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INTRODUCTION

Saint Francis Medical Center is accredited by Joint Commission American Health Care Organization and the American Association of Blood Banks. Saint Francis Medical Center participates in proficiency testing programs with the College of American Pathologists. Quality control programs which meet or exceed federal and state requirements are employed. The following certification numbers document that Saint Francis Medical Center is fully accredited by the agencies noted.

MEDICARE PROVIDER NUMBER	280023
AMERICAN ASSOCIATION OF BLOOD BANKS	007269
SFMC CLIA	28D0455828

The clinical laboratory is open 24 hours a day, 7 days a week should you need any technical assistance.

Dr Scott Frankforter	Pathologist	398-5424
Dr Kris Mleczko	Pathologist	398-5424
Dr Susan Woodward	Pathologist	398-5424
Mary Lou Emanuel	Pathology Director	398-5630
Pam Zitterkopf	Clinical Coordinator	398-5671
Randy Riessland	Clinical Coordinator	398-5631
Stephanie Mulligan	Lab Services Representative	398-5531

Orders may be received in the Saint Francis Medical Center Laboratory for four types of specimens:

- 1) Outpatients to be drawn by the SFMC lab
- 2) Outpatients to collect specimens for the SFMC lab
- 3) Nursing home patients to be drawn by the SFMC lab
- 4) Reference specimens received in the lab (collected at other facilities)

Each outpatient specimen requires a hardcopy physician order of the test(s) to be performed and any applicable diagnoses. Ideally, this request should be faxed to 398-0669 prior to the patient's arrival. Upon receipt of the order, the patient will be pre-registered and the testing screened for medical necessity. Any information not provided will be obtained by calling the ordering site. The hardcopy may also be brought to Saint Francis by the patient.

Medical necessity will be provided in the form of current, applicable symptoms, diagnosis, complaint, condition, problem, or ICD-9 code(s).

The hardcopy order needs to include:

- 1) Referring physician's information
- 2) Patient's name
- 3) Date of intended service
- 4) Tests to be performed
- 5) Diagnosis/Signs or symptoms (Medical necessity)

The ABN (Advanced Beneficiary Notice) is to be signed by the patient when the physician believes/knows that Medicare will deny payment. If Medicare denies payment, the patient agrees to be personally and fully responsible for the payment. The ABN must be signed by the patient prior to performing the test(s) that may not be considered medically necessary by Medicare.

All specimens collected by nursing staff from in-house patients require a computer generated label. Specimens received from outside facilities require a reference lab sheet, complete with patient demographics, billing instructions, diagnosis, and test(s) requested. Each specimen must be labeled with the following information:

1. patient's full name
2. collection date and time
3. specimen type (serum, plasma, whole blood, urine, CSF, stool, body fluid)
4. collector's initials

If a separate label is placed on the tube, place the label over that which is already on the tube such that the blood in the tube is still visible. Do not place the label over the top or perpendicular to the tube.

Specimens will be rejected for assay if they are not labeled properly with the necessary information. Specimens that are difficult to recollect (24 hr urines, amniotic fluid, or spinal fluids) may be accepted at the discretion of the medical technologist performing the test. Results will be reported with documentation that the specimen was improperly labeled. Specimens drawn for anticipated transfusion purposes must be labeled using the blood bank number sticker. The corresponding blood bank number must be on the specimen label, or the specimen will not be accepted. **There will be no exception to this blood bank policy.** The patient's blood bank number must also be included on the requisition.

Specimens may also be rejected due to hemolysis, improper anticoagulant, improper temperature conditions, clotting, delay in transport, etc. The sending facility will be notified of the rejection and the specimen will be held to allow time for notification of the physician. On occasions when recollection is impossible or inappropriate, the rejected specimen may be run at the physician's request with documentation that the validity of the result(s) may be questionable.

Each specimen must be in a leak-proof container and placed in a plastic bag with a zip-lock closure for transport. The specimen information label must be on the specimen container, not on the plastic transport bag. Specimens may be sent to the Saint Francis Medical Center's laboratory by courier service or privately. The specimens may be delivered to the Pathology secretary or brought back to the laboratory. Either way, someone from the laboratory must be notified that a specimen has been received for analysis.

Procedures that are not performed at Saint Francis Medical Center will be packaged and forwarded to Saint Francis Medical Center's reference laboratory for testing.

The minimum sample volume of specimen required is listed with each test. However, in the case of infants, children, or difficult adult venipunctures, please consult with the Saint Francis Medical Center's laboratory for further information regarding minimum sample size.

Any critical result will be called immediately to the ordering physician or his/her designee. Results will be called, faxed, or telecommed to the clinics, hospitals, and nursing homes as determined by previous arrangements. Completed results will be sent to the facility for the patient's chart and to the attending physician.

Saint Francis Medical Center complies with the federal privacy law (HIPPA) to maintain the privacy of the patient's health information and those health records generated by Saint Francis Medical Center. Our employees receive mandatory training concerning data privacy, access limitations, and corporate responsibility.

ACETAMINOPHEN

CPT: 82003 MNEMONICS: ACM
SPECIMEN: 0.5 ml Serum from Red Top or 0.5 mL Plasma from Dark Green
ALTERNATE SPECIMEN: Serum from SST tube stable up to 24 hours at 4 degrees C
COMMENTS: Peak is drawn 4 hours post ingestion
Note time of ingestion
Refrigerate
REJECTION CRITERIA: Specimen improperly labeled
Centrifuged serum in a SST tube > 24 hours old

ACETONE

CPT: 82009 MNEMONICS: KETONE
SPECIMEN: 0.5 mL serum, plasma, or whole blood
COMMENTS: Refrigerate specimen if not assayed immediately
REJECTION CRITERIA: Specimen improperly labeled
Specimen not refrigerated

ACT

CPT: 85347 MNEMONICS: ACT
SPECIMEN: 0.8 mL whole blood
COMMENTS: Lab must be notified prior to collection—performed by ISTAT
Refer patient to SFMC for testing
Specimen must be analyzed immediately from syringe
REJECTION CRITERIA: Specimen not analyzed immediately

ALBUMIN

CPT: 82040 MNEMONICS: ALBU
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Refrigerate
REJECTION CRITERIA: Specimen improperly labeled

ALKALINE PHOSPHATASE

CPT: 84075 MNEMONICS: ALKP
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Refrigerate
REJECTION CRITERIA: Specimen improperly labeled

ALT

CPT: 84460 MNEMONICS: ALT
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Refrigerate
Separate (Centrifuge) serum or plasma from cells as soon as possible
Avoid prolonged contact with separated red cells
REJECTION CRITERIA: Specimen improperly labeled

AMMONIA

CPT: 82140

MNEMONICS: AMM

SPECIMEN: 1.0 mL heparinized plasma (see NOTE)

COMMENTS: Tube should be filled completely and immediately placed on ice

Specimen must be analyzed within 20 minutes.

*NOTE: Specimens that cannot be analyzed within 20 minutes of collection must be collected in an EDTA tube, the plasma separated and frozen (Forward to Quest for analysis)

REJECTION CRITERIA: Specimen improperly labeled
Specimen not analyzed within 20 min of collection**AMYLASE**

CPT: 82150

MNEMONICS: AMY

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

AST

CPT: 84450

MNEMONICS: AST

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

Separate (Centrifuge) serum or plasma from cells as soon as possible

Avoid prolonged contact with separated cells

REJECTION CRITERIA: Specimen improperly labeled
Moderate to gross hemolysis**BASIC METABOLIC PANEL**

CPT: 80048

MNEMONICS: BMP

SPECIMEN: 1.0 mL serum or heparinized plasma

COMMENTS: Includes Na, K, Cl, CO₂, BUN, Crea, BUN/Crea ratio, Glu, Calc, and an anion gap

Refrigerate

Do not "uncork" tube until ready to analyze

Separate (Centrifuge) serum or plasma from cells as soon as possible

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated (centrifuged) from cells within 2 hours
Hemolysis

BILIRUBIN, CONJUGATED

CPT: 82248

MNEMONICS: BILID

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

Protect from light

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

BILIRUBIN, NEONATAL

CPT: 82247

MNEMONICS: BILIN

SPECIMEN: 0.3 mL serum or plasma (any anticoagulant)

COMMENTS: Refrigerate

Protect from light

Performed on infants through the age of 21 days

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

BILIRUBIN, TOTAL

CPT: 82247

MNEMONICS: BILIT

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

Protect from light

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

BLEEDING TIME

CPT: 85002

MNEMONICS: BT

SPECIMEN: Refer patient to SFMC for testing

COMMENTS: Not performed on patient with platelet count less than 50,000

Not performed on patients under 5 months of age

Patient should not have taken aspirin for one week prior to test.

