

Top 8 Pre-Analytical Errors and How to Prevent Them



#8

Improper patient identification

Verbally verify EVERY patient's identity by asking them to provide the name listed on their health card and their date of birth. Take no shortcuts and make no exceptions or assumptions.



#7

Incorrect patient labels

Ensure samples are labelled with the correct patient identifiers AFTER obtaining the blood sample in front of the patient. If you didn't draw it, don't label it.



#6

Time-of-Collection Errors

Failure to draw samples according to a time-sensitive request can lead to medication errors and mismanagement of many conditions. Ensure this information is documented on the requisition if required.



#5

Underfilling blood collection tubes

Tubes contain precise quantities of anticoagulant to ensure proper buffering, preservation, and anticoagulation of blood. Ensure tubes are adequately filled and NEVER combine the contents of two underfilled tubes even if they are the same type of tube.



#4

Filling tubes in the improper order

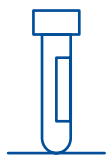
This results in additives being carried over from the first tube, which will alter the results on the tests performed on the next tube. See Order of Draw and Fill Line poster.



#3

Improper mixing

Vigorous mixing of the sample can lead to hemolysis which produces inaccurate results or sample rejection. To prevent hemolysis, gently invert the tube. The air bubbles in the tube mix the blood, so let the bubble go all the way up before inverting again.



#2

Improper orientation of serum tubes and clot times

When tubes clot on their side, it can cause clots and fibrin strands. Allow serum tubes to clot **UPRIGHT** for at least 30 mins (SSTs) and 60 mins (Red Tops) **PRIOR** to centrifugation.



#1

Hemoconcentration

A false increase in RBCs. Ensure the tourniquet is not left in place for more than one minute and instruct the patient not to pump their fists. If these are observed, wait two minutes before proceeding with blood collection.

References:

- Dasgupta, A., Sepulveda, J. L., (2013). Accurate Results in the Clinical Laboratory: A Guide to Error Detection and Correction. Elsevier
- Center for Phlebotomy Education. (2021). Preventing Preanalytical Errors (Single View Video File). Retrieved from <https://www.phlebotomy.com/preanalytical-errors-single-streaming-view.html>.