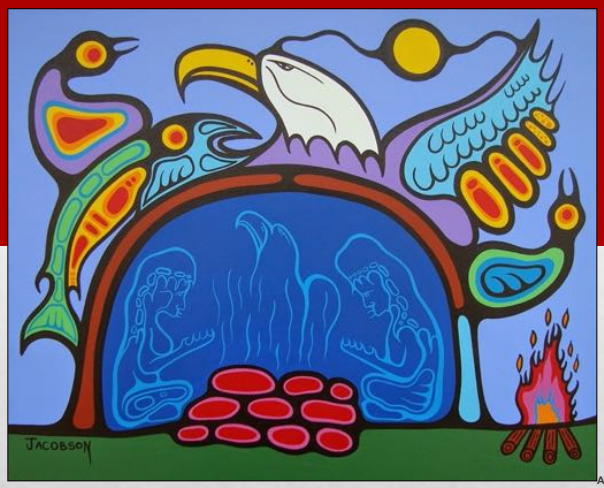
Introduction to Laboratory Operations



Artist: Marc Anthony Jacobson

CANADIAN HEALTH CARE AGENCY
EXPERIENCE THE NORTH

Module 6

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Through this module you will:

1. Learn how to perform daily and monthly point-of-care quality assurance testing
2. Develop knowledge of lab policy and procedure for general specimen collection and quality assurance practices
3. Obtain specific knowledge and skill of obtaining specimens, and which requisitions are used for:
   - Routine Blood work (onsite/ offsite)
   - Microbiology, Public Health
   - Oral Glucose Tolerance Testing (OGTT)
   - In-clinic testing: point of care tests
4. Transportation of Laboratory Specimens
5. Sexual Assault Evidence Kit

Learning Objectives

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Clinic Lab Facilities

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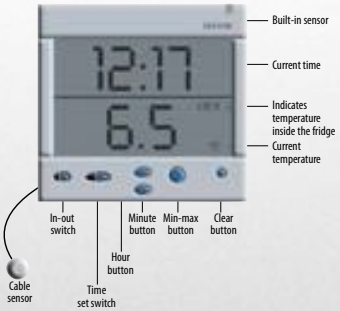
Vaccine Temperature Log Book

Month: January, 2011 Office/Facility: ABC Family Practice

Week 1	Mon		Tue		Wed		Thur		Fri		Sat		Sun	
Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Current Temp	5.8	7.0	3.4	5.6	5.7	6.8	3.2	5.3	5.3	5.2	7.0	6.5	6.0	6.7
Max Temp	6.8	6.5	6.0	6.8	6.7	7.1	10.4	6.9	6.3	6.4	5.6	5.2	4.5	5.5
Min Temp	3.4	3.5	2.9	3.3	3.4	4.0	2.5	3.0	-0.2	3.6	7.0	7.5	6.5	7.8
Initials	AB	AB	AA	AA	AA	AA	AA	AA	AA	AA	AB	AB	AB	AB
Week 2	Mon		Tue		Wed		Thur		Fri		Sat		Sun	



- Nurse on first call notes Maximum/Minimum temperatures twice daily: first thing in the morning, and at the end of the clinic day.
- Always reset your maximum/ minimum thermometer after recording the temperature readings.
- Out-of-Range temperatures – any temperature readings below +2ºC and/or above +8ºC must be reported to your public health unit immediately.

Vaccine Fridge Temperature Log

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- Daily calibration of several instruments done
- Performed prior to the start of clinic day.
- Generally done or delegated by the 1st nurse on call for that day
- All HemoCue and Blood Glucose Monitors in the clinic can be done at the same time.
- Once per month, a lab sample sent for correlation. (note on req and sample “QA”)
- Once per month, equipment should be cleaned.

Point of Care Quality Assurance

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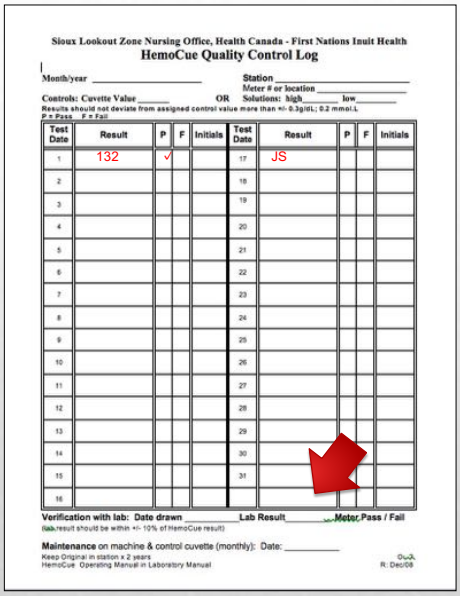


Sioux Lookout Zone Nursing Office, Health Canada - First Nations Inuit Health

HemoCue Quality Control Log

Month/year _____ Station _____

Meter # or location _____

Controls: Cuvette Value _____ OR Solutions: high _____ low _____

Results should not deviate from assigned control value more than +/- 0.3g/dL; 0.2 mmol/L

P = Pass F = Fail

Test Date	Result	P	F	Initials	Test Date	Result	P	F	Initials
1	132	✓			17	JS			
2					18				
3					19				
4					20				
5					21				
6					22				
7					23				
8					24				
9					25				
10					26				
11					27				
12					28				
13					29				
14					30				
15					31				
16									

Verification with lab: Date drawn _____ Lab Result_____ Meter Pass / Fail

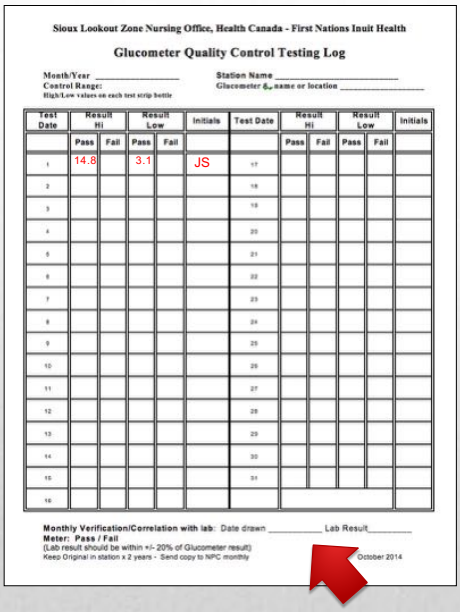
(lab result should be within +/- 10% of HemoCue result)

Maintenance on machine & control cuvette (monthly): Date: _____

Keep Original in station x 2 years

HemoCue Operating Manual in Laboratory Manual

R: Dec/08



Sioux Lookout Zone Nursing Office, Health Canada - First Nations Inuit Health

Glucometer Quality Control Testing Log

Month/Year _____ Station Name _____

Control Range: Glucometer &, name or location _____

High/Low values on each test strip bottle

Test Date	Result Hi		Result Low		Initials	Test Date	Result Hi		Result Low		Initials
	Pass	Fail	Pass	Fail			Pass	Fail	Pass	Fail	
1	14.8		3.1		JS	17					
2						18					
3						19					
4						20					
5						21					
6						22					
7						23					
8						24					
9						25					
10						26					
11						27					
12						28					
13						29					
14						30					
15						31					
16											

Monthly Verification/Correlation with lab: Date drawn _____ Lab Result_____

Meter: Pass / Fail

(Lab result should be within +/- 20% of Glucometer result)

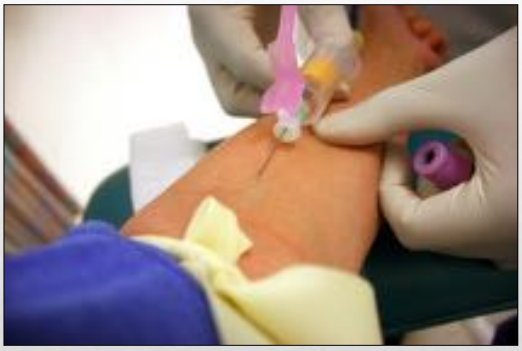
Keep Original in station x 2 years - Send copy to NPC monthly

October 2014

HemoCue and Glucose Quality Control Log (monthly)

6

- Blood work done in the morning, to ensure completion before afternoon flight.
- Fasting patients should be done first.
- Check the weather, and consult with NIC/ reception staff to find out of flights may be cancelled
- VacuTainer products used, exam rooms should be restocked on admin day.
- Straight needles preferred, as samples taken with butterfly needles are prone to hemolysis. (they remain available for use with patients who are 'difficult sticks')



Routine Bloodwork

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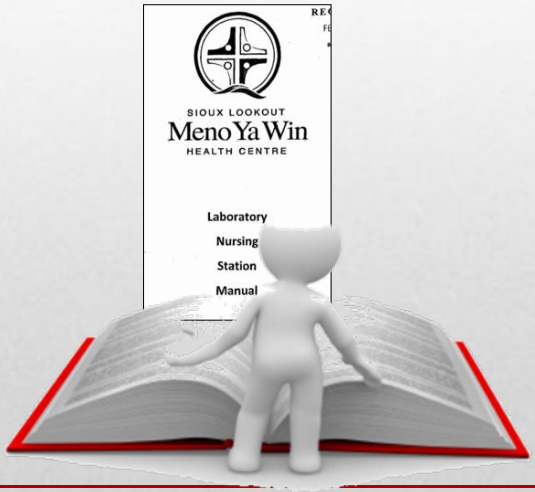
Lets take a look at the "Nursing Station Laboratory Manual"

AKA: Your "best friend"



Blood Work: Onsite / Offsite

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Blood Cultures
• Aerobic
• Anaerobic
Red
• Drug Levels, C-Peptide, PTH, some Public Health Labs
Light Blue
• PT/ INR, Heparin Assays, Factor assays, Proteins C and S, APCR, Anti-thrombin III, Anti-phospholipid
Gold SST
• LFT's, RFT's, Pancreatic Enzymes, Lipids, Vit B12, Ionized Ca, Ferritin, βhCG, Thyroid, MSS, ANA, Immunoglobulins, Mono, CRP, HepABC
Royal Blue (Plain)
• Copper, Zinc
Green Heparin
• Carboxy-hemoglobin, Methemoglobin
Royal Blue (EDTA)
• Arsenic, Mercury, Selenium, Manganese, Cadmium, Lead
Lavendar (EDTA)
• CBC + Diff, HbA1C, Antibody screen, Blood Group, Rh Genotype, Pre-Natal Screen, Folate, Sickle Cell, CD4 CD8, Cyclosporin, Tacrolimus
Grey
• Blood Alcohol, Glucose, GTT
Blood Work: Order of Draw
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VWR
https://www.youtube.com/watch?v=IhJNFGfsU_us
Centrifuge spins for 10 min at 3000 RPM
© CHCA RPN 2022
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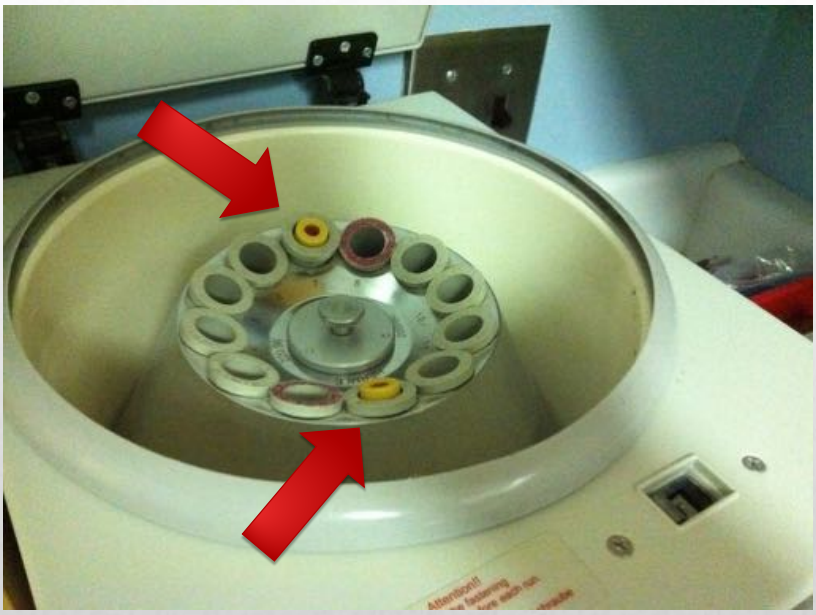

Remember to balance your tubes!

