plasma transferred to an aliquot tube - label with patient information and freeze.
	Liver Panel (ALT, Alb, ALP, AST, BILT, GGT,AMY, TP)	PICCOLO -LFT	PST (Mint-green top)	0.5 mL of lithium heparin plasma	≤ 1 hour	Piccolo (Liver Panel Plus)	This test is ordered verbally, please contact laboratory
	Troponin (cTnI)	ISTAT-TROP	PST (Mint-Green top)	0.5 mL of lithium heparin whole blood	≤ 1 hour	i-STAT (cTnI)	Do not use direct skin puncture for testing
	Venous Blood Gas CG4+ (pH, pCO_2, Lac, , HCO_3)	CG4-VEN	PST (Mint-green top)	0.5 mL of lithium heparin whole blood	≤ 1 hour	i-STAT (CG4+)	This test is ordered verbally, please contact laboratory Do not use direct skin puncture for testing Test immediately, do not put sample on ice
HEMATOLOGY	Complete Blood Count with Automated 3 Part Differential	CBC-POCH	EDTA (lavender top)	2 mL EDTA whole blood Gently invert specimen 8-10 immediately after collection	≤ 1 hour	POCHi	Make a minimum of 2 Blood Films. Blood films must be made within 3 hours of collection. Refer to How to Prepare a Blood Film
	Erythrocyte Sedimentation Rate (ESR)	ESR	EDTA (lavender top)	2 mL EDTA whole blood Gently invert specimen at least 12 times immediately after collection.	≤ 2 hour	SEDI-RATE™	Specimens may be refrigerated up to 12 hours, specimens should return to room temperature for 15 minutes before testing. ESR pipette must remain upright and motionless (away from vibrating machinery), at a constant temperature (18-25 ºC), and protected from sunlight during testing.
	Prothrombin Time/INR	ISTAT-INR	Red Top Tube	1 mL of whole blood (no anticoagulant) OR can use direct skin puncture	≤ 1 hour	i-STAT (PT/INR)	Test immediately, if not tested within 1 min, discard and recollect. Collect a Sodium Citrate (Blue top) for confirmation testing at WGH laboratory
URINE AND MISCELLANEOUS	Urinalysis (includes Macroscopic & Microscopic)	UA	Urine container	10 mL of freshly voided urine	≤ 1 hour	Clinitek Status+	Specimens may be refrigerated up to 12 hours if delayed in transport ≥ 2 hours. Return specimen to room temperature for 15 minutes before testing.
	Drugs of Abuse (Urine)	UDOA	Urine Container	2 mL of freshly voided urine	≤ 1 hour	Sure Step 9 Test kits	Freeze specimen if delayed in transport ≥ 2 hours UDOA includes Fentanyl screen
	Methamphetamine (Urine)	Not orderable	Urine Container	2 mL of freshly voided urine	≤ 1 hour	Surestep Dip Card (Methamphetamine)	Freeze specimen if delayed in transport ≥ 2 hours This test is ordered verbally, please contact laboratory
	Pregnancy Test (Urine)	PREG	Urine Container	2 mL of freshly voided urine	≤ 1 hour	Abbott hCG URINE	
	Fetal Fibronectin	FFN	FFN Swab	Follow kit instructions	≤ 1 hour	FFN analyzer	Send swab to Laboratory immediately at room temperature, if there is a delay in transit, please refrigerate. Keep tube upright position while in transit.

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3.1 PATIENT IDENTIFICATION

YHC has a policy (PC-100) that outlines the requirements for verification of correct patient identification. Correctly identifying the patient is essential to patient safety. Patient misidentification can have a wide range of undesirable consequences for patients, including errors that result in serious and irrevocable harm.

Under this policy two patient identifiers are used for patient identification to ensure all patients are positively identified prior to procedures or diagnostic testing.

Patient identification will be confirmed using the following process.

A. Outpatient Setting:

1. Government issued ID (e.g. Health care card, Driver's license, First Nations Status Card) must be presented at the Outpatient visit.
2. Verbally confirm the patient's identity using a minimum of two (2) Patient Identifiers:
   - Patient's last and first name
   - Date of birth
   - Healthcare number

B. Inpatient Setting (including Emergency Patients)

1. Admitted patients require an identification (ID) armband that is legible, preferable water resistant and computer generated.
2. Inpatient ID armbands must be applied by a staff member who has confirmed the patient's identity according to Policy PC-100. (This is not a laboratory staff member)
3. Ask the patient their full name and date of birth; check this information against the ID armband. Compare other identifiers (i.e. Healthcare Number, Chart Number, etc.) if available.
4. Compare two (2) Patient Identifiers on the computer generated specimen label with the information on the ID armband.

   NOTE: Laboratory Staff will **not** collect blood from inpatients with missing or illegible ID armbands**.** In exception, where a clinical condition prevents a patient from wearing an identification armband, the Laboratory Staff will obtain the identification of the patient from the attending nurse or physician before blood collection.

   NOTE: Additional Patient identification steps are required for **Transfusion Medicine** specimens see Patient Identification for Transfusion Medicine for more details.

3.2 SPECIMEN LABELLING

Label specimens **immediately after collection** and in the **presence of the patient**. Label specimens with at least two (2) patient identifiers and information about the collection process (preferably use the computer generated specimen label).

- Record other pertinent collection information:
- Date and time of collection. It is acceptable to use the date format on a computer generated label provided it is accurate. Collection time is recorded using the 24hr clock format
- Collector (identity of individual collecting the sample), where required
- Specimen source (e.g. swab from urethra) where applicable.

Some of our testing is automated; computer scanners can be very particular about how labels and barcodes appear on the specimen. Valuable time is lost in specimen processing when laboratory staff must re-position labels. Please follow the guidelines below.

NOTE: The actual specimen should be visible at all times in its container. Ensure a 'window' of visibility remains. Cover the manufacturer's label if needed.

Blood collection tube labels:

Affix labels to blood collection tubes as follows:

- Position labels such that the Patient's name begins near the coloured cap of the collection tube
- Cover the original tube label such that **a portion of the blood specimen is visible** (to verify quantity and quality)
- Mint-green (PST) and Gold (SST) top collection tubes: ensure a small portion of the **original tube label colour is visible** (once coloured caps are removed for analysis, they are recapped with non-specific generic caps- tube label colour is necessary information for technologists)
- Ensure the **label isn't crooked & doesn't surpass the tube's length**- our analyzers may reject the specimen or labels may be ripped off when placed in racks

In the laboratory: coloured caps are removed for analysis & tubes recapped with non-specific caps. If add-on tests are ordered, label colour is required to ensure proper specimen type is utilized for the add-on testing

NOTES:

- Always affix labels in the presence of the patient immediately AFTER the specimen has been collected.
- **Never** affix labels to collection tubes prior to collection
- These standards reduce the chances of improper labeling.

Specimens that are not labelled properly can lead to serious patient harm, including death.

3.3 ACCEPTANCE CRITERIA FOR REQUISITIONS

It is the submitting client's responsibility to ensure that requisitions are **filled out completely, accurately and legibly**. Laboratory personnel are not permitted to add testing, or add/ remove physician names on a requisition without documentation from the ordering provider.

NOTES:

- Failure to do so could mean delays in processing and testing of Patient specimens.
- Illegible requisitions will be sent back to the physician for clarification – specimens may be rejected if no response is received from the physician with business 24 hours.
  NOTE: Delayed testing may affect the ability to report out select results.

Acceptance Criteria for Requisition Forms	
Patient Information (minimum of 2 unique identifiers)	Complete Name (Surname & Given Name as it appears on Health Card)
	Health Care Number
	Date of Birth (DD/MM/YYYY)
	Gender (not a unique identifier)
Ordering Physician	Complete Name (first and last)
	Physician Billing Number (MSC)
	Fax Number (if outside Yukon)
Copies To	Doctor (first and last) or facility
	Billing Number or Facility Number
	Fax number (if outside Yukon)
Date and Time of Collection	If patient collects specimen, remind them to complete
Tests Ordered	Test Requested
	Specimen Type
	Any relevant clinical or travel history
Specimen Type (for referred in specimens)	Blood: if decanted from original tube, specify serum, heparinized plasma, citrated plasma, or whole blood. Transport Temperature: specify if room temp, refrigerated or frozen (document on tube and requisition)

NOTE: It is essential to have complete physician identification to ensure correct reporting as there are multiple physicians with similar or same last names**.**

Quality Results Start with Quality Ordering.

3.4 SPECIMEN REJECTION POLICY

The WGH Laboratory reserves the right to delay or cancel testing on specimens that have been improperly collected, labelled, processed, stored or transported, and illegible writing.

The Laboratory shall take measures to maintain specimen integrity while following up on the receipt of an inadequate specimen. Please note that the large number of specimens received by the Laboratory makes it impossible to positively identify specimens that are not clearly labelled in accordance with the specimen identification criteria.

Specimen rejection criteria for Transfusion Medicine adhere to the same criteria listed below as well as failure to comply with the Specialize Patient Identification and Specimen Labelling Instructions in section 6.1.1.

The WGH Laboratory recognizes that if the specimen: is less common, involves an invasive procedure, or could not otherwise be easily recollected, it may be acceptable to apply an exception to specimen rejection. Upon receipt of specimens that do not provide the information listed above, an **Irreplaceable Sample Identification Record Form – ACC10F** will be initiated, sent to the ordering physician or clinic for completion and returned to the laboratory.

SPECIMEN REJECTION CRITERIA:

Specimens may be rejected for the following reasons:

- Unlabeled specimen
- Incorrect container or preservative
- Insufficient specimen for procedure(s)
- Unsuitable specimen for procedure(s).
- Blood specimen hemolyzed
- Blood specimen not centrifuged within 2 hours of collection
- Improper transportation conditions
- Other reasons that may affect the quality of a result

A. Unlabeled Specimens

- Common specimen types (blood, urine, swabs, sputum, stool, etc.) will require recollection.
- Less common specimens that are more difficult to recollect (CSF, fluids, tissues, etc.) require the Physician who collected them to come to the Laboratory to identify the specimen and complete the Irreplaceable Sample Error! Reference source not found. - ACC010F (WGH Laboratory Specific policy). The Physician assumes responsibility for the identification of the specimen.
- If the person responsible for collecting the specimen is unable, with certainty, to identify the specimen, the appropriate Clinical Care Manager, designate and Ordering Physician will be notified.

B. Incorrectly Labelled (Mislabeled) Specimens

- If the patient's name, date of birth or health care number conflict with those recorded on the Requisition, the Unlabeled Specimen criteria apply.
- If only one patient identifier appears on the specimen or Requisition, the Unlabeled Specimen criteria will apply.
- Specimens labelled with one patient's name and sent with the requisition of another patient will be classified as mislabeled, the Unlabeled Specimen criteria will apply.
- Specimens with patient names misspelled, but with correct health care number and D.O.B. will have a notation accompany the patient report. Procedures ordered may be performed after every effort is made to confirm spelling. These errors cause delays in specimen processing.

C. Incorrect Container or Preservative

Recollection is required for specimens received in an incorrect container, or with/ without the appropriate preservative (e.g. a blood collection in the wrong collection tube). These errors can lead to invalid results.

D. Insufficient Specimen for Procedure(s)

Recollections will be requested when there is insufficient specimen to provide results for all tests ordered. Procedure(s) for which there is sufficient specimen will be performed.

E. Unsuitable Specimen Type for Procedure(s)

Specimens will be rejected if the specimen collected is unsuitable for the test requested (e.g. saliva for sputum tests, urine for blood tests).

F. Blood Specimen Hemolyzed

Hemolyzed blood specimens will be rejected. Free hemoglobin in the hemolyzed blood specimen interferes with the accuracy of most test results. Refer to the section on Hemolysis for more details.

G. Blood Specimen not centrifuged within 2 hours

Specimens requiring centrifugation should be spun within 2 hours of collection and will be rejected if not spun within 2 hours. Follow the manufacturers guide lines for the tube type (e.g. SST tube should rest 30 minutes prior to centrifugation).

H. Improper Transport Conditions

Specimens will be rejected if they are subjected to improper transport conditions. Examples include whole blood specimens that are frozen during shipment and blood specimens for LDH that are not transported at room temperature.
NOTE*: Frozen plasma/serum specimens that arrive thawed may not provide accurate results and are treated with caution, based on the specific circumstances.*

I. Specimen Too Old to Process

Specimens will be rejected when it has been in transit too long for obtaining valid results. Time sensitivity varies for each test. Contact the Laboratory if you are uncertain about the viability of a specimen. Every effort should be made to transport specimens to the Laboratory as soon as they are collected.

RETURN TO MAIN

4.1 HYPERLINKED LIST OF REQUISITIONS

The following table provides a list of the most frequently used requisitions. Each is hyperlinked to a copy of the requisition online. This table of links is also available on the YHC website (Yukon Hospital website, located under the Health Professionals tab, in the sub-category of Tests& Scans)

Be aware that Referral Laboratories may update their websites and links to requisitions may inadvertently be lost. If you notice any broken web links, please inform the Laboratory Manager at WGH Laboratory (867-393-8767) as soon as possible so we can update our webpage links.

Infrequently ordered tests (e.g. specialized molecular genetic testing) may require a requisition not listed in the table- please phone the Laboratory to discuss requirements.

Hyperlinked List of Requisitions

Requisition Title (Header)	Site of Testing	Types of Tests Run
WGH Laboratory- On Site Testing	Whitehorse General Hospital	Blood, Urine, Fluid Tests; ECG and Holter Monitor Procedures
WGH Laboratory- Referred Out Testing	St. Paul's Hospital Vancouver General Hospital BC Children's Hospital	Blood & Urine tests Blood tests Blood tests
WGH Microbiology Laboratory	Whitehorse General Hospital and St. Paul's Hospital	Culture & Sensitivity, Gram stain, and molecular testing
Holter Monitor	Interpretation: Cardiology Unit at St. Paul's Hospital	Holter Monitor
FIT Testing Requisition	Whitehorse General Hospital	Colorectal Cancer Screening
LifeLabs (H. pylori Urea Breath Test)	LifeLabs BC	H. Pylori (Urea Breath Test)
BCCA Gynecological Cytology Requisition Form	Cervical Cancer Screening Laboratory, Vancouver BC	Cancer Screening (Conventional Pap smear)
BCCA Cervical Cancer Screening Requisition Form	Cervical Cancer Screening Laboratory, Vancouver BC	Cancer Screening (HPC + Pap – Cytology)
BCCA Histopathology Requisition Form	BC Cancer Agency (BCCA)	Anatomical Pathology Specimens
PHSA Laboratories Tumor Marker Lab Requisition	BC Cancer Agency (BCCA)	Tumor Markers
BCCDC Serology Screening Requisition	BC Centre for Disease Control	Prenatal Screening; HIV, Syphilis, Hepatitis
Canadian Blood Services- Diagnostic Services- Perinatal Screen Request	Canadian Blood Services, Vancouver	Perinatal Screening (Maternal or Paternal)
Prenatal Genetic Screening Laboratory Requisition	Prenatal Biochemistry Laboratory, BC Children's & BC Women's Hospital	Serum Integrated Prenatal Screen (SIPS)
Harmony Prenatal Test	Dynacare	Prenatal cell free DNA (restrictions apply)
LifeLabs Specific Allergen IgE Request	LifeLabs, BC	Allergen IgE
BCCDC Virology Requisition	BC Centre for Disease Control	Viruses- as detected from various tissue specimens
BCCDC Bacteriology & Mycology Requisition	BC Centre for Disease Control	Respiratory Infections (e.g. pertussis), Gastrointestinal Infections, Mycology
BCCDC Parasitology Requisition	BC Centre for Disease Control	Parasites- as detected from various tissue specimens
BCCDC Mycobacteriology/ TB Requisition	BC Centre for Disease Control	Mycobacteria- as detected from various tissue specimens (AFB testing)
BCCDC Zoonotics Diseases & Emerging Pathogens Requisition	BC Centre for Disease Control	Zoonotics & Emerging Pathogens
St. Paul's Hospital Department of Pathology Surgical Requisition	St. Paul's Hospital	Pathology specimens
BCCA Diagnostic Cytology Requisition	PHSA & BCCA	Cytology samples, various (**not for WGH In-patient specimens – send to SPH**)
Constitutional Genetics Laboratory Requisition	BC Children's & BC Women's Hospital Division of Genome Diagnostics	Molecular Genetics (Genome Diagnostics)
Molecular Genetics Laboratory Requisition	BC Children's & BC Women's Hospital Molecular Genetics Requisition	Hemoglobin Disorders
Cancer Genetics Laboratory Myeloid Testing Requisition	BCCA Department of Pathology and Laboratory Medicine	Cytogenetics (FISH) and Molecular testing, Myeloid & other
Cytogenomics Laboratory Requisition Constitutional Studies	Vancouver Coastal Health/ (Gordon and Leslie Diamond Health Care Centre - Vancouver General Hospital)	Cytogenomics Constitutional Studies
Mitogendx Autoantibody	Mitogen Dx	Autoantibody testing
Embryo Pathology <20 weeks gestation Perinatal Loss >20 weeks Gestation Parent Responsibility Form	BC Children's & BC Women's Hospital	Genetic testing for fetal demise. **Embryo Pathology or Perinatal Loss requisitions must be accompanied by the Parent Responsibility Form**

4.2 CREATING STANDING ORDERS FOR OUTPATIENTS

Procedure:

1. Fill out the appropriate requisition for the required test(s):
   - **Paper Requisitions:** write on the requisition that this is a "Standing Order" and include the frequency of testing and how long the standing order is in place
     NOTE: The standing order is only valid up to a maximum of 1 calendar year (365 days)
   - **Plexia:** Indicate by ✓ "Standing Order - Expires" – Complete the expiry date.
     NOTE: The standing order is only valid up to a maximum of 1 calendar year (365 days)

2. The Patient is responsible for bringing their Requisition to the Laboratory each time they come for their Outpatient appointment.
   - Laboratory staff will make a photocopy of the Requisition each time that will remain with the specimens.
   - The patient retains the original up to the expiry date.

   NOTES:
   - Once expired, a new request form will need to be completed.
   - Results will only be sent to the Ordering Physician and other listed physicians on the standing order.
   - Only tests listed on the Standing Order will be completed.
   - If additional tests are needed at a given time, Physician must complete a separate Requisition.

4.3 ADD-ON TESTS

Purpose: When another test needs to be added to an existing order. The original specimen, if stored, may be used for additional tests. Due to specimen stability and storage requirements (temperature, light, etc.) not all Add-On tests can be performed.

******NOTE: Tests will NOT be added on to Outpatient specimens referred from Yukon Communities ******

Length of time that specimens are stored at WGH Laboratory varies, but in general:

Specimen Type	Department	Length of time stored (after original testing completed)
Plasma/Serum/Fluid	Chemistry	7 days
EDTA whole Blood/Fluid	Hematology	3 days
Sodium Citrate Plasma	Coagulation	24 hours
CSF	Virology	30 days
Urine	Positive Drugs of abuse	Frozen for 1 month
	Urinalysis	2 hours at room temperature 12 hours refrigerated

Collection Location	Add-on Requests
Whitehorse	Will be processed in accordance with established guidelines
Dawson City & Watson Lake	Will be processed in accordance to established guidelines
All other Territorial locations	No add-on testing will be processed. A new order and specimen will need to be collected and submitted to WGH Laboratory

.

