BLOOD AND TIMED URINE COLLECTION

BLOOD COLLECTION

Test accuracy is dependent on careful attention to specimen collection technique. Refer to the Appendix for Specimen Collection Procedures. The following are recommended safeguards to assure quality:

- Avoid leaving a tourniquet in place for longer than 1 minute.
- Avoid the patient clenching their fist or "pumping" their hand.
- Avoid collecting specimens from veins where current administration of fluids may cause abnormal levels of electrolytes, glucose, or drugs.
- Assure accurate timing of drug levels.
- Follow procedure when collecting blood from venous access devices to avoid contamination or dilution with heparin or fluids.
- Collect non-additive evacuated tubes before those containing additives to avoid possible cross-contamination with anticoagulants, (An exception is made when a syringe is used: fill anticoagulant tubes before non-additive tubes to minimize the possibility for clotting.)
- Never pour blood from one type of collection tube into another; this can result in erroneous test results.
- When collecting blood into anticoagulated tubes, such as coagulation citrate tubes, collect the required minimum blood volume to achieve appropriate anticoagulant to blood ratio. Mix tubes containing an anticoagulant or additive by gentle inversion 5-8 times. Proper mixing ensures specimen integrity.
- The minimum collection volumes are to be used for patients where any unnecessary blood loss may affect patient status. Unusual testing or sample problems (lipemic, icteric, hemolyzed) may result in a necessity for the specimen to be recollected. Microcontainers should be used to collect minimum blood volumes of less than 1 mL.

SUGGESTED BLOOD COLLECTION VOLUME

Patient Body Weight		Inpatient Guideline^	Outpatient Guideline^
lbs.	kg	mL/collection	mL/24 hours
3	1.4	1.5	5
5	2.3	2.5	8
10	4.5	7	15
15	6.8	11	22
20	9.1	15	30
30	13.6	22	45
40	18.2	30	60
50	22.7	35	75
75	34.1	55	110
≥100	≥45.5	70	135

^Outpatient maximum collection volume represents 4% of total blood volume; inpatient maximum collection volume represents 1.3-2% of total blood volume. (Total blood volume assumes 85 mL/kg for infants, 80 mL/kg for children, and 75 mL/kg for adults.)

URINE, TIMED COLLECTION

A 24 hour specimen should be collected for most timed urine assays. Refer to specimen requirements for each assay to determine the appropriate preservative.

1. Instruct the patient to avoid contact with the preservatives in the collection bottles.
2. Instruct the patient to empty their bladder at a specified time (e.g., 0800). Discard urine (or submit this urine for other tests as appropriate) since it was formed prior to the collection period. Record the time and date; this is the beginning of the collection period.
3. Collect all subsequent urine passed during the collection period.
4. Instruct the patient to void at exactly the ending time of the collection period (e.g., for 24 hour collection, 0800 the next day). Record the time and date of completion.
    - Keep the urine container **on ice or refrigerated** during the collection. (A specimen for uric acid is the only test that should be collected at room temperature.)
    - Collection of **all** urine during the time period is critical to the accuracy of the test. Portions of the timed collection should **not** be used for other testing.
5. Determine the total elapsed time of the collection period and record this information on the request form.

NOTE: Refer to the Appendix for more detailed specimen collection procedures and policies.