BLOOD CULTURE

SEE APPENDIX II (page 38) for collection protocol

BLOOD GAS PROFILE

CPT: 82803 MNEMONICS: ABG (arterial) CBG (capillary) VBG (venous)

SPECIMEN: Heparinized whole blood

COMMENTS: Special collection devices available that are coated with heparin

Remove air bubbles, cap specimen, mix well: transport at room temp

Place on ice if testing delayed more than 30 minutes; analyze within
2 hours of collection

Note patient's temperature and amount of oxygen utilized by patient as
well as site of draw

REJECTION CRITERIA: Specimen not labeled properly

Specimen clotted

Specimen not on ice and > 30 minutes from collection

Specimen not analyzed within 2 hours from collection

BLOOD MORPHOLOGY

CPT: 85060

MNEMONICS: MORPH

SPECIMEN: 3 mL EDTA blood and 6 blood films

COMMENTS: Blood films should be prepared from needle tip or capillary puncture.

Medicare outpatient: Advance Beneficiary Notice must be signed

Copy of CBC results must go with blood films to the pathologist

REJECTION CRITERIA: Specimen improperly labeled

B-TYPE NATRIURETIC PEPTIDE

CPT: 83880

MNEMONICS: BNP

SPECIMEN: 1 mL EDTA whole blood or EDTA plasma

COMMENTS: Must be collected in **plastic** EDTA tube

Must be analyzed within twenty four hours or plasma must be frozen

REJECTION CRITERIA: Specimen improperly labeled

Specimen drawn in a glass EDTA tube

Specimen grossly hemolyzed

Specimen greater than twenty four hours old and plasma is
not frozen

BUN

CPT: 84520

MNEMONICS: BUN

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

CA 125

CPT: 86304 MNEMONICS: CA125
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Refrigerate for up to 7 days
REJECTION CRITERIA: Specimen improperly labeled
Specimen has gross turbidity

CALCIUM

CPT: 82310 MNEMONICS: CALC
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Refrigerate
REJECTION CRITERIA: Specimen improperly labeled

CARB

CPT: 82374 MNEMONICS: CO2
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate
Do not “uncork” tube until ready to analyze
REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not run within 2 hours

CARBAMAZEPINE

CPT: 80156 MNEMONICS: CAR
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Draw thirty minutes prior to next dose if not at a steady state
Specimen collected in a gel separator must be analyzed within 24 hours
Refrigerate
REJECTION CRITERIA: Specimen improperly labeled
Specimen in a gel separator tube and not analyzed within 24 hours

CARBOXYHEMOGLOBIN

CPT: 82375 MNEMONICS: CO
SPECIMEN: 1 mL heparinized whole blood; arterial or venous blood may be used
Do not open tube prior to analysis
Analyze within 30 minutes or place in ice slurry for up to 4 hours
REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Tube opened prior to analysis
Not analyzed within 4 hours when kept in an ice slurry

CARDIAC ENZYMES

CPT: 82550, 82553, 83615

MNEMONICS: ENZY

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Includes LDH, CK, and CKMB

RI not calculated if total CK is less than 20 U/L

Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

CBC WITH DIFFERENTIAL

CPT: inquire when testing completed

MNEMONICS: CBC

SPECIMEN: 2 mL EDTA blood and 2 blood films

COMMENTS: Blood films should be prepared from needle tip or capillary puncture.

Refrigerate if greater than 4 hours before analysis

Manual differentials are automatically performed when the parameters of the hemogram are not normal or when the automated differential indicates an abnormal cell type

REJECTION CRITERIA: Specimen improperly labeled
Clotted specimen

CBC WITHOUT DIFFERENTIAL

CPT: 85027

MNEMONICS: CBCWO

SPECIMEN: 2 mL EDTA blood

COMMENTS: Refrigerate if greater than 4 hours before analysis

REJECTION CRITERIA: Specimen improperly labeled
Clotted specimen

CEA

CPT: 82378

MNEMONICS: CEA

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Refrigerate for up to 7 days

Freeze serum if not analyzed within 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen is grossly turbid

CHLORIDE

CPT: 82435

MNEMONICS: CL

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated (centrifuged) from cells
within 2 hours

CHOLESTEROL

CPT: 82465

MNEMONICS: CHOL

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

CK

CPT: 82550

MNEMONICS: CK

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Gross hemolysis

CK-MB

CPT: 82553

MNEMONICS: MB

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: **RI not calculated if total CK is less than 20 U/L**

Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

COMPREHENSIVE METABOLIC PANEL

CPT: 80053

MNEMONICS: CMP

SPECIMEN: 2 mL serum or heparinized plasma

COMMENTS: Includes Na, K, Cl, Carb, BUN, Crea, Glu, Calc, AST, ALT, Alk Phos,
Bili T, Albumin, Total Protein, BUN/Crea ratio, and anion gap

Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

Do not "uncork" tube until ready to analyze

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated (centrifuged) from cells
within 2 hours
Hemolysis

CORTISOL

CPT: 82533 MNEMONICS: CORT8 (8AM) CORT4 (4PM) CORTR (RANDOM)

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate for up to 7 days

Freeze serum if not analyzed within 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen has gross turbidity
Hemolysis

C-REACTIVE PROTEIN, INFLAMMATION

CPT: 86140 MNEMONICS: CRP

SPECIMEN: 0.5 mL serum or plasma (Li heparin or EDTA)

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

C-REACTIVE PROTEIN, CARDIO

CPT: 86141 MNEMONICS: CRP,CARDIO

SPECIMEN: 0.5 mL serum

COMMENTS: Refrigerate

Specimen referred on to Quest

REJECTION CRITERIA: Specimen improperly labeled

CREATININE

CPT: 82565 MNEMONICS: CREA

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

Includes GFR if patient is 20 years of age or older

REJECTION CRITERIA: Specimen improperly labeled

CREATININE, I STAT

CPT: 82565 MNEMONICS: ICREA

SPECIMEN: 0.5 mL heparinized blood (**no gel separator**)

COMMENTS: Requires special cartridges available in SFMC Pathology

Test must be performed within 30 minutes of collection

(If capillary blood is used, it must be analyzed immediately)

REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Time delay in performing test (>30 minutes)

D-DIMER, QUANTITATIVE

CPT: 85379

MNEMONICS: DDIMER

SPECIMEN: 0.5 mL Na citrate plasma (light blue)

COMMENTS: Tube must be full to ensure correct anticoagulant/blood ratio

Centrifuge as soon as possible

Specimen may be held at room temp or refrigerated; freeze plasma if not analyzed within 8 hours

REJECTION CRITERIA: Specimen improperly labeled

Tube not filled completely

Specimen is clotted

Hemolysis

Plasma not frozen after 8 hours of collection

DIC WORKUP

CPT: 85049, 85008, 85610, 85730, 85384, 85379 MNEMONICS: DIC

SPECIMEN: 2 mL Na citrate plasma, 0.5 mL EDTA blood, 2 blood films

COMMENTS: Includes platelet count, PT, PTT, Fibrinogen, D-Dimer, and a blood smear review

Citrate tube must be filled to ensure correct anticoagulant/blood ratio

Centrifuge citrate tube as soon as possible

Citrate specimen may be held at room temp or refrigerated; freeze plasma if not analyzed within 8 hours

