

# JOHNSON MEMORIAL HOSPITAL

## LABORATORY SPECIMEN COLLECTION REQUIREMENTS

### **BLOOD BANK:**

All Blood Bank procedures require a minimum of two lavender top EDTA specimens.

Additional red and lavender top tubes may be necessary if the patient has testing that must be sent to the reference laboratory.

### **CHEMISTRY (BLOOD):**

\*Indicates test is referred out to another lab.

Test	Red	Gold	Green	Blue	Lav.	Special Tube	Collection Instructions
Acetaminophen	1						Draw @ 4 and 12 hours after suspected overdose.
Acetone (beta-hydroxybuterate)*		1					
Albumin			1				
Aldosterone*	1						Note position of patient at time of collection (supine or upright).
Alkaline Phosphatase (ALP)			1				
Alpha Feto Protein (AFP)*		1					Must be 15-20 weeks gestation. Submit AFP info sheet.
Amikacin	1						See Therapeutic Drug Drawing Guidelines Policy.
Ammonia			1				Place on ice immediately following collection.
Amylase		1					
ANA (Ant-Nuclear Antibody)*		1					
Anti-Intrinsic Antibody		1					No B12 one-week prior and no radioisotopes.
B12*		1					Protect from light.
Beta hCG (Qual. & Quant.)		1					

Test	Red	Gold	Green	Blue	Lav.	Special Tube	Collection Instructions
Bilirubin		1					Newborn can be drawn in red microtainer.
BUN		1					
Calcium		1					
Calcium, Ionized*		1					Do not open tube.
CEA*		1					
Chloride		1					
Cholesterol		1					
CKMB			1				See Reflex Test Policy.
CO2		1					
Cortisol	1						Generally collect before 0800 unless otherwise specified.
CPK			1				
Creatinine		1					
Digoxin	1						See Therapeutic Drug Drawing Guidelines Policy.
Dilantin	1						See Therapeutic Drug Drawing Guidelines Policy.
Estrogen*		1					
Ethyl Alcohol	1						Do not open tube. Use Chain of Custody Form.
Ferritin			1				
Folate, RBC*					1		Protect from light
Folate, Serum*		1					Protect from light
FSH		1					

Test	Red	Gold	Green	Blue	Lav.	Special Tube	Collection Instructions
Gastrin*		1					Patient fasting 12 hours and no radioisotopes within 24 hours. Send immediately to Lab - must be frozen.
Gentamicin	1						See Therapeutic Drug Drawing Guidelines Policy.
GGT			1				
Glucose			1				Tolerance tests must be scheduled with Lab.
Haptoglobin*		1					
HDL			1				Fasting 12-14 hours.
Helicobacter pylori Ag							Stool Specimen
HgbA1c					1		
Hepatitis B Surface Antigen*		1					
Hepatitis C RNA by PCR*						1 Pearl White	
HIV					2		Complete Consent Form
IgA*		1					
IgE*		1					
IgG*		1					
IgM*		1					
Iron			1				
Lactic Acid						1 Gray	Patient should rest prior to and during collection. Do not use tourniquet.
LDH			1				
LDH Isoenzymes*		1					
Lead*						1 Royal Blue EDTA	

Test	Red	Gold	Green	Blue	Lav.	Special Tube	Collection Instructions
LH		1					
Lipase			1				
Lipid Profile			1				Includes cholesterol, triglycerides, HDL, LDL, risk ratio. Patient should be fasting 12-14 hours prior to collection.
Lithium	1						
Liver Profile			1				Includes Bilirubin (Total and Direct), GPT, ALP, GGT, and LDH.
L/S Ratio*Or FLM (Fetal Lung Maturity)						7ml Amnio Fluid	Protect from light. Must be at Clarian prior to 1100 for same day testing.
Magnesium			1				
Metabolic Profile (Newborn)						Use profile card	
NAPA*	1						See Therapeutic Drug Drawing Guidelines Policy.
Osmolarity, Serum			1				
Phenobarbital	1						See Therapeutic Drug Drawing Guidelines Policy.
Phosphorus			1				
Potassium			1				
Procainamide*	1						See Therapeutic Drug Drawing Guidelines Policy.
Progesterone*		1					
Prolactin		1					
Protein Electroph*		1					
PSA (Prostate Specific Antigen)		1					
PTH (Parathyroid Hormone)*			1				Fasting for 12 hours.
Quinidine*	1						See Therapeutic Drug Drawing Guidelines Policy.