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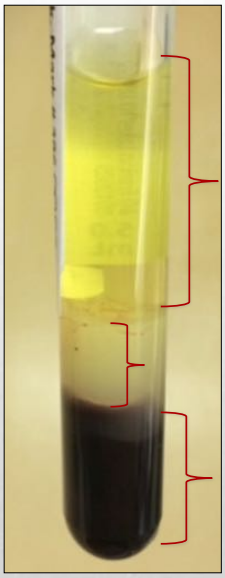
- All specimens transported as soon as possible: monitor for delays due to weather, and have patients return if needed
- Gold - SST specimens must first be allowed to clot vertically for 10-15 min; then centrifuged at 3000rpm for 10 min
- Avoid specimen exposure to light
- Keep tubes closed
- Volume must be sufficient – allow vacuum to pull blood volume into tube.
- Examine plasma and serum for red cells, which should be entirely separated by buffy coat layer
- Do not re-centrifuge – redraw specimen.
- **Pour- off serum or Pipette** into clear tube with white cap. Label this tube. Freeze or refrigerate if delay is expected.



Handling Serum/ Plasma (Sioux Lookout Zone)

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- **CBC** can be refrigerated 24-48hours without affecting cell counts or morphology
- **Coagulation:** must be received within 24 hours of venipuncture; **if delay**, then can be centrifuged and plasma separated and frozen (labeled PLASMA)
- **Chemistry:** separated serum/plasma shall not remain at room temperature for more than 8 hours. Samples must be stored at 4ºC or frozen in order to preserve the concentration of analytes.

Collection Guidelines

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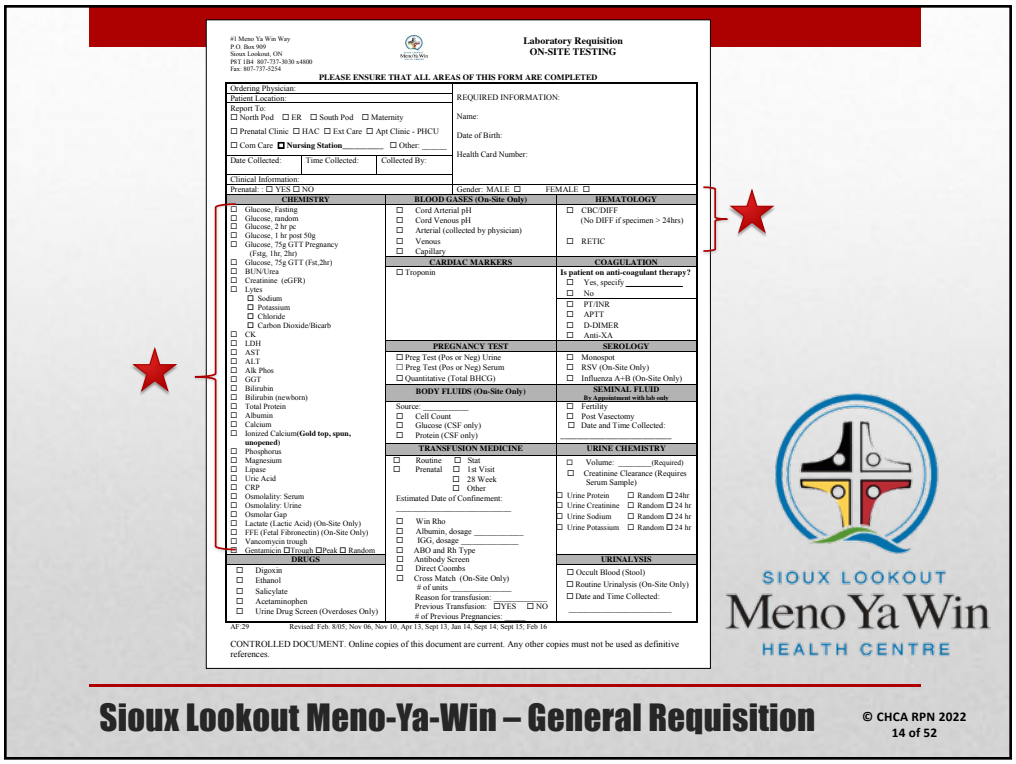

#1 Meno Ya Win Way
P.O. Box 909
Sioux Lookout, ON
PH T 1B4 807-737-3030 x4800
Fax: 807-737-5254

Laboratory Requisition
ON-SITE TESTING

PLEASE ENSURE THAT ALL AREAS OF THIS FORM ARE COMPLETED

Ordering Physician:
Patient Location:
Report To:
☐ North Pod ☐ ER ☐ South Pod ☐ Maternity
☐ Prenatal Clinic ☐ HAC ☐ Ext Care ☐ Apt Clinic - PHCU
☐ Com Care ☐ **Nursing Station**_____ ☐ Other: _____
Date Collected: | Time Collected: | Collected By:
Clinical Information:
Prenatal: ☐ YES ☐ NO

REQUIRED INFORMATION:
Name:
Date of Birth:
Health Card Number:
Gender: MALE ☐ FEMALE ☐

CHEMISTRY
☐ Glucose, Fasting
☐ Glucose, random
☐ Glucose, 2 hr pc
☐ Glucose, 1 hr post 50g
☐ Glucose, 75g GTT Pregnancy (Fstg, 1hr, 2hr)
☐ Glucose, 75g GTT (Fst,2hr)
☐ BUN/Urea
☐ Creatinine (eGFR)
☐ Lytes
☐ Sodium
☐ Potassium
☐ Chloride
☐ Carbon Dioxide/Bicarb
☐ CK
☐ LDH
☐ AST
☐ ALT
☐ Alk Phos
☐ GGT
☐ Bilirubin
☐ Bilirubin (newborn)
☐ Total Protein
☐ Albumin
☐ Calcium
☐ Ionized Calcium**(Gold top, spun, unopened)**
☐ Phosphorus
☐ Magnesium
☐ Lipase
☐ Uric Acid
☐ CRP
☐ Osmolality: Serum
☐ Osmolality: Urine
☐ Osmolar Gap
☐ Lactate (Lactic Acid) (On-Site Only)
☐ FFE (Fetal Fibronectin) (On-Site Only)
☐ Vancomycin trough
☐ Gentamicin ☐Trough ☐Peak ☐ Random

DRUGS
☐ Digoxin
☐ Ethanol
☐ Salicylate
☐ Acetaminophen
☐ Urine Drug Screen (Overdoses Only)

BLOOD GASES (On-Site Only)
☐ Cord Arterial pH
☐ Cord Venous pH
☐ Arterial (collected by physician)
☐ Venous
☐ Capillary

CARDIAC MARKERS
☐ Troponin

PREGNANCY TEST
☐ Preg Test (Pos or Neg) Urine
☐ Preg Test (Pos or Neg) Serum
☐ Quantitative (Total BHCG)

BODY FLUIDS (On-Site Only)
Source:_____
☐ Cell Count
☐ Glucose (CSF only)
☐ Protein (CSF only)

TRANSFUSION MEDICINE
☐ Routine ☐ Stat
☐ Prenatal ☐ 1st Visit
☐ 28 Week
☐ Other
Estimated Date of Confinement:
_____
☐ Wm Rho
☐ Albumin, dosage _____
☐ IGG, dosage _____
☐ ABO and Rh Type
☐ Antibody Screen
☐ Direct Coombs
☐ Cross Match (On-Site Only)
# of units: _____
Reason for transfusion: _____
Previous Transfusion: ☐YES ☐ NO
# of Previous Pregnancies: _____

HEMATOLOGY
☐ CBC/DIFF (No DIFF if specimen > 24hrs)
☐ RETIC

COAGULATION
Is patient on anti-coagulant therapy?
☐ Yes, specify _____
☐ No
☐ PT/INR
☐ APTT
☐ D-DIMER
☐ Anti-XA

SEROLOGY
☐ Monospot
☐ RSV (On-Site Only)
☐ Influenza A+B (On-Site Only)

SEMINAL FLUID
By Appointment with lab only
☐ Fertility
☐ Post Vasectomy
☐ Date and Time Collected:
_____

URINE CHEMISTRY
☐ Volume: _____(Required)
☐ Creatinine Clearance (Requires Serum Sample)
☐ Urine Protein ☐ Random ☐ 24hr
☐ Urine Creatinine ☐ Random ☐ 24 hr
☐ Urine Sodium ☐ Random ☐ 24 hr
☐ Urine Potassium ☐ Random ☐ 24 hr

URINALYSIS
☐ Occult Blood (Stool)
☐ Routine Urinalysis (On-Site Only)
☐ Date and Time Collected:
_____

AF:29 Revised: Feb. 8/05; Nov 06, Nov 10, Apr 13, Sept 13, Jan 14, Sept 14; Sept 15; Feb 16

CONTROLLED DOCUMENT. Online copies of this document are current. Any other copies must not be used as definitive references.

