

## *Special Collection Instructions – Blood and Urine*

### **Metals Analysis**

1. Always check specific test requirements in section 4 before specimen collection. Accurate test results depend on careful attention to detail. Keep in mind that when testing for trace metals, even small amounts of contamination from the environment can alter test results.
2. DO NOT collect specimens in the environment in which exposure is most likely to occur. It is important that dust from clothing not contribute to the specimen contents.

### **BLOOD**

1. Area of collection should be clean and free of dust.
2. Alcohol, not iodine, should be used to clean venipuncture site.
3. Red topped tubes and plastic syringes with black rubber seals are contaminated with zinc and all contain varying amounts of heavy metals (lead, mercury, cadmium, nickel, chromium, and others). Tubes with rubber stoppers have significant concentrations of aluminum in the rubber stopper that is carried into the specimen on the puncturing needle, contaminating the specimens. Tubes that contain anticoagulants are contaminated with trace metals.
4. When collecting multiple tubes in addition to a tube for heavy metals, the heavy metal tube must be collected **first** so as not to be contaminated by stoppers on other tubes.
5. When collecting specimens for trace metals, Monoject® trace element tubes (Navy Blue Top) should be used. There are two Navy-Blue Monoject® trace element tubes; one is for the collection of metals testing requiring serum; the other, for plasma. The type of specimen tube will depend on the trace metal that you are testing for. Look up the metal you are testing in the Individual Test Listing in Section 4 to determine the type of specimen and collection container needed.
  - Serum (Navy Blue vacutainer, no additive): Clot specimen at room temperature for 30 minutes. Centrifuge for 10 minutes; immediately pipet serum into the “metal-free” vial. Store/transport refrigerated.
  - Whole Blood (Navy Blue vacutainer with EDTA): Mix well after collection. Store/transport refrigerated.
6. A special metal-free transfer vial is required for the plasma/serum after centrifugation.

### **URINE**

1. Use clean plastic containers, with no metal caps or glued inserts, for urine collection.
2. Do not use soaps or wipes to clean genital area before collection. If patient has used any powders or creams, instruct them to clean off genital area with water only.
3. DO NOT collect specimens in the environment in which exposure is most likely to occur. It is important that dust from clothing not contribute to the specimen contents.
4. DO NOT collect or transport urine in metal-based containers (such as metal urinals or pans), or in colored containers (some metals are found in dyes). Store/transport refrigerated.