Procedure:

1. Phone the Laboratory to verbally indicate the need for additional tests.

2. Fax the **On-Site Test Requisition** to the Laboratory at 867-393-8772. The Requisition should be clearly marked: "Add on to specimen drawn on [date]"

RETURN TO MAIN MENU

5.1 VENIPUNCTURE: BEST PRACTICES

YHC Laboratories follow guidelines and procedures for venipuncture outlined by the Clinical and Laboratory Standards Institute (CLSI).

Supplies Required for Venipuncture

- Needles of various gauges
  - straight needles 20g, 21g
  - butterfly, winged needle 21g, 23g (should be used sparingly and only when required)
- Skin cleanser
  - 70% Isopropyl Alcohol wipes
  - Non-Alcohol based wipe for Alcohol collections (only performed at WGH)
  - 70% Isopropyl Alcohol wipes and Chlorohexidine: Blood Cultures
- Gauze Pads (Do not use cotton balls)
- Gloves
- Tourniquets (Disposable)
- Sharps Container
- Disposable Needle Adapter
- Vacutainer Tubes/Blood Culture bottles as required
- Syringe (difficult draws)
- Bandage/Adhesive Tape

The following table provides an overview of the phlebotomy and specimen labelling procedure.

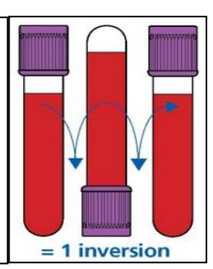
A. Pre- Phlebotomy	1.	Prepare/Generate labels for each test
	2.	Wash hands
	3.	Don gloves
	4.	Assemble other supplies (see supplies required for venipuncture)
B. Phlebotomy Procedure	1.	Identify the Patient using 2 unique identifiers (refer to Patient Identification) **NOTE:** resolve any discrepancies prior to proceeding
	2.	Ensure the Patient is aware of the venipuncture procedure (Answer any questions or concerns)
	3.	Verify diet restrictions & medication schedule
	4.	Create safe work environment: ergonomics
	5.	Reposition the Patient's arm
	6.	Select the best venipuncture site
	7.	Apply the disposable tourniquet
	8.	Cleanse the venipuncture site **NOTE:** Allow to air dry, do not fan or wipe with gauze.
	9.	Perform Venipuncture and ensure: a. Correct Tube Selection b. Order of Draw c. Specimen Mixing:
	10.	Release Tourniquet after last tube is filling **NOTE:** Tourniquet should not be on for longer than 1 minute
	11.	Place gauze pad over venipuncture site and remove needle
	12.	Apply pressure to the Venipuncture site • Non-coagulation patient: 2 Minutes • Coagulation Patient: 5 Minutes
	13.	Dispose of needle in sharps container; dispose of tourniquet in garbage
C. Post- Phlebotomy	1.	Gently invert filled tubes to mix blood with tube contents
	2.	Ensure bleeding has stopped & bandage/tape the patient's arm **NOTE**: Do not bandage children ≤ 2 years of age
	3.	Label blood tubes in the presence of the patient **;** record date and time of collection
	4.	Thank the Patient for their cooperation
	5.	Doff gloves
	6.	Wash hands
	7.	Prepare specimens for transport: centrifuge/ separate/ refrigerate, etc.
	8.	Send collection tubes & requisition to the Laboratory asap

5.2 ORDER OF DRAW, TUBE SELECTION AND SPECIMEN MIXING

Draw Green Aerobic bottle first then Orange Anaerobic bottle, (Pediatric collection bottle is yellow). Mix by gentle inversion 4-5 times.

Sodium Citrate additive Must FILL Tube Invert 3-4 times to mix contents Used for Coagulation tests (PT/INR, PTT) If using butterfly needle, draw initial blood into discard tube to remove air from line.	No Additive Used for Trace Elements (e.g. Copper) Allow to rest **60** minutes for clot formation Similar to dark blue EDTA BUT has red triangle at top with red stripe down side of tube label Specimen should remain upright after collection to minimize contact with stopper Refer to BCCH e-handbook for more information	Clot activator no gel separator Used for therapeutic drug monitoring Invert 5 times for clot activation Allow specimen to rest **60** minutes prior to centrifugation	Clot activator with gel serum separator Used for referred out testing Invert 5 times for clot activation Allow specimen to rest for **30** minutes prior to centrifugation	PST Lithium Heparin with gel plasma separator Used for most routine chemistry Invert 8-10 times Centrifuge within 30 minutes of collection Specimen will be rejected if delay in centrifugation over 2 hours	Lithium Heparin No gel separator Used for Venous Blood Gas, Ammonia and Lactate Invert 8-10 times Follow specific test instructions Specimens for Lactate should be collected without the use of a tourniquet Can be used for routine chemistry if centrifuged and plasma removed from cells within 2 hours of collection	EDTA Used for Hematology (CBC) Invert 8-10 times Do NOT centrifuge	EDTA Used for Transfusion Medicine Invert 8-10 times	EDTA Used for Trace Elements (e.g. Chromium) Mix 8-10 times Similar to dark blue No Additive, be careful with selection Specimen should remain upright after collection to minimize contact with stopper Refer to BCCH e-handbook for more info	EDTA with gel plasma separator Not Used  ACD-A (8.5 mL) Or ACD-B (6.0 mL) Used for Specialty Tests Invert 8-10 times Refer to specific referral facility for test specific instructions

Gently Invert (mix) tube by indicated number of times immediately after collection to ensure the anticoagulant or clot activator is mixed completely with the blood.



5.3 PEDIATRIC BLOOD VOLUME DRAW GUIDANCE

The **University of British Columbia- Children's & Women's Health Centre of BC Research Ethics Board (UBC C&W REB)** has provided the following guidelines for safe limits of total blood volumes collected from pediatric patients. (CWREB 2013)

Blood volumes falling within the limits outlined below may be considered of minimal risk to otherwise healthy patients. Blood volumes above these limits or blood collected more frequently should be referred to a Pediatrician for review.

NOTE: Blood drawn from infants with risk factors must always undergo full review by a Pediatrician.

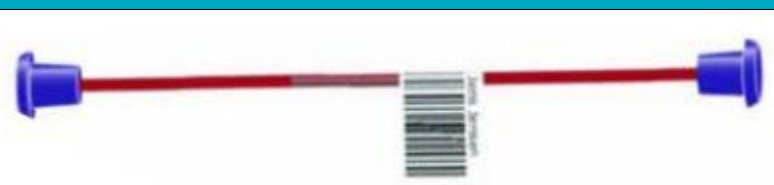
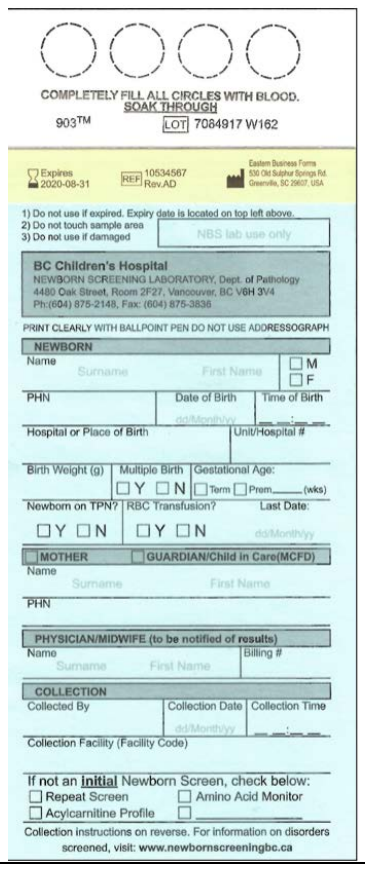
PEDIATRICS: MAXIMUM ALLOWABLE TOTAL BLOOD DRAW VOLUMES (CLINICAL + RESEARCH) CONSIDERED OF MINIMAL RISK				
Body Weight (Kg)	**Body Weight (lbs.)**	**Total blood volume (mL)**	**Maximum allowable volume (mL) in one blood draw (= 2.5% of TBV)**	**Maximum allowable volume (mL) drawn over a 30 day period (= 5% of TBV) for outpatients only *note: must occur no more than 3 consecutive months**
3	6.6	240	6	12
4	8.8	320	8	16
5	11	400	10	20
6	13.2	480	12	24
7	15.4	560	14	28
8	17.6	640	16	32
9	19.8	720	18	36
10	22	800	20	40
11-15	24-33	880-1200	22-30	44-60
16-20	35-44	1280-1600	32-40	64-80
21-25	46-55	1680-2000	42-50	64-100

For **Safe Limits for Pediatric Patients with Risk Factors** consult a Pediatrician for expert advice.

5.4 SKIN PUNCTURE COLLECTION

Skin puncture blood collection tubes and cards, which are most often used for infant and pediatric collections, must be collected in a specific sequence to reduce the effect of micro clot formation in tubes. Fill the tube to the fill line to ensure the blood/additive ratio is correct, it is necessary for accurate results. Gently invert each tube, the required number of times, immediately after collection to adequately mix the blood additive.
NOTE: **NEVER** pour blood from one tube into another tube.

Skin Puncture Blood Collection Order of Draw

Order Of Draw	Micro tube or Card		Addition Information
1.		Capillary Tube (Cap Gases)	Radiometer heparinized capillary tube Collected ONLY by Medical Laboratory Staff Mix 2-3 times using flea and magnet
2.		Lavender Top Hematology testing (CBC)	K_2EDTA tube Invert 8-10 times after collection
3.		Light Green Top (PST) Routine Chemistry testing	Lithium Heparin Plasma with gel separator Tube may be clear or amber coloured Invert 8-10 times to mix after collection Protect from light for bilirubin tests (wrap in tin foil)
4.		Gold Top (SST) Routine Chemistry tests or Referral testing	Serum separator tube Tube may be amber or clear coloured Invert 5 times to mix after collection Protect from light for bilirubin tests (wrap in tin foil)
5.		Newborn Metabolic Screen Card	Blood Spot Collection Card Single layer of red blood cells from one large drop should be applied to each circle. 

5.5 FACTORS AFFECTING BLOOD TEST RESULTS

Proper specimen collection and handling techniques are critical for accurate test results. The following table summarizes errors that can occur in blood specimen collection and handling.

Blood Collection or Handling Technique	Potential Error	Correct Procedure
Not allowing alcohol to air dry after cleansing the venipuncture site	The introduction of alcohol into the specimen may cause hemolysis.	Allow alcohol to completely air dry on skin before drawing specimen.
Not following the order of draw	Contamination from other additives could interfere with test results. Plastic or glass serum tubes containing a clot activator may cause interference with coagulation testing.	Always follow correct order of draw (see above sections Order of draw or micro tube collections)
Improper mixing, including inadequate mixing or vigorously shaking tube after collection	Vigorous shaking of tubes can cause hemolysis Inadequate mixing can cause clotting or the presence of micro-clots.	Gently invert tubes for the specified number of times immediately after collection: Blue Top (sodium citrate) 3 to 4 times Gold Top (SST) 5 times All other (including PST-Light green top and EDTA-Lavender top) 8-10 times
Under-filling or over-filling tubes	The ratio of blood to additive is altered which can cause incorrect test results. Examples: • Under-filling blue top sodium citrate tubes for coagulation testing can drastically alter results • Over or under-filling blood culture bottles can result in false negative results.	Allow tube to completely fill so vacuum is exhausted. Exception is blood culture bottles: allow the required amount of blood to enter bottle, using guide lines marked on bottle to determine appropriate fill volume. For correctly filled blue top sodium citrate tubes which contain a liquid anticoagulant, the ratio of blood to anticoagulant is 9:1, which is important for accurate test results.
Combining two partially filled tubes, or filling one type of tube from another type of tube	If two different types of tubes are used (e.g. lavender top tube into SST tube), incorrect additives can interfere with test results. If the same type of tube is used, the ratio of blood to additive is altered which can cause incorrect test results. Opening tubes can change the pH of the specimen which may affect the stability of the specimen and test results. In addition, opening tubes of blood without the use of protective equipment is a safety risk due to the possible production of aerosols or spillage.	NEVER combine two tubes. If blood stops flowing into the first tube before adequate volume is collected, collect a new tube. Leave tube lids on until necessary to remove for testing to maintain stability for some tests, prevent evaporation of specimen or spillage.
Using a partially filled tube when attempting another venipuncture	Loss of vacuum can cause insufficient draw. Delay in mixing specimen may cause clotting of specimen.	Always use a new tube when performing a second venipuncture
Leaving tourniquet on longer than one minute	Prolonged tourniquet application may result in hemoconcentration and erroneously increased levels of protein based analytes, packed cell volume or other cellular elements.	DO NOT leave tourniquet on for longer than one minute, remove as soon as possible after the blood begins to flow.
Using winged collection device (butterfly) and not removing air in tubing when blue top sodium citrate tube for coagulation is the first tube collected	Air in the tubing will reduce the amount of blood drawn and alter the blood to anticoagulant ratio, and can cause incorrect test results.	Use a discard tube (either another blue top sodium citrate tube or a BD discard tube) to remove the air from the tubing before collecting specimens into the blue top tube.
Not using approved procedures for collection from a vascular access device- e.g. IV line (NOTE: laboratory staff are not authorized or trained for this type of collection)	Potential contamination of specimen due to inadequate flushing of line or improper preparation	If collecting from a vascular access device (IV line) always follow approved procedures.

Continued on next page…

5.5 FACTORS AFFECTING BLOOD TEST RESULTS cont'd

…continued from previous page

Blood Collection or Handling Technique	Potential Error	Correct Procedure
Collecting below IV	Collection below an IV site can lead to contamination or dilution of specimen with IV fluid creating erroneous test results.	The IV infusion must be turned off for a minimum of three minutes before venipuncture from below the IV.
Using a syringe for specimen collection	Incorrect technique may cause hemolysis when transferring blood into the vacutainer tube. Using a syringe to force blood into tube (instead of allowing vacuum to draw the blood) can cause under-filling or over-filling)	Use blood transfer device to transfer blood to tube. Allow tube to draw blood from syringe until vacuum is exhausted. Never force blood into tube.
Excessive repositioning (probing) in and out of vein with needle	Probing can cause hemolysis Contamination with interstitial fluid can occur if the needle is not completely in the vein, which can cause incorrect test results. In addition, probing can cause patient nerve injury.	Ensure the needle is positioned correctly within the vein.
Traumatic venipuncture (slow draw)	Trauma can cause hemolysis Delay in proper mixing may cause clotting of specimen	Recollection of specimen is recommended
Improper Handling	Not handling specimens properly (Ex. Not placing specimens for certain test on ice) can cause incorrect test results.	Following the handling requirement for each test (refer to the WGH Laboratory Test reference for onsite testing or the referral site test reference for referred out testing).

5.6 HOW TO PREPARE A BLOOD FILM

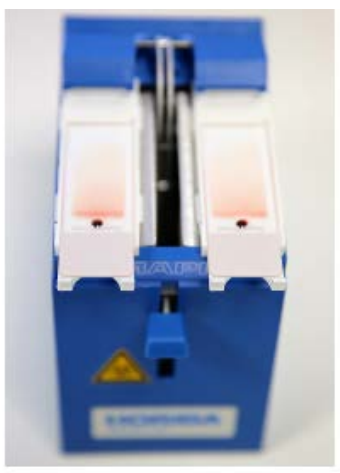
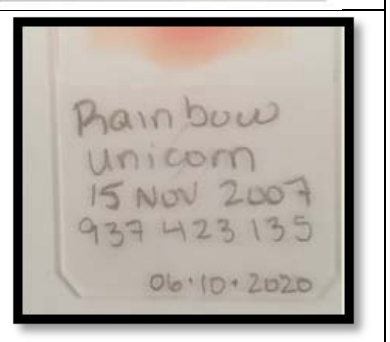
Blood films are required to be made within 3 hours of collection. It is expected that any CBC submitted for testing from Dawson City Community Hospital, Watson Lake Community Hospital or any of the Community Health Centers of the Yukon, be accompanied by a minimum of two (2) properly made and labelled blood films.

Use the described methods listed below to properly prepare a blood film.

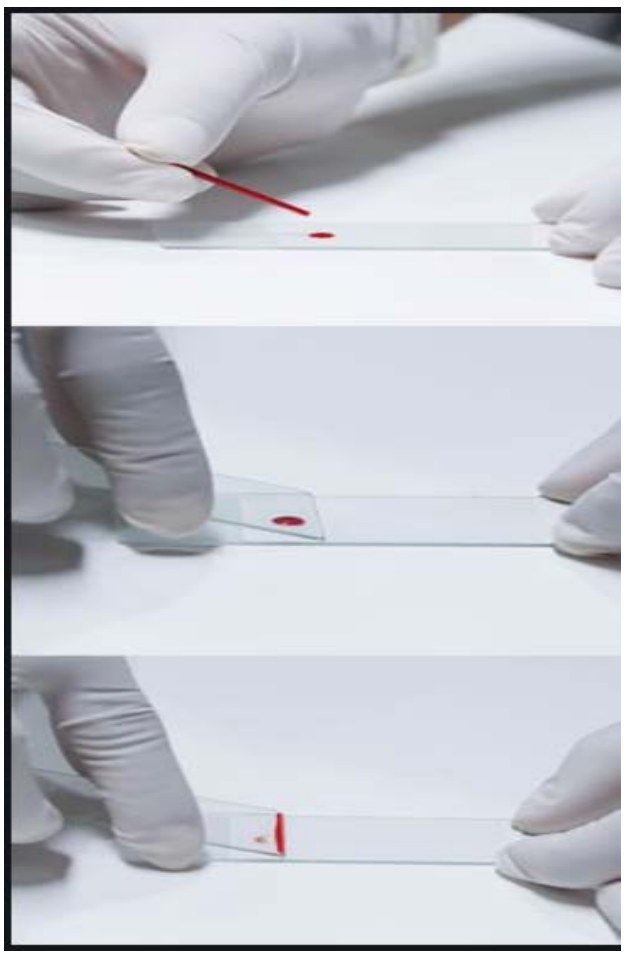
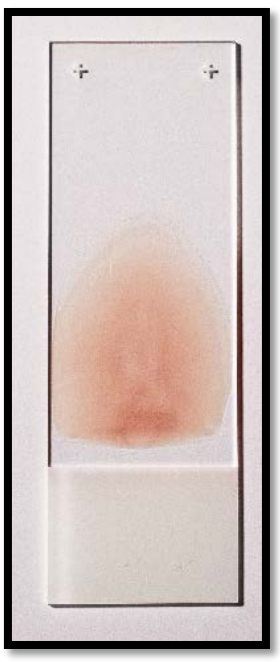
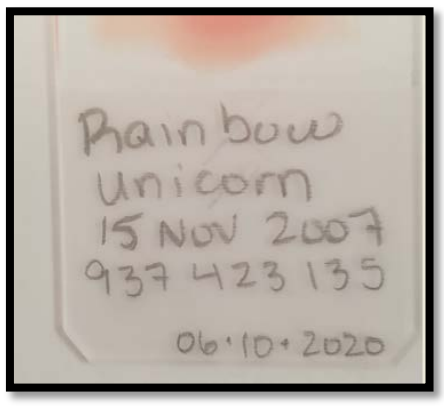
A. Automated Hemaprep Technique:

A properly prepared blood film is essential for accurate assessment of cellular morphology. If you are equipped with a **Hemaprep® Automated Blood Smearing Instrument**, ensure that you have read the User Manual and that the instrument is properly calibrated.