Test	Red	Gold	Green	Blue	Lav.	Special Tube	Collection Instructions
Renin*					1		Tube must be prechilled and kept on ice after collection. Send to Lab immediately.
Salicylates	1						See Therapeutic Drug Drawing Guidelines Policy.
SGOT (AST)			1				
SGPT (ALT)			1				
Sodium			1				
T3 Total*		1					
T3 Uptake*		1					
T4 Free			1				
T4 Total			1				
Tegretol (Carbamazepine)	1						See Therapeutic Drug Drawing Guidelines Policy.
Testosterone		1					
Theophylline	1						See Therapeutic Drug Drawing Guidelines Policy.
TIBC (Total Iron Binding Capacity)			1				
Tobramycin	1						See Therapeutic Drug Drawing Guidelines Policy.
Total Protein			1				
Triglycerides			1				Fasting 12-14 hours.
Troponin			1				
TSH			1				
Uric Acid			1				
Valproic Acid	1						See Therapeutic Drug Drawing Guidelines Policy.
Vancomycin	1						See Therapeutic Drug Drawing Guidelines Policy.

**CHEMISTRY (BODY FLUIDS):**

Unless Specified by the ordering physician, body fluids are tested as follows:

Tube #1: Chemistry

Tube #2: Microbiology

Tube #3: Hematology

Body Fluids can be sent in green top, lavender top, or spinal fluid tubes. Body fluids include:

Pericardial

Peritoneal

Spinal

Synovial

Thoracentesis

Body Fluid Panels Include:

1. Cell Count
2. Glucose
3. Total Protein

Other requested tests should be ordered individually.

**CHEMISTRY (URINE):**

\*Indicates test is referred out.

\*\*Indicates test may also be performed on a random sample if ordered.

NOTE: Additives must be added in Lab prior to collection.

Test	Additive	Collection Instructions
Amylase, 2 hr. and 24 hr.	None	Refrigerate
BUN (UUN), 24 hr.**	None	Refrigerate
Calcium, 24 hr.**	10 ml 6N HCL	Refrigerate
Catecholamines, 24 hr.*	10ml 6N HCL	Refrigerate
Chloride, 24 hr.**	None	Refrigerate
Creatinine, 24 hr.**	None	Refrigerate
Creatinine Clearance, 24 hr.	None	Refrigerate

Test	Additive	Collection Instructions
Glucose, 24 hr.**	None	Refrigerate
Heavy Metals, 24 hr.*	None	Patient should avoid seafood 48 hrs. prior to and during collection. Refrigerate.
5-HIAA (Serotonin), 24 hr.*	None	Refrigerate
HVA (Homovanillic Acid), 24 hr. *	None	D/C Levodopa 2 weeks prior. Refrigerate.
17-Ketosteroids, 24 hr.*	None	Refrigerate
Magnesium, 24 hr.**	10 ml 6n HCL	Refrigerate
Metanephrines, 24 hr.*	10ml 6N HCL	Refrigerate
Microalbumin, 24 hr.**	None	Refrigerate
Phosphorus, 24 hr.**	None	Refrigerate
Potassium, 24 hr.**	None	Refrigerate
Protein Electrophoresis, 24 hr.*	None	Refrigerate
Protein, Total, 24 hr**.	None	Refrigerate
Sodium, 24 hr.**	None	Refrigerate
Uric Acid, 24 hr.**	None	Refrigerate
VMA (Vanillylmandelic Acid),24 hr*	0.5-1.0 g/L 6N HCL	Refrigerate

For all 24 hour urine collections:

1. Upon receipt of an order for a 24-hour urine collection, contact the Laboratory. The Laboratory will prepare a 24-hour urine collection container based on the type of test and label with the appropriate patient information.
2. To begin collection, have patient urinate and discard this first sample (do not put into container). Note this date/time as the start of the collection.
3. Save all urine voided after this time for 24 hours, including any urine voided at the exact time of period end. Document this date/time as the end of the collection.
4. If the container has a preservative in it, make sure the patient does not come into contact with the container and does not void directly into the container (to prevent splashing/contact with preservative).

**Urine Drug Screens:** Collect in sterile urine container. Initiate chain of custody form and refrigerate.

### COAGULATION:

\*Indicates test is referred out.

