

Intraosseous (IO) Blood Specimen Submission to the Laboratory

Applicability

This document applies to all personnel who collect and submit intraosseous (IO) blood specimens to the laboratory.

Specimen Acceptability & Submission

Only ABO blood grouping is possible on intraosseous (IO) blood specimens. At this time, intraosseous blood samples will not be accepted for chemistry and hematology testing.

“Intraosseous” must be clearly marked in the specimen type area of the requisition.

Background for Decision

The following was considered when making this decision:

- 1) ***There is very little data on the correlation of lab test results in IO blood versus venous (or arterial) blood from hemodynamically compromised patients.***

As of August 20, 2018 only 10 studies had been published on this subject and 9 of these used hemodynamically stable test subjects. It is unclear how the results of these studies translate to the real world target patient population of IO blood sampling.

- 2) ***The data that does exist shows questionable correlation between IO blood and venous (or arterial) blood for most chemistry and hematology test results.***

The only test results that show potentially acceptable correlations are pH, chloride, glucose, creatinine and urea. Other tests either haven't been examined in sufficient detail (i.e. 1-2 reported studies at most) or show conflicting behavior between the different studies.

- 3) ***IO specimens contain bone spicules that will easily damage the various parts of automated chemistry and hematology analyzers.***

AHS Laboratory Services, including the Chemistry Network and the Hematology Network, will continue to review new information on IO blood testing as it becomes available. In the meantime, please contact your local laboratory with any questions regarding IO blood testing.

Contact Information

- Your local laboratory **OR** Laboratory Client Services 1-877-868-6848 labclientservices@ahs.ca