SIOUX LOOKOUT
Meno Ya Win
HEALTH CENTRE

Sioux Lookout Meno-Ya-Win – General Requisition

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Prenatal: ☐ YES ☐ NO

CHEMISTRY
☐ Glucose, Fasting
☐ Glucose, random
☐ Glucose, 2 hr pc
☐ Glucose, 1 hr post 50g
☐ Glucose, 75g GTT Pregnancy (Fstg, 1hr, 2hr)
☐ Glucose, 75g GTT (Fst,2hr)
☐ BUN/Urea
☐ Creatinine (eGFR)
☐ Lytes
☐ Sodium
☐ Potassium
☐ Chloride
☐ Carbon Dioxide/Bicarb
☐ CK
☐ LDH
☐ AST
☐ ALT
☐ Alk Phos
☐ GGT
☐ Bilirubin
☐ Bilirubin (newborn)
☐ Total Protein
☐ Albumin
☐ Calcium
☐ Ionized Calcium**(Gold top, spun, unopened)**
☐ Phosphorus
☐ Magnesium
☐ Lipase
☐ Uric Acid
☐ CRP
☐ Osmolality: Serum
☐ Osmolality: Urine
☐ Osmolar Gap
☐ Lactate (Lactic Acid) (On-Site Only)
☐ FFE (Fetal Fibronectin) (On-Site Only)
☐ Vancomycin trough
☐ Gentamicin ☐Trough ☐Peak ☐ Random

HEMATOLOGY
☐ CBC/DIFF (No DIFF if specimen > 24hrs)
☐ RETIC
COAGULATION
Is patient on anti-coagulant therapy?
☐ Yes, specify _____
☐ No
☐ PT/INR
☐ APTT
☐ D-DIMER
☐ Anti-XA

Meno-Ya-Win Requisition

- Tests done in Sioux Lookout
- Run in-hospital
- Cheaper than sending to Life Labs or provincial labs

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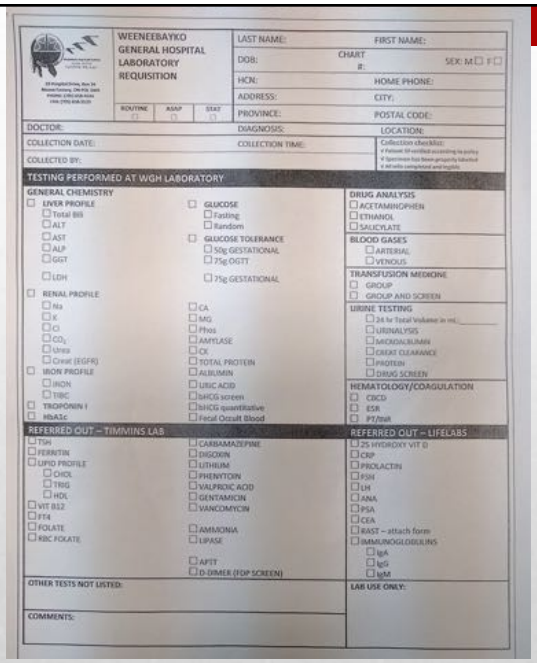
WEENEEBAYKO GENERAL HOSPITAL LABORATORY REQUISITION

LAST NAME: FIRST NAME:
DOB: CHART #: SEX: M☐ F☐
HCN: HOME PHONE:
ADDRESS: CITY:
PROVINCE: POSTAL CODE:
ROUTINE ☐ ASAP ☐ STAT ☐
DOCTOR: DIAGNOSIS: LOCATION:
COLLECTION DATE: COLLECTION TIME:
COLLECTED BY:

TESTING PERFORMED AT WGH LABORATORY

GENERAL CHEMISTRY
☐ LIVER PROFILE: Total Bili, ALT, AST, ALP, GGT, LDH
☐ RENAL PROFILE: Na, K, Cl, CO_2, Urea, Creat (EGFR)
☐ IRON PROFILE: IRON, TIBC
☐ TROPONIN I
☐ HbA1c
☐ GLUCOSE: Fasting, Random
☐ GLUCOSE TOLERANCE: 50g GESTATIONAL, 75g OGTT, 75g GESTATIONAL
Ca, Mg, Phos, AMYLASE, CK, TOTAL PROTEIN, ALBUMIN, URIC ACID, bHCG screen, bHCG quantitative, Fecal Occult Blood

DRUG ANALYSIS: ACETAMINOPHEN, ETHANOL, SALICYLATE
BLOOD GASES: ARTERIAL, VENOUS
TRANSFUSION MEDICINE: GROUP, GROUP AND SCREEN
URINE TESTING: 24 hr Total Volume in mL, URINALYSIS, MICROALBUMIN, CREAT CLEARANCE, PROTEIN, DRUG SCREEN
HEMATOLOGY/COAGULATION: CBCD, ESR, PT/INR

REFERRED OUT – TIMMINS LAB
TSH, FERRITIN, LIPID PROFILE: CHOL, TRIG, HDL, VIT B12, FT4, FOLATE, RBC FOLATE
CARBAMAZEPINE, DIGOXIN, LITHIUM, PHENYTOIN, VALPROIC ACID, GENTAMICIN, VANCOMYCIN, AMMONIA, LIPASE, APTT, D-DIMER (FDP SCREEN)

REFERRED OUT – LIFELABS
25 HYDROXY VIT D, CRP, PROLACTIN, FSH, LH, ANA, PSA, CEA, RAST – attach form, IMMUNOGLOBULINS: IgA, IgG, IgM

OTHER TESTS NOT LISTED:
COMMENTS:
LAB USE ONLY:

Moose Factory Weeneebayko – General Requisition

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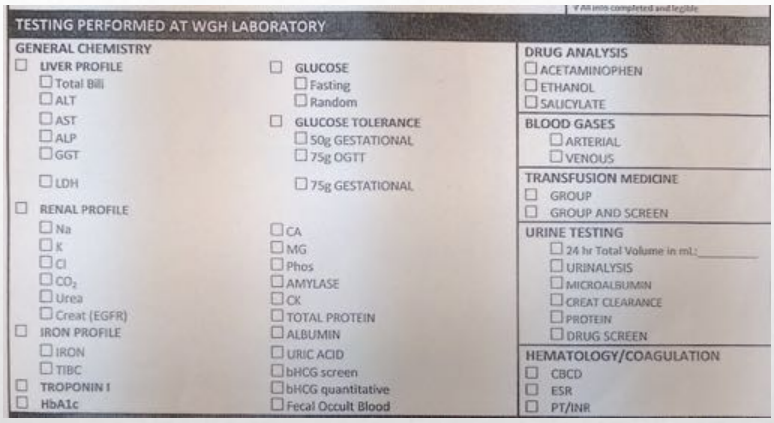

TESTING PERFORMED AT WGH LABORATORY

All info completed and legible

GENERAL CHEMISTRY

- LIVER PROFILE: Total Bili, ALT, AST, ALP, GGT, LDH
- RENAL PROFILE: Na, K, Cl, CO_2, Urea, Creat (EGFR)
- IRON PROFILE: IRON, TIBC
- TROPONIN I
- HbA1c
- GLUCOSE: Fasting, Random
- GLUCOSE TOLERANCE: 50g GESTATIONAL, 75g OGTT, 75g GESTATIONAL
- CA, MG, Phos, AMYLASE, CK, TOTAL PROTEIN, ALBUMIN, URIC ACID, bHCG screen, bHCG quantitative, Fecal Occult Blood

DRUG ANALYSIS: ACETAMINOPHEN, ETHANOL, SALICYLATE

BLOOD GASES: ARTERIAL, VENOUS

TRANSFUSION MEDICINE: GROUP, GROUP AND SCREEN

URINE TESTING: 24 hr Total Volume in mL:_____, URINALYSIS, MICROALBUMIN, CREAT CLEARANCE, PROTEIN, DRUG SCREEN

HEMATOLOGY/COAGULATION: CBCD, ESR, PT/INR

Weeneebayko Requisition

- Tests done in Moose Factory
- Run in-hospital
- Cheaper than sending to Life Labs or Provincial labs

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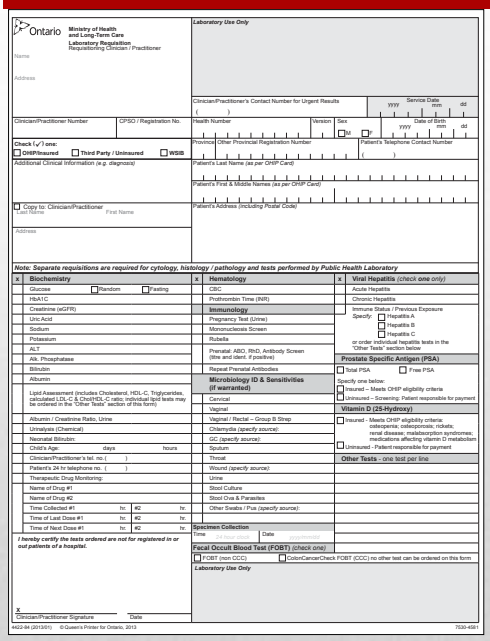

Ontario — Ministry of Health and Long-Term Care
Laboratory Requisition
Requisitioning Clinician / Practitioner

Laboratory Use Only

Name
Address

Clinician/Practitioner Number | CPSO / Registration No. | Clinician/Practitioner's Contact Number for Urgent Results | Service Date

Health Number | Version | Sex | Date of Birth

Check (✓) one: OHIP-Insured | Third Party / Uninsured | WSIB

Province | Other Provincial Registration Number | Patient's Telephone Contact Number

Additional Clinical Information (e.g. diagnosis)

Patient's Last Name (as per OHIP Card)

Patient's First & Middle Names (as per OHIP Card)

Copy to: Clinician/Practitioner — Last Name, First Name

Patient's Address (including Postal Code)

Address

Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory

x	Biochemistry
	Glucose ☐Random ☐Fasting
	HbA1C
	Creatinine (eGFR)
	Uric Acid
	Sodium
	Potassium
	ALT
	Alk. Phosphatase
	Bilirubin
	Albumin
	Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form):
	Albumin / Creatinine Ratio, Urine
	Urinalysis (Chemical)
	Neonatal Bilirubin:
	Child's Age: days hours
	Clinician/Practitioner's tel. no. ( )
	Patient's 24 hr telephone no. ( )
	Therapeutic Drug Monitoring:
	Name of Drug #1
	Name of Drug #2
	Time Collected #1 hr. #2 hr.
	Time of Last Dose #1 hr. #2 hr.
	Time of Next Dose #1 hr. #2 hr.

I hereby certify the tests ordered are not for registered in or out patients of a hospital.