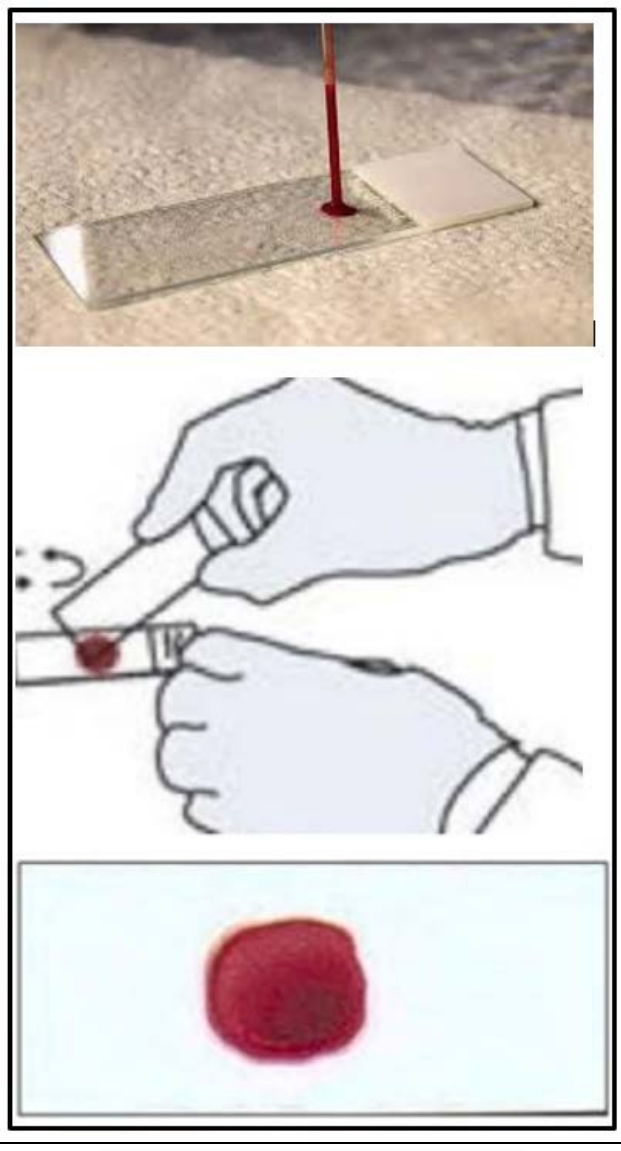
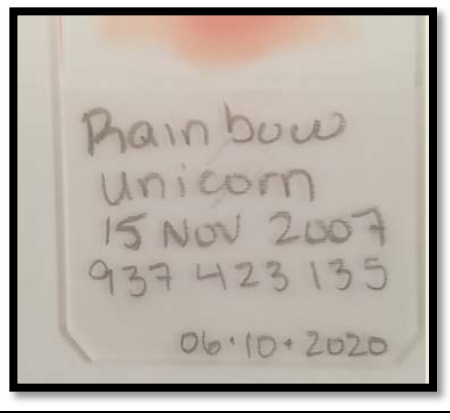
Here is a summary of **instructions for Hemaprep:**

Step	Action
1.	Place a clean slide into each slot with the frosted ends closest to you.
2.	Using a capillary tube or a Diff Safe blood dispenser, place a drop of well mixed EDTA whole blood at the target location indicated by black marks on the trays. 
3.	Gently but firmly depress the front lever. Release the lever as soon as it is fully depressed. The spreader blades move back to their home position, spreading the specimen and producing the required blood film. 
4.	Remove the slides. Using a pencil, label the slides with the patient's last and first name, date of birth and barcode number from the collection tube. 
5.	Lay slides flat on a clean dry surface to air dry.
6.	Clean the spreader blades (follow the user manual for directions).
7.	Place slides in a protective plastic slide holder to transport. Do not label the slide holder.

B. The Blood Film <u>Wedge Technique</u>:

Step	Action	
1.	Use two high-quality beveled-edge with one frosted end microscope slides- one serves as the blood film slide and the other as the spreader slide	
2.	Place a drop of well mixed EDTA whole blood, about 3 mm in diameter, near the frosted end of the slide. *The size of the drop is important- too large a drop creates very long or thick blood film; too small a drop often makes short or thin blood film*.	
3.	Place the spreader slide in front of the drop at a 30-45-degree angle to the blood film slide	
4.	Pull the spreader slide back into the drop of blood and hold it in that position while the blood spreads across the width of the slide	
5.	Quickly and smoothly push forward to the end of the slide to create a wedge blood film*. Moving the spreader slide too slowly accentuates poor leukocyte distribution by pushing larger cells (monocytes/ granulocytes) to the very end of the sides of the blood film. For higher-than-normal hematocrit, the angle between the slides must be lowered so that the blood film is not too short and thick. For extremely low hematocrit, the angle must be raised.*	
6.	Using a pencil, label the slide with the patient's last and first name, date of birth and barcode number from the collection tube.	
7.	Lay slides flat on a clean dry surface to air dry.	
8.	Place slides in a protective plastic slide holder to transport. Do not label the slide holder.	

C. The Blood Film <u>Thick Film Technique for Malaria Screen</u>:

Step	Action	
1.	Use high-quality beveled-edge with one frosted end microscope slides. Mix EDTA blood well. **NOTE**: This technique is used only to make blood films for malaria screen. Films must be made within 1 hour of collection.	
2.	Place 2 small drops of well mixed EDTA whole blood (about twice as much needed for a regular blood film) onto the center of the slide.	
3.	Spread blood out to the size of approximately a dime (15 to 20 mm in diameter) by using a stick or corner of another slide and spread the blood in a circular motion starting from the center of the drop. The smear should be uniform in thickness and small newsprint should be just visible through the blood film. If the slide does not appear to be of uniform thickness, gently rock slide to distribute blood evenly. Make 4 thick blood films.	
4.	Using a pencil, label the slides with the patient's last and first name, date of birth and barcode number from the collection tube.	
5.	Lay slides flat on a clean dry surface to air dry. Let dry 30 minutes prior to packaging up.	
6.	Place slides in a protective plastic slide holder to transport. Do not label the slide holder.	

A well-made peripheral blood film has the following characteristics:

1. About two-thirds to three-fourths of the length of the slide is covered by the blood
2. The feather edge (thin portion) is very slightly rounded, not bullet-shaped
3. Lateral edges of the blood film should be visible.
4. The blood film is smooth without irregularities, holes or streaks
5. When the slide is held up to light, the feather edge of the blood film should have a “rainbow” appearance
6. The whole drop is picked up and spread

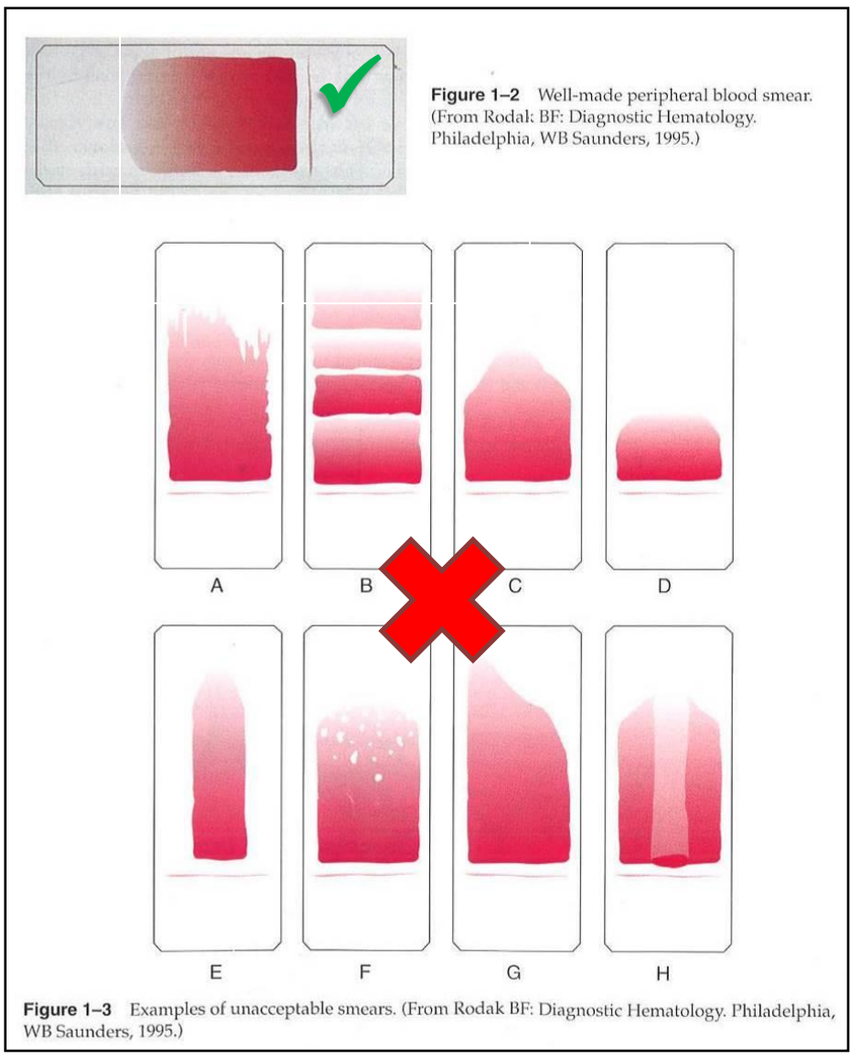


Figure 1–2 Well-made peripheral blood smear. (From Rodak BF: Diagnostic Hematology. Philadelphia, WB Saunders, 1995.)

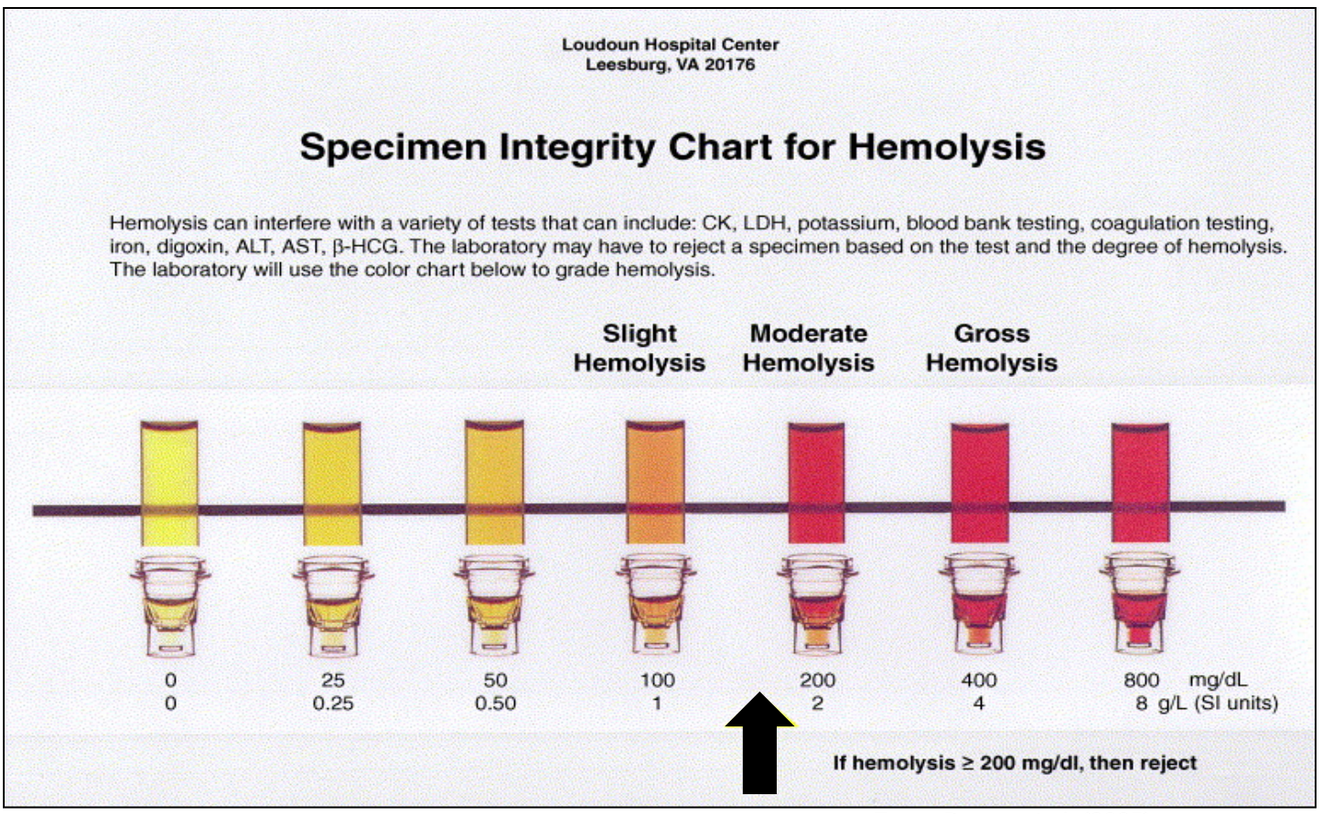
Figure 1–3 Examples of unacceptable smears. (From Rodak BF: Diagnostic Hematology. Philadelphia, WB Saunders, 1995.)

5.7 HEMOLYSIS

Hemolysis, or the rupture of red blood cells, usually occurs during specimen collection and can result in rejection of a specimen. Possible causes of hemolysis include:

- unsecure line connections
- contamination
- prolonged tourniquet application
- incorrect needle size (excessive suction can cause red blood cells to be smashed on their way through a hypodermic needle)
- excessive suction from use of vacuum syringe (veins may collapse)
- vigorous shaking of filled tubes
- difficult collections (e.g. veins that are difficult to find; small, fragile veins in elderly patients)

NOTE: Experience and proper technique will prevent hemolysis.



From: Dugan et al. (2005)

RETURN TO MAIN MENU

6.1 PATIENT IDENTIFICATION IN TRANSFUSION MEDICINE

Positive patient identification is of utmost importance for transfusion medicine- errors can result in death.

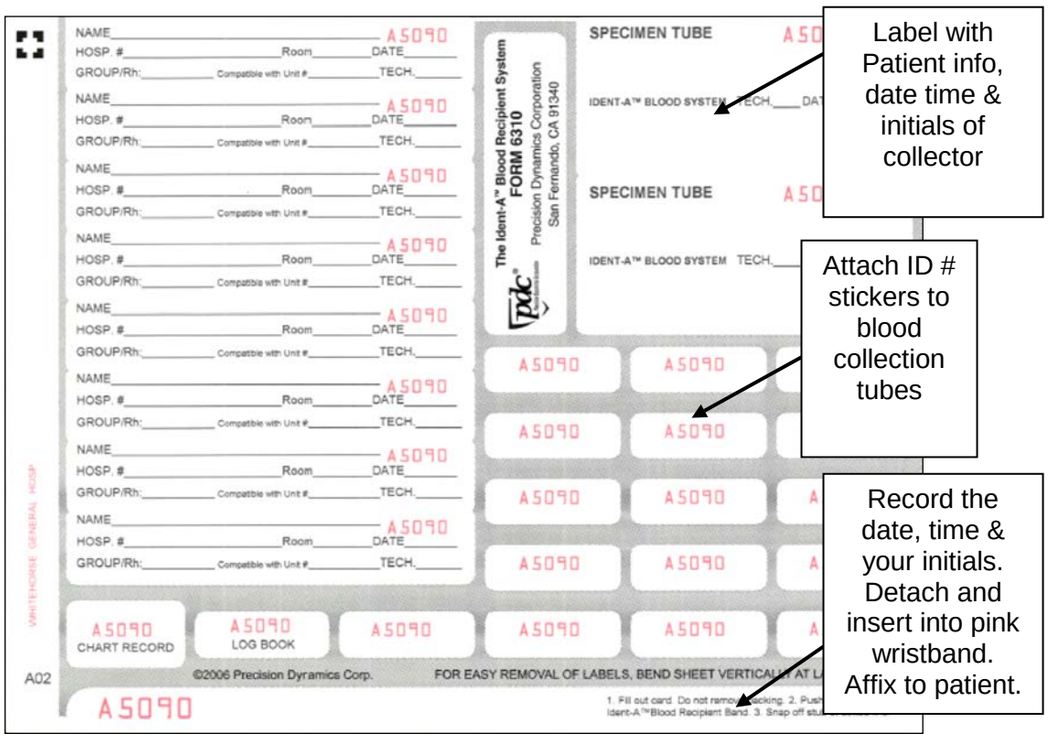
Only specimens collected using the WGH Blood Bank Identification Card system will be used for crossmatching and transfusion purposes. This card is normally only available within Whitehorse General Hospital.

You **must** follow the **specialized patient identification procedure below** if you anticipate the patient may require blood components. Failure to properly identify the patient and properly label the Transfusion medicine specimens will result in specimen rejection.

6.1.1 Specialized Patient Identification and Specimen Labelling Procedure

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1.</td><td>Identify the patient to be collected for Group and Screen and/or Crossmatch by comparing at least two (2) unique identifiers from the Lab Information System (LIS) generated labels or written order against the patient's Yukon Hospital Corporation (YHC) issued ID band. Unique identifiers include the patient's first and last names and at least one of the following: date of birth (DOB), Yukon Health Care Insurance Plan number (YHCIP) or two unique identifiers generated for an unidentified patient.
NOTE: YHC ID band must be firmly affixed to the patient's body (usually wrist or ankle). Identification cannot be taken from a band that is near a patient but not attached to the patient.
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>The patient is not wearing a YHC ID band</td><td>Ask the patient's nurse to acquire a band and attach it to the patient. If time does not permit acquiring a YHC ID band, have the identifying person (patient, family member or care provider, etc.) print their first and last names and sign the BBK ID Card</td></tr>
</table></td></tr>
<tr><td>2.</td><td>Ask the patient for their full name and to state their date of birth.
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>The patient is not able to respond</td><td>A competent person (family member or nurse) can provide positive identification</td></tr>
</table></td></tr>
<tr><td>3.</td><td>Perform phlebotomy using standard technique (refer to Venipuncture: Best Practices). Collect tubes for all requested testing, including two (2) 6 mL EDTA tubes (tall pink or lavender topped tubes) for Pre-Transfusion testing</td></tr>
<tr><td>4.</td><td>Affix a LIS generated label to each tube in such a way as to allow the contents of the tube and the tube type (EDTA) to be viewed (see Specimen Labelling)
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>LIS generated labels are not available</td><td>Write the patient's first and last names and at least one of the following on the tubes: patient's DOB or YHCIP. Write the date and the collector initials on the tubes.</td></tr>
</table></td></tr>
<tr><td>5.</td><td>Affix a BBK ID label (small) from the BBK ID Card (see WGH Blood Bank Identification Card) to each tube in such a way as to allow the contents of the tube to be viewed and not cover required information</td></tr>
<tr><td>6.</td><td>Label the BBK ID wristband strip with the patient's name, your initials and the date of collection. Detach strip from card and insert it into Ident-A™ brand Blood Recipient Band wristband sleeve</td></tr>
<tr><td>7.</td><td>Affix completed wristband to patient's wrist (preferable) or ankle. Ensure it is not so loose that it could be removed without cutting it or so tight it becomes uncomfortable or reduces blood flow. Instruct the patient NOT to remove the band until that have been discharged from the hospital.</td></tr>
<tr><td>8.</td><td>Affix a LIS label to the BBK ID card
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>LIS generated labels are not available</td><td>Write the patient's first and last names and at least one of the following on the BBK ID card: patient's DOB or YHCIP</td></tr>
</table></td></tr>
</table>

6.2 WGH BLOOD BANK IDENTIFICATION CARD



6.3 TEST: ABO BLOOD GROUP

This test is used to identify a patient's blood group for medical indications (example: to determine if patient needs RhIG after miscarriage) and non-medical (example: travel visas) indications. Non-medical requests will require payment by the client.

