



Critical Care Therapy and Respiratory Care Section

Category:	Clinical
Section:	Diagnostics
Title:	Split-Sample Procedure
Policy #:	07
Revised:	02/01

1.0. PURPOSE

- 1.1. Due to differences in blood gas analyzer and co-oximeter technology used in Clinical Pathology and Critical Care Medicine, it is necessary to establish a procedure that will assist critical care therapy personnel in knowing the biases associated with the Radiometer and the i-STAT system and Bayer 270 Co-Oximeter analyzers. Knowing and understanding these differences are important because patients are routinely transferred to the intensive care unit who have had previous blood gases drawn and analyzed on their respective patient care units. This procedure will be repeated once per week based on arterial line availability.

2.0. PRIOR CONSIDERATIONS

- 2.1. Check the availability of arterial lines. If no arterial line exist, document in LDS under as needed maintenance "Unable to do split sample due to lack of aline".
- 2.2. Assess if conditions are favorable to run a split sample. Analyzers in both areas should be fully operational and ready for use. Call Clinical Pathology, Chemistry (496-3386) and ask to speak with someone in the STAT Lab.
- 2.3. Draw at least 2.5cc of arterial blood. This will allow for a sufficient quantity of blood that will be run in all analyzers and co-oximeters.
- 2.4. Make sure all air has been expelled from the blood gas syringe after sample has been obtained.
- 2.5. Note the patient's temperature and the FiO₂.
- 2.6. Correlated values are pH, pO₂, pCO₂, HC0₃, K, iCa, Glu, Na, Hct, O₂hb and tHB.

2.7. Blood gas split samples will only be obtained from adults.

3.0. METHODS/SUPPLIES

3.1. Gather all supplies needed to draw an arterial blood gas from the patient's arterial line.

3.1.1. 3cc waste syringe

3.1.2. 3cc ABG syringe

3.1.3. Patient label

3.1.4. Cup of ice

3.1.5. 2x2 gauze pads

3.2. Obtain the Split sample record from the wall files located in the STAT Laboratory.

4.0. PROCEDURE

NOTE: Make certain that there is a physician order for an arterial blood gas. Coordinate blood gas draws with regularly scheduled blood sampling procedures.

4.1. Draw an arterial blood gas for the “split sample” study. Label and ice the sample.

4.2. Analyze the sample with a G7+ and G cartridge to compare all of the analytes we measure in the STAT Lab. The sample is also run in the Bayer 270 Co-Oximeter. Recap and place the sample back into the ice.

4.3. Record data obtained from the I-STAT analyzer and Bayer 270 Co-Oximeter onto the split sample record.

4.4. Transport the blood sample with the Split Sample record to Clinical Pathology.

4.5. Clinical Pathology personnel will run the blood gas sample in their analyzers.

4.6. Data obtained from their blood gas analyzers will then be placed onto the Split Sample record. A copy of the results will be kept on record in Clinical Pathology. We will maintain the original. The results will be processed from the LDS as a normal sample, with documentation on the bedside nursing flowsheet and saved in the LDS.

4.7. Data will be reviewed for statistical consistency of the results.

SIGNATURE: _____ **DATE:** _____
Medical Director, CCTRCS

SIGNATURE: _____ **DATE:** _____
Section Chief, CCTRCS

(Orig. 07/16/97)

(Rev. 02/01/00)

(Rev. 02/14/01)

David Zeidman RRT
Laboratory Supervisor