REJECTION CRITERIA: Specimen improperly labeled

EDTA or citrate tube clotted

Citrate tube not filled completely

Hemolysis

Citrate plasma not frozen after 8 hours of collection

DIGOXIN

CPT: 80162

MNEMONICS: DIG

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Draw at least 6 hours after the last dose

Refrigerate

Specimen is stable if separated (centrifuged) in SST tube for up to 24 hours refrigerated

REJECTION CRITERIA: Specimen improperly labeled

ELECTROLYTE PANEL

CPT: 80051

MNEMONICS: LYLES

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Includes Na, K, Cl, Carb

Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

Do not “uncork” tube until ready to analyze

REJECTION CRITERIA: Specimen improperly labeled
Specimen collected in **SODIUM** heparin tube
Serum or plasma not separated (centrifuged) from cells
within 2 hours

ESTRADIOL

CPT: 82670

MNEMONICS: EST

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze serum if not analyzed within 48 hours

REJECTION CRITERIA: Specimen improperly labeled
Gross hemolysis
Gross turbidity

ETHANOL

CPT: 82055

MNEMONICS: ETOH

SPECIMEN: 0.5 mL serum or plasma (heparin or K⁺ oxalate/sodium fluoride)

COMMENTS: Clean arm with betadine. **Do NOT use alcohol wipes.**

Tube should be filled completely

Centrifuge tube—store original serum tube in refrigerator until ready to
analyze (testing must be completed within 24 hours)

Do **NOT** open tube until ready to analyze

REJECTION CRITERIA: Specimen improperly labeled
24 hours since collection when received for testing
Specimen tube has been uncorked
Hemolysis

FERRITIN

CPT: 82728

MNEMONICS: FER

SPECIMEN: 0.5 mL serum

COMMENTS: Refrigerate; freeze serum if not analyzed within 5 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen has gross turbidity

FIBRINOGEN

CPT: 85384

MNEMONICS: FIB

SPECIMEN: 1 mL Na citrate plasma (Blue top)

COMMENTS: Tube must be filled to ensure correct anticoagulant/blood ratio

Centrifuge as soon as possible

Room temp or refrig; freeze plasma if not assayed within 8 hours

REJECTION CRITERIA: Specimen improperly labeled; Gross hemolysis
Plasma not frozen and >8 hours since collection**FOLATE**

CPT: 82746

MNEMONICS: FOL

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible

Protect specimen from light

Refrigerate specimen for up to 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen hemolyzed or has gross turbidity**FOLLICLE STIMULATING HORMONE**

CPT: 83001

MNEMONICS: FSH

SPECIMEN: 1 mL serum or plasma

COMMENTS: Refrigerate: freeze sample if not analyzed within 6 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen has gross turbidity**GAMMA GT**

CPT: 82977

MNEMONICS: GGT

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

GENTAMICIN

CPT: 80170 MNEMONICS: GENTP (peak) GENTT (trough) GENTR (random)

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Draw peak 30 minutes after completion of 30 min infusion or 1 hr after IM

Draw trough 30 minutes prior to the steady state dose

Draw random 8-14 hours after initiation of daily dose

Specimen collected in a gel separator must be analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled
Specimen > 24 hours old since collection

GLUCOSE, BEDSIDE

CPT: 82962

MNEMONICS: BGLU

SPECIMEN: One drop of fresh capillary blood or whole blood collected in EDTA or heparin tubes

COMMENTS: Requires use of Advantage instrument at time of blood collection. Values <40 and >500 mg/cL require confirmatory testing in the lab

GLUCOSE

CPT: 82947

MNEMONICS: GLU

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated from cells within 2 hours

GLUCOSE TOLERANCE SCREEN, ANTE-PARTEM

CPT: 82950

MNEMONICS: GTTANTE

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Patient does **not** need to be fasting

Give patient 50 g oral glucose and draw 1 hour later

Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated from cells within 2 hours

GLUCOSE TOLERANCE TEST, GESTATIONAL

CPT: 82951, 82952

MNEMONICS: GTTGES

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Patient should have fasted for 8 hours

Draw fasting glucose; analyze prior to giving patient gluco. If

<140 mg/dl, give 100 g oral glucose and draw 60, 120, and 180
post dose

Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated (centrifuged) from cells
within 2 hours

GLUCOSE TOLERANCE TEST

CPT: 82947, 82950 for a 2-hour tolerance MNEMONICS: GTT

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Patient should have fasted for 8 hours

Draw fasting glucose; analyze prior to giving patient gluco. If <140 mg/cl, give 75 g oral glucose and draw 2 hours post dose

(Note: Consult lab for dosage requirements for pediatric patients)

Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated from cells within 2 hours

GLYCOSYLATED HEMOGLOBIN

CPT: 83036 MNEMONICS: A1C

SPECIMEN: 1 mL EDTA whole blood

COMMENTS: Specimen stable 2 days at room temp or 7 days refrigerated

Consult with lab for instruction for capillary collection

REJECTION CRITERIA: Specimen improperly labeled
Specimen older than 7 days
Specimen clotted

BHCG

CPT: 84702 MNEMONICS: BHCG

SPECIMEN: 1 mL serum or plasma (heparin)

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

HDL

CPT: 83718 MNEMONICS: HDL

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: 10 hour fast recommended

Refrigerate; remove serum or plasma from cells within 3 hours

Cannot perform test if triglyceride >1900 mg/dL

REJECTION CRITERIA: Specimen improperly labeled
Moderate hemolysis
Triglycerides > 1900 mg/dL

HELICOBACTER PYLORI, IGM ANTIBODY

CPT: 86677 MNEMONICS: HELICO

SPECIMEN: 0.5 mL serum or plasma (EDTA, Na Citrate, or Heparin)

COMMENTS: Refrigerate; freeze sample if not analyzed within 5 days

REJECTION CRITERIA: Specimen improperly labeled

HEMATOCRIT

CPT: 85014

MNEMONICS: HCT

SPECIMEN: 1 mL EDTA whole blood

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted**HEMOGLOBIN**

CPT: 85018

MNEMONICS: HGB

SPECIMEN: 1 mL EDTA whole blood

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted**HEMOGLOBIN PANEL**

CPT: 82375, 83050

MNEMONICS: HGBP

SPECIMEN: 1 mL heparinized blood (arterial)

COMMENTS: Includes measured hemoglobin, oxyhemoglobin, carboxyhemoglobin,
methemoglobin, deoxyhemoglobin, and oxygen capacity

Do not open tube prior to analysis

Transport tube on ice; do not freeze

Analyze within 30 minutes

REJECTION CRITERIA: Specimen improperly labeled; Specimen clotted
Tube opened prior to analysis
Specimen not analyzed within 30 minutes**HEPATIC FUNCTION PANEL**

CPT: 80076

MNEMONICS: HFP

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Includes Alk phos, ALT, AST, Bili D, Bili T, Albu, and Total Protein

Refrigerate

Separate (Centrifuge) serum or plasma from cells as soon as possible

Protect from light

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

HEPATITIS B SURFACE ANTIBODY

CPT: 86706 MNEMONICS: HEPBSAB

SPECIMEN: 1 mL serum

COMMENTS: **Store sample at room temp no longer than 8 hours**

Refrigerate; freeze sample if not analyzed within 48 hours

REJECTION CRITERIA: Specimen improperly labeled
Serum not stored properly prior to analysis
Serum has gross turbidity

HEPATITIS B SURFACE ANTIGEN

CPT: 87340 MNEMONICS: HEPBSAG (diagnostic) HEPBSAGE (exposure)

SPECIMEN: 1 mL serum

COMMENTS: **Store sample at room temp no longer than 8 hours**

Refrigerate; freeze sample if not analyzed within 48 hours

REJECTION CRITERIA: Specimen improperly labeled
Serum not stored properly prior to analysis
Serum has gross turbidity

HEPATITIS C ANTIBODY

CPT: 86803 MNEMONICS: HEPCA

SPECIMEN: 1 mL serum

COMMENTS: **Store sample at room temp no longer than 8 hours**

Refrigerate; freeze sample if not analyzed within 48 hours

REJECTION CRITERIA: Specimen improperly labeled
Serum not stored properly prior to analysis
Serum has gross turbidity