6.4 TEST: TYPE AND SCREEN

This test is used to identify the patient's blood type and to establish if they have any unexpected red blood cell antibodies in preparation for a possible transfusion. Red Blood Cell units will be crossmatched when a transfusion is ordered.

Do not order "GROUP & HOLD", as this restricts inventory and causes unnecessary workload. Should the need for blood arise after a Type and Screen (no antibodies detected or historical) is complete, the crossmatching can be completed within 15 minutes.

Positive Antibody Screens are sent to Canadian Blood Services in Vancouver for identification of the detected antibody. This will delay the availability of compatible red cells units for transfusion. Contact the Laboratory for more information if this occurs.

Order a Prenatal Screen (blood group and antibody screen) on the Canadian Blood Services Prenatal Screen requisition.

6.5 TEST: CROSSMATCH

This test is used to prove compatibility between the patient and the donor red cells and will be completed only when the blood is required for prompt transfusion.

Please see the Patient Experience Policies on Blood and Blood Product Transfusion Guidelines for information on ordering, retrieving and transfusing blood components and products.

6.6 TEST: DIRECT ANTIGLOBULIN TEST (DAT)

This test is used to determine if the patient's red blood cells are abnormally coated with immune proteins (Antibodies and/or Complement).
It is ordered by a physician to rule-out certain autoimmune problems, transfusion reactions or incompatibility between mother and newborn.

6.7 TEST: CORD BLOOD INVESTIGATION

- Must be done on all infants born to Rh Negative mothers or mothers of unknown blood group.
- It includes a determination of ABO/Rh and a DAT.
- Collection requirements:
  - One 6 mL EDTA tube (lavender or pink stopper) or one 10 mL Red Top tube

6.8 TEST: TRANSFUSION REACTION INVESTIGATION

- Used to determine the cause of a suspected transfusion related adverse event. It must be initiated as soon as a reaction is suspected to determine the possible severity and therefore, morbidity/mortality for the patient. It will also determine if the transfusion can continue and identify future transfusion requirements.
- Please see the Patient Experience Policies on Blood and Blood Product Transfusion Guidelines for more information on recognizing and managing a Transfusion Reaction.
- Always order as STAT, notify a Laboratory Technologist at WGH Laboratory by phone.

6.9 BLOOD COMPONENT USES

- The “Circular of Information for the Use of Human Blood and Blood Components” from Canadian Blood Services describes various blood components and their intended use. Each patient area within the hospital should have a copy and it is also available on-line at: http://www.transfusionmedicine.ca
- Refer to the following websites for more information:
  http://belite.transfusionontario.org/
  www.pbco.ca
  http://www.blood.ca/

6.10 BLOOD COMPONENTS AVAILABLE (IN STOCK) AT WHITEHORSE GENERAL HOSPITAL

- Red Blood Cell Units (Packed Cells)
  [Note: Phenotyped blood for patients with antibodies and special red cell requirements (i.e. Irradiated) will need to be ordered from Vancouver and will require additional time].
- Plasma for transfusion – requires 15 to 30 minutes to prepare
- Cryoprecipitate

NOTE: Platelets must be ordered from Vancouver as the need arises. Please allow a minimum of 24 hours for delivery. Platelets are to be ordered in “Adult Doses”; each dose should bring the platelet count up by approximately $20x10^9$/L in the absence of ongoing loss/consumption.

6.11 BLOOD PRODUCTS AVAILABLE (IN STOCK) AT WHITEHORSE GENERAL HOSPITAL

- Rh Immunoglobulin (WinRho) - *see special notes below this list*
- 5% Albumin
- 25% Albumin
- Intravenous Immunoglobulin (IVIg) – for specific diseases (IVIg Utilization Management Policy defines approval process)
- Hepatitis B Immunoglobulin - for high risk neonates and blood/body fluid exposed patients
- *Varicella zoster* Immunoglobulin – for high risk exposures
- Immune Serum Globulin – CMOH approval required (used primarily for high risk exposures to Measles in very young children)
- Recombinant Factor VIII – for specific hemophilia patients
- Recombinant activated Factor VII (NiaStase)
- Prothrombin Complex Concentrate (Octaplex) – for the immediate reversal of oral Vitamin K antagonist anticoagulants in specific circumstances or direct factor Xa inhibitor reversal

All other products must be ordered from Vancouver as the need arises. Please allow a minimum of 24 hours for delivery.

NOTE: Rh Immunoglobulin

- See product insert or Fact Sheet in the **Patient Experience Policies** for administration procedures.
- Follow the **Prenatal Checklist** provided by Yukon Health and Social Services for testing and administration schedule.
- Standard 300 mcg (1500 IU) dose to be administered in entirety
- Used for Rh Negative mothers to prevent immune Anti-D sensitization
- It is given:
  - At 28 weeks gestation
  - Postpartum (as indicated by Cord Investigation)
  - After a Therapeutic Abortion
  - Post-amniocentesis
  - Threatened abortion/ miscarriage
  - Other- trauma, etc.

6.12 ADDITIONAL TM PROCESS NOTES

- Issue/Transfuse cards are issued with each unit by the Laboratory and must be **fully completed** and returned to the Laboratory, even if the EXPANSE Transfusion Administration Record application was used.
- Please sign-out the crossmatched unit according to established protocol and ensure you leave the "ticket" from the bottom of the Issue/Transfuse card on the bench.
- Blood Products will only be picked up from the Laboratory by healthcare workers who have been oriented to the process.
- Empty blood product containers are to be retained on the ward for a minimum of four hours after the transfusion is complete, in case a Transfusion Reaction develops. They are not to be returned to the Laboratory unless a Transfusion Reaction is suspected.
- If units are not issued within 72 hrs. or the patient is discharged; any remaining units will be cancelled and returned to the blood bank inventory.
- If the units are unmatched or full testing is not yet complete, the doctor ordering the transfusion must acknowledge the assumption of increased risk. This can be done by a signed notation in the patient chart.

DISCLAIMER:

This document summary is intended to provide general information only.

Please refer to **Patient Experience Policies or Blood Product Transfusion Guidelines or the Clinical Transfusion Resource Guide** for specific information about Transfusion Medicine procedures.

RETURN TO MAIN

7.1 MICROBIOLOGY ANTIBIOGRAM

The Microbiology Antibiogram for the Yukon Territory is maintained and updated by St. Paul's Hospital Microbiology Department. The most recent version of the Antibiogram can be found on the Yukon Hospital website, for Health Professionals tab, under Tests & Scans or follow this ANTIBIOGRAM link.

7.2 MICROBIOLOGY GENERAL SPECIMEN REQUIREMENTS

1. The quality of a Microbiology testing results is directly dependent on the quality of the specimen and the information provided on the specimen label and the requisition.
   NOTE:
   - There are no normal values in Microbiology.
   - An improperly collected specimen means inaccurate results.

2. Ensure that specimens are labelled with:
   - Patient's legal name (Last name, First Name),
   - Patient's health care number
   - Date of Birth DD/MM/YY (important for interpretation of Microbiology test results)
   - Date and Time of collection
   - The site (or type) of collection.

3. Complete the **WGH Microbiology Requisition**, including the following information:
   - Patient's legal name (Last name, First Name),
   - Patient's health care number
   - Date of Birth DD/MM/YY (important for interpretation of Microbiology test results)
   - Date and Time of collection
   - The site (or type) of collection.

4. List any antibiotics presently in use or intended to be used on the Requisition, as well as a tentative diagnosis (e.g. R/O UTI). This will enable the Laboratory to set up special plates, techniques, etc. as needed.

5. Transport to the Laboratory as soon as possible (see specific specimen requirements in the WGH Laboratory Test Reference).

7.3 URINE SPECIMENS FOR MICROBIOLOGY

Specimens may be collected in a number of ways. Please note on the requisition or electronically, the method of urine collection.

A. Midstream Urine
B. Straight line catheters (in/out catheters)
C. Indwelling catheter
D. Infant Urine Collection (U-Bag collection)

A. Midstream Urine Collection

1. Provide patients with Patient Instructions for Midstream Urine collection
2. Collect urine directly into a sterile urine container; do not use a urinal or bedpan or paper cup for collection.
3. Immediately after collection, transfer urine specimen into Boric Acid Tube using a sterile pipette, filling to the indicated fill line on the tube for transport.
   NOTE: DO NOT handle or ingest the Boric Acid tablet. Should you touch the Boric Acid tablet to your skin, wash off immediately with plenty of water for 15 minutes. If you ingest the tablet, call poison control or physician immediately. (Boric Acid Safety Data Sheet)
4. Transfer of urine to the Boric Acid Tube should be done within 2 hours of collection but may be kept at 2-8 ºC for 12 hours.
5. Mix well to ensure the Boric Acid tablet is entirely dissolved, and the specimen is thoroughly mixed.

B. Straight line Catheters (In/ Out Catheters)

1. Follow clinical care instructions for placement of Catheter
2. Collect the initial 15 to 30 mL of urine and discard it from the mouth of the catheter.
3. Collect a specimen from the mid or later flow of urine into a sterile container.
4. Immediately after collection, transfer urine specimen into Boric Acid Tube using a sterile pipette, filling to the indicated fill line on the tube for transport.
5. **NOTE:** DO NOT handle or ingest the Boric Acid tablet. Should you touch the Boric Acid tablet to your skin, wash off immediately with plenty of water for 15 minutes. If you ingest the tablet, call poison control or physician immediately(Boric Acid Safety Data Sheet)
6. Transfer of urine to the Boric Acid Tube should be done within 2 hours of collection but may be kept at 2-8 ºC for 12 hours.
7. Mix well to ensure the Boric Acid tablet is entirely dissolved, and the specimen is thoroughly mixed.

C. Indwelling Catheter

1. Clean the catheter collection port with 70% alcohol wipe.
2. Using sterile technique, puncture the collection port with a needle attached to a syringe.
   NOTE: Do not collect urine from collection bag.
3. Aspirate the urine, and place it in a sterile container.
4. Immediately after collection, transfer urine specimen into a Boric Acid Tube using a sterile pipette, filling to the indicated fill line on the tube for transport.
   NOTE: DO NOT handle or ingest the Boric Acid tablet. Should you touch the Boric Acid tablet to your skin, wash off immediately with plenty of water for 15 minutes. If you ingest the tablet, call poison control or physician immediately. (Boric Acid Safety Data Sheet)
5. Transfer of urine to the Boric Acid Tube should be done within 2 hours of collection but may be kept at 2-8 ºC for 12 hours.
6. Mix well to ensure the Boric Acid tablet is entirely dissolved, and the specimen is thoroughly mixed.

D. Infant Urine Collection (U-Bag collection)

1. Wash the external genitalia
2. Follow the Instruction for Attaching an Infant Urine Sample Collection Bag (U-Bag)
3. Transfer urine from the bag immediately to a clean, sterile container
4. Transport to the Laboratory immediately

NOTE: This method is used to collect urine from newborns and those without bladder control (neonates and young toddlers). Because of the potential for contamination, this method is not a very effective method for ruling out UTI (due to contamination).

7.4 BLOOD CULTURES

Remember: To avoid contamination, Blood Culture specimens must be drawn **first**, before any other blood specimens. Blood Cultures are collected in sets, each set consisting of one aerobic & one anaerobic bottle; refer to table below for correct volume and number of sets. Plan the order of draw for blood cultures and other order tests accordingly.

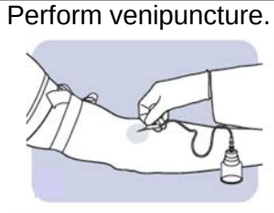
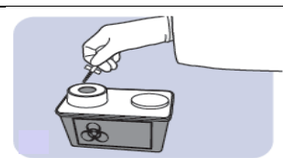
Required supplies for Blood Culture Collection:

- Computer-generated labels (preferred) or Requisition
- Blood culture bottles set
  - One aerobic
  - One anaerobic
- Vacutainer tubes as required
- Needles
  - Butterfly, winged needle 21g
- Blood culture collection adapter cap
- Skin Cleanser
  - 70% Isopropyl Alcohol wipes
  - Chlorohexidine wipes
- Tourniquets (Disposable)
- Gauze Pads (Do not use cotton balls)
- Bandage/ Adhesive tape
- Gloves
- Sharps container

7.4.1 Blood Volume Requirement for Blood Culture Bottles (Based On the Age of the Patient)

AGE GROUP	FIRST SET		SECOND SET (from different vein site)		TOTAL VOLUME	Addition Notes
	Aerobic: Volume (bottle type)	Anaerobic: Volume (bottle type)	Aerobic: Volume (bottle type)	Anaerobic: Volume (bottle type)		
Newborn	0.5 mL Pediatric (PF Plus) **Yellow**	N/A	N/A	N/A	0.5 mL	DO NOT use Yellow Pediatric bottles on Adults
< 1 year	1.0 mL Pediatric (PF Plus) **Yellow**	N/A	N/A	N/A	1 mL	
1-6	3 – 4 mL Pediatric (PF Plus) **Yellow**	N/A	N/A	N/A	3 - 4 mL	
7-12	8 – 10 mL Aerobic (FA Plus) **Mint Green**	8 – 10 mL Anaerobic (FN Plus) **Orange**	N/A	N/A	16 - 20 mL	Only collect one set.
≥ 13	10 mL Aerobic (FA Plus) **Mint Green**	10 mL Anaerobic (FN Plus) **Orange**	10 mL Aerobic (FA Plus) **Mint Green**	10 mL Anaerobic (FN Plus) **Orange**	40 mL	Always collect green bottle first. Collect 2 sets (4 bottles) from 2 separate sites (e.g. right arm and left arm)
FUNGAL	10 mL Aerobic (FA Plus) **Mint Green**	N/A	N/A	N/A	10 mL	Fungal Culture requests on blood cultures will extend incubation to 21 days

7.4.2 How to Collect Blood Culture Bottles

Step	Action
1.	Confirm the identity of the patient using two (2) unique identifiers. Ensure the computer generated tube labels are accurate
2.	Perform hand hygiene.
3.	Assemble required supplies
4.	Prepare the blood culture bottles: a. Ensure integrity of each bottle- (sensor on the bottom should be grayish-green; yellow-coloured sensor indicates the broth is contaminated & bottle must be discarded). Check the expiry date & discard if necessary. b. Mark the desired fill volume level on each bottle- see Blood Volumes table. 10 mL of blood per bottle is optimal for adults (bottles are pre-marked with 5mL increments) c. Remove protective plastic cap on bottles; sterilize rubber septum with 70% alcohol wipe and let air dry for 1 minute 
5.	Perform hand hygiene
6.	Don gloves
7.	Apply tourniquet and locate vein. Once vein has been located release the tourniquet to avoid hemodilution.
8.	Cleanse the site first with a 70% alcohol swab followed by a chlorohexidine swab. Use a radiating circular motion, from vein site outwards, cleaning area for 30 seconds per swab. Allow to air dry (approximately 30 seconds), do NOT fan dry or use gauze to dry site. **NOTE**: Do not re-palpate the vein before venipuncture.
9.	Re-apply the tourniquet.
10.	Perform venipuncture. 
11.	Attach the aerobic (green) bottle to the collection adapter cap and hold the cap down on the bottle. Using the fill indicator line you marked, obtain the needed volume of blood. Remove the adapter cap from the bottle and attach it to the anaerobic (orange) bottle. Obtain the needed volume of blood. **NOTE:** Once blood flow is established release tourniquet (less than 1 minute).  **NOTE***: If additional blood is required for other tests, draw them after the blood culture bottles are filled, following the Order of Draw Guide*
12.	Cover the venipuncture site with gauze and terminate the venipuncture. Apply pressure to the site, bandage site and dispose of butterfly needle in the Sharps container. Dispose of the disposable adapter cap in the garbage. 
13.	Mix bottles by gentle inversion 4-5 times. Any other Vacutainer Tubes should be mixed according to the manufacurers guidelines for the tube type.

Continued on next page…

7.4.2 How to Collect Blood Culture Bottles Cont'd

…continued from previous page

Step	Action
14.	Label the specimen bottles- in the presence of the patient- with prepared labels. Please follow guidelines in the next section: How to Label Blood Culture Bottles as there is a special protocol for the automated analyzer.
15.	Repeat this collection process (steps 1 -13) from another vein site for a second set. **NOTE:** *AFTER collection, wipe off any external blood with an alcohol pad* 
16.	Place labelled specimens in a plastic biohazard bags, place the requisition in the outer sleeve of the bag and prepare for transport using TDG protocols.
17.	Doff gloves.
18.	Perform hand hygiene.
19.	Keep blood cultures at room temperature prior to and during transport. Deliver to the Laboratory immediately. (Blood Cultures can be sent to the Laboratory via the Pneumatic Tube System)

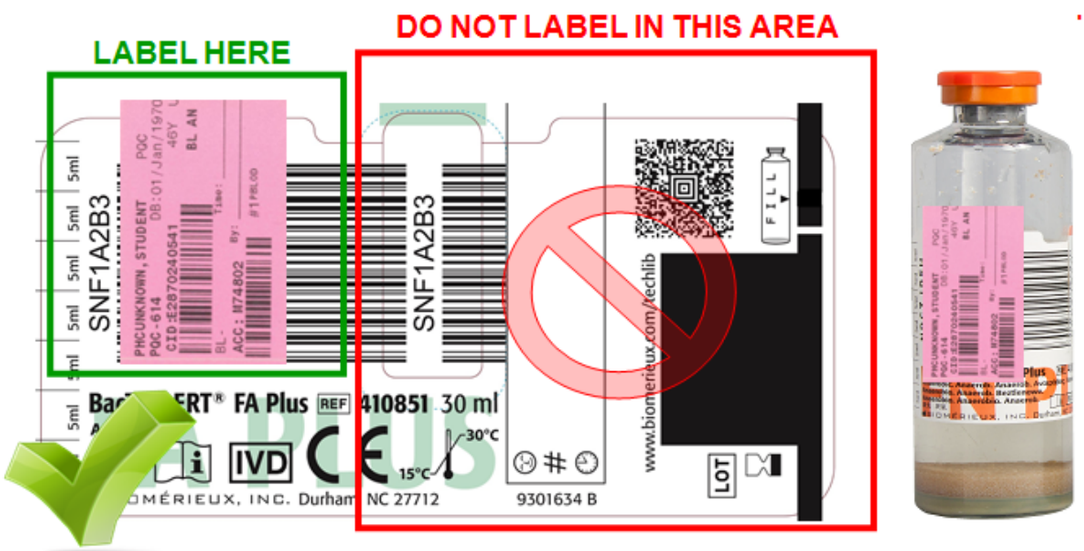
7.4.3 How to Label Blood Culture Bottles

The **automated blood culture analyzer** in our laboratory automatically reads Meditech barcode labels. If they are not affixed to the bottle as specified, the analyzer rejects the specimen.