X Clinician/Practitioner Signature | Date

x	Hematology
	CBC
	Prothrombin Time (INR)
	Immunology
	Pregnancy Test (Urine)
	Monounclaesis Screen
	Rubella
	Prenatal: ABO, Rh(D), Antibody Screen (titre and ident. if positive)
	Repeat Prenatal Antibodies
	Microbiology ID & Sensitivities (if warranted)
	Cervical
	Vaginal
	Vaginal / Rectal – Group B Strep
	Chlamydia (specify source):
	GC (specify source):
	Sputum
	Throat
	Wound (specify source):
	Urine
	Stool Culture
	Stool Ova & Parasites
	Other Swabs / Pus (specify source):

Specimen Collection: Time | Date

Fecal Occult Blood Test (FOBT) (check one): ☐FOBT (non CCC) ☐ColonCancerCheck FOBT (CCC) no other test can be ordered on this form

Laboratory Use Only

x	Viral Hepatitis (check one only)
	Acute Hepatitis
	Chronic Hepatitis
	Immune Status / Previous Exposure Specify: ☐Hepatitis A ☐Hepatitis B ☐Hepatitis C or order individual hepatitis tests in the "Other Tests" section below
	Prostate Specific Antigen (PSA)
	☐Total PSA ☐Free PSA
	Specify one below: ☐Insured – Meets OHIP eligibility criteria ☐Uninsured – Screening: Patient responsible for payment
	Vitamin D (25-Hydroxy)
	☐Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism ☐Uninsured - Patient responsible for payment
	Other Tests - one test per line

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Ministry Requisition

- Only used for those tests not found on SL or MF req's.
- Most common: HbA1C, Ferritin, Iron studies, Vitamin B12 and Lipids/ Cholesterol.
- Can also write in tests under "other" (eg. If ordered by rheumatology pre-follow up visit)

LifeLabs – Ministry Req

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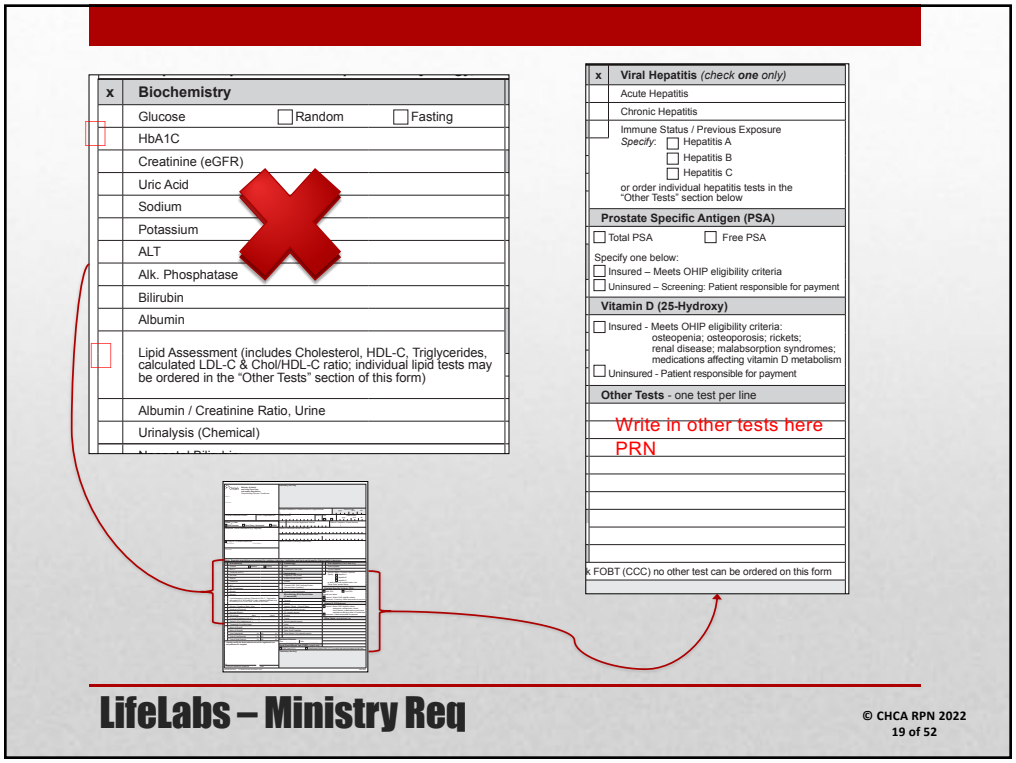
x Biochemistry
Glucose Random Fasting
HbA1C
Creatinine (eGFR)
Uric Acid
Sodium
Potassium
ALT
Alk. Phosphatase
Bilirubin
Albumin
Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)
Albumin / Creatinine Ratio, Urine
Urinalysis (Chemical)
x Viral Hepatitis (check one only)
Acute Hepatitis
Chronic Hepatitis
Immune Status / Previous Exposure
Specify: Hepatitis A Hepatitis B Hepatitis C
or order individual hepatitis tests in the "Other Tests" section below
Prostate Specific Antigen (PSA)
Total PSA Free PSA
Specify one below:
Insured – Meets OHIP eligibility criteria
Uninsured – Screening: Patient responsible for payment
Vitamin D (25-Hydroxy)
Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism
Uninsured - Patient responsible for payment
Other Tests - one test per line
Write in other tests here
PRN
x FOBT (CCC) no other test can be ordered on this form
LifeLabs – Ministry Req
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• Select an early time in the morning to begin
• Empty bladder and discard the urine; document date and time
• From this point on for 24 hrs, ALL urine is to be saved into the container provided
• At the end of 24 hrs, empty bladder into container; document date and time
• Container should be kept at refrigeration temperature during entire collection time
• Sample placed into orange top container and refrigerated.
• Record patient weight and in some cases obtain serum creatinine level
24 Hr Urine Specimen
© CHCA RPN 2022
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20

- Provide labeled collection cup
- Collect or have client collect specimen
- Label the Urine Preservative Tube (UPT seen on the right, red top)
- Transfer urine using sterile pipette or syringe/needle up to fill window/ line
- Close and invert 3-4 times to ensure reagent mixes with urine
- **Routine urinalysis**: will be accepted up to 4 hours after time of collection
- **Urine culture:** will be accepted up to 24 hours from time of collection if refrigerated

Urine Culture & Sensitivity

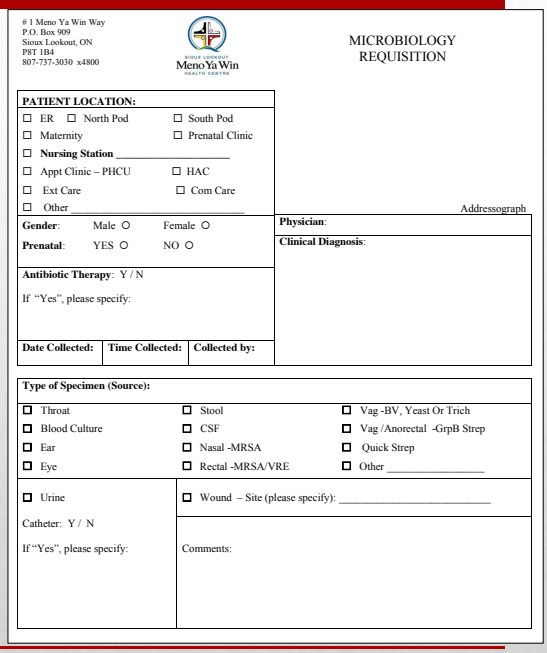
21 of 21

21

Meno-Ya-Win

- General Microbiology
- Urine
- Throat swabs
- Wound Swabs
- Vag – BV/ Yeast

- Make sure to note if you started the pt. on antibiotics and which under "comments"



1 Meno Ya Win Way
P.O. Box 909
Sioux Lookout, ON
P8T 1B4
807-737-3030 x4800

Meno Ya Win HEALTH CENTRE

MICROBIOLOGY REQUISITION

PATIENT LOCATION:

☐ ER ☐ North Pod ☐ South Pod
☐ Maternity ☐ Prenatal Clinic
☐ **Nursing Station** _____
☐ Appt Clinic – PHCU ☐ HAC
☐ Ext Care ☐ Com Care
☐ Other _____

Addressograph

Gender: Male ○ Female ○
Prenatal: YES ○ NO ○

Physician:
Clinical Diagnosis:

Antibiotic Therapy: Y / N
If "Yes", please specify:

Date Collected:	**Time Collected:**	**Collected by:**

Type of Specimen (Source):

☐ Throat	☐ Stool	☐ Vag -BV, Yeast Or Trich
☐ Blood Culture	☐ CSF	☐ Vag /Anorectal -GrpB Strep
☐ Ear	☐ Nasal -MRSA	☐ Quick Strep
☐ Eye	☐ Rectal -MRSA/VRE	☐ Other _____

☐ Urine
Catheter: Y / N
If "Yes", please specify:

☐ Wound – Site (please specify): _____
Comments:

Microbiology

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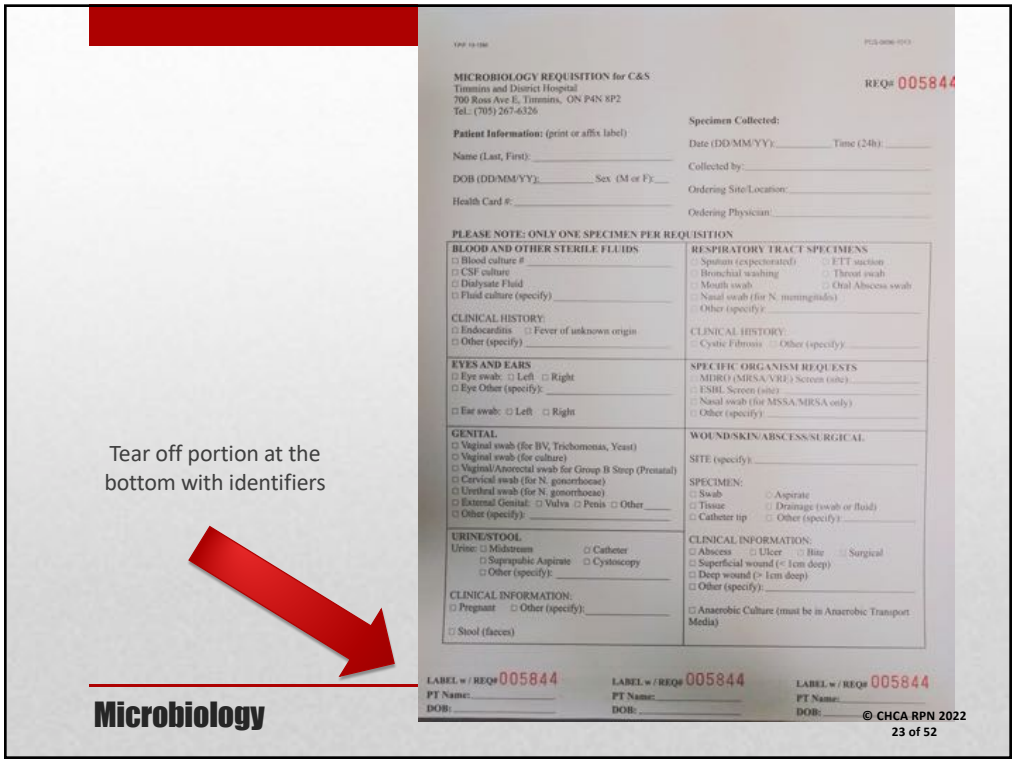
22