HEPATITIS PANEL, ACUTE

CPT: 80074 MNEMONICS: HEPA

SPECIMEN: 5 mL serum **Note: Serum sent to Quest for testing**

COMMENTS: Includes Hepatitis A IgM Antibody, Hepatitis B Core IgM Antibody,
Hepatitis B Surface Antigen, and Hepatitis C Antibody

Refrigerate serum

REJECTION CRITERIA: Specimen improperly labeled

HIV 1&2

CPT: 86703 MNEMONICS: HIV (diagnostic) HIVE (exposure)

SPECIMEN: 1 mL EDTA plasma; 1 mL Red top serum in case confirmation needed

COMMENTS: Refrigerate whole blood for up to 30 hours. Refrigerate plasma specimens
for up to 7 days

Specimens initially reactive will be forwarded for confirmatory testing

Requires patient permission for testing

REJECTION CRITERIA: Specimen improperly labeled
Serum (Gel) specimens for screening

IMMUNOFIXATION ELECTROPHORESIS

CPT: 86334

MNEMONICS: IFES

SPECIMEN: 1 mL serum

COMMENTS: Refrigerate; freeze serum if not analyzed within 7 days

Must include a diagnosis for Pathologists

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

IONIZED CALCIUM

CPT: 82330

MNEMONICS: ICA

SPECIMEN: 1 mL heparinized (no gel separator) whole blood

COMMENTS: Place specimen in ice immediately after collection; specimen must be analyzed within 4 hours of collection

Tube must be full

Do not open tube (remove stopper) prior to testing

If unable to analyze within 4 hours, submit 2 mL of serum from a SST tube (centrifuge but DO NOT OPEN tube); Refrigerate; Specimen will be sent to Quest for testing

REJECTION CRITERIA: Specimen improperly labeled
Specimen not processed within 4 hours
Hemolysis

IRON

CPT: 83540

MNEMONICS: IRON

SPECIMEN: 0.5 mL serum (**No plasma specimens**)

COMMENTS: Refrigerate

Fasting specimen preferred

Iron studies should be done prior to patient receiving packed cells

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

IRON BINDING

CPT: 83550

MNEMONICS: TIBC

SPECIMEN: 0.5 mL serum (**No plasma specimens**)

COMMENTS: Refrigerate

Fasting specimen preferred

Iron studies should be done prior to patient receiving packed cells

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

I-STAT 6

CPT: 84295, 84132, 82435, 84520, 82947, 85014 MNEMONICS: I6

SPECIMEN: 0.5 mL heparinized blood (**no gel separator**) or EDTA whole blood

COMMENTS: Includes Na, K, Cl, BUN, Glu, Hct, calculated Hgb

Requires special cartridges available in SFMC Pathology

Test must be performed within 30 minutes of collection

(If capillary blood is used, it must be analyzed immediately)

REJECTION CRITERIA: Specimen improperly labeled

Specimen clotted

Specimen hemolyzed

Time delay in performing test (>30 minutes)

LACTIC ACID

CPT: 83605

MNEMONICS: LACAC

SPECIMEN: 1 mL potassium oxalate-sodium fluoride plasma (gray-top tube)

COMMENTS: Obtain without use of or immediately after applying a tourniquet

Place on ice—Separate plasma from cells within 15 minutes

Refrigerate; Freeze plasma if not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled

Plasma not separated from red cells within 15 minutes

Separated plasma not refrigerated

Separated plasma not frozen and >24 hours since collection

Hemolysis

LACTOSE TOLERANCE

CPT: 82951, 82952 X 3

MNEMONICS: LAC

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: 8 hour fast is required

Draw fasting sample, then give Lactol; draw samples at 15, 30, 60, 90,
and 120 minute intervals post Lactol

Consult with lab for Lactol dosage for pediatric patients

Separate (Centrifuge) serum or plasma from cells as soon as possible

REJECTION CRITERIA: Specimen improperly labeled

Serum or plasma not separated (centrifuged) from cells
within 2 hours

LD

CPT: 83615

MNEMONICS: LDH

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

Hemolysis

LIPASE

CPT: 83690

MNEMONICS: LIP

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
RefrigerateREJECTION CRITERIA: Specimen improperly labeled
Grossly lipemic**LIPID PANEL**

CPT: 80061

MNEMONICS: LIPID

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Includes Cholesterol, Triglyceride, HDL, and calculated LDL
12 hour fast recommendedSeparate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

LDL not calculated if triglycerides > 400 mg/dL

HDL cannot be performed if triglyceride > 1900 mg/dL

REJECTION CRITERIA: Specimen improperly labeled
Moderate hemolysis**LITHIUM**

CPT: 80178

MNEMONICS: LI

SPECIMEN: 0.5 mL serum (Red top only)

COMMENTS: Draw 12 hours after the dose
RefrigerateREJECTION CRITERIA: Specimen improperly labeled
Specimen collected in **lithium** heparin tube**LUTEINIZING HORMONE**

CPT: 83002

MNEMONICS: LH

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze sample if not analyzed within 5 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen has gross turbidity**MAGNESIUM**

CPT: 83735

MNEMONICS: MAG

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

MALARIA SMEAR

CPT: 87207

MNEMONICS: MAL

SPECIMEN: 1 mL EDTA blood with smears (thin and thick), collected when pt temp spikes

COMMENTS: Patient history may be useful if available

Draw specimen when patient temperature spikes

REJECTION CRITERIA: Specimen improperly labeled

METHEMOGLOBIN

CPT: 83050

MNEMONICS: METHB

SPECIMEN: 3 mL heparinized whole blood; arterial or venous blood may be used

COMMENTS: Do not open tube prior to analysis

Transport tube on ice; do not freeze

Analyze within 30 minutes or place in ice slurry for up to 4 hours

REJECTION CRITERIA: Specimen improperly labeled

Specimen clotted

Tube opened prior to analysis

Not analyzed within 4 hours when kept in an ice slurry

MIXING STUDY-PROTIME

CPT: 85611

MNEMONICS: CMXPT

SPECIMEN: 2 mL sodium citrate plasma (blue top tube)

COMMENTS: Tube must be full to ensure correct anticoagulant/blood ratio

Centrifuge as soon as possible

Freeze plasma if not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled

Specimen clotted

Hemolysis

Plasma not frozen and >24 hours since collection

Tube not filled completely

MIXING STUDY-PTT

CPT: 85732

MNEMONICS: CMXPPT

SPECIMEN: 2 mL sodium citrate plasma (blue top tube)

COMMENTS: Tube must be full to ensure correct anticoagulant/blood ratio

Centrifuge as soon as possible

Freeze plasma if not analyzed within 4 hours

REJECTION CRITERIA: Specimen improperly labeled

Specimen clotted

Hemolysis

Plasma not frozen and >4 hours since collection

Tube not filled completely

MONOTEST

CPT: 86308

MNEMONICS: MONO

SPECIMEN: 0.5 mL serum or EDTA plasma. **Do not use heparin specimens.**

COMMENTS: Refrigerate; Freeze if not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled
Specimen moderately to grossly hemolyzed

MUMPS, IgG ANTIBODY

CPT: 86735

MNEMONICS: MUMPS

SPECIMEN: 1 mL serum (Red top only)

COMMENTS: Refrigerate

Specimen sent to Quest for testing

REJECTION CRITERIA: Specimen improperly labeled
Specimen submitted in a gel tube
Specimen grossly hemolyzed

MUMPS, IgM ANTIBODY

CPT: 86735

MNEMONICS: MUMPSM

SPECIMEN: 1 mL serum (Red top only)

COMMENTS: Refrigerate

Specimen sent to Quest for testing

REJECTION CRITERIA: Specimen improperly labeled
Specimen submitted in a gel tube
Specimen grossly hemolyzed

MYCOPLASMA, IGM ANTIBODY

CPT: 86738

MNEMONICS: MYCOM

SPECIMEN: 0.5 mL serum

COMMENTS: **Replaces “Cold Agglutinins” test**

Refrigerate; freeze serum if not analyzed within 72 hours

REJECTION CRITERIA: Specimen improperly labeled
Plasma specimens

OSMOLALITY

CPT: 83930

MNEMONICS: OSMOS

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Specimen stable for 3 hours at room temp or 3 days refrigerated