Please label blood culture bottles accordingly:

- Apply patient's label barcode VERTICALLY
- Avoid covering the "Volume Window"
- Avoid covering the 2D barcode
- Avoid covering the Lot number (#) and Expiry date
- Affix only ONE label on each bottle

Example of Proper Labeling:



Examples of <u>Improper</u> Labeling:

Label Barcode
TOO HIGH

Label TOO LOW –
DO NOT WRAP
label under bottle

Bottle barcode
COMPLETELY
COVERED

ONE Label for 2
bottles & Label
NOT vertical

7.5 MICROBIOLOGY LINKS FOR COLLECION DEVICES

Refer to the following link for videos and guides on the use of the collection devices.
NOTE: Internet Explorer does not work with this link; you may need to copy and paste the web address into an alternate web browser.

https://www.providencelaboratory.com/Yukon_Hospital_Corporation.php

RETURN TO MAIN MENU

8.1 STERILE BODY FLUID COLLECTIONS

- Chemistry, Hematology and Microbiology tests may be ordered on Sterile Body Fluids (Cerebral Spinal Fluid, Synovial Fluid, Dialysate Fluid, Pericardial Fluid, Peritoneal Fluid and Pleural Fluid) at the WGH Laboratory, refer to the WGH Laboratory Test Reference for available tests and collection containers.
- **All sterile fluids are considered STAT** and must be taken to the Laboratory immediately after collection. Do **NOT** send through the pneumatic tube system (PTS)
  NOTE: *cell lysis can begin within one hour of collection.*
- Microbiology testing requested on a sterile fluid, only the Gram stain will be performed and interpreted at WGH, culture and sensitivity analysis will be referred to SPH
- Before beginning any fluid collection, please phone the Laboratory (867-393-8739, option 2) for direction on specimen handling and transport. Specimens need to be transferred immediately into the correct specimen containers. Serous fluid (pleural, peritoneal, and pericardial) may contain debris from the collection of the specimen. It is essential to put Hematology specimens into EDTA immediately.
- State source of fluid on requisition. If specimens are collected from more than one site, each specimen and requisition must be labelled with the source. Ensure specimens and requisitions are labelled with two unique patient identifiers (see labelling specimens).

8.1.1 Cerebral Spinal Fluid (CSF)

The physician should collect up to 20 mL of CSF on adults for testing. Collect appropriate volumes of CSF in sequential order into four sterile, screw capped tubes consecutively numbered 1 to 4; three tubes are sufficient for pediatric testing. DO NOT use glass tubes, use tubes provided in the standard pre-packaged lumbar puncture kits or CSF collection kits. Delivery **immediately** to the Laboratory, do not leave on the reception counter, **give directly to Laboratory Staff**.

CSF Specimen distribution in tubes, based on quantity of fluid collected:							
4 tubes (~20 mL)		**3 tubes (~15 mL)**		**2 tubes (~10 mL)**		**1 tube (<10 mL)**	
①	Chemistry	①	Chemistry	①	Chemistry and Hematology	① only	Ask physician (processed according to priority test(s)).
②	Microbiology	②	Microbiology	②	Microbiology		
③	Virology and Extra tests	③	Hematology and Virology				
④	Hematology						

***NOTE:** Label each tube with two (2) unique Patient Identifiers, date and time of collection, specimen source and tube identification number (**1, 2, 3, and 4**)*

8.2 BONE MARROW ASPIRATE AND BIOPSY REQUESTS

Bone Marrow Aspirates and Biopsies are referred to St. Paul's Hospital Hematology Department for analysis. **ALL** requests for Bone Marrow Aspirates or Biopsies MUST have an approval from the designated WGH Laboratory Medicine Hematopathologist consultant at SPH.

The process to request a Bone Marrow procedure in outlined in the following steps.
NOTE: The Laboratory Core Lead will work directly with the Surgeon's Clinic to schedule the procedure and patient follow-up.

STEP	ACTION
1.	Primary Care Physician to initiate Bone Marrow procedure by contacting the Laboratory Core Lead (867-393-8927).
2.	Core Lead to fax the required documentation to the primary care physician for completion, this includes patient information and summary of patient clinical history.
3.	All documentation to be faxed back to Core Lead (**867-393-8772 ATTN: CORE LEAD**) from the Primary Care Physician.
4.	Core Lead to consult with Hematopathologist at SPH for approval.
5.	Core Lead to co-ordinate scheduling of procedure with the Surgeon's Clinic.
6.	Surgeon's Clinic to notify the patient of the date and time of procedure and request any additional information, for the procedure, from the Primary Care Physician.

8.3 PATHOLOGY SPECIMEN COLLECTIONS

Pathology Specimens are referred to St. Paul's Hospital Division of Anatomical Pathology in Vancouver for analysis. Their most recent guide to specimen directory criteria is provided on the St. Pauls' Hospital Laboratory website for Anatomic Pathology.
NOTE: The link to the website will not work with Internet Explorer, in this instance copy and paste the hyperlink into an alternate web browser.

Pathology specimens are considered irreplaceable. An Irreplaceable Sample Record Form (ACC10F) will need to be completed if:

- Doctor's signature is missing on the Requisition
- Specimen or Requisition is not labelled with patient demographics (2 unique identifiers) and/or history
- Pathology description on container does not exactly match description on the Requisition
- Time of collection and time specimen added to formalin are not listed on Requisition
- Pathologists at SPH need clarification about the specimen(s)

Refer to Labeling Requirement below.

All requests for autopsy services must be pre-arranged through the St. Paul's Hospital Laboratory (Anatomic Pathology) and the Medical Director, YHC Laboratory Services (or delegate). Coroner requests are to be arranged by the Coroner's Office. Requests initiated by physicians and families require: (1) pre-approval from the receiving laboratory, including medical justification; and (2) signed consent before arranging transport of the body to Vancouver. Anatomic Pathologists at St. Paul's Hospital are available for telephone consultations regarding the utility of a post-mortem examination when the cause of death is uncertain.

8.4 CYTOLOGY SPECIMEN COLLECTIONS

Diagnostic Cytology is the process of studying cells to identify diseases. Cytology is a useful method for detection of malignant and pre-malignant changes, as well as for the diagnosis of certain reactive and infective conditions.

The procurement of adequate specimens is essential for the proper interpretation of the submitted material. Many diagnostic problems can be avoided if careful attention is given to collection and fixation of patient specimens. Rapid fixation of fluid cytology specimens is necessary to preserve cellular detail. Please deliver all cytology specimens with accompanying completed requisition(s) to the Laboratory as soon as possible. Missing or incorrect information will result in specimen rejection or unnecessary delays in processing

WGH In-Patient Cytology Specimens are referred to St. Paul's Hospital Division of Anatomical Pathology in Vancouver for analysis.

Cytology Specimens collected outside of WGH are referred to the *BC Cancer Agency- Vancouver Centre's Diagnostic Cytology Laboratory* (phone: 1-604-877-6000, fax: 604-873-5384).

Along with a copy of the most recent Requisition for Diagnostic Cytology, the BC Cancer Diagnostic Cytology Laboratory has updated their website to provide detailed information on collection procedures, supplies and indications for specific specimen types.

Please consult their website for current information before collecting specimens.
http://www.bccancer.bc.ca/health-professionals/clinical-resources/laboratory-services/diagnostic-cytology

8.5 LABELLING REQUIREMENTS FOR PATHOLOGY AND CYTOLOGY SPECIMENS

Pathology and Cytology specimens are referred to SPH and BC Cancer Agency; for specific requisitions see the links provided in Section 8.3 and Section 8.4 above.

Due to the complex nature of these specimens, Pathological and Cytological specimens are considered irreplaceable. To ensure specimens are processed without delay, the following criteria should be documented on the specimen container and the requisition:

Specimen Container:

- Proper fixative is in the container for the specimen type
- Labelled with Patient's legal name (Last name and First name)
- Patient's date of birth (DD/MM/YY)
- Patient's health care number
- Source of specimen (including a brief description e.g. Upper/Lower, Left/Right)
- Date and time of collection

Specimen Requisition:

- Patient's legal name (Last name and First name)
- Patient's date of birth (DD/MM/YY)
- Patient's health care number
- Patient location (IP, OP, ER, etc.)
- Date and Time of collection
- Date and Time specimen placed in preservative

- Clinical History
- Clinical Diagnosis
- Ordering Medical Practitioner's first and last name, signature and billing number
- Requests for copies of results to be sent to other physicians (include their name and fax number)
- Indicate if this is a STAT specimen

RETURN TO MAIN MENU

9.1 SPECIMEN HANDLING & STORAGE OF BLOOD PRIOR TO TRANSPORTATION

Analytes in blood specimens can be affected by improper handling prior to transport. *Centrifugation, time, temperature, light exposure and storage conditions can affect some test results*-- sometimes with severe consequences to patient health and safety.

**** Specimens requiring centrifugation should be centrifuged within 30 minutes of collection. Specimens will be rejected if they arrive more than 2 hours post-collection un-centrifuged. ****

Refer to FACTORS AFFECTING BLOOD TEST RESULTS table for more information

NOTE: Specimen Handling Affects Patient Care. Disregarding time, temperature and light specifications for blood specimens can lead to analytical errors. Results could be dramatically altered and this may result in patient harm, up to including death.

9.2 PACKAGING & TRANSPORT OF PATIENT SPECIMENS

The transport of Patient specimens is regulated by the Canadian Transportation of Dangerous Goods Regulations (TDGR). All staff responsible for packaging specimens for transport to the WGH Laboratory must have completed TDG training. All specimens must be handled in a manner in which the safety of the handler and the environment are protected while preserving the integrity of the specimens.

The specimens transported within the territory to WGH will be classified as either Exempt Human Specimen or UN3373 Biological Substance Category B. Patient specimens for which there is minimal likelihood that pathogens are present will be classified as Exempt Human Specimens. Specimens that contain blood borne pathogens will be classified as UN3373 (Biological Substance, Category B).

NOTE: The information summarized here is meant as a guide to certain parts of the Transportation of Dangerous Goods Regulations and is not meant to be a substitute for them.

It is the responsibility of those handling, shipping or transporting dangerous goods to consult the Regulations for exact requirements.

A copy of the TDGR can be found on Transport Canada's website:
http://www.tc.gc.ca/eng/tdg/clear-menu-497.htm

Information on training and packing material is found on the following link:
https://www.apps.saftpak.com/

9.2.1 Packaging for Transport to WGH

<table>
<tr><th colspan="2">Packing for Transport to WGH</th></tr>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1.</td><td>Ensure all specimens are labeled appropriately and caps are secure and sealed; all non-vacutainer-type containers holding liquid must be sealed with Parafilm (Urine Containers, etc.). The primary receptacle must be leak proof.</td></tr>
<tr><td>2.</td><td>Place all sealed patient specimens into a leak proof secondary receptacle (a biohazard bag) with sufficient absorbent for the amount of liquid (e.g. 1 absorbent pad per 15 mL) – preferably one set of patient specimens per biohazard bag.</td></tr>
<tr><td>3.</td><td>Seal the biohazard bag, this bag/container must be water tight to prevent any possible specimen leakage from the primary receptacle.</td></tr>
<tr><td>4.</td><td>Place the corresponding paper work (requisitions/packing slips) in the front sleeve of the biohazard bag.
NOTE: Paperwork cannot be placed in the same pouch as the specimens since it may become contaminated by leakage. This may lead to specimen rejection</td></tr>
<tr><td>5.</td><td>Place the biohazard bags into an outer receptacle (container/bag/box), it must have rigid sides to prevent breakage or damage of specimens in transport. Specimens must be packed to prevent them from rattling around loosely and include in this packaging any material (e.g. gel packs or ice packs) to keep the specimen at the required temperate for transport.
<table>
<tr><th rowspan="2">IF</th><th colspan="3">THEN</th></tr>
<tr><th>Room Temp Specimens</th><th>Refrigerated Specimens</th><th>Frozen Specimens</th></tr>
<tr><td>Outside Temperature > 15 ºC</td><td>Secure packaging only</td><td>Extra fridge temperature gel packs and secure packaging</td><td>Extra frozen gel packs and secure packaging</td></tr>
<tr><td>Outside Temperature 0 – 15 ºC</td><td>Room temperature gel packs with secure packaging</td><td>Fridge temperature gel packs and secure packaging</td><td>Frozen gel packs and secure packaging</td></tr>
<tr><td>Outside Temperature < 0 ºC</td><td>Extra Room temperature gel packs with secure packaging</td><td>Secure packaging only</td><td>Frozen gel packs and secure packaging</td></tr>
<tr><td>-20 ºC or colder</td><td>Extra Room temperature gel packs with secure packaging</td><td>Add room temperature gel packs for insulation with secure packaging.</td><td>Frozen gel packs and secure packaging</td></tr>
</table></td></tr>
<tr><td>6.</td><td>Seal the outer receptacle to ensure packing materials and specimens are contained.
<table>
<tr><th>IF</th><th>THEN</th></tr>
<tr><td>Exempt Specimens</td><td>The rigid walled outer receptacle is acceptable to transport by ground. Proceed to step 8.</td></tr>
<tr><td>Category B (UN 3373) specimens or specimens transporting by air.</td><td>The outer receptacle is required to be placed into a fourth (stronger) shipping receptacle that meets TDG standards and has the appropriate external markings/notification for Category B (UN3373) specimens. Proceed to step 7.</td></tr>
</table></td></tr>
<tr><td>7.</td><td>Place the sealed outer receptacle into a shipping (fourth) receptacle that meets TDG standards.
NOTE: A corrugated cardboard box is appropriate to use as the fourth receptacle.</td></tr>
<tr><td>8.</td><td>Address the outside of the outer/shipping receptacle with the WGH Laboratory Address</td></tr>
<tr><td>9.</td><td>Indicate on the outside of the outer/shipping receptacle the required specimen temperature transport conditions (Room Temperature, Refrigerated or Frozen).</td></tr>
</table>

9.3 THE PNEUMATIC TUBE SYSTEM (PTS) – WGH only

WGH has a Pneumatic Tube System (PTS) for rapidly transporting specimens from the ER to the Laboratory. Follow these important guidelines to ensure specimens arrive in the Laboratory safely.

9.3.1 Items accepted in the PTS bullet

ACCEPTABLE in the PTS BULLET	
Vacutainer Tubes	ALL blood vacutainers (except those for trace elements or heavy metals) Venous Blood Gas only Venous Lactate on ice Blood Culture Bottles
Specimen Containers (with properly secured lids)	Urine Specimen (<100mL) Urine Culture Vial Stool Specimens Stool Specimens for C&S and O&P
Paper Documents	Requisitions ECG Reports Completed WGH Blood Bank Issue/Transfuse Identification Cards
All Laboratory supplies (except containers containing Formalin or CytoLyte™)	
DO NOT SEND in the PTS BULLETS	
Sensitive and Irretrievable Specimens	Arterial Blood Gases Body Fluids Cerebral Spinal Fluid (CSF) Pathology Specimens Tissue Biopsies Bone Marrow Collections or Slides
Specimens in Formalin or CytoLyte™	Biopsies in fixative Urine in cytology fixative
Heavy Metal or Trace Element Specimens	Vacutainers containing blood for these tests must be transported upright to avoid contact with stopper
Fluid Volumes >1000mL or specimens >2.2kg	Example: 24 hour urines
Blood Products or Components	Issued blood component bags/tubing or derived blood products. Used or transfused blood component bags tubing or derived blood product container
Others	Seminal Fluids
	Sharps/ non-leak tight containers
	Food/drink
	Money/cheques or other valuables

9.3.2 Filling the PTS bullet

1. Ensure all lids are tightly sealed on specimen containers.
2. All specimens must be placed inside a disposable biohazard bag (preferable one patient's specimens per bag)
3. Place any requisition (paperwork) in outside pocket of the disposable biohazard bag
4. Expel air and seal all biohazard bags
5. Place all biohazard bags in the reusable larger biohazard bag (heavier plastic)

6. Expel air from the reusable biohazard bag, roll top down and seal shut with the attached Velcro

7. Ensure all contents fit inside the bullet (nothing hanging outside), properly lock the bullet with its locking mechanism.

9.3.3 Transporting specimens on ice in the PTS bullet

1. See WGH Laboratory Test Reference for test transport requirements
2. Place icepack in a disposable biohazard bag, expel air and seal
3. Place blood specimen and bagged ice pack in a second (2nd) disposable biohazard bag together
4. Expel air and seal the biohazard bag.
5. Place any paper work (including requisitions) in the outer pocket of the biohazard bag.
6. Place sealed biohazard bag in larger reusable biohazard bag
7. Expel air from the reusable biohazard bag, roll top down and seal shut with the attached Velcro
8. Ensure all contents fit inside the bullet (nothing hanging outside), properly lock the bullet with its locking mechanism
   NOTE: Send specimens on ice in a separate bullet

9.3.4 Launching a PTS Bullet

1. Place "bullet" in pneumatic tube system slot (bottom first).
2. Select appropriate destination:
   - 1 = Pharmacy
   - 2 = Laboratory
   - 3 = New ED

3. Select "E" to send
   NOTE: Phone the Laboratory (8301) to notify Laboratory Staff that a bullet is in transit

9.3.5 Troubleshooting:

- Wrong location selected – hold " * " (star key) for 2 seconds to clear screen, then re-enter correct location (must be done before selecting E)
- Power Failure – do not use system, hand deliver
- Destination Full – phone location to advise them their collection basket is full.
- System Failure – notify facility management and locations

Phone numbers:
- Pharmacy – 8737
- Laboratory – 8301
- ER- 8926

NOTE: All instructions for use of the PTS can be found by each Launching Station.

RETURN TO MAIN MENU

10.1 List of Patient Instructions for Laboratory tests

Patient Instructions for:		
ECG	***A.***	Electrocardiogram (ECG/EKG)
Holter	***B.***	Holter Monitors
H. pylori (UBT)	***C.***	Helicobacter Pylori Urea Breath Test
Glucose Tolerance Testing	***D.***	Non Gestational 2 Hour Glucose Tolerance Test -75 gram oral glucose load
	E.	Gestational 2 Hour Glucose Tolerance Test -75 gram oral glucose load
	F.	Gestation Diabetes Screen -50 gram oral glucose load
Urine Specimens	***G.***	24 Hour Urine Test
	H.	12 Hour Urine Test
	I.	Midstream Urine Collections
	J.	Urine Collection for Cytology testing
	K.	Infant Urine Collection using a U-bag
Stool Specimens	***L.***	Fecal Immunochemical Testing (FIT)
	M.	Stool for Culture & Sensitivity (C&S) testing
	N.	Stool for Ova & Parasites (O&P) testing
	O.	Stool for *C. difficile*
Sputum Specimens	***P.***	Sputum Collection (includes Bacteriology, Fungal, Cytology and TB)
Semen Specimens	***Q.***	Post Vasectomy Testing
	R.	Infertility Testing

RETURN TO MAIN MENU

A. Electrocardiograms - Your ECG: Studying Your Heart

What is an ECG (Electrocardiogram or EKG)?

- An ECG is a record of your heart's electrical activity.

How is an ECG done?

- Sensors are attached to your arms, legs, and chest (around the heart area).
- These sensors "listen" to your heartbeat.
- Electrical impulses associated with heart contraction and relaxation are saved onto a computer and then transmitted to a cardiologist for interpretation.
- The ECG test results will be provided to your physician
- Laboratory staff DO NOT give out ECG results.

Will the ECG Hurt?

- An ECG is completely painless.
- No electricity goes into your body.
- There is no chance of electrical shock.

Do I need an appointment for an ECG?

- The Laboratory will phone you with an appointment time once they receive a requisition from your physician.

What information will the Laboratory need from me?

- Your name, personal health number, date of birth, address and phone number

How long will it take to perform the ECG?