Tear off portion at the bottom with identifiers
MICROBIOLOGY REQUISITION for C&S
Timmins and District Hospital
700 Ross Ave E, Timmins, ON P4N 8P2
Tel.: (705) 267-6326
REQ# 005844
Patient Information: (print or affix label)
Specimen Collected:
PLEASE NOTE: ONLY ONE SPECIMEN PER REQUISITION
BLOOD AND OTHER STERILE FLUIDS
RESPIRATORY TRACT SPECIMENS
EYES AND EARS
SPECIFIC ORGANISM REQUESTS
GENITAL
WOUND/SKIN/ABSCESS/SURGICAL
URINE/STOOL
CLINICAL INFORMATION
LABEL w / REQ# 005844
PT Name:
DOB:
Microbiology
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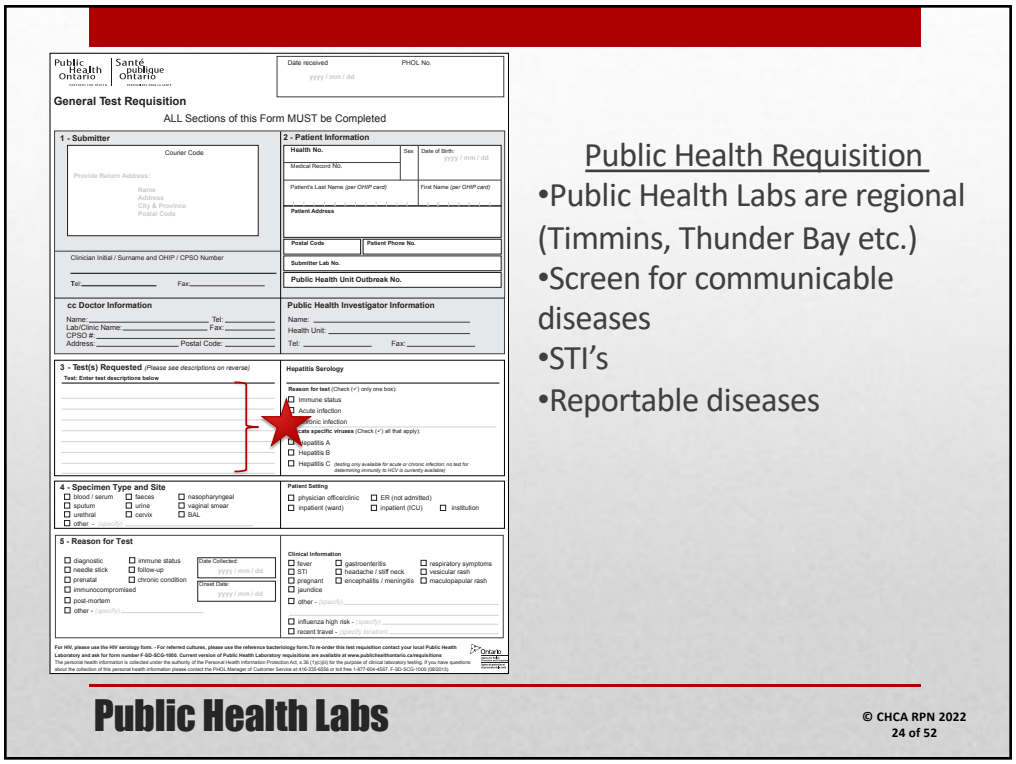
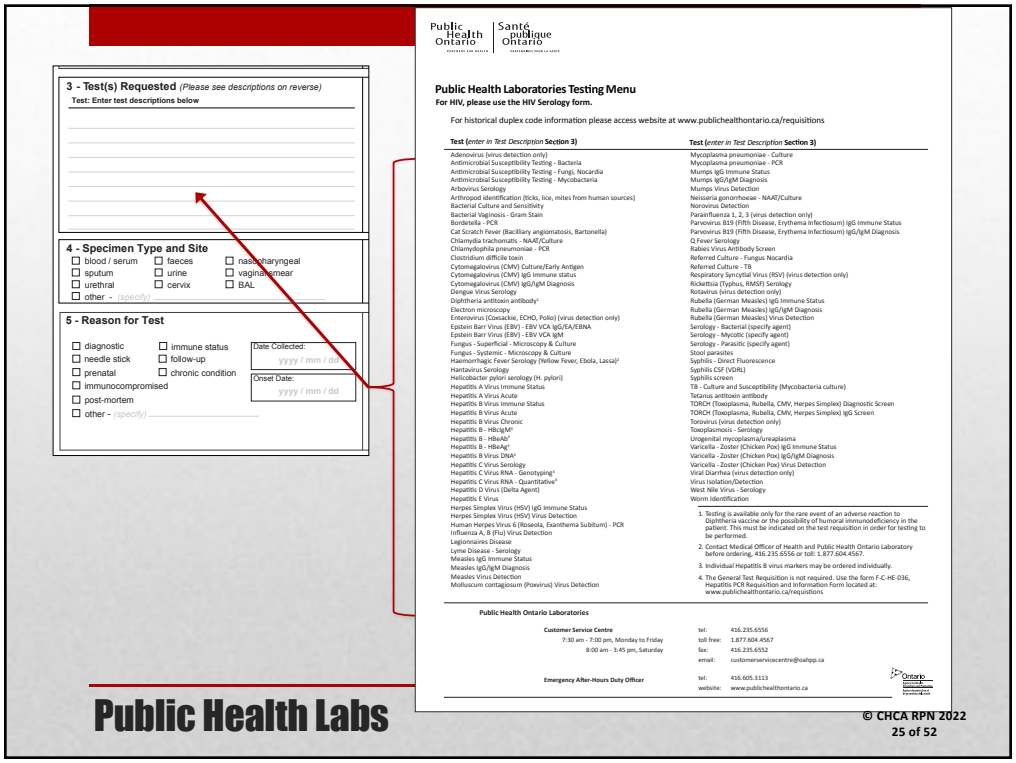
23


Public Health Ontario
Santé publique Ontario
General Test Requisition
ALL Sections of this Form MUST be Completed
1 - Submitter
2 - Patient Information
3 - Test(s) Requested
4 - Specimen Type and Site
5 - Reason for Test
Public Health Requisition
•Public Health Labs are regional (Timmins, Thunder Bay etc.)
•Screen for communicable diseases
•STI's
•Reportable diseases
Public Health Labs
© CHCA RPN 2022
24 of 52