Remove serum or plasma from cells as soon as possible

REJECTION CRITERIA: Specimen improperly labeled

PHENOBARBITAL

CPT: 80184 MNEMONICS: PHENO
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Draw prior to dose or anytime if at steady state
Refrigerate
Specimen is stable in (spun) SST tube for 24 hours if refrigerated
REJECTION CRITERIA: Specimen improperly labeled

PHENYTOIN

CPT: 80185 MNEMONICS: PTN
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Draw prior to dose or anytime if at steady state
**Exception: Cerebyx (Fosphenytoin) must be collected 2 hours after
infusion or 4 hours after IM injection**
Refrigerate
REJECTION CRITERIA: Specimen improperly labeled

PHOSPHOROUS

CPT: 84100 MNEMONICS: PHOS
SPECIMEN: 0.5 mL serum or heparinized plasma
COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate
REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

PLATELET COUNT

CPT: 85049 MENOMONICS: PLT
SPECIMEN: 1 mL EDTA blood
COMMENTS: Performed with hemogram
Refrigerate
REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Clumped platelets

PLATELET COUNT, MANUAL

CPT: 85032 MNEMONICS: MPLT
SPECIMEN: 1 mL EDTA blood
COMMENTS: Refrigerate
REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Clumped platelets

POTASSIUM

CPT: 84132

MENMONICS: K

SPECIMEN: 0.5 mL serum of heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible
Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated from cells within 2 hours
Hemolysis

PREALBUMIN

CPT: 84134

MNEMONICS: PREALBUMIN

SPECIMEN: 0.2 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

PREGNANCY TEST

CPT: 84703

MNEMONICS: PGS

SPECIMEN: 0.5 mL serum

COMMENTS: Refrigerate; freeze serum if not analyzed within 72 hours

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly hemolyzed

PROGESTERONE

CPT: 84144

MNEMONICS: PROGES

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly hemolyzed or turbid

PROLACTIN

CPT: 84146

MNEMONICS: PROL

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze specimen if not analyzed within 5 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly hemolyzed or turbid

PROTEIN ELECTROPHORESIS

CPT: 84165

MNEMONICS: PROELEC

SPECIMEN: 0.5 mL serum

COMMENTS: Total protein is included
Refrigerate up to 72 hours

Reference specimens must include diagnosis information

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

PROTEIN, TOTAL

CPT: 84155

MNEMONICS: TPRO

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

PROTIME WITH INR

CPT: 85610

MNEMONICS: PT

SPECIMEN: 0.5 mL sodium citrate plasma

COMMENTS: Tube must be filled correctly to ensure correct anticoagulant/blood ratio
Centrifuge as soon as possible
Specimen may be held at room temp or refrigerated; freeze plasma if not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled
Tube not filled completely
Specimen is clotted
Hemolysis
Plasma not frozen after 24 hours of collection

PSA, DIAGNOSTIC

CPT: 84153

MNEMONICS: PSA

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate: freeze serum or plasma if not analyzed within 8 hours

REJECTION CRITERIA: Specimen improperly labeled
Gross hemolysis
Specimen not frozen and greater than 8 hours old

PSA, SCREEN

CPT: G0103

MNEMONICS: PSAS

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze serum or plasma if not analyzed within 8 hours

Medicare will pay for one screening per year for males over 50

REJECTION CRITERIA: Specimen improperly labeled

Gross hemolysis

Specimen not frozen and greater than 8 hours old

PTT

CPT: 85730

MNEMONICS: PTT

SPECIMEN: 0.5 mL sodium citrate plasma

COMMENTS: Tube must be filled correctly to ensure correct anticoagulant/blood ratio

Centrifuge as soon as possible

Specimen may be held at room temp or refrigerated; freeze plasma if not analyzed within 4 hours

REJECTION CRITERIA: Specimen improperly labeled

Tube not filled completely

Specimen is clotted

Hemolysis

Plasma not frozen after 4 hours of collection

RA FACTOR

CPT: 86430

MNEMONICS: RAF

SPECIMEN: 0.5 mL serum

COMMENTS: Refrigerate; freeze serum if not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled

Specimen is grossly hemolyzed or lipemic

Specimen is icteric

Plasma specimens

RENAL FUNCTION PANEL

CPT: 80069

MNEMONICS: RFP

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Includes Na, K, Cl, Carb, BUN, Crea, Gluc, Calc, Phos, Albu

Separate (centrifuge) serum or plasma from cells as soon as possible

Do not "uncork" tube until ready to analyze or freeze

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

Serum or plasma not separated (centrifuged) from cells within 2 hours

Hemolysis

RETICULOCYTES

CPT: 85045

MNEMONICS: RETIC

SPECIMEN: 1 mL EDTA blood

COMMENTS: Specimen stable for 24 hours at room temp or for 48 hours refrigerated

Requires hematocrit value to calculate "RPI"

Tubes must be at least ½ full

REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Specimen greater than 24 hours room temp or 48 hours refrigerated

RPR

CPT: 86592

MNEMONICS: RPR

SPECIMEN: 1 mL serum (EDTA or heparinized plasma may be used, however confirmation testing cannot be performed on these samples if needed)

COMMENTS: Refrigerate

Serum or plasma must be transferred into a plastic tube for transport

Testing performed on Mondays and Thursdays.

Serum may be stored refrigerated for up to 5 days

Plasma may be stored refrigerated for up to 24 hours

Specimens found to be preliminary positive will have serum forwarded to

Quest for confirmatory testing (FTA)

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly hemolyzed or lipemic
Serum specimen greater than 5 days old
Plasma specimen greater than 24 hours old

SALICYLATES

CPT: 80196

MNEMONICS: SAL

SPECIMEN: 0.5 mL serum or heparinized (dark green) plasma

COMMENTS: Note time of ingestion (should be drawn at least 6 hours after ingestion to determine toxicity)

Draw peak levels 6 hours post dose

Specimen is stable in SST tube for up to 24 hours refrigerated; freeze if separated serum or plasma is not analyzed within this time frame

REJECTION CRITERIA: Specimen improperly labeled
Serum on gel separator for more than 24 hours
Specimen not frozen and > 24 hours since collection

SEDRATE

CPT: 85652

MNEMONICS: SED

SPECIMEN: 3 mL EDTA blood

COMMENTS: Must be set up within 4 hours of collection if at room temp or 12 hours if refrigerated

Tube must be at least half full

REJECTION CRITERIA: Specimen improperly labeled
Specimen clotted
Specimen not processed within time limit
Tube not at least half full**SODIUM**

CPT: 84295

MNEMONICS: NA

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Separate (centrifuge) serum or plasma from cells as soon as possible
Refrigerate up to 7 daysREJECTION CRITERIA: Specimen improperly labeled
Specimen collected in SODIUM heparin
Serum or plasma not separated from cells within 2 hours
Hemolysis**T-3, FREE**

CPT: 84481

MNEMONICS: FT3

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze specimen if not analyzed within 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly turbid**T-4, FREE**

CPT: 84439

MNEMONICS: FT4

SPECIMEN: 0.5 mL serum (**No plasma specimens**)

COMMENTS: Refrigerate; freeze serum if not analyzed within 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen other than serum
Specimen grossly turbid**THEOPHYLLINE**

CPT: 80198

MNEMONICS: THEO

SPECIMEN: 0.5 mL serum or heparinized (dark green) plasma

COMMENTS: Draw 2 hours post dose (immediate release) or 4 hours post dose (slow release)—See Appendix IV for reference

Specimen stable in SST tube for up to 24 hours refrigerated

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly lipemic

THYROID STIMULATING HORMONE

CPT: 84443 MNEMONICS: TSH

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate; freeze serum or plasma if not analyzed within 7 days

REJECTION CRITERIA: Specimen improperly labeled
Specimen grossly turbid

TRANSFERRIN

CPT: 83540, 83550 MNEMONICS: TRANSFERRIN

SPECIMEN: 1 mL serum (**No plasma specimens**)

