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Re-Centrifugation Prior to Additional Testing after Prolonged Storage

Factors and Their Possible Consequences:

For a gel-based separator tube, if the tube is subject to a second centrifugation step (re-spin), then the gel barrier may open and allow any serum or plasma, which has been in contact with RBCs, to mix with the serum or plasma previously above the gel. This could result in a hemolyzed sample.

For non-gel tubes, serum or plasma in contact with RBCs over a prolonged period of time may be hemolyzed due to RBC rupture.

Corrective Actions

- Do not re-centrifuge gel-based samples. If required, centrifuge aliquot of serum or plasma.
- For non-gel tubes, store an aliquot of the serum or plasma.

References:

1. CLSI. *Collection of Diagnostic Venous Blood Specimens.* 7th ed. CLSI Standard GP41. Wayne, PA: Clinical and Laboratory Standards Institute; 2017.
2. *Procedures for the Handling and Processing of Blood Specimens*; Approved Guideline, 4th ed. CLSI Document H18-A4. Wayne, PA: Clinical and Laboratory Standards Institute; 2010.
3. Pseudohyperkalaemia caused by recentrifugation of blood samples after storage in gel separator tubes. Hira K, Ohtani Y, Rahman M, Noguchi Y, et al. Ann Clin Biochem 2001;38:386-390.
4. High serum potassium concentrations after recentrifugation of stored blood specimens. Hira K, Shimbo T, Fukui T. N Eng J Med 2000;343:153-154.