Test	Red	Gold	Green	Blue	Lav.	SpecialTube	Collection Instructions
Anti-thrombin III*				1			
D-Dimer					1		
Factor V Leiden*					2		
Prothrombin Time (PT)				1			Tube must be filled to fill line. 24 hr stability Refrigerated
PTT				1			Tube must be filled to fill line. 4 hr stability refrigerated
Fibrinogen*				1			Tube must be filled to fill line.
FDP (FSP)*				1			Tube must be filled to fill line.

### HEMATOLOGY (MISC.):

Fecal WBC: A small amount of stool in stool container.

Hemoccult: iFOBT collection kit



## HEMATOLOGY:

Test	Red	Gold	Green	Blue	Lav.	Tube	Collection Instructions
Bone Marrow							This is performed by the Pathologist.
CBC					1		Includes: WBC, RBC, HGB, HCT, MCV, MCH, MCHC, RDW, PLT, MPV and Differential.
Differential					1		Includes: Seg, Band, Lymph, Mono, Eosin, Baso, Atypical Lymph, Meta, Myelo, Pro Myelo, Blast, IG, NRBC's and WBC, RBC, and PLT Morphology.
Hemogram					1		Includes: WBC, RBC, HGB, HCT, MCV, MCHC, RDW, PLT, and MPV.
Retic Count					1		
Sed Rate					1		Stability 4 hrs RT, 24hrs refrigerated

The parameters of Hemoglobin (HGB), Hematocrit (HCT), Red Blood Cell (RBC), White Blood Cell (WBC), platelet (PLT), Eosinophil Count can be ordered individually. A lavender top tube is required.

## HEMATOLOGY (BODY FLUIDS):

Cell counts are included in each of the body fluid panels or may be ordered separately. Spinal fluid should be in a spinal fluid tube, all other body fluids should be in a green and lavender top tube.

## MICROBIOLOGY:

**\*\*See Collection of Culture Specimens for proper collection methods.\*\***

\*Indicates test is referred out.

Culture Type	Specimen	Storage
Acid Fast Culture*	Sputum or Urine: minimum 1 ml in sterile container Body Fluid/Tissue: Sterile container	Refer to Collection of Culture Specimens procedure. Refrigerate.
Acid Fast Stain (if ordered without culture)*		Follow Acid Fast Culture procedure.
Anaerobic Culture	1ml in sterile syringe (discard needle) or BBL vacuatainer Anaerobic swab	Refrigerate or keep at room temperate
Beta Strep Culture	Routine Culturette	Room Temperature
Beta Strep Screen	Sterile foam tipped applicator	Return to lab immediately-No transport media.

<b>Culture Type</b>	<b>Specimen</b>	<b>Storage</b>
Blood Culture	Adult: 1-4 cc blood into each bottle Pediatric (Under 13yrs.): 1-4 ml blood in Aerobic bottle only for Peds	Take to Laboratory immediately to be placed in incubator. See Blood Culture Collection procedure for proper collection technique.
Body/Spinal Fluid Culture	1ml fluid in a sterile syringe or tube	Process immediately or refrigerate
Catheter Tip Culture	Place in sterile urine container.	Transport to Laboratory immediately.
Clostridium Difficile Toxin (C. Diff)	3 grams stool in clean, dry container	Refrigerate
Ear/Eye Culture	Mini-tip Culturette	Room temperature
Epidemiology	Routine Culturette	Room temperature
Fungus Culture	Refer to Culture Collection Policy.	Room temperature
GC/Chlamydia PCR	Xpert Vaginal/Endocervical specimen collection kit	2-30 degrees C
Gram Stain (if ordered without culture)		Refer to Collection of Culture Specimens procedure.
Herpes Culture*	Viral M4 media-Pink solution	Refrigerate-Obtain transport solution from lab.
Influenza A & B Screen	Sterile foam tipped applicator	Room Temperature or refig. For 24 hours
KOH Prep		Refer to Collection of Culture Specimens procedure.
Nose Culture	Sterile foam tipped applicator	Room temperature
Ova & Parasites (O&P), Giardia Ag, Cryptosporidium	1gram stool in a clean, dry container. Should not collect more than one specimen per day.	Send to Laboratory immediately.
RSV	Nasopharyngeal Foam Tipped applicator	Refer to Collection of Culture Specimens for nasopharyngeal collection.
Sputum/Bronchial Washing Culture	Minimum 1ml in a sterile container (first morning specimen ideal)	Refrigerate
Stool Culture	3 grams in a clean, dry container	Refrigerate
Tissue Biopsy/Bone	Place tissue in sterile container.	Transport to Laboratory immediately.
Urine Culture	Minimum 1ml in sterile container or boric acid tube	Refrigerate (if not using preservative)
Wet Prep	Swab placed in 1ml saline	Send to Laboratory immediately
Wound Culture	BBL Culture Swab	Transport to the Laboratory immediately. Room temperature.