COMMENTS: % saturation calculated from iron and total iron binding capacity levels

Refrigerate

Fasting specimen preferred

Iron studies should be done prior to patient receiving packed cells

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

TRICYCLIC ANTIDEPRESSANTS

CPT: 80101 MNEMONICS: TRIC

SPECIMEN: 1.0 mL serum (red top tube) or plasma (EDTA or heparin)

COMMENTS: Serum/plasma testing included with urine drug screen when ordered as
"DRSC"

Refrigerate; freeze specimen if not analyzed within 48 hours

Quantitation of individual drugs of this class must be ordered and sent
to a referral laboratory

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma collected in a gel separator tube

TRIGLYCERIDES

CPT: 84478 MNEMONICS: TRIG

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Hemolysis

TROPONIN-I

CPT: 84484 MNEMONICS: TROP

SPECIMEN: 1 mL serum or heparinized plasma

COMMENTS: Separate (Centrifuge) serum or plasma from cells as soon as possible

Refrigerate

REJECTION CRITERIA: Specimen improperly labeled
Serum or plasma not separated from cells within 8 hours

URIC ACID

CPT: 84550

MNEMONICS: URIC

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

VALPROIC ACID

CPT: 80164

MNEMONICS: VAL

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Specimen stable in SST tube for up to 24 hours refrigerated

Trough values preferred—draw 30 minutes prior to dose if not at steady
State

REJECTION CRITERIA: Specimen improperly labeled

VANCOMYCIN

CPT: 80202

MNEMONICS: VANR (random) VANP (peak) VANT (trough)

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Draw peak 60 minutes after completion of the infusion

Draw trough 30 minutes prior to a steady state dose

Specimen stable in SST tube for up to 24 hours refrigerated; freeze serum
If not analyzed within 24 hours

REJECTION CRITERIA: Specimen improperly labeled

Serum on gel separator for more than 24 hours

Specimen not frozen and > 24 hours since collection

VITAMIN B12

CPT: 82607

MNEMONICS: B12

SPECIMEN: 0.5 mL serum or heparinized plasma

COMMENTS: Specimen stable for up to 7 days if refrigerated

REJECTION CRITERIA: Specimen improperly labeled

Specimen grossly turbid

WBC

CPT: 85048

MNEMONICS: WBC

SPECIMEN: 1 mL EDTA blood

COMMENTS: Refrigerate

REJECTION CRITERIA: Specimen improperly labeled

Specimen clotted

WEST NILE AB, IgM and IgG

CPT: 86788

MNEMONICS: WEST

SPECIMEN: 2 mL serum

COMMENTS: Refrigerate if next day delivery, or freeze if over 24 hours

Specimens referred to Nebraska Public Health Laboratory

Testing done once a week unless there is a greater demand

REJECTION CRITERIA: Specimen improperly labeled

Specimen not frozen and >24 hours since collection

Blood Bank Category (BBK)

Patient **MUST** have an ID band **ON** his/her body with the corresponding five-digit number (red sticker) from the EDTA tube used for testing. 7 mL pink or red top (no additive) tubes may be used.

REJECTION CRITERIA: Specimen improperly labeled
Serum/plasma not separated from cells within 2 hours
Specimen hemolyzed

Tests that may be ordered and mnemonics

Antibody Screen	ABSC
Blood Type (ABO, Rh)	ABORH
Direct Coombs	DAT
Indirect Coombs	IDC
RhoGam, Antepartum workup	ANTE
RhoGam, Post partum workup	POST
Type and Screen	TS

Products that may be ordered and mnemonics

Pack cells, leuko-reduced (please note quantity needed)	PCLR
Rhogam	RHO
Fresh frozen plasma	FFP

BODY FLUIDS

BODY FLUID	ORDERABLE TESTS	MNEMONIC
AMNIOTIC FLUID	APT Fetal Lung Maturity PG Spot	APT FLM PG
BODY FLUID Pleural, synovial, Thoracentesis	Albumin Amylase Cell count with diff Crystals Culture (Aerobic/Anaerobic) Gram Stain Glucose LD pH Total protein	BODYALB BODYAMY BFCC BFMICRO AERANA GS BODYGLU BODYLD BODYPH BODYTP
CAPD DIALYSATE FLUID	Cell count with diff Creatinine Culture Fungus culture* Gram Stain	BFCC BODYCREA PERDIA FC GS
GASTRIC FLUID	APT Occult Blood (includes pH)	APT GAOCLT
NASAL LAVAGE	Influenza A and B Antigen Respiratory syncytial virus	INAB RSV
SPINAL FLUID	Cell count with diff Cryptococcal Antigen Culture Gram Stain Glucose IgG Synthesis (MS Screen)* LD Oligoclonal banding* Total Protein Myelin basic protein*	CSFCC CRYPT SFC GS CSFGLU IGGSYN CSFLD OLIGBAND CSFTP MBP

* denotes testing that is referred to an outside laboratory

BODY FLUIDS CONTINUED.....

STOOL

APT	APT
Clinitest (reducing subst)	CLINST
Clostridium difficile	CLODIF
Culture (Enteric pathogens)	STC
Fecal Fat	FFAT
Giardia Antigen	GIAAG
Occult Blood	OC
Ova and Parasites*	O&P
Red cells	STRBC
Rotavirus	ROTA
Stool recheck	STR
WBC	STPMN

URINE

Culture	UC
Drug screen	DSNON7
Amphet, Barb, Benzo, Cocaine, Opiates, PCP, THC	
Drug screen + Tricyclics	DRSC
Ethanol	UETOH
Inborn errors of metabolism*	INER
Microalbumin (spot)	MICROALB
Pregnancy test	PGU
Osmolality	OSMOU
Specific gravity	SG
Spot (random) amylase	UAMYR
Spot creatinine	USCR
Spot potassium	UK
Spot protein	USPRO
Spot sodium	UNA
UA/CS if indicated	UACS
Urinalysis	UA

- denotes testing that is referred to an outside laboratory

BODY FLUIDS CONTINUED....

URINE, 24 HR	24 hr amylase	24UAMY
	24 hr calcium	24UCA
	24 hr citrate*	CIT
	24 hr cortisol	
	24 hr creatinine	24UCREAT
	24 hr creatinine clearance	CRCL
	24 hr immunofixation	IFEU
	24 hr oxalate*	UOX
	24 hr phosphorus	24UPHOS
	24 hr potassium	24UK
	24 hr protein	24UUP
	24 hr protein electrophoresis	UPE
	24 hr sodium	24UNA
	24 hr uric acid	24UUA

*denotes testing that is referred to an outside laboratory

MISCELLANEOUS TESTING

CALCAREOUS MATERIAL

CPT: 82355 MNEMONICS: UCAA

SPECIMEN: Stone(s) from bladder, ureter, kidney

COMMENTS: Note if stone(s) obtained by lithotripsy, surgical removal, or spontaneous passing

Analysis performed at our Reference Laboratory

SPECIMEN REJECTION: Specimen improperly labeled

FETAL FIBRONECTIN

CPT: 82731 MNEMONICS: FFN

SPECIMEN: For symptomatic women, obtain specimen from the posterior fornix of the vagina (rotate swab for approximately 10 seconds).

For asymptomatic women, obtain specimen from either the posterior fornix of the vagina or the ectocervical region of the external cervical os (rotate swab for approximately 10 seconds.)

COMMENTS: Obtain during sterile speculum exam.

Use special kit containing a sterile Dacron swab and extraction buffer in a plastic vial

SPECIMEN REJECTION: Specimen improperly labeled

Specimen collected without use of proper collection kit

NASAL SMEAR FOR EOSINOPHILS

CPT: 89190 MNEMONICS: NEOS

SPECIMEN: Minitip culturette swabbed in nasal passage

COMMENTS: Do not crush ampule in culturette

SPECIMEN REJECTION: Specimen improperly labeled

Ampule crushed

Insufficient sample on swab

ANATOMIC PATHOLOGY

Specimens should be transported to the laboratory in properly labeled containers as soon as possible after collection. They should be sealed in a separate, clear, outer bag. The requisition should indicate the source of the fluid or tissue, total volume removed, date and time of collection, and any appropriate clinical information, including previous malignant diseases.

