Carryover Guidelines

Carryover in laboratory testing is defined as the contamination of a specimen by the previous specimen. Carryover testing is performed to help prove or disprove carryover from the sample probe in clinical laboratory testing.

a. Sample criteria
   - Two specimens, one very high and one very low are selected and analyzed in a specific order.
   - Patient samples are preferred but controls and EQA samples may also be used.
   - Select specimens with enough volume so that they can each be run approximately 10 to 11 times.

b. Testing and Results
   - Statistical analysis can be performed using the spreadsheet (See VAL 2016) to determine if there is a statistical difference when a very low specimen is analyzed following a very high specimen.
   - The spreadsheet will calculate the SD of the Low-Low results. The error limit is equal to three times the Low –Low SD.
   - Definitions:
     - Low-Low Results – A low result that immediately follows another low result
     - High-Low results – A low result that immediately follows a high result.

Run the samples on the same run in the following order:
3 Low specimens
2 High specimens
1Low specimen
2 High specimens
4 Low Specimens
2 High Specimens
1 Low Specimen
2 High Specimens
1 Low Specimen
2 High Specimens
1 Low Specimen

c. Acceptability criteria:

- If the specimens are not analyzed on the same run in the correct order the results are invalid.
- The Carryover test passes if the carryover is less than the error limit.

References:

a. College of American Pathologists (CAP): Serum Carryover Survey Product information, downloaded from www.cap.org 17 August 2009

b. EP Evaluator 12.0. Carryover. https://www.datainnovations.com/sites/default/files/EE_Help/EE12/Content/CO/carryover___overview.htm

c. Kaplan L. A., Pesce A. J., Clinical Chemistry: Theory, Analysis and Correlation: 5th Ed. Mosby Elsevier Company: St. Louis, MS, 2010.