24


3 - Test(s) Requested (Please see descriptions on reverse)
Test: Enter test descriptions below
4 - Specimen Type and Site
blood / serum
sputum
urethral
other - (specify)
faeces
urine
cervix
nasopharyngeal
vaginal smear
BAL
5 - Reason for Test
diagnostic
needle stick
prenatal
immunocompromised
post-mortem
other - (specify)
immune status
follow-up
chronic condition
Date Collected:
yyyy / mm / dd
Onset Date:
yyyy / mm / dd
Public Health Ontario
Santé publique Ontario
Public Health Laboratories Testing Menu
For HIV, please use the HIV Serology form.
For historical duplex code information please access website at www.publichealthontario.ca/requisitions
Test (enter in Test Description Section 3)
Adenovirus (virus detection only)
Antimicrobial Susceptibility Testing - Bacteria
Antimicrobial Susceptibility Testing - Fungi, Nocardia
Antimicrobial Susceptibility Testing - Mycobacteria
Arbovirus Serology
Arthropod identification (ticks, lice, mites from human sources)
Bacterial Culture and Sensitivity
Bacterial Vaginosis - Gram Stain
Bordetella - PCR
Cat Scratch Fever (Bacillary angiomatosis, Bartonella)
Chlamydia trachomatis - NAAT/Culture
Chlamydophila pneumoniae - PCR
Clostridium difficile toxin
Cytomegalovirus (CMV) Culture/Early Antigen
Cytomegalovirus (CMV) IgG Immune status
Cytomegalovirus (CMV) IgG/IgM Diagnosis
Dengue Virus Serology
Diphtheria antitoxin antibody[1]
Electron microscopy
Enterovirus (Coxsackie, ECHO, Polio) (virus detection only)
Epstein Barr Virus (EBV) - EBV VCA IgG/EA/EBNA
Epstein Barr Virus (EBV) - EBV VCA IgM
Fungus - Superficial - Microscopy & Culture
Fungus - Systemic - Microscopy & Culture
Haemorrhagic Fever Serology (Yellow Fever, Ebola, Lassa)[2]
Hantavirus Serology
Helicobacter pylori serology (H. pylori)
Hepatitis A Virus Immune Status
Hepatitis A Virus Acute
Hepatitis B Virus Immune Status
Hepatitis B Virus Acute
Hepatitis B Virus Chronic
Hepatitis B - HBcIgM[3]
Hepatitis B - HBeAb[3]
Hepatitis B - HBeAg[3]
Hepatitis B Virus DNA[3]
Hepatitis C Virus Serology
Hepatitis C Virus RNA - Genotyping[4]
Hepatitis C Virus RNA - Quantitative[4]
Hepatitis D Virus (Delta Agent)
Hepatitis E Virus
Herpes Simplex Virus (HSV) IgG Immune Status
Herpes Simplex Virus (HSV) Virus Detection
Human Herpes Virus 6 (Roseola, Exanthema Subitum) - PCR
Influenza A, B (Flu) Virus Detection
Legionnaires Disease
Lyme Disease - Serology
Measles IgG Immune Status
Measles IgG/IgM Diagnosis
Measles Virus Detection
Molluscum contagiosum (Poxvirus) Virus Detection
Mycoplasma pneumoniae - Culture
Mycoplasma pneumoniae - PCR
Mumps IgG Immune Status
Mumps IgG/IgM Diagnosis
Mumps Virus Detection
Neisseria gonorrhoeae - NAAT/Culture
Norovirus Detection
Parainfluenza 1, 2, 3 (virus detection only)
Parvovirus B19 (Fifth Disease, Erythema Infectiosum) IgG Immune Status
Parvovirus B19 (Fifth Disease, Erythema Infectiosum) IgG/IgM Diagnosis
Q Fever Serology
Rabies Virus Antibody Screen
Referred Culture - Fungus Nocardia
Referred Culture - TB
Respiratory Syncytial Virus (RSV) (virus detection only)
Rickettsia (Typhus, RMSF) Serology
Rotavirus (virus detection only)
Rubella (German Measles) IgG Immune Status
Rubella (German Measles) IgG/IgM Diagnosis
Rubella (German Measles) Virus Detection
Serology - Bacterial (specify agent)
Serology - Mycotic (specify agent)
Serology - Parasitic (specify agent)
Stool parasites
Syphilis - Direct Fluorescence
Syphilis CSF (VDRL)
Syphilis screen
TB - Culture and Susceptibility (Mycobacteria culture)
Tetanus antitoxin antibody
TORCH (Toxoplasma, Rubella, CMV, Herpes Simplex) Diagnostic Screen
TORCH (Toxoplasma, Rubella, CMV, Herpes Simplex) IgG Screen
Torovirus (virus detection only)
Toxoplasmosis - Serology
Urogenital mycoplasma/ureaplasma
Varicella - Zoster (Chicken Pox) IgG Immune Status
Varicella - Zoster (Chicken Pox) IgG/IgM Diagnosis
Varicella - Zoster (Chicken Pox) Virus Detection
Viral Diarrhea (virus detection only)
Virus Isolation/Detection
West Nile Virus - Serology
Worm Identification
1. Testing is available only for the rare event of an adverse reaction to Diphtheria vaccine or the possibility of humoral immunodeficiency in the patient. This must be indicated on the test requisition in order for testing to be performed.
2. Contact Medical Officer of Health and Public Health Ontario Laboratory before ordering, 416.235.6556 or toll: 1.877.604.4567.
3. Individual Hepatitis B virus markers may be ordered individually.
4. The General Test Requisition is not required. Use the form F-C-HE-036, Hepatitis PCR Requisition and Information Form located at: www.publichealthontario.ca/requisitions
Public Health Ontario Laboratories
Customer Service Centre
7:30 am - 7:00 pm, Monday to Friday
8:00 am - 3:45 pm, Saturday
tel: 416.235.6556
toll free: 1.877.604.4567
fax: 416.235.6552
email: customerservicecentre@oahpp.ca
Emergency After-Hours Duty Officer
tel: 416.605.3113
website: www.publichealthontario.ca
Public Health Labs
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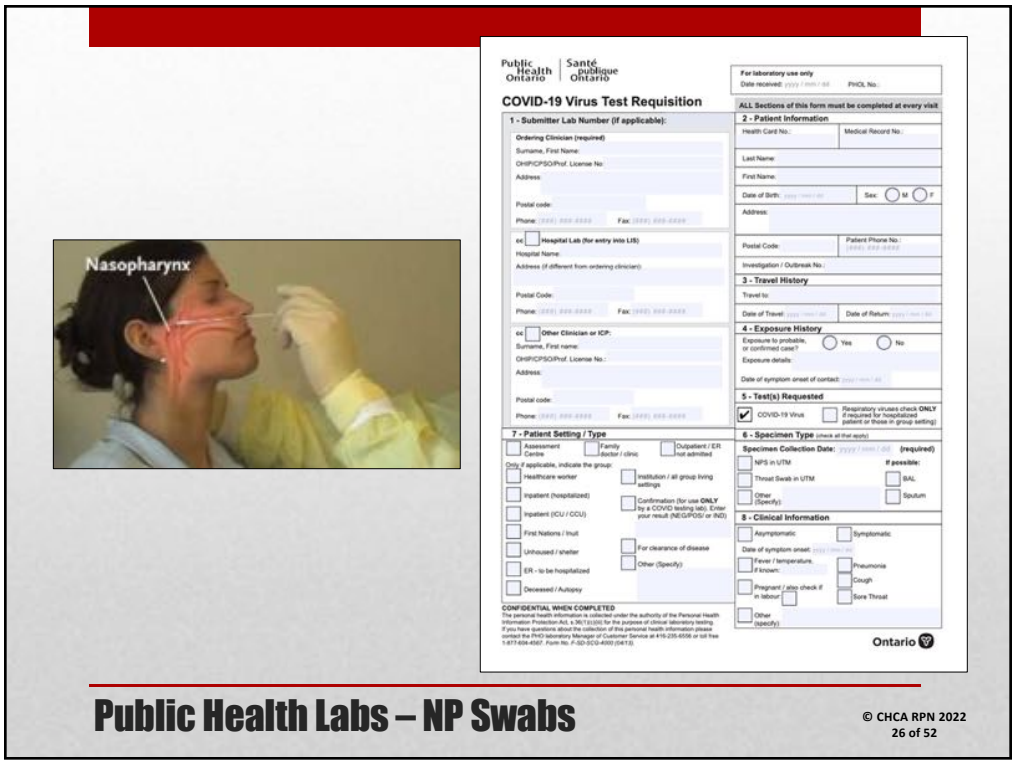
Nasopharynx
Public Health Ontario
Santé publique Ontario
COVID-19 Virus Test Requisition
For laboratory use only
Date received:
PHOL No.:
ALL Sections of this form must be completed at every visit
1 - Submitter Lab Number (if applicable):
Ordering Clinician (required)
Surname, First Name:
CPSO/CPSO/Prof. License No:
Address:
Postal code:
Phone:
Fax:
OR Hospital Lab (for entry into LIS)
Hospital Name:
Address (if different from ordering clinician):
Postal Code:
Phone:
Fax:
OR Other Clinician or ICP:
Surname, First name:
CPSO/CPSO/Prof. License No.:
Address:
Postal code:
Phone:
Fax:
2 - Patient Information
Health Card No.:
Medical Record No.:
Last Name:
First Name:
Date of Birth:
Sex: M F
Address:
Postal Code:
Patient Phone No.:
Investigation / Outbreak No.:
3 - Travel History
Travel to:
Date of Travel:
Date of Return:
4 - Exposure History
Exposure to probable, or confirmed case?
Yes
No
Exposure details:
Date of symptom onset of contact:
5 - Test(s) Requested
COVID-19 Virus
Respiratory viruses check ONLY if required for hospitalized patient or those in group setting)
6 - Specimen Type (check all that apply)
Specimen Collection Date:
(required)
NPS in UTM
Throat Swab in UTM
Other (Specify):
If possible:
BAL
Sputum
7 - Patient Setting / Type
Assessment Centre
Family doctor / clinic
Outpatient / ER - not admitted
Only if applicable, indicate the group:
Healthcare worker
Institution / all group living settings
Inpatient (hospitalized)
Confirmation (for use ONLY by a COVID testing lab). Enter your result (NEG/POS/ or IND)
Inpatient (ICU / CCU)
First Nations / Inuit
Unhoused / shelter
For clearance of disease
Other (Specify)
ER - to be hospitalized
Deceased / Autopsy
8 - Clinical Information
Asymptomatic
Symptomatic
Date of symptom onset:
Fever / temperature, if known:
Pneumonia
Cough
Pregnant / also check if in labour
Sore Throat
Other (specify):
CONFIDENTIAL WHEN COMPLETED
Ontario
Public Health Labs – NP Swabs
© CHCA RPN 2022
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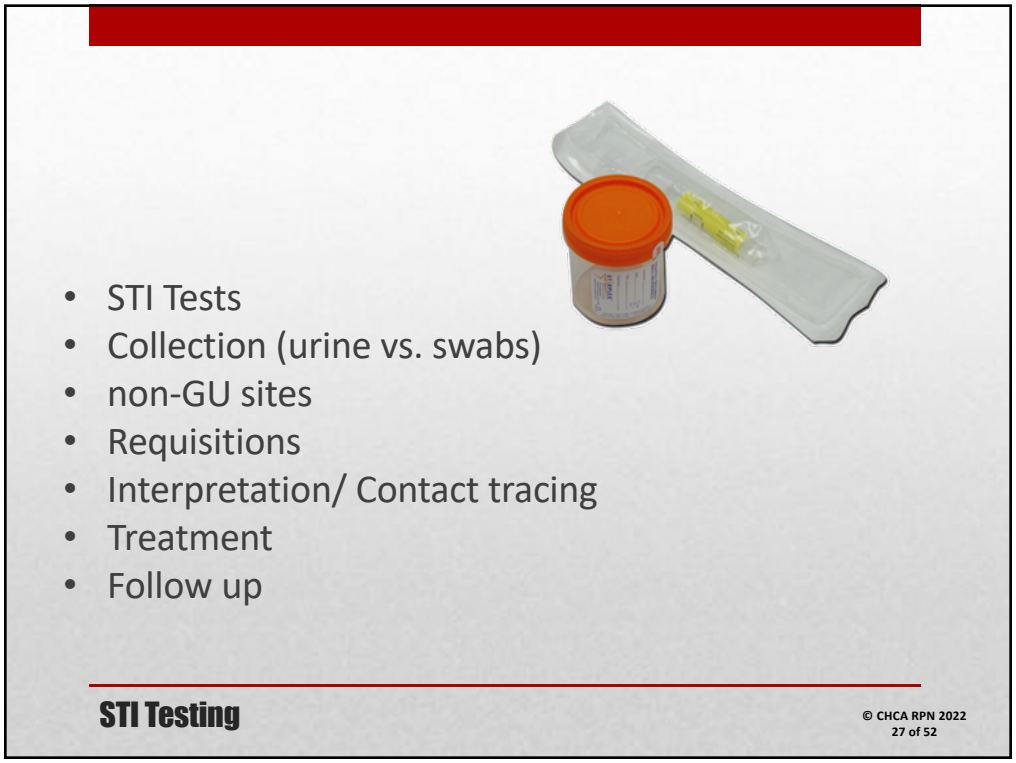
• STI Tests
• Collection (urine vs. swabs)
• non-GU sites
• Requisitions
• Interpretation/ Contact tracing
• Treatment
• Follow up
STI Testing
© CHCA RPN 2022
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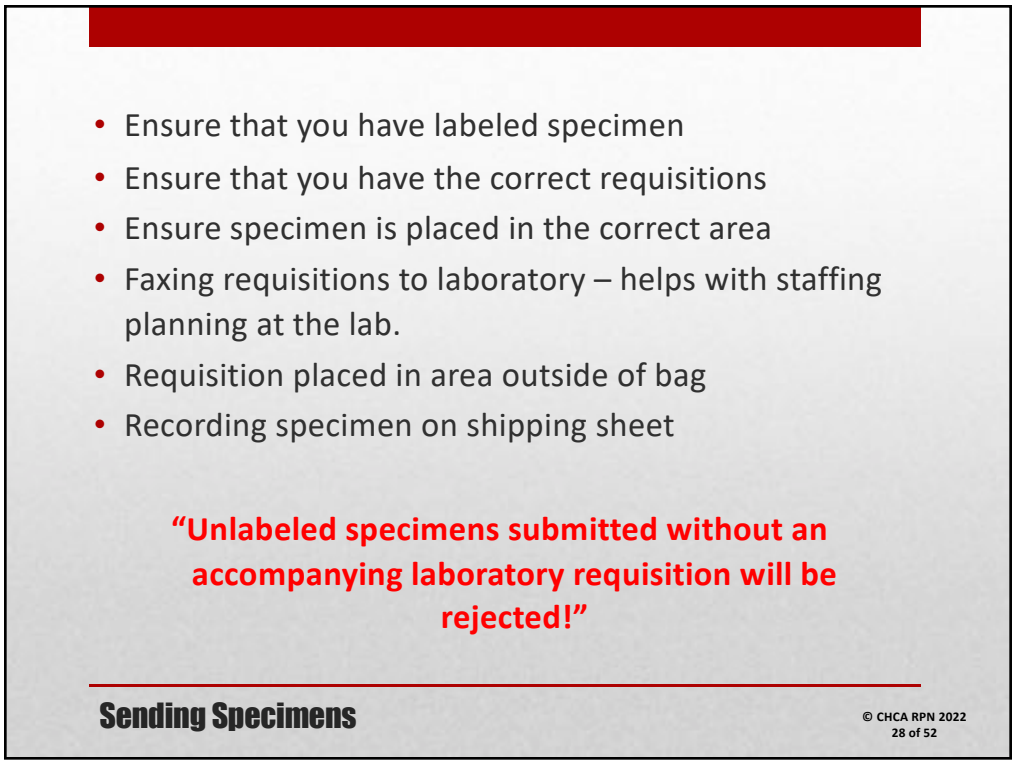
• Ensure that you have labeled specimen
• Ensure that you have the correct requisitions
• Ensure specimen is placed in the correct area
• Faxing requisitions to laboratory – helps with staffing planning at the lab.
• Requisition placed in area outside of bag
• Recording specimen on shipping sheet
"Unlabeled specimens submitted without an accompanying laboratory requisition will be rejected!"
Sending Specimens
© CHCA RPN 2022
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- Specimen volume inadequate
- Specimens stored improperly
- Specimens not properly mixed
- Grossly haemolysed
- Excessive delay
- Leaking/contaminated
- Improper client preparation
- Unsuitable specimen for type of request

Common Problems/ Reasons for Rejection

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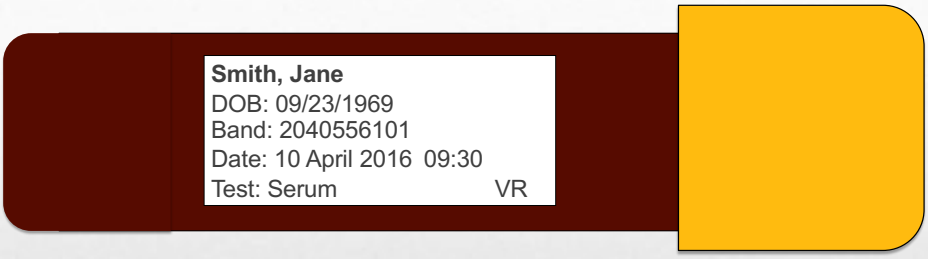

- 3 identifiers
- Today's date/ time
- Identify test or specimen
- Your initials

Labeling Specimens

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30

- FAX one requisition per patient to the lab (helps with staffing planning)
- Tally the number of specimen tubes you have (blood/ serum/ urine/ etc.)
- Record number on transport tally sheets x2
- Ensure absorbent sheet in each bag.
- Combine all tubes from the same requisition into one bag, fold req with patient identifiers visible, and place in outside pocket.
- If specimen must be kept frozen (eg. INR), complete a separate requisition for this test and package separately
- Place specimens into Tyvec envelope for transport.

