

**Phlebotomy is a significant cause of iatrogenic anemia in the critical care environment. It is estimated that one-third of all transfusions of packed red blood cells in intensive care units (ICU) result from phlebotomy” Jensen et al (2016).**

Abstract:

**BACKGROUND:** Phlebotomy is a significant cause of iatrogenic anemia in the critical care environment. It is estimated that one-third of all transfusions of packed red blood cells in intensive care units (ICU) result from phlebotomy. The aims of this study were to determine if utilizing the 1mL blood gas syringe for an adult population would impact the rate at which specimens were acceptable for testing and result reporting based on lab specimen rejection criteria; and to compare blood utilization between the 2 different syringes.

**METHODS:** This study was conducted in 1 of the adult ICUs at the University of Utah Hospital. Over a baseline period a standard adult 3 mL blood gas syringe was utilized. Subsequently the standard adult syringe was replaced by a 1 mL syringe produced by the same manufacturer with the same heparin concentration.

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**RESULTS:** The change to the 1 mL syringe had no effect on specimen integrity in regards to laboratory’s ability to process the specimen. With use of the 1 mL syringe there was a 60% reduction in the volume of blood drawn compared with the baseline period.

**CONCLUSION:** Standardizing the 1 mL syringe for Blood Gas Laboratory tests will reduce patient blood loss without appreciably affecting specimen rejection relative to current rates.

Reference:

Jensen, P.R. and Markewitz, B.A. (2016) Safe Reduction of Blood Volume in the Blood Gas Laboratory. Laboratory Medicine. August 18th. .



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