Be sure someone from the lab is notified that you have a specimen. Any questions, call Histology (5639) Monday through Friday, 0600 to 1600.

CYTOLOGY SPECIMENS

Bronchial washings	Sterile tube Refrigerate specimen in Histology
Cerebral Spinal Fluid	Sterile tube (tube 4 if possible) Refrigerate specimen in Histology
Cervical smears	Immediate ethanol fixation
Core biopsies	10% formalin
Endoscopic brushings, smear	Immediate ethanol fixation
Fine needle aspirate, smear clotted material	Immediate ethanol fixation 10% formalin Call Histology (5639) to schedule
Sputum	Collect FIRST MORNING specimen— Refrigeration of fresh specimen should not exceed 24 hrs. Saccomanno's fluid (50 cc) should be added to specimens in which processing is expected to be delayed by more than 24 hrs
Thoracentesis, peritoneal	Sterile container or vacutainer system (1 mL of 1:1000 heparin solution per 100 mL fluid is recommended to prevent clotting) Refrigerate specimen in Histology
Tissue fragments (large), exfoliated or aspirated	10% formalin

HISTOLOGY SPECIMENS CONT.

Urine	Sterile container Refrigerate specimen in Histology
Small tissue specimens	Place in a 10% formalin container (adequate to hold the tissue and approximately 10 X its volume of formalin)
Bone Marrow	Call Histology (5639) to schedule
Kidney Biopsy	Call Histology (5639) at least 48 hours prior to biopsy (special media required)
Lymph Node Biopsy	Call Histology (5639) to schedule for lymphoma studies
Muscle Biopsy	Call Histology (5639) to schedule. Two pieces are required... <ol style="list-style-type: none">1. 1.5 cm longitudinal length with 0.5 cross-section diameter2. 1 to 1.5 cm length with 1 to 2 cm diameter isometrically stretched with a muscle biopsy clamp or tied to a tongue blade

APPENDIX I BLOOD COLLECTION TUBES

Serum tubes

RED top tube (often called plain clot)

Often used for therapeutic drug and hormone testing.

5 mL draw size

GOLDENROD (YELLOW) top tube – has serum separator gel in tube

Can be used for most chemistry and special chemistry testing

5 mL draw size

BLACK/RED top tube (often called tiger top)

Has larger serum separator gel in tube designed for reference testing

Can be used for most chemistry and special chemistry testing

7.5 mL draw size

Tubes with anticoagulant added are used in the laboratory to prevent the blood from clotting.

BLUE top tube (contains sodium citrate)

Most often used for coagulation studies

Tube **must** be filled to correct anticoagulant/blood ratio (full)

2.7 mL draw size

GREEN top tube (contains **sodium** heparin) – no separator in tube

Used for body fluids, fluid cultures

4 mL draw size

MINT GREEN top tube (contains **lithium** heparin) – has separator in tube

Used for most chemistry and special chemistry testing

3 mL draw size

PURPLE top tube (contains EDTA)

Used for hematology, blood bank, and a few special chemistries

4 mL draw size

GRAY top tube (contains potassium oxalate-sodium fluoride)

2 mL size

COLLECTION: Tubes containing an anticoagulant should be gently inverted 8-10 times immediately after filling. Serum tubes should be gently inverted 5-6 times.

PROCESSING: Allow SERUM tubes to completely clot before centrifugation (normally within 30-60 minutes). Centrifuge tubes within one hour. Do not apply the brake or stop the centrifuge by hand. Post centrifuged tubes should be kept upright.

*** Do not spin purple (hematology) tubes***

APPENDIX II
BLOOD CULTURE COLLECTION

BLOOD CULTURE

CPT: 87040

MNEMONICS: BC

SPECIMEN: collected in orange anaerobic FN bottle, mint aerobic FA bottle, or yellow pediatric PF aerobic bottle

ADULTS (12 years of age and older)

Draw 20mL per venipuncture and fill the mint (aerobic) bottle first with 10mL. The Remaining 10mL of the specimen goes into the orange (anaerobic) bottle.

If the total specimen is >10 mL but <20 mL, fill the mint (aerobic) bottle first with 10mL.

The remainder of the specimen goes into the orange (anaerobic) bottle.

If the total specimen is 5-10 mL, inoculate ONLY the mint bottle

If the total specimen <4 mL, place entire specimen into yellow Pediatric bottle.

PEDIATRIC (less than 12 years of age)

If the total specimen is <4 mL, place entire specimen into the yellow bottle (4 mL maximum).

If the total specimen is 5-20mL, divide the specimen as with an adult draw.

If the specimen is 5-10 mL, inoculate ONLY the mint bottle.

If the total specimen is >10 mL but <20 mL, fill the mint (aerobic) bottle first with 10mL

The remainder of the specimen goes into the orange (anaerobic) bottle.

SITE SELECTION: Select a different site for each set drawn.

If one set is drawn through a port in an indwelling intravenous or intra-arterial catheter, the second culture should be drawn from a peripheral site since catheters are more likely to be contaminated. If the diagnosis of catheter sepsis is suspected, the culture may be ordered to be obtained from the catheter.

SITE PREPARATION: Palpate the area to be used PRIOR to the cleansing process.

Use 70% isopropanol or 95% ethanol to vigorously cleanse the site.

Start at the center of the site and use a concentric motion. Allow to dry.

Use Betadine wipes to do 2 washes of the site using the same concentric motion. Allow to dry between each.

Use 70% isopropanol or 95% ethanol to do a final wash. Allow site to dry.

DO NOT TOUCH THE VENIPUNCTURE SITE AFTER PREPARATION AND PRIOR TO PHLEBOTOMY.

COLLECTION: Remove the flip caps and disinfect the rubber septa of the bottles with 70% Isopropanol or 95% ethanol. **DO NOT USE BETADINE.**

Cleanse excess blood from the bottle tops with alcohol again after inoculating the bottles.

Complete the label to identify each bottle (patient name, ID number, date drawn)

Add to each label your initials, the time drawn, site, and the amount of blood inoculated. Any labels added to the bottle must be placed so as not to obscure the bottle barcode.

APPENDIX III

BODY FLUID ASPIRATES

Collect with a syringe or EVAC bottle using aseptic technique. Specimens collected off-site should be transported ASAP to the Saint Francis Medical Center laboratory.

CELL COUNT, GENERAL CHEMISTRY AND/OR ANAEROBIC CULTURE, GRAM STAIN

If collected from a body site which may contain fibrinogen, and a culture is needed, immediately place a portion of the fluid in a SODIUM heparin tube (dark green) to transport.

Forward both the labeled syringe sample and the labeled sodium heparin tube to the laboratory.

*****Do not transport syringe with the needle still attached*****

WHEN A DELAY FROM AN OFF-SITE FACILITY IS ANTICIPATED...

TO PRESERVE THE INTEGRITY OF THE ANAEROBIC CULTURE:

A small amount of fluid from the syringe may be placed on an anaerobic CultureSwab (blue cap)

Be sure all excess air is expelled from the syringe

Be sure there is a “cap” on the end of the syringe (**do NOT transport syringe with needle**).

Forward both the labeled syringe sample and the labeled anaerobic CultureSwab in a baggie to the Saint Francis Medical Center laboratory.