Bagging Specimens

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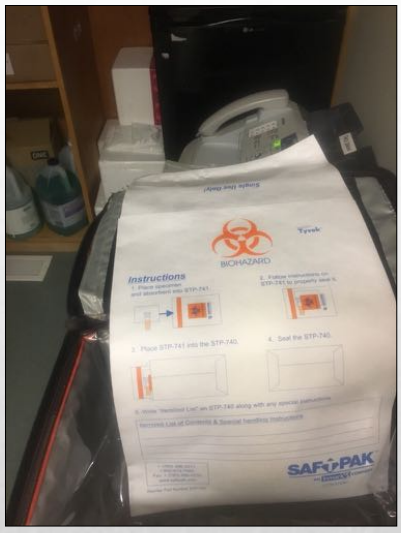

1. All sealed bagged specimens go into the Saf-T-Pak (leak proof) envelope, then into the lab cooler bag.

Transportation of Lab Specimens

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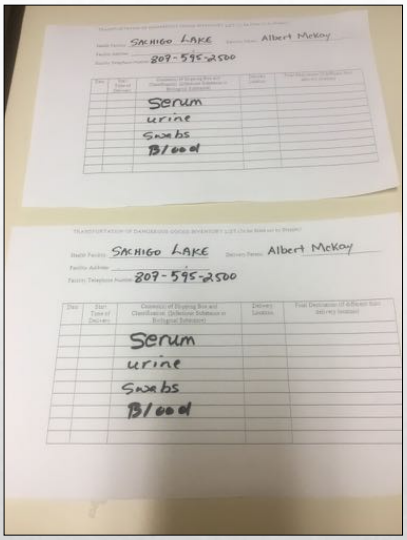

2. Tally sheet for lab bag (2 copies per bag)
3. Make sure to tally each serum/ blood tube, urine container and swab in duplicate.

Transportation of Lab Specimens

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4. One copy of tally sheet goes inside the lab cooler, the second copy goes in the pocket on the outside of the lab bag.
5. Sealed white envelope goes into the lab bag, and zippers get zip-tied shut.

Transportation of Lab Specimens

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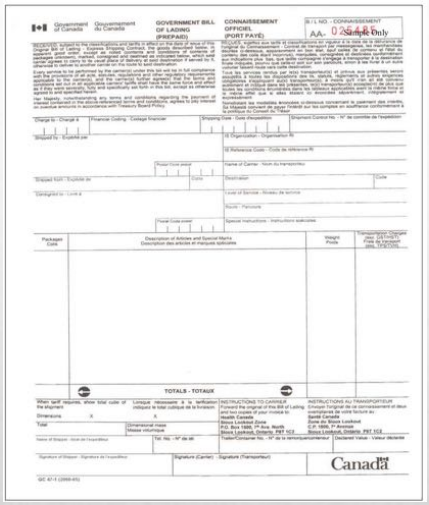

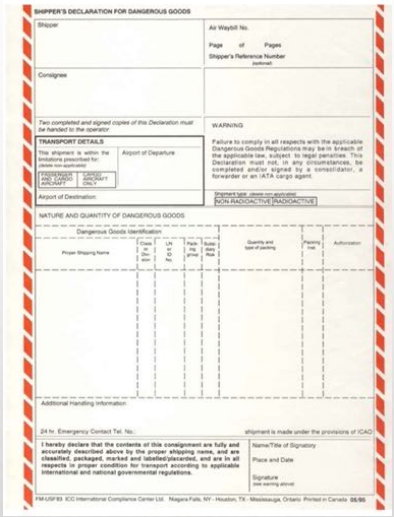

6. Government Bill of Lading and Shipper's Declaration of Dangerous Goods forms – completed by authorized person (usually NIC or Medical Driver)

Transportation of Lab Specimens

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Point-of-Care Collection Procedures

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- Rapid Strep Throat Swabs
- i-Stat machine*
- Capillary Blood Glucose
- Urine Analysis
- Pregnancy Testing
- Hemoglobin
- Urine Drug Screening*
- H. Pylori
- Troponin*

*require a consult and order from MD/NP.

Point of Care Tests

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- Lancet – fingerpoke
- Use gravity to your advantage
- Wipe first drop of blood
- First drop for glucometer
- Second drop for HemoCue

Point of Care Testing - HemoCue, Glucometer

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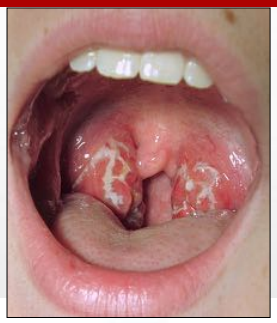
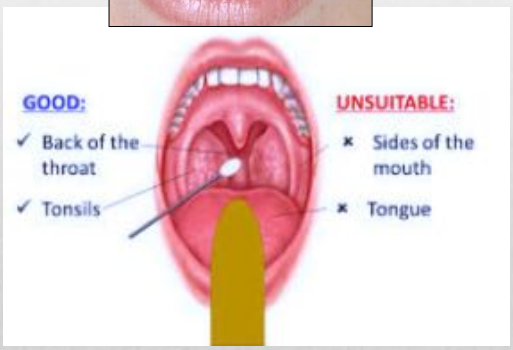
- Test for the presence of Group A Streptococcal Pyrogenes
- Based on Clinical Findings* and MD/ NP consult:
  - Sore Throat
  - Fever/ Malaise
  - Exudate on Tonsils
  - Absence of Cough
- Swab to obtain sample of exudate from both tonsils
- **IF NEGATIVE: send a standard charcoal swab for C&S to the lab for confirmation.**

* Can include, but not limited to these findings





Point of Care Testing - Rapid Strep

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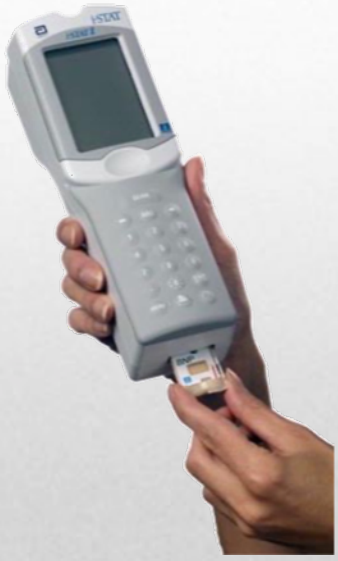
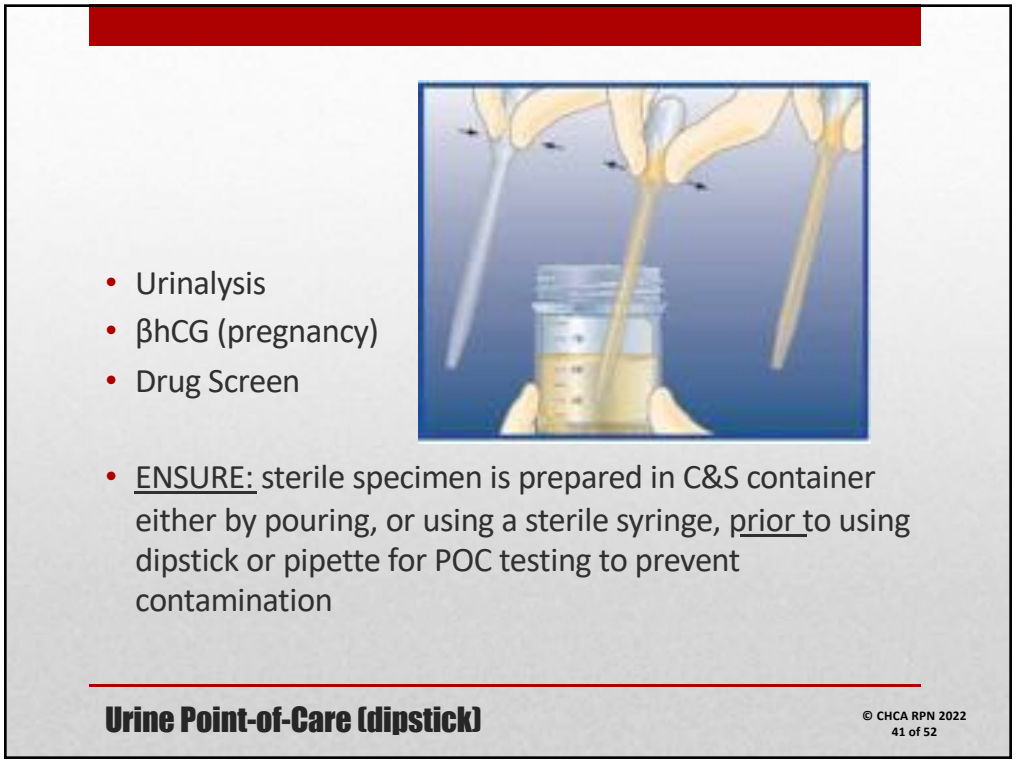
- Found in most Nursing Stations in Northern Ontario
- Requires additional Continuing Education training / certification
- MD Order required for testing
- Venous draw using Green Heparinized tube
- Cartridges are refrigerated
- Quality Control testing needs to be done daily



Point of Care Testing - iStat

40


• Urinalysis
• βhCG (pregnancy)
• Drug Screen
• ENSURE: sterile specimen is prepared in C&S container either by pouring, or using a sterile syringe, prior to using dipstick or pipette for POC testing to prevent contamination
Urine Point-of-Care (dipstick)
© CHCA RPN 2022
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Urinalysis (dipstick)
© CHCA RPN 2022
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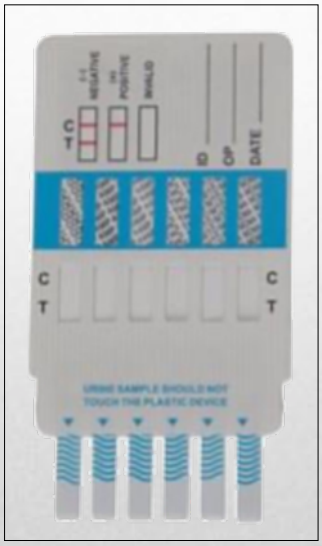

- **MUST have a MD/NP Order for Urine Drug Screen**
- Often part of community-based Suboxone program
- Tests for several substances:
  - Cocaine
  - Morphine
  - Bupropion
  - Benzodiazepines
  - Oxycodone
- Be aware that test results read opposite to a urine pregnancy test:
  - ONE line is positive
  - TWO lines is negative.

