



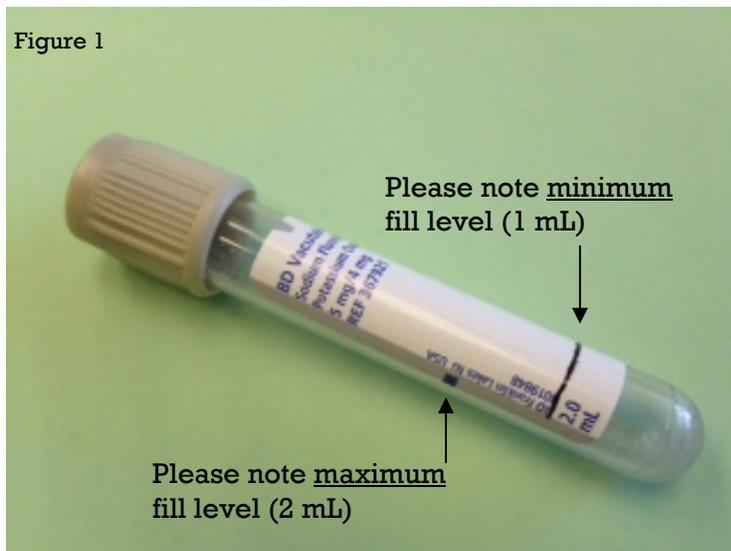
Did You Know?

Grey Top Glucose

Over the years, our clients have frequently sent in grey top tube (GTT) plasma samples in addition to the red top tube (RTT), clear top tube (CTT), or SST tube. This was an attempt to obtain a more accurate glucose value.

With the move to our new building in March 2012, Phoenix also purchased two new state-of-the-art chemistry analyzers. The protocol for GTT glucose determinations on our new equipment is more accurate than our previous protocol, and it requires a proper sample volume and one that is not hemolyzed.

Figure 1



We ideally request 2 mLs of blood in the GTT with a minimum requirement of 1 mL. In our current GTTs, a sample filled to the hash line on the label contains 2 mLs and a sample filled to the 2 mL written on the label contains 1 mL. See Figure 1

Samples filled to less than 1 mL will not provide accurate results; values will be falsely decreased because the chemicals that prevent glucose metabolism in the tube, also interfere with the chemical reaction used to measure glucose on the instrument. In a short sample, the concentration of these chemicals is significantly higher (the shorter the sample, the higher the interference), enough to interfere with accurate measurement.

Serum samples for glucose determination are accurate if serum is not allowed prolonged contact with the cellular fraction. Red cells, and to a lesser extent WBCs, metabolize glucose in the serum and will over time, significantly decrease the serum glucose, providing an inaccurate result.



PLEASE NOTE: A grey top tube is **not** needed if serum is drawn into an SST tube, allowed to clot and then spun down within 20-60 minutes of sampling. If a RTT or CTT is used, the serum must be drawn off the cell pellet and placed in a new CTT for the serum glucose to be most accurate. In addition, an unspun SST, RTT or CTT sample drawn in the morning and sent in on the day run will yield a more accurate glucose value than a short sample in a GTT.