COAGULATION

Protime..... > 40 seconds
INR..... > 5
PTT..... > 110seconds

HEMATOLOGY

Hematocrit (Newborn) < 43%
Hemoglobin..... < 8 g/dL
WBC..... < 2.5 X 10 /cmm..... > 30x10/cmm
except known CLL patients
Platelets..... < 20 x 10 /cmm
Presence of immature cells (metamyelocyte, myelocyte, promyelocyte, or blast)
*except oncology patients that have received bone marrow stimulation drugs

BLOOD BANK

Positive direct coombs'
Incompatible crossmatch due to presence of irregular antibodies

SEROLOGY

Positive RSV

MICROBIOLOGY

Positive Acid Fast smear or culture
Positive bacterial or fungal “sterile” fluid culture or smear; body fluid, blood, CSF
Positive Giardia antigen
Positive Rotavirus
Positive Clostridium difficile
Positive Shiga Toxin
Significant stool pathogen isolated (Salmonella, Shigella, Camylobacter)
Group A Streptococcus throat culture
Group B Streptococcus pediatric culture or OB culture
Isolates of MRSA or VRE
Positive ESBL organism
Positive virus (culture or PCR)
State reportable pathogen (isolated or detected)
Inappropriate antibiotic therapy—reported to Pharmacy and Infection Control

URINE ANALYSIS

Positive Clinitest with a negative dipstick glucose on patient younger than 2 years of age
Presence of cystine crystals
Presence of leucine crystals
Presence of tyrosine crystals
Presence of cholesterol crystals

APPENDIX V

CultureSwab Collections

The **WHITE** cap CultureSwab contains a single swab for the collection of **superficial wound** and **miscellaneous** site **AEROBIC** cultures.

The **BLUE** cap CultureSwab contains a single swab with a gel bottom for the collection of **deep wound** and **miscellaneous** site **ANAEROBIC** cultures.

The **LARGE RED** cap CultureSwab contains a **DOUBLE SWAB** for the collection of Group A Strep screens when the Direct testing will be performed at the clinic site prior to the culturing of the second swab at the Saint Francis Medical Center's laboratory.

The **GREEN** cap CultureSwab contains a "minitip" swab for the collection of **ear, eye, nasopharyngeal and male genital** specimens.

The **RED** cap CultureSwab contains a single swab with a gel bottom for the collection of **rectal** cultures only.

HOW-TO-USE

1. Peel open the sterile pouch at the point marked "PEEL HERE" symbol at the top.
2. Remove the cap from the transport tube and discard.
3. Remove the swab and collect the specimen. During collection, the swab tip should only touch the area to be cultured to minimize potential contamination.
4. Insert the swab in the transport tube and snap-close the cap.
5. Label the specimen with the patient's name, source, and date and time of collection.
6. Place the labeled transport tube into a baggie for transport to the laboratory as soon as possible.

APPENDIX VI

STOOL COLLECTIONS

Only one specimen per test per day (24 hour period) will be accepted. Exceptions require physician consultation with a Pathologist.

Specimens should be returned to the laboratory as soon as possible after collection.

Keep the vial with the **white** lid cool (on wet ice or refrigerate).

*** Stool specimens for *Clostridium difficile* should be frozen if unable to transport within 24 hours of collection to Saint Francis Medical Center for testing.

*** Stool specimens for enteric pathogens (culture) must be received for testing in the laboratory within 2 hours of collection if collected in a sterile container. An orange C&S transport vial or (red) Cary-Blair CultureSwab should be used if a transport delay of greater than 2 hours is anticipated.

The vials with **pink, blue, or orange** lids should be kept at room temperature.

*** Be sure specimens are **labeled** with the patient's name and the date and time of collection.

Refer to pink Microbiology Collection Guide for detailed instructions.

TEST	COLLECTION CONTAINER
Clostridium difficile toxin	White lid (clean vile)
Clinitest (reducing substances)	White lid (clean vile)
Cryptosporidium	Pink (10% formalin) lid
Enteric pathogens (stool culture)	Orange lid
Fecal fat	White lid (clean vial)
Giardia antigen	White lid (clean vial)
Occult blood	White lid (clean vial)
Ova and parasites*, O&P*	Gray (PVA) and pink (10% formalin) lids
Rotavirus	White lid (clean vial)
Stool culture (enteric pathogens)	Orange lid
Stool pH	White lid (clean vial)
Stool white blood cells	White lid (clean vial)
Stool red blood cells	White lid (clean vial)

* denotes testing that is referred to an outside laboratory

APPENDIX VII

THERAPEUTIC DRUG LEVELS

CARBAMAZEPINE (Tegretol)

Draw 30 minutes before the next dose if not at a steady state

DIGOXIN (Lanoxin)

Draw at least 6 hours after the last dose or just before the next dose

GENTAMICIN

Peak – Draw 30 minutes after completion of 30-minute infusion.

If IM, draw 60 minutes after the injection

Trough – Draw 30 minutes before the next dose

Random – Draw 6-14 hours post initiation of daily dose

LITHIUM

Draw 12 hours after the oral dose

PHENOBARBITAL

Draw prior to dose or anytime if at steady state

PHENYTOIN (Dilantin)

Draw anytime or just before the next dose for trough level

** EXCEPTION: Cerebyx (Fosphenytoin) must be collected 2 hours after infusion or 4 hours following IM administration

THEOPHYLLINE (Aminophylline)

Immediate release* - Draw 2 hours after the dose

Slow release* - Draw 4 hours after the dose

VALPROIC ACID (Depakene)

Draw 30 minutes prior to the next dose if not at steady state

VANCOMYCIN

Peak – Draw 60 minutes after completion of infusion

Trough – Draw 30 minutes prior to a steady state dose

APPENDIX VIII
24 HOUR URINE COLLECTIONS

Testing that does not require a preservative must have the specimen kept cold during the 24 hour collection.

Testing that requires a preservative at the start of the collection are noted in parentheses.

TEST	MNEMONIC
Aldosterone *	ALDOSUR
Amylase	24UAMY
Calcium	24UCA
Catecholemines *	UCAT
Patient prep several days prior to and during collection: minimize exertion, exposure to loud noise, general physical stress, hypoglycemia, and pain. Avoid the use of caffeine, nasal decongestants and tobacco products (including use of nicotine patch/supplement products during this time).	
Citrate *	UCIT
Cortisol *	UCORT (add 1g boric acid)
Creatinine.....	24UCREAT
Creatinine Clearance.....	24UCRCL
5HIAA *	5HIAA
Patient prep: Patient should not eat avocados, bananas, eggplant, hickory nuts, kiwi, pecans, pineapples, plums, tomatoes, or walnuts for 48 hours prior to and during collection. Avoid the use of alcohol and tobacco products (including use of nicotine patch/supplement products) and COFFEE or TEA for 3 days prior to and during collection.	
Immunoelectrophoresis.....	IFEU
Ketogenic steroids *	U17KEG (add 25 mL 50% Acetic Acid)
Ketosteroids *	17UKE
Metanephrines *	24METAU
Patient prep several days prior to and during collection: minimize exertion, exposure to loud noise, general physical stress, hypoglycemia and pain. Avoid the use of caffeine, nasal decongestants, and tobacco products (including use of nicotine patch/supplement products) 3 days prior to and during collection	
Oxalate *	UOX (add 30 mL 6N HCl)
Phosphorous.....	24UPHOS
Porphrins, fract *.....	PORP (can also be ordered random)
Potassium.....	24UK
Protein.....	24UUP
Protein electrophoresis.....	UPE
Sodium.....	24UNA
UREA (BUN).....	24UUREA
Uric acid.....	24UUA
VMA *	VMA
Patient prep several days prior to and during collection: avoid the use of tobacco (including use of nicotine patch/supplement products) and alcohol. Avoid bananas, caffeine, and citrus fruits and STRENUOUS EXERCISE during this time.	

* denotes testing that is referred to an outside laboratory

APPENDIX IX
POST-EXPOSURE TESTING

FACILITY _____

EXPOSED EMPLOYEE INFORMATION

EMPLOYEE SOCIAL SECURITY NUMBER _____

Date drawn _____

Time drawn _____

TESTING REQUESTED:

_____ Hepatitis B Surface Antibody

_____ Hepatitis C Antibody

_____ HIV

_____ OTHER _____

PATIENT INFORMATION (SOURCE OF THE EXPOSURE)

PATIENT IDENTIFICATION NUMBER _____

Date drawn _____

Time drawn _____

TESTING REQUESTED:

_____ Hepatitis B Surface Antigen

_____ Hepatitis C Antibody

_____ HIV

_____ OTHER _____

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** Refer to Microbiology collection guide for more information