Urine Drug Screen

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- Initial Prenatal Tests
  - Complete Blood Count (CBC) – including Hemoglobin, MCV (Purple Top)
    - Screens for Anemia, thalassemia
  - ABO/ Rh(D) – blood group and screen (Purple Top)
  - Rubella (German measles) (check MMR titre) - positive screen warrants additional testing (Red Top)
    - Mother may require additional Immunoprophylaxis postpartum
  - Hepatitis (HBsAg), Syphilis (VDRL) (Red Top)
  - HIV (consent needed) (Red Top)
  - Chlamydia and Gonorrhea – rescreen as needed (Urine or Swab)
  - Urine C&S – Screen for asymptomatic bacteriuria (ABU) (Urine)
    - Treat Group B Strep bacteriuria, and treat as GBS positive when in labour

Routine Prenatal Testing at every visit:
- **Fingerpoke glucose**
- **HemoCue**
- **Urine Dipstick**

Prenatal Blood Work – Initial Prenatal visit

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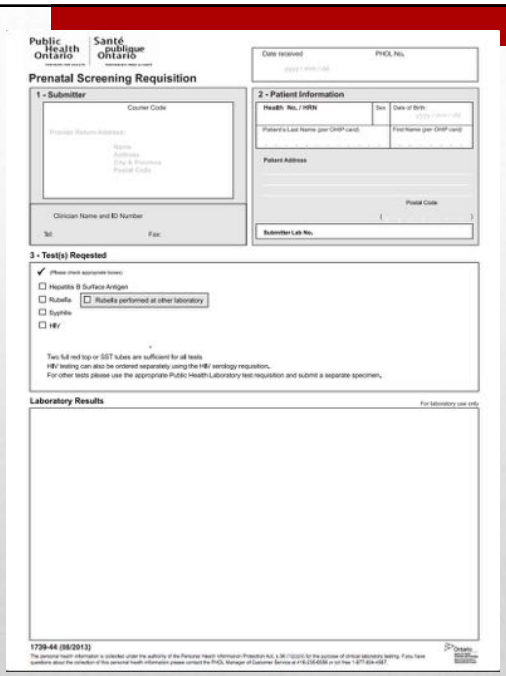
Public Health Ontario | Santé publique Ontario

Prenatal Screening Requisition

1 - Submitter

Courier Code

Clinician Name and ID Number

Tel Fax

Date received PHOL No.

2 - Patient Information

Health No. / HRN Sex Date of Birth

Patient's Last Name (per OHIP card) First Name (per OHIP card)

Patient Address

Postal Code

Submitter Lab No.

3 - Test(s) Requested

- ☐ Hepatitis B Surface Antigen
- ☐ Rubella ☐ Rubella performed at other laboratory
- ☐ Syphilis
- ☐ HIV

Two full red top or SST tubes are sufficient for all tests

HIV testing can also be ordered separately using the HBV serology requisition.

For other tests please use the appropriate Public Health Laboratory test requisition and submit a separate specimen.

Laboratory Results

For laboratory use only

1739-44 (08/2013)

- Two full Red top or SST tubes are sufficient for all public health tests
- HIV Testing ordered on a separate requisition (consent)
- Other PHL tests on a separate requisition

Prenatal Blood Work – Public Health Labs

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Follow up Testing

- Oral Glucose Tolerance Test (20-24wks)
- Group and Screen (28 wks)

Additional Tests with MD/NP Consultation:

- Hepatitis C
- TST
- Repeat HIV
- Varicella Titre etc.

Prenatal Blood Work – Additional Prenatal Screening

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Oral Glucose Tolerance Testing

50 Gram Load

- Non-fasting
- Drink 50g solution
- Time x 1 hour
- Ensure patient stays in clinic
- Venous sample

75 Gram Load

- Fasting sample
- Drink 75g solution
- Time x 1 and 2 hours
- Ensure patient stays in clinic
- Venous sample at 1 hour post drink and 2 hours post drink.

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Prenatal Blood Work – Additional Prenatal Screening

- **Integrated Prenatal Screening (IPS)**
  - First Trimester (11-13+6/7wks)
- **Maternal Serum Screening (MSS)**
  - Second Trimester (15-20+6/7wks)
    - Trisomy 13
    - Down Syndrome
    - Neural Tube Defects

- **IPS and MSS testing require informed consent, and consultation with MD/NP.**

The Genetics Education Project

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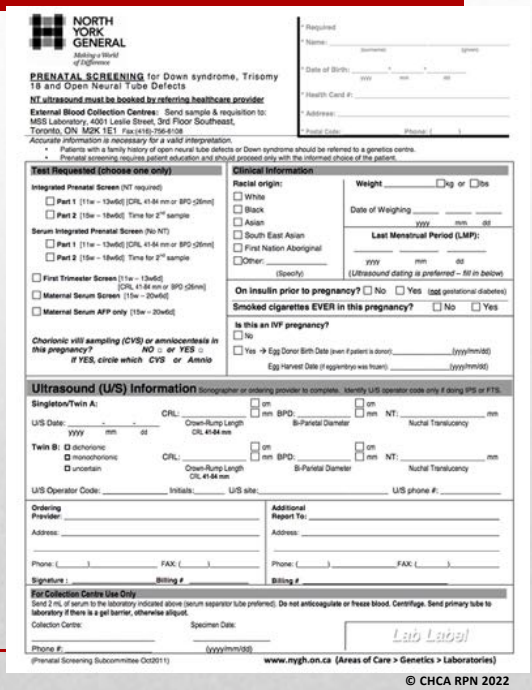
- Prenatal screening for Down syndrome, Trisomy 18 and Open Neural Tube Defects
- Nuchal Translucency (NT) ultrasound must be booked by referring healthcare provider



NORTH YORK GENERAL

PRENATAL SCREENING for Down syndrome, Trisomy 18 and Open Neural Tube Defects

NT ultrasound must be booked by referring healthcare provider

External Blood Collection Centres: Send sample & requisition to: MSS Laboratory, 4001 Leslie Street, 3rd Floor Southeast, Toronto, ON M2K 1E1 Fax:(416)-756-6108

Accurate information is necessary for a valid interpretation.

- Patients with a family history of open neural tube defects or Down syndrome should be referred to a genetics centre.
- Prenatal screening requires patient education and should proceed only with the informed choice of the patient.

Test Requested (choose one only)

Integrated Prenatal Screen (NT required)
- ☐ Part 1 [11w – 13w6d] [CRL 41-84 mm or BPD ≥26mm]
- ☐ Part 2 [15w – 18w6d] Time for 2nd sample

Serum Integrated Prenatal Screen (No NT)
- ☐ Part 1 [11w – 13w6d] [CRL 41-84 mm or BPD ≥26mm]
- ☐ Part 2 [15w – 18w6d] Time for 2nd sample

☐ First Trimester Screen [11w – 13w6d] [CRL 41-84 mm or BPD ≥26mm]

☐ Maternal Serum Screen [15w – 20w6d]

☐ Maternal Serum AFP only [15w – 20w6d]

Chorionic villi sampling (CVS) or amniocentesis in this pregnancy? NO ○ or YES ○
If YES, circle which CVS or Amnio

Clinical Information

Racial origin:
☐ White ☐ Black ☐ Asian ☐ South East Asian ☐ First Nation Aboriginal ☐ Other: _____ (Specify)

Weight _____ ☐kg or ☐lbs

Date of Weighing _____ (yyyy mm dd)

Last Menstrual Period (LMP): _____ (yyyy mm dd)
(*Ultrasound dating is preferred – fill in below*)

On insulin prior to pregnancy? ☐ No ☐ Yes (not gestational diabetes)

Smoked cigarettes EVER in this pregnancy? ☐ No ☐ Yes

Is this an IVF pregnancy?
☐ No
☐ Yes → Egg Donor Birth Date (even if patient is donor): _____ (yyyy/mm/dd)
Egg Harvest Date (if egg/embryo was frozen) _____ (yyyy/mm/dd)

Ultrasound (U/S) Information Sonographer or ordering provider to complete. Identify U/S operator code only if doing IPS or FTS.

Singleton/Twin A: CRL: _____ ☐cm ☐mm BPD: _____ ☐cm ☐mm NT: _____ mm
U/S Date: _____ (yyyy mm dd) Crown-Rump Length CRL 41-84 mm Bi-Parietal Diameter Nuchal Translucency

Twin B: ☐ dichorionic ☐ monochorionic ☐ uncertain CRL: _____ ☐cm ☐mm BPD: _____ ☐cm ☐mm NT: _____ mm
Crown-Rump Length CRL 41-84 mm Bi-Parietal Diameter Nuchal Translucency

U/S Operator Code: _____ Initials: _____ U/S site: _____ U/S phone #: _____

Ordering Provider: _____
Address: _____
Phone: (___) _____ FAX: (___) _____
Signature: _____ Billing # _____

Additional Report To: _____
Address: _____
Phone: (___) _____ FAX: (___) _____
Billing # _____

For Collection Centre Use Only
Send 2 mL of serum to the laboratory indicated above (serum separator tube preferred). Do not anticoagulate or freeze blood. Centrifuge. Send primary tube to laboratory if there is a gel barrier, otherwise aliquot.

Collection Centre: _____ Specimen Date: _____
Phone #: _____ (yyyy/mm/dd)

Lab Label

(Prenatal Screening Subcommittee Oct2011) www.nygh.on.ca (Areas of Care > Genetics > Laboratories)

Prenatal Genetic Screening

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Sexual Assault Nurse Examiners are recommended for adult cases, and mandatory for paediatric cases. Consult MD/ NP for a med or schedevac.

Timeline for collecting Samples: Can be collected up to 12 days post-assault

- All relevant samples: up to 24 hours
- All relevant samples, except prepubertal/ oral: 24-48 hours
- Do Not collect steps 3, 4, 7, and 8 if patient has showered or bathed

- Patient must give consent
- Medical care such as STI/ Pregnancy prophylaxis must be documented in the patient chart
- Consent to release evidence must be signed by both the patient/guardian, and the police officer receiving the completed kit.
- Once the kit is opened, never leave it unattended.
- Once complete, close and secure with SAEK seal.

Review Sexual Assault Policy on LMS

Sexual Assault Evidence Kit

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Sexual Assault - Paediatric Considerations

- ALL paediatric sexual assault cases must be sent by Medevac to the nearest sexual assault assessment centre
- Parent/ guardian or Child Protective Services must provide consent.

Sexual Assault Evidence Kit – Paediatric Considerations

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