- The test is very short but your Doctor may need to look at your results before you can leave. Prepare for the visit to last up to 30 minutes.

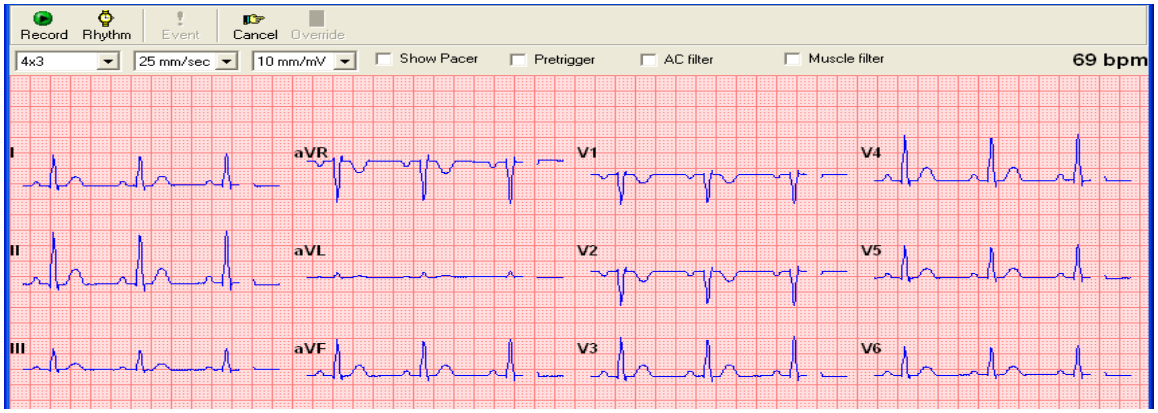
Are there any special instructions I need to prepare for an ECG?

- On the day of testing, shower and wash your body.
- Do not use oily or greasy skin creams as they cause interference.
- Avoid wearing full length hosiery, tights or pants that cannot be rolled up as sensors must be placed directly on your legs.
- If you have a hairy chest, you need to shave it for proper placement and secure adhesion of the sensors. If this isn't done at home, it may be required to be done at the time of set up with a dry razor

What will the Laboratory ask me to do?

- Undress ONLY to your waist including a bra (we require a bare chest to position the ECG sensors).
- Put on the gown provided, with the opening to the front.
- Your pant legs must be rolled up. We will request that you remove pantyhose to allow placement of the ECG sensors.
- If there is chest hair, you may be asked to shave off some of it to allow the sensor to have direct contact with skin (hair my cause interference with the electrode sensor)
- You can keep on all jewelry
- Turn off your cellphone to avoid interference.
- Lie flat on your back on the ECG table (bed).
- RELAX!

What does an ECG tracing look like?



(Sample Only)

NOTE: *ECGs performed by the Laboratory cannot be interpreted by a Medical Laboratory Assistant, Medical Laboratory Technologist or Combined Laboratory X-Ray Technologist; you will need to address any questions regarding your results with your physician.*

B. The Holter Monitor- Studying Your Heart for 24 Hours

What is the Holter Monitor?

- It is a digital recording of your heart's electrical activity over a 24 hour period

How is a Holter Monitor test done?

- Sensors are attached to your chest (around the heart area)
- These sensors "listen" to your heartbeat
- Electrical impulses associated with heart contractions and relaxations are saved onto a digital device (the monitor) for 24 hours. You will record in a diary your activity over the 24 hours. The digital recording and diary are then transmitted to a cardiologist for interpretation.
- The Holter Monitor test results will be provided to your physician

Will the Holter Monitor hurt?

- The Holter Monitor is very similar to an ECG and is completely painless.
- No electricity goes into your body and there is no chance of electrical shock

DO I need an appointment for a Holter Monitor?

- The Laboratory will call you with an appointment once they receive the requisition from your physician.

What information will the laboratory need from me?

- Your full name, personal health number, date of birth, address and phone number.

How long will it take to get the Holter Monitor?

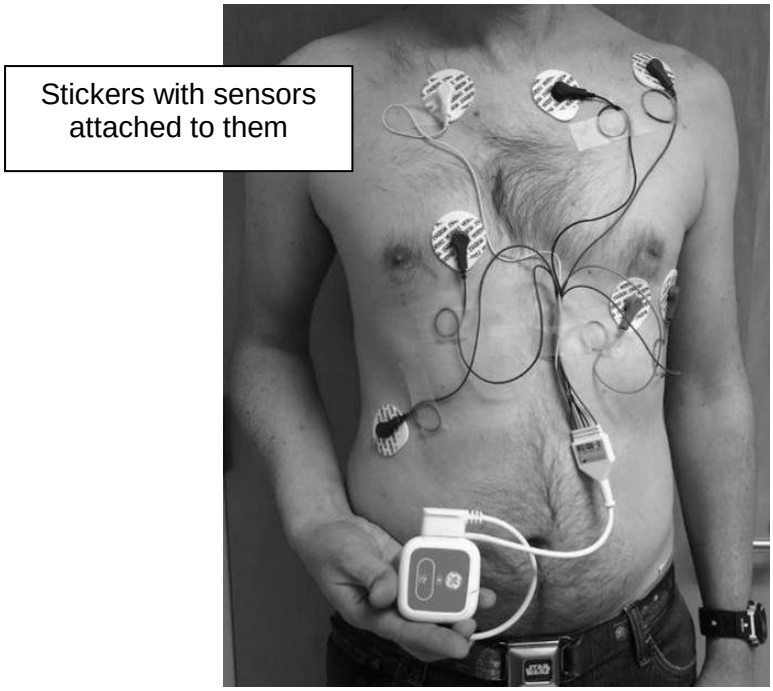
- The process to place the Holter Monitor and set up is usually less than 30 minutes but your appointment is planned for 30 minutes.
- You will need to visit the Laboratory the next day (24 hours later) to have your Holter Monitor removed and to hand in your diary. This doesn't require an appointment and usually takes less than 10 minutes.

Are there any special instructions I need to prepare for a Holter Monitor?

- On the day of testing, shower and wash your body.
- Do not use oily or greasy skin creams as they cause interference.
- Best clothing choice is to wear a shirt that opens in the front and pants with a belt.
- If you have a hairy chest, you need to shave it for proper placement and secure adhesion of the sensors. If this isn't done at home, it may be required to be done at the time of set up with a dry razor.
- To hide wires, you may want a shirt will a high neckline.

What will the laboratory ask me to do?

- Undress ONLY to your waist (we require a bare chest to position the sensors). You will need to remove your bra but once the sensors are in place, you can place it back on over the sensors.
- Put on gown provided, with the opening in the front.
- If there is chest hair, you may be asked to shave off some of it to allow the sensor to have direct contact with skin (hair my cause interference with the electrode sensor)
- You will be given an activity diary that you are required to complete for the 24 hours that you have the Holter Monitor on and return it when the monitor is removed.



NOTE: *Holter Monitor tracings performed by the Laboratory cannot be interpreted by a Medical Laboratory Assistant, Medical Laboratory Technologist or Combined Laboratory X-Ray Technologist; you will need to address any questions regarding your results with your physician.*

C. Helicobacter Pylori Urea Breath Test

Prior to the Test

Patients with an allergy to citrus cannot have this test.
Do not smoke or eat anything for 4 hours before the test. Do not take any fluids one hour before test.

Hours Before H. pylori Test	Patient Instructions
2 to 4 hours before test	Do not Eat or Smoke. Drink water (no added flavours), as needed. Coffee or tea is acceptable if no dairy/soy or sugar/sweeteners have been added.
1 hour before test	**Do Not Eat, Smoke or Drink Any Fluids**

Please discuss your medication use with your physician prior to taking this test. Antibiotics and acid lowering medication may interfere with this test and should not be taken for the periods indicated in brackets prior to the test.

1. Antibiotics *e.g.*, Amoxicillin, Clarithromycin, Metronidazole, Tetracycline (4 weeks)
2. Bismuth Preparations *e.g.*, Pepto-Bismol (2 weeks)
3. Proton pump inhibitors *e.g.*, Nexium, Pariet, Prevacid, Losec, Pantoloc, Pantoprazole (Tecta®) (7 days)
4. H2 receptor antagonists *e.g.*, Zantac, Tagamet, Pepcid (1 day)
5. Antacids *e.g.*, Maalox, Diovol, Gaviscon, Tums (1 day)

If you are taking any of these medications, it is recommended that you discuss this with your doctor before having the test done.

When you arrive in the lab:

The test will take approximately 40 minutes to complete. You will be required to remain at the lab for the duration of the test. This procedure is safe to complete during pregnancy.

Collection Instructions

1. Fast for 4 hours before your test:
   a. Do not smoke
   b. Do not eat anything
   c. No fluid at all for one hour prior to test

   Note: Chewing gum and brushing teeth during the fasting period is acceptable.
2. Provide a breath sample:
   a. Inhale a deep breath
   b. Exhale for 4 to 8 seconds through the straw inserted into a collection tube
   c. Near the end of exhalation, slowly remove the straw from the collection tube and continue to exhale until the straw is completely separated from the tube
3. Drink a lemon-lime solution
4. Wait 30 minutes in the Patient Service Centre (do not smoke, eat, or drink during this time)
5. Provide a second breath sample as in Step 2 above

D. Non-Gestational 2 Hour Glucose Tolerance Test-75 gram oral glucose load

This test studies the sugars in your blood. The Laboratory will call you with an outpatient appointment time, please allow a minimum of 2 hours for the appointment

What do I need to do to prepare for my appointment?

- Have NOTHING to eat, chew (including gum or candy) or drink (except a small amount of water) for at least 8 hours before your test. You can take your prescription medication.
- You may wish to bring a warm sweater, book or craft because this test will take 2 hours and you cannot leave the laboratory area for the duration of the test.
- Bring a snack to eat once the test is complete.

NOTE: If you have had surgery, you must wait at least 2 weeks before doing this test. If you are sick on the day of the test, do not come. You must rebook the test by phoning the laboratory 393-8739, select option 1.

What will happen once I arrive for my appointment?

a. When you arrive for your appointment you will be registered and your blood will be drawn by the next available Medical Laboratory Assistant.
b. After your blood is drawn, the Medical Laboratory Assistant will check your Glucose with the glucometer. If the level is ok to proceed, you will drink a sweet drink, and then you will be asked to sit and rest for 2 hours.
c. You cannot leave the building; you cannot smoke, eat or drink during the 2 hours.
d. After 2 hours your blood will be drawn. The test is finished. You may wish to have your snack to eat before leaving.

E. Gestational 2 Hour Glucose Tolerance Test-75 gram oral glucose load

This test studies the sugars in the blood of pregnant women. The Laboratory will call you with an outpatient appointment time, please allow a minimum of 2 hours for the appointment.

What do I need to do to prepare for my appointment?

- Have NOTHING to eat, chew (including gum or candy) or drink (except a small amount of water) for at least 8 hours before your test. You can take your prescription medication.
- You may wish to bring a warm sweater, book or craft because this test will take 2 hours and you cannot leave the laboratory area for the duration of the test.
- Bring a snack to eat once the test is complete.

NOTE: If you have had surgery, you must wait at least 2 weeks before doing this test. If you are sick on the day of the test, do not come. You must rebook the test by phoning the laboratory 393-8739, select option 1.

What will happen once I arrive for my appointment?

a. When you arrive for your appointment you will be registered and your blood will be drawn by the next available Medical Laboratory Assistant.

b. After your blood is drawn, the Medical Laboratory Assistant will check your Glucose with the glucometer. If the level is ok to proceed, you will drink a sweet drink, and then you will be asked to sit and rest for 2 hours.
NOTE: You cannot leave the building; you cannot smoke, eat or drink during the 2 hours.

c. After 1 hour, your blood will be drawn and you will have to return to your seat area. After 2 hours your blood will be drawn for the third time, the test is finished. You may wish to have your snack to eat before leaving.

F. Gestational Diabetes Screen-50 gram oral glucose load

This test studies the sugars in the blood of pregnant women. It is a Gestational Diabetes screening tool. The Laboratory will call you with an outpatient appointment, please allow for at least 1 hour for the appointment.

What do I need to do to prepare for my appointment?

- Eat normally before you come (NO fasting required).
- You may wish to bring a warm sweater, book or craft because this test will take 1 hour and you cannot leave the laboratory area for the duration of the test.

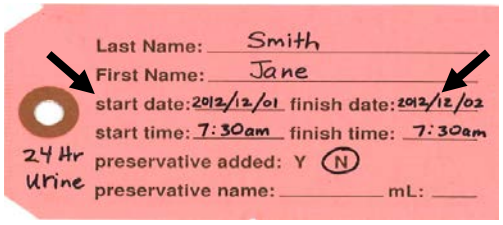
What will happen once I arrive for my appointment?

a. When you arrive for your appointment you will be registered and you will drink a sweet drink.
b. You will be asked to sit and rest for 1 hour.
NOTE: You cannot leave the building; you cannot smoke, eat or drink during the 1 hour.
c. After 1 hour your blood will be drawn, the test is finished

G. 24 Hour Urine Testing

PLEASE READ CAREFULLY:	
Before	Follow your doctor's orders about food and medicine. Do not allow feces (poo) to get into your container. ***NOTE:*** Women: do not collect during menstruation (your period-no blood).
Start	1. Empty your bladder (pee) in the toilet- Do not collect it (usually the first morning urine)
	2. Mark down the date & time on the pink label: "start date" & "start time"
	3. Collect ALL your urine (pee) for the next 24 hours (including the first morning urine of the next day if this is when you started)
During Collection	1. Follow laboratory instruction on what temperature to store your container during collection
	2. Urinate (pee) into the "white hat"
	3. Transfer urine from white hat into the orange container- Be careful not to splash! CAUTION: the container may contain an acid, there will be a label indicating if there is an additive in the container.
	4. If the test is for trace metals, do not rinse the white hat
Finish:	1. After 24 hours (usually the first morning urine of the following day of start) empty your bladder completely and put urine into the container
	2. Mark down the date & time on the pink label: "finish date" & "finish time"
	3. Bring your filled orange container and Requisition to the Laboratory as soon as you can

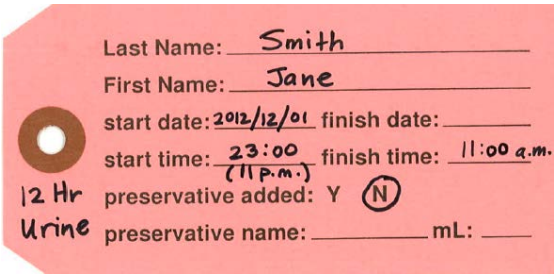
Write dates & times on the container label:



H. 12 Hour Urine Testing

PLEASE READ CAREFULLY:	
Before	Follow your doctor's orders about food and medicine. Do not allow feces (poo) to get into your container. **NOTE:** Women: do not collect during menstruation (your period -no blood)
Start	1. Empty your bladder (pee) in the toilet- Do not collect it (usually the first morning urine)
	2. Mark down the date & time on the pink label: "start date" & "start time"
	3. Collect ALL your urine (pee) for the next 12 hours
During Collection	1. Follow laboratory instruction on what temperature to store your container during collection
	2. Urinate (pee) into the "white hat"
	3. Transfer urine from white hat into orange container- Be careful not to splash! CAUTION: the container may contain an acid, there will be a label indicating if there is an additive in the container.
Finish	1. After 12 hours, empty your bladder completely and put urine into the container
	2. Mark down the date & time on the pink label: "finish date" & "finish time"
	3. Bring your filled orange container and Requisition to the Laboratory as soon as you can

Write dates & times on the container label:



"white hat" on toilet

I. Midstream Urine Collection

Men:

1. Wash your hands with soap and water.
2. Pull back your foreskin, if present.
3. Completely wash your glans penis ("head" of penis) using the towelette provided. Wipe away from the urethra (opening of the penis).
4. Remove lid from sterile container, try not to touch the inside of the container or lid.
5. Urinate (pee) into the toilet a small amount (this cleans the opening of your urethra, where the urine is coming out), then stop.
6. Place the container a few inches from your penis then begin urinating in the container.

   NOTE: Do not touch the inside of the container to your penis or fingers
7. Fill the container about half-full. If needed, continue urinating in the toilet.
8. Close the lid tightly to the container.
9. Wash your hands a second time.

Women:

1. Wash your hands with soap and water.
2. Sit as far back on the toilet as possible and spread your legs.
3. Remove lid from container, try not to touch the inside of the container or lid.
4. Hold your labia (folds of skin) apart with your fingers and keep apart for the rest of the collection.
5. Completely wash your entire inner genital area using the towelette provided. Wipe from front to back.
6. While continuing to hold your labia apart, urinate (pee) into the toilet a small amount and then stop.
7. Position the container then begin urinating in the container.

   NOTE: Do not touch the inside of the container to your body or fingers.
8. Fill the container about half-full. If needed, continue urinating in the toilet.
9. Close the lid tightly to the container.
10. Wash your hands a second time.

Specimen Handling Instructions:

IF	THEN	
Delivered to Laboratory within 2 hours of collection	**Store specimen at room temperature.**	
Delivered to Laboratory, greater than 2 hours but less than 12 hours since collection (≥ 2 hours but ≤ 12 hours)	**Store in the refrigerator (2-8 °C).**	
Greater than 12 hours since collection	**Obtain new collection device and recollect specimen.**	

J. Urine Collection (for Cytology Testing)

Please read carefully before you begin:

1. Label your collection container with:
   - Your full first and last name
   - Your health care number
   - Your date of birth
   - The date and time of your collection

2. Do **not** collect your **1st morning urine** (pee). If possible, collect your 2nd urination (pee) of the day.

3. Collect a midstream specimen of urine:
   Men: completely wash the head of your penis (Pull back your foreskin, if present).

   Women: wash your entire genital area with soapy water and rinse well.

4. As you start to urinate (pee), allow a small amount to fall into the toilet (this cleans the opening of your urethra, where the urine is coming out) then stop.

5. Position the empty container near your body and then urinate (pee) into it.
   Fill it about half full (50 mL).Remove the container. Finish urinating (peeing) into the toilet if needed.

6. Tightly seal the lid & place containers in a plastic bag. Seal the bag. Wash hands.

7. Bring to the Laboratory (or community Health Center) within 2 hours of collection. If you can't, put it in the fridge and bring it to the Laboratory (or community Health Center) within 24 hours.

K. Infant Urine Collection (Using a U-Bag)

Your collection kit contains:

- Towelette (wipes) to clean your baby's skin
- U-bags (urine specimen collection bags)
- A sterile specimen container (pink top)

Please read carefully before you begin:

1. Wash your hands with soap and water.
2. Carefully wash your baby's genital area with the wipes provided and allow to air dry. See next page for detailed instructions for cleaning and attaching the U-bag.
3. Attach a U-bag to your baby's genital area (see pictures next page).
4. Check your baby often.
5. Label the pink top container with the following information:
   - Baby's full first and last name
   - Baby's health care number and date of birth
   - The date and time baby urinated (peed)
6. As soon as your baby has urinated (peed) into the bag, gently peel off the bag's sticky tape from the skin and remove the bag. Tilt the bag so the pee is away from the blue tab.
7. Remove the blue tab from the bag and pour all the pee into the sterile container. Do not touch the inside of the container.
8. Discard the U-bag and wash your hands.
9. You must bring the specimen and Requisition to the Laboratory immediately.