### **SEROLOGY:**

Mono Spot and HIV's require a lavender top. ASO, RA, RPR and Rubella all require a red top tube.

## URINALYSIS:

Urinalysis (UA) or any part of a UA requires a preferred volume of at least 10ml urine delivered to Laboratory within 60 minutes of collection or refrigerated. Minimum volume is 2 ml.

## HISTOLOGY/CYTOLOGY

1. Instructions for **ALL** specimens being sent for Cytology or Histology processing:
  - a. Each specimen container is to be labeled on the side (not the lid) with the following:
    - i. Patient identification (name, date of birth, MRN, account number)
    - ii. Container contents (date and time collected, specimen submitted)
    - iii. Submitting physician
  - b. Each submitted specimen is to be accompanied by a completed requisition identifying the patient's name, date of birth, MRN, account number, date and time of the procedure, patient history, the procedure, preoperative diagnosis, the specimen(s) submitted, and the doctor performing the procedure
2. CYTOLOGY SPECIMENS
  - a. Non-Gynecological Specimens
    - i. Examples: Pleural fluids, pelvic washings, sputum, bronchial washings, urine, cyst fluid, etc.
    - ii. **DO NOT ADD FORMALIN** to these specimens; they are taken fresh to Histology/Cytology immediately
  - b. Gynecological Specimens
    - i. Example: Pap smears, ECC brushings
    - ii. **DO NOT ADD FORMALIN**; these specimens are placed in ThinPrep solution
3. HISTOLOGY SPECIMENS
  - a. Routine surgical specimens submitted for pathology review are placed in 10% neutral buffered formalin (NBF) which adequately covers the entire specimen
  - b. Unsure/questions: Call Histology/Cytology [EXTENSION -3486] before adding any fixative
  - c. **EXCEPTIONS:**
    - i. Amputations (above/below the knee, etc.): Placed in a biohazard bag and transported by surgery staff directly to the morgue refrigerator. The requisition is taken to Histology/Cytology.
    - ii. Gout specimens: **DO NOT ADD FORMALIN**; submitted in 100% alcohol
    - iii. Kidney stones: **NO SOLUTION ADDED**; specimen sent fresh
    - iv. Muscle biopsies:
      1. Specimen collected per reference laboratory guidelines (posted in the Pathology Laboratory/Frozen Section Room in Surgery)

- a. Muscle samples must be at least 20 mm in length and 10 mm in diameter
  - b. Wrap muscle loosely in gauze that has been moistened with three (3) drops of saline only and place in plastic specimen cup with lid
- 2. Completed requisition and specimen are brought immediately to Histology/Cytology for transport

v. Placental tissue for DNA/chromosome studies:

- 1. Specimen collected per reference laboratory guidelines (posted in the Pathology Laboratory/Frozen Section Room in Surgery)
  - a. Collection is done in Surgery/OB under sterile conditions
  - b. Fresh 3-10 mm<sup>3</sup> tissue is collected aseptically and placed in a sterile container
- 2. After sample collection, the remainder of the placenta is placed in 10% NBF
- 3. All specimens are delivered immediately to Histology/Cytology for transport

vi. Testicular excisions: **DO NOT ADD 10% NBF**; these are submitted in Bouin's solution

4. SUBMITTING SPECIMENS DURING WORK HOURS

- a. Surgical Specimens and accompanying paperwork are submitted in the two designated bins in surgery or brought to Histology/Cytology and placed in the Specimen Drop-off bin
- b. Fresh specimens and accompanying paperwork are brought to Histology/Cytology and staff is alerted
- c. Pap specimens and accompanying paperwork are brought to Histology/Cytology and placed in the Specimen Drop-off bin

5. SUBMITTING SPECIMENS AFTER HOURS

- a. Specimens in 10% NBF and ThinPrep solution are placed with accompanying paperwork in the Specimen Drop-off bin in Histology/Cytology
- b. Specimens in the fresh state with accompanying paperwork are placed in the Pathology Specimen bin in the refrigerator in Histology/Cytology