   NOTE: Remote collections: transport the specimen to the Laboratory or Community Health Centre within 2 hours. For specimens that cannot be delivered within 2 hours, refrigerate specimen and deliver to Laboratory or Community Health Centre within 12 hours.

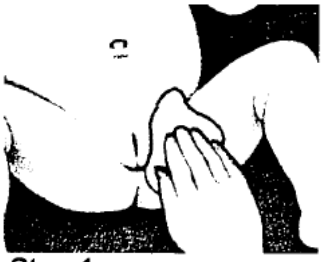
Attaching a U-Bag

Attaching an Infant Urine Sample Collection Bag (U-bag)

The skin area must be clean and dry. Avoid oils, baby powders, and lotion soaps that may leave a residue on the skin and interfere with the adhesive's ability to stick.

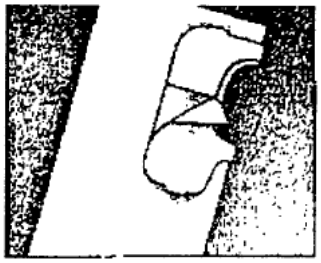
Begin application on the tiny area of skin between the anus and genitals. The narrow "bridge" on the adhesive patch prevents feces from contaminating the urine sample and helps position the collection bag.

Female



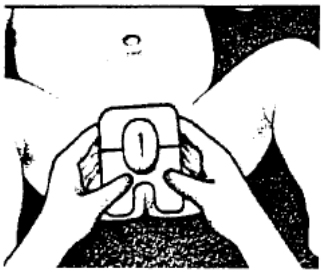
Step 1

Lay infant on her back, and wash each skinfold in the genital area. A gentle bath soap is preferred. Avoid using a lotion soap solution as it can leave a residue that may interfere with adhesion. Wash anus last. Rinse and dry. Cleanse entire area again using the towelette provided. Allow to **air-dry.**



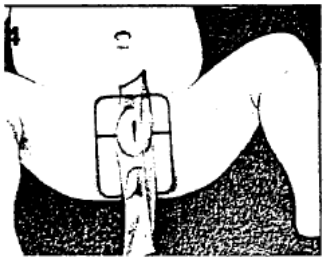
Step 2

Remove protective backing from the bottom half of the adhesive patch. It is easier to leave the top half of the adhesive covered until the bottom section has been applied to the skin. Ensure that the skin surface is dry before applying collection bag.



Step 3

Stretch perineum to separate skin folds and expose vagina. When applying adhesive to the skin, be sure to start at the narrow bridge of skin that separates the vagina from the anus, and work outward from this point.



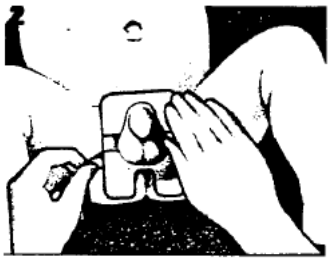
Step 4

Press adhesive firmly against the skin, avoiding wrinkles. When the bottom section is in place, remove the paper backing from the upper portion of the adhesive patch. Work upward to complete application, securing adhesive around the vagina.

Male

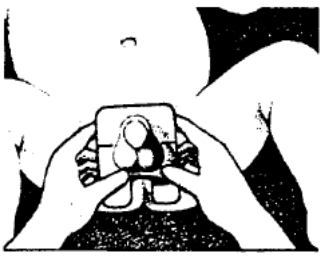
Step 1

Lay infant on his back, and wash entire genital area. A gentle bath soap is preferred. Avoid using a lotion soap solution as it can leave a residue that may interfere with adhesion. Wash scrotum first, then penis, and anus last. Rinse and dry. Cleanse entire area again using the towelette provided. Allow to air-dry.



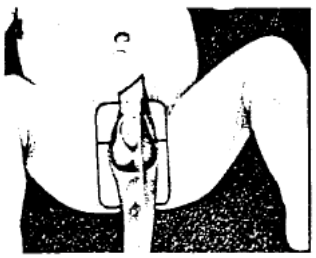
Step 2

Remove protective backing from the bottom half of the adhesive patch. It is easier to leave the top half of the adhesive covered until the bottom section has been applied to the skin. However, with an active boy, it may be easier to leave all the backing in place until the collection bag has been fitted over the genital area.



Step 3

When pressing adhesive to the skin, be sure to start at the narrow bridge of skin between the anus and the base of the scrotum, and work outward from this point. Be sure skin is dry before applying the collection bag.



Step 4

Press adhesive firmly against the skin, avoiding wrinkles. When the bottom section is in place, remove the paper backing from the upper portion of the adhesive patch. Work upward to complete application.

L. FIT (Fecal Immunochemical Testing): screening for colorectal cancer

Use Patient Instructions prepared by Colon Check Yukon- Do not copy this page!

Before you begin:

- Read all the instructions carefully.
- Eat and drink normally.
- Do not do the FIT if you see blood in your stool or urine.
- If you need to urinate (pee), do so before you take the FIT.

How to do the FIT:

1. Review your requisition to ensure the information on it is correct.
2. If any changes need to be made, note them and notify the Laboratory Staff when dropping off your specimen.
3. Follow the instructions on how to use the FIT sheet included with your kit.
4. Write your patient information on the FIT collection device
   - first and last name
   - date of birth
   - healthcare number
   - date and time of collection
5. Write the date and time of collection on the requisition.
6. Drop off the specimen as soon as possible - within 48 hours (the sooner the better) of collection. DO NOT FREEZE specimen.

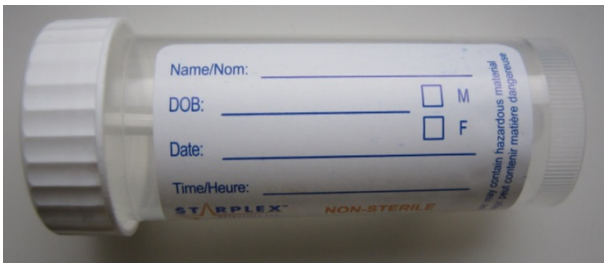
M. Stool Collection (for Culture & Sensitivity)

Please read carefully before you begin:

- Bring your specimen and your Requisition to the Laboratory **on the same day you collect**.
- If you do not collect or label your stool specimen properly, it will not be tested.

Procedure:

1. Label the white-top container:
   - Your first and last name
   - Your date of birth
   - Your health care number
   - Date and time of collection



2. Write date and time of collection on your Requisition form.

3. Empty your bladder (pee) completely. Do not let urine touch the stool specimen.

4. Collect stool onto a clean, disposable container.
   - Lift toilet set
   - Place plastic wrap or aluminum foil over toilet bowl.
   - Pass the stool onto the plastic wrap or foil. Avoid contamination with urine or water from bowl.

   NOTE: For small children: Fasten plastic wrap inside a diaper with childproof safety pins; then remove the stool from the plastic and put it into the collection container. Do not bring used diapers to the Laboratory.

5. Using spoon attached to the lid of the stool jar, select a walnut-sized portion of the feces that looks bloody, slimy or watery and transfer to the vial. Please do not overfill!

6. Make sure nothing else is in the collection container (no toilet paper, etc.).

7. Tightly close the container with the lid. Ensure that the lid is on properly to avoid leakage of the specimen.

8. Put the container in the plastic bag and seal the bag. (Container lid tightly closed!).

9. Wash your hands with soap and water.

10. Bring the specimen and Requisition as soon as possible.(on the same day of collection).

If you suspect a Gastrointestinal (GI) Outbreak, please contact the **Yukon Communicable Diseases Control office** at 867-667-8323

N. Stool Collection (for Ova & Parasite Exam)

Please read carefully before you begin:

- Bring your specimens and your Requisition to the Laboratory **on the same day you collect**.
- If possible, do not take the following medications for two (2) weeks prior to taking the specimen: Antibiotics, barium, mineral oil, kaopectate, etc.

Procedure:

1. Label both white top containers with:
   - Your first and last name
   - Your date of birth
   - Your health care number
   - Date and time of collection
2. Record Date and time of collection on your Requisition forms.
3. Empty your bladder (pee) completely. Please do not let urine touch the stool specimen.
4. Collect stool onto a clean, disposable container.
   - Lift toilet set
   - Place plastic wrap or aluminum foil over toilet bowl.
   - Pass the stool onto the plastic wrap or foil. Avoid contamination with urine or water from bowl.

   NOTE: For small children: Fasten plastic wrap inside a diaper with childproof safety pins; then remove the stool from the plastic and put it into the collection container. Do not bring used diapers to the Laboratory.
5. Using spoon attached to the lid of the stool jar, select a walnut-sized portion of the feces that looks bloody, slimy or watery and transfer to the red-topped vial until liquid is at the fill line. Please do not overfill!
   NOTE: This container contains a POISONOUS LIQUID. IF swallowed, drink lots of milk. Phone 911, if outside Whitehorse; contact your local Nurse or Doctor immediately.
6. Be CAREFUL not to spill the clear liquid, IT IS POISONOUS!!
7. Make sure there is nothing else is in the collection container (no toilet paper, etc.).
8. Tightly close the container with the lid. Ensure that the lid is on properly to avoid leakage of the specimen.
9. Put the container in the plastic bag and seal the bag.
10. Wash your hands with soap and water.
11. Bring the labelled specimen and Requisition as soon as possible (on the same day of collection) to the Laboratory (or community Health Center).

O. Stool Collection (for C.difficile)

Please read carefully before you begin:

- Bring your specimen and your Requisition to the Laboratory **within 2 hours of collection**.
- If you do not collect or label your stool specimen properly, it will not be tested.
- Stool must be loose (e.g. assume the shape of the container).

Procedure:

OR

1. Label the pink top sterile collection container:
   - Your first and last name
   - Your date of birth
   - Your health care number
   - Date and time of collection
2. Write date and time of collection on your Requisition.
3. Empty your bladder (pee) completely. Do not let urine touch the stool specimen.
4. Collect stool onto a clean, disposable container.
   - Lift toilet set
   - Place plastic wrap or aluminum foil over toilet bowl.
   - Pass the stool onto the plastic wrap or foil. Avoid contamination with urine or water from bowl.

   NOTE: For small children: Fasten plastic wrap inside a diaper with childproof safety pins; then remove the stool from the plastic and put it into the collection container. Do not bring used diapers to the Laboratory.
5. Using spoon attached to the lid of the stool jar (White lid) or using a clean dry device for the sterile container (Pink Lid), select a large scoop portion (roughly a tablespoon amount) of the feces that looks bloody, slimy or watery and transfer to the vial. Please do not overfill!
6. Make sure nothing else is in the collection container (no toilet paper, etc.).
7. Tightly close the container with the lid. Ensure that the lid is on properly to avoid leakage of the specimen.
8. Put the container in the plastic bag and seal the bag. (Container lid tightly closed!).
9. Wash your hands with soap and water.
10. Bring the specimen and Requisition to the Laboratory as soon as possible (within 2 hours of collection).

If you suspect a Gastrointestinal (GI) Outbreak, please contact the **Yukon Communicable Diseases Control office** at 867-667-8323

P. Sputum Collection

Please read carefully before you begin:

1. Label your pink top sterile collection container with:
   - Your first and last name
   - Your date of birth
   - Your health care number
   - The date and time of your collection
   - Write “Sputum”

2. Rinse mouth and clean teeth prior to obtaining a specimen to avoid oral contamination. (DO NOT use antibacterial mouth wash).

3. In hale and exhale deeply, forcing air from the lungs using the diaphragm to produce a deep cough.

4. Cough deeply and expectorate (spit) the sputum (mucus) it into the sterile container until one (1) teaspoon is produced, (see pictures on next page).

5. Do not spit clear saliva into the container - sputum should look thick and green or yellow-green.

6. Tightly seal the lid on the container and place it in a plastic bag; seal the bag.

7. Collect 1 good specimen at a time. If you are unable to get a good specimen after 3 attempts, talk to your doctor.

   - **For Cytology**: collect a series of three (3) consecutive sputa over 3 days. Use separate containers for each collection and separate requisitions.

   - **For TB Testing:** collect a series of three (3) consecutive sputa with at least 1 hour in between each collection. Use separate containers for each collection and separate requisition.

8. Bring the specimen to the Laboratory within 2 hours of collection. If you can’t, put it in the fridge and bring it to the Laboratory within 24 hours (DO NOT FREEZE).

…continued from previous page

How to Collect Sputum

1. Gargle or rinse with the water you are given. ***Do not use*** antiseptic mouthwash.

2. Hold the sample container to your mouth with your lips inside it. Take as deep a breath as you can and cough ***then spit*** into the container *(do NOT just spit saliva)*.

3. The sample you cough should look thick and yellow or green. The sample should be bigger than a **½ teaspoon.**

4. Close the container lid tightly.

5. Give the sample to your caregiver right away.

If you are at home:

- Seal your sample in the plastic bag you were given.
- Put the bag in the fridge right away.
- Return your sample to your caregiver within 24 hours.

March 2008

Q. Semen Analysis – Post Vasectomy

NOTE:

- Specimens must be delivered to the WGH Laboratory Monday to Friday 8:00 – 15:00 only.
- Due to the temperature sensitive nature of the specimens, collection should take place within the city of Whitehorse to ensure prompt delivery time.
- Keep specimen at room temperature and do not subject the specimen to extreme temperature during delivery.
- It is recommended that the semen specimen be collected following a 3-day period of abstinence.

1. Collect the specimen twelve weeks (3 months) after your vasectomy- A second test may be required if tested too early.

2. Obtain a Requisition and collection container from your doctor.

3. Label your collection container with the following information:
   - Your full first and last name
   - Your date of birth
   - Your health care number
   - The date and time of your collection
   - Write “Semen Post- Vas” on the container

4. You may collect the specimen by masturbation or coitus interruptus.
   NOTE: DO NOT collect the specimen in a condom.

5. Tightly seal the lid on the container and place it in a plastic bag; seal the bag.

6. Record the time and date of collection on your Requisition.

7. Bring your specimen AND your Requisition to the WGH Laboratory within 3 hours of collection. Avoid exposing the specimen to extreme temperatures during transport.

R. Semen Analysis - Infertility Investigation

NOTE:

- Specimens must be delivered to the WGH Laboratory Monday to Friday 8:00 – 15:00 only.
- Due to the temperature sensitive nature of the specimens, collection should take place within the city of Whitehorse to ensure prompt delivery time.
- Keep specimen warm (at body temperature) and do not subject the specimen to extreme temperature during delivery.
- It is recommended that the semen specimen be collected following a 3-day period of abstinence.

1. Obtain a Requisition and collection container from your doctor.

2. Label your collection container with the following information:
   - Your first and last name
   - Your date of birth
   - Your health care number
   - The date and time of your collection
   - Write “Semen Infert” on the container

3. Warm the collection container under your arm before collecting your specimen.

4. You may collect the specimen by masturbation or coitus interruptus.
   NOTE: DO NOT collect the specimen in a condom.

5. Tightly seal the lid on the container and place it in a plastic bag; seal the bag.
   NOTE: You **MUST** keep the specimen warm while you are bringing it to the Laboratory. Keep the container inside your jeans pocket or under your arm for example.

6. Record the time and date of collection on your Requisition.

7. Bring your specimen AND your Requisition form to the WGH Laboratory as soon as possible, within 30 minutes of collection.

RETURN TO MAIN MENU

10.2 COLLECTION PROCEDURE FOR PERTUSSIS TESTING

Laboratory Collection Instructions for Pertussis Testing

PHSA Laboratories

Public Health Microbiology & Reference Laboratory

Specimens:

- Optimal samples are pernasal swabs but postnasal swabs are also accepted, though less sensitive. DO NOT SUBMIT THROAT SWABS.
- Please use COPAN eSwab containing Liquid Amies with flocked swab.

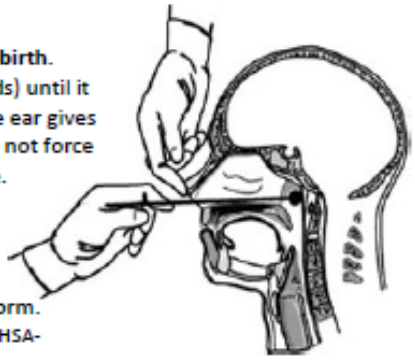
COPAN CA481C (tube with Liquid Amies, green cap)

Collection:

- **Personal protection during specimen collection:** Minimize self exposure by minimizing the amount of time spent in taking a sample, wearing personal protection and following infection control practices. Hands should be washed and fresh gloves used for each new patient.

Procedure:

1st Choice: Pernasal specimens



1. **Label** the container with the patient's **full name** and **date of birth**.
2. Gently insert swab into one nostril **straight back** (not upwards) until it reaches the posterior wall. The distance from the nose to the ear gives an estimate of how far back the swab should be inserted. Do not force the swab. If an obstruction is encountered, try the other side.
3. Rotate swab a few times, loosening the cells in the mucus cavity and then remove.
4. Place the swab into the accompanying eSwab vial.
5. Fill out the *PHSA Labs Bacteriology & Mycology Requisition* form. (Available at http://www.phsa.ca/AgenciesAndServices/Services/PHSA-Labs/Testing-Requisitions/Diagnostic.htm)
6. Seal in biohazard bag, refrigerate and ship as soon as possible in a cooler containing ice packs.

2nd Choice: Postnasal specimens

1. **Label** the container with the patient's **full name** and **date of birth**.
2. Incline the patient's head as required and insert the swab into the patient's mouth.
3. To avoid contamination from the oral cavity, bend the wire to an angle of 135° about 1 cm from the tip.
4. Rest the swab against the posterior wall of the pharynx and move the tip up and down a few times.
5. Place the swab into the accompanying eSwab vial.
6. Fill out the *PHSA Labs Bacteriology & Mycology Requisition* form.
7. Seal in biohazard bag, refrigerate and ship as soon as possible in a cooler containing ice packs.

PHSA 305 Rev 2019-11

10.3 COLLECTION PROCEDURE FOR CHLAMYDIA/GC URINE

Chlamydia / Gonorrhea (Urine)

DIAGNOSTIC SOLUTIONS

Aptima® urine collection kit
Collection procedure guide

Collection for male and female urine specimens

Patient should not have urinated for at least 1 hour prior to specimen collection.

Urine specimen collection guide for:
- *Chlamydia trachomatis (CT)*
- *Neisseria gonorrhoeae (GC)*
- *Trichomonas vaginalis (TV)* for female only

Direct patient to provide **first-catch** urine (approximately 20 to 30 mL of initial urine stream) into urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution that may reduce test sensitivity. Female patients should not cleanse labial area prior to providing specimen.

Remove cap from urine specimen transport tube and transfer 2 mL of urine into urine specimen transport tube using the disposable pipette provided. The correct volume of urine has been added when the fluid level is between the black fill lines on urine specimen transport tube label.

Re-cap urine specimen transport tube tightly.
This is now known as the "processed urine specimen."

Specimen transport and storage

- After collection, transport and store processed urine specimens in the Aptima urine specimen transport tube between 2°C to 30°C until tested.
- Processed urine specimens should be assayed with the Aptima assay for CT, GC and/or TV within 30 days of collection.
- If longer storage is needed, freeze between -20°C to -70°C for up to 12 months after collection in the Aptima assay for CT and/or GC. For the Aptima assay for TV, freeze at < -20°C for up to 12 months.
- Urine samples still in primary collection container must be transported to the lab between 2°C to 30°C.
- Transfer urine sample into Aptima urine specimen transport tube within 24 hours of collection.
- Store between 2°C to 30°C and test within 30 days of collection.

Hologic provides this collection procedure guide as a general informational tool only. It is not an affirmative instruction or guarantee of performance. It is the sole responsibility of the laboratory to read and understand the appropriate package insert and comply with applicable local, state and federal rules and regulations.

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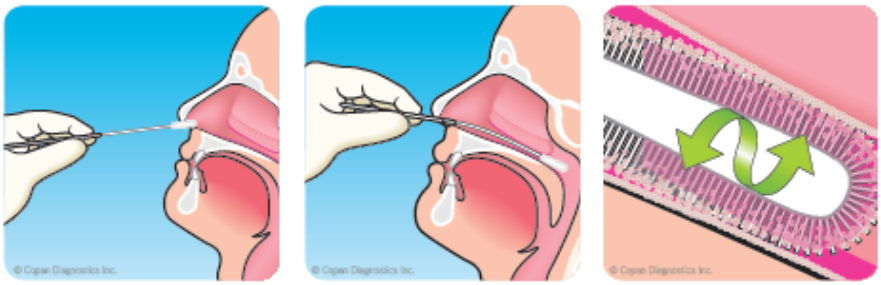
HOLOGIC®

10.4 COLLECTION PROCEDURE FOR NASOPHARYNGEAL SWABS

UTM™

COPAN
Innovating Together™

NASOPHARYNGEAL FLOCKED SWABS AND UTM™
HOW TO GUIDE



1) Gently insert the swab along the nasal septum just above the floor of the passage to the nasopharynx until resistance is met
2) Rotate the swab gently against the nasopharyngeal mucosa for 10 - 15 seconds then gently remove swab

3) After the swab is removed from the patient place it into the tube of UTM™ transport medium all the way to the bottom of the tube
4) Holding the swab shaft close to the rim of the tube, break the applicator shaft at the colored breakpoint indication line. Hold the tube opening away from your face.

ORDERING INFORMATION:

Individual Components:

330C	UTM™ tube for Viruses, Chlamydia, Mycoplasma and Ureaplasma
503CS01	Flexible Minitip Flocked Swab

Collection Kit:

305C	Kit comprises UTM™ tube plus Flexible Minitip Flocked Swab

Copan Diagnostics Inc.
26055 Jefferson Ave.
Murrieta, California 92562 USA
Toll Free: (800)216-4016 (US & Canada)
Phone: (951) 696-6957 Fax: (951)600-1832
E-Mail: info@copanusa.com
www.copanusa.com

If you suspect an Influenza-Like-Illness (ILI) Outbreak, please contact the **Yukon Communicable Diseases Control office** at 867-667-8323

10.5 APTIMA MULTITEST SWAB SPECIMEN COLLECTIONS

Aptima® Multitest Swab Specimen Collection Kit

HOLOGIC

Clinician collection procedure guide

Collection for vaginal swab specimens

Partially open the swab package and remove the swab. Do not touch the soft tip or lay the swab down. **If the soft tip is touched, laid down, or dropped, discard and get a new Aptima Multitest Swab Specimen Collection Kit.** Hold the swab, placing thumb and forefinger in the middle of the shaft covering the black score line. Do not hold the shaft below the score line.

Swab specimen collection guide for:

- *Chlamydia trachomatis (CT)*
- *Neisseria gonorrhoeae (NG)*
- *Trichomonas vaginalis (TV)* - **Collect a separate swab from CT/NG**

Carefully insert the swab into the vagina about 2 inches (5 cm) past the introitus and gently rotate the swab for 10 to 30 seconds. Make sure the swab touches the vaginal walls so that moisture is absorbed by the swab. Withdraw the swab without touching the skin.

While holding the swab in hand, unscrew the tube cap. Do not spill the tube contents. **If the tube contents are spilled, discard and replace with a new Aptima Multitest Swab Specimen Collection Kit.** Immediately place the swab into the transport tube so the black score line is at the top of the tube. Align the score line with the top edge of the tube and carefully break the shaft. The swab will drop to the bottom of the vial. Discard the top portion of the shaft.

Tightly screw the cap onto the tube. When collecting multiple specimens from the same patient, the tube label provides a specimen source field for unique identification for the specimen location.

Hologic provides this collection procedure guide as a general informational tool only; it is not an affirmative instruction or guarantee of performance. It is the sole responsibility of the clinician to read and understand the appropriate package insert and comply with applicable local, state and federal rules and regulations.

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10.6 APTIMA UNISEX SWAB SPECIMEN COLLECTION KIT (FEMALE)

Aptima® Unisex Swab Specimen Collection Kit
Female collection procedure guide

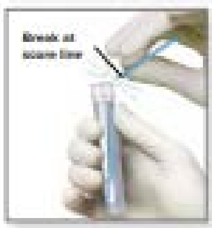
HOLOGIC®

Collection for endocervical swab specimens

Swab specimen collection guide for:
- *Chlamydia trachomatis (CT)*
- *Neisseria gonorrhoeae (NG)*

Use cleaning swab (white shaft swab with red printing) to remove excess mucus from cervical os and surrounding mucosa. Discard this swab.

Insert collection swab (blue shaft swab with green printing) into endocervical canal. Gently rotate swab clockwise for 10 to 30 seconds to help ensure adequate sampling. Withdraw swab carefully; avoid any contact with vaginal mucosa.



While holding swab in hand, unscrew the tube cap. Do not spill tube contents. **If the tube contents are spilled, discard and replace with a new Aptima unisex swab transport tube.** Carefully break the swab shaft at the score line against the side of the tube. Discard top portion of swab shaft.

Re-cap swab specimen transport tube tightly.

Specimen Transport and Storage

- After collection, transport and store swab in the unisex specimen transport tube between 2°C to 30°C until tested.
- Specimens must be assayed with the Aptima assay for CT/NG and/or TV within 60 days of collection.
- If longer storage is needed, freeze between -20°C to -70°C for up to 12 months after collection in the Aptima unisex specimen transport tube.

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10.7 APTIMA UNISEX SWAB SPECIMEN COLLECTION KIT (MALE)

Aptima® Unisex Swab Specimen Collection Kit

Male collection procedure guide

HOLOGIC

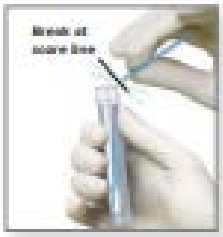
Collection for male urethral swab specimens

Patient should not have urinated for at least 1 hour prior to specimen collection.

Swab specimen collection guide for:
- *Chlamydia trachomatis (CT)*
- *Neisseria gonorrhoeae (NG)*

Discard cleaning swab (white shaft with red print on label). The cleaning swab is NOT needed for male specimen collection.

Insert specimen collection swab (blue shaft swab with green printing) 2 cm to 4 cm into urethra. Gently rotate swab clockwise for 2 to 3 seconds in urethra to help ensure adequate sampling. Withdraw swab carefully.



While holding swab in hand, unscrew tube cap. Do not spill tube contents. **If tube contents are spilled, discard and replace with a new Aptima unisex swab transport tube.** Carefully break the swab shaft at the score line against the side of the tube. Discard top portion of swab shaft.

Re-cap swab specimen transport tube tightly.

Specimen Transport and Storage

- After collection, transport and store swab in the unisex specimen transport tube between 2°C to 30°C until tested.
- Specimens must be assayed with the Aptima assay for CT/NG and/or TV within 60 days of collection.
- If longer storage is needed, freeze between -20°C to -70°C for up to 12 months after collection in the Aptima unisex specimen transport tube.

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10.8 COPAN eSWAB COLLECTION GUIDE

eSwab™

yukon hospitals

COPAN
Innovating Together™

*Beginning on **October 22nd**, **YHC/WGH** will be replacing current collection systems for bacteria with Copan ESwab.*

ESwab is a liquid based multipurpose collection and transport system that maintains the viability of aerobic, anaerobic and fastidious bacteria for up to 48 hours. The ESwab system collects and releases more specimen, significantly improving patient test results and decreasing the need for repeat testing due to insufficient sample

ESwab replaces multiple transport devices with just one system eliminating the need to stock multiple types of swabs.

ESWAB INSTRUCTIONS

ESWAB IS EASY TO USE:

- Perform hand hygiene and put on gloves if necessary.
- Perform positive patient identification.
- Open the peel pouch.
- Remove the swab.
- Collect the patient sample using the swab. **Avoid touching the swab applicator below the pink molded breakpoint** as this could lead to contamination and incorrect test results.
- Remove the screw cap from the tube and insert the swab **all the way to the bottom of the tube.**
- Holding the swab shaft **close to the rim of the tube**, and keeping the tube away from your face, break the applicator shaft at the pink breakpoint indication line.
- **Screw the cap on tightly to prevent leakage.**
- Dispose of the swab shaft in a regular trash receptacle.
- Apply patient identification label or write patient information on the tube label.
- Follow the standard operating procedures of transport and testing for your facility.
- Remove gloves if necessary and perform hand hygiene.

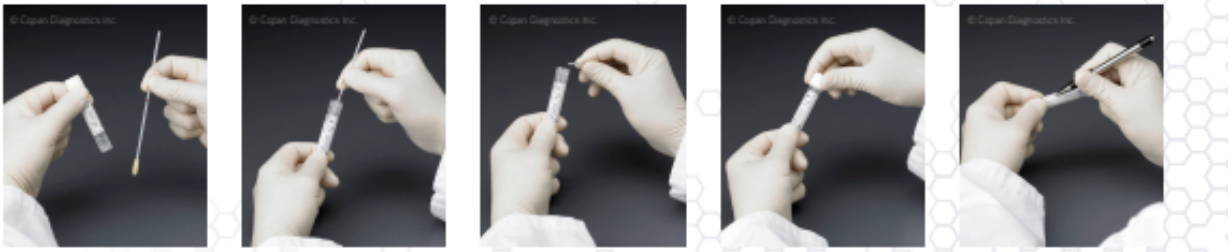
NOTE:

The ESwab Liquid Amies fluid maintains the viability of diverse bacteria. **Do not send a dry ESwab as this will lead to unsatisfactory results.**

If the tube spills its contents prior to inserting the swab, the liquid is non-toxic. Simply put the swab into another tube before sending it to the laboratory and discard the spilled tube.

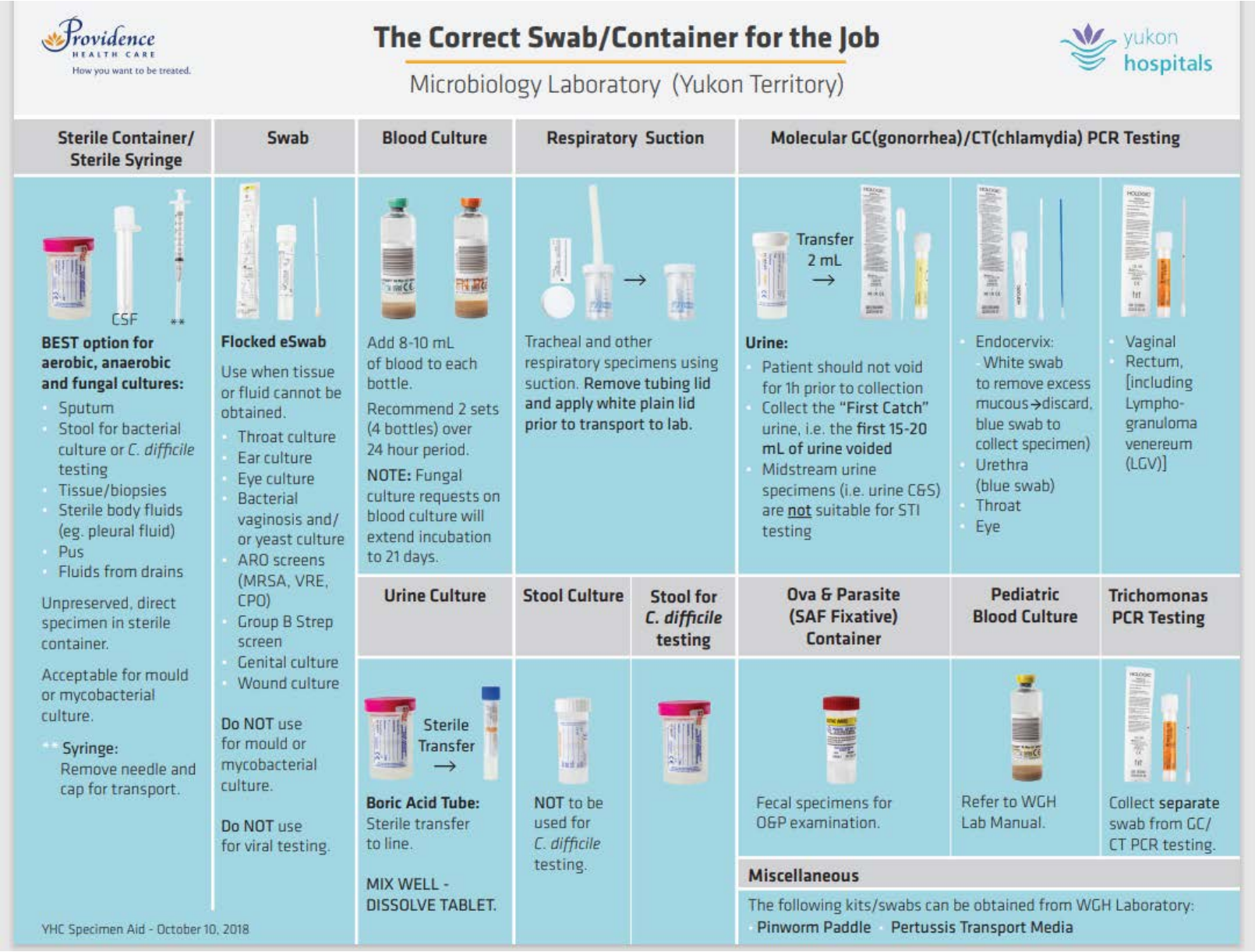
If the tube spills after contamination, follow procedure for blood and body fluid clean up. Refer to your facility's infection control manual for further direction.

If contaminated fluid splashes onto the personnel collecting the sample, treat as a blood and body fluid exposure. Refer to your facility's infection control manual for further direction.



Products are not to scale. October 4, 2018

10.9 MICROBIOLOGY CONTAINER GUIDE



10.10 MICROBIOLOGY SWAB GUIDE

Swab Type	Copan E swabs (White and purple)	Copan Transystem (blue)	Red Viral	Blue Viral	Aptima Unisex Swab	Aptima Multitest Swab	Copan Liquid Amies (Green)
Swab Picture	***NEW SWAB*** 						
Testing:							
Covid-19 (In-house)			✓				
Covid-19 (Referred out)			✓				
Bacterial Culture (Throat, wound, genital etc.)	✓	✓					
Chlamydia/GC (PCR)					✓ (Cervical, endocervical, urethral, throat)	✓ (Vaginal, rectal, eye, throat only)	
Trichomonas Vaginalis						✓ (Vaginal only)	
Herpes Simplex Virus			✓	✓ **PREFERRED**			
Bordetella Pertussis							✓
Monkey Pox			✓ **PREFERRED**	✓			

RETURN TO MAIN MENU

APPENDIX I. GLOSSARY OF LIS SOFTWARE

Description of Uses by WGH Laboratory		Maintained by
EXPANSE (Desktops used by Laboratory: Laboratory, EDM, Registration, CWS Scheduler, Scanning, EMR)	Database- stores confidential information:	YHC IS
	Registration: Admitting outpatients- Admissions	
	EDM Public Tracker: Managing ER patients (ED Tracker)	
	CWS Scheduler: Booking appointments	
	Laboratory: Ordering laboratory tests	
	Tracking status of samples & tests (receiving samples)	
	Verifying results	
	Looking up test results	
	Printing labels for specimens; making batch labels	
	Printing reports	
	Reviewing pending tests	
	Reviewing outstanding tests	
	Retrieving Patient contact information	
	Ordering Supplies in Stores	
	EMR: Retrieving Patient contact information	
	Scanning Desktop: Scanning non-interfaced documents into the EMR	
Excelleris	Reporting storage system for distributing reports from Referral Laboratories	BC government
SharePoint	YHC & Laboratory Document Library storage & communication tool	YHC
Muse	Provides secure exchange of ECG reports between YHC and SPH for analysis by physicians	Vancouver Coastal Health
MARS	Provides secure exchange of Holter monitor reports between YHC and SPH (feeds into MUSE)	Vancouver Coastal Health
Plexia	Information System used by Physicians in private clinics; not used by Laboratory staff (LIS currently adding Requisition links between Meditech & Plexia)	Yukon Private Physician Clinics
Mirth Connect	An interface engine that allows movement of reports and test orders between Meditech and Plexia	YHC
i-STAT/DE Version 2.8	Used for iSTATs (Point of Care)	WGH Laboratory
AEGISPOC	Point of Care Data Management system – used for Glucometers, i-Stat, Piccolo, online POC user recertification.	WGH Laboratory
NovaNet	Nova Stat Strip- Used for Ketone meters	WGH Laboratory

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APPENDIX II. SUMMARY OF CHANGES (since last published version)

Version 6.0

Section & Page Number	Subject	Change	Date/Initials
2.2 pg. 28	C. diff TAT	Changed to ≤ 8 hours	07/02/2024 FR
7.1 pg. 52	Antibiogram	Updated the link to the 2022 version.	09/07/2024 FR
8.3 pg. 60	Pathology Specimens	Added comment regarding autopsy.	20/02/2024 FR
2.2 pg. 16	Lab test references	Added Respiratory Panel <24h to table.	20/02/2024 FR
Title pg. 1	Version Number	Updated to new version number	22/02/2024 FR
Footer	Effective Date	Updated the effective date to March 2024	22/02/2024 FR
Reference pp. 103-4	References	Updated broken links.	22/02/2024 FR
Page 6	Booking Appointments	Updated booking times for Watson and Dawson	22/02/2024 PR
Pg 7	CLXT contact	Deleted contact info for CLXT DC/WL	22/02/24 PR
Pg 8	Wed shipment	Added Watson to Wed shipment	22/02/24 PR
Pg 29	Malaria/UA/UDOA	Remove malaria, updated UA and UDOA	22/02/24 PR
Pg30	Malaria/others	Removed malaria, updated Meditech codes, instruction, instruments	22/02/24 PR
Pg 101	Aegis/DE	Updated POC software	22/02/24 PR
1.8 pg. 9	Specimen Collection	Updated the hyperlink to legal requirements from 1.9 to 1.10.	27/02/2024 FR
1.15 pg. 13	Obtaining Results	Added a second note to inform end users results are not released verbally upon request.	27/02/2024 FR
4.1 pg. 35	Requisition List	Updated VGH Cytogenetics req and changed name to Cytogenomics as this is the new VGH reg title.	27/02/2024 FR
6.9 pg. 50	Blood Component Usage	Changed the web link from www.tragprogram.ca (obsolete), to www.pbco.ca.	27/02/2024 FR

Final Authorization by: _____ Date: _____

APPENDIX III. QUICK REFERENCE

1. All Requisitions - Hyperlink to all requisitions in Section 4.1, can print requisitions from website

2. Specimen Rejection – Section 3.4, includes information on IRREPLACEABLE specimen. Reference to form ACC10F

3. Onsite Test Reference - Section 2.2
   - Transfusion Medicine
   - Body Fluids
   - Microbiology/Virology
   - 24 Hour Urine

4. List of Patient Instructions – Section 10.1

5. Microbiology Container Guide – Section 10.9

6. Microbiology Swab Guide – Section 10.10

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