



Flush Clearance Analysis for the MaxPlus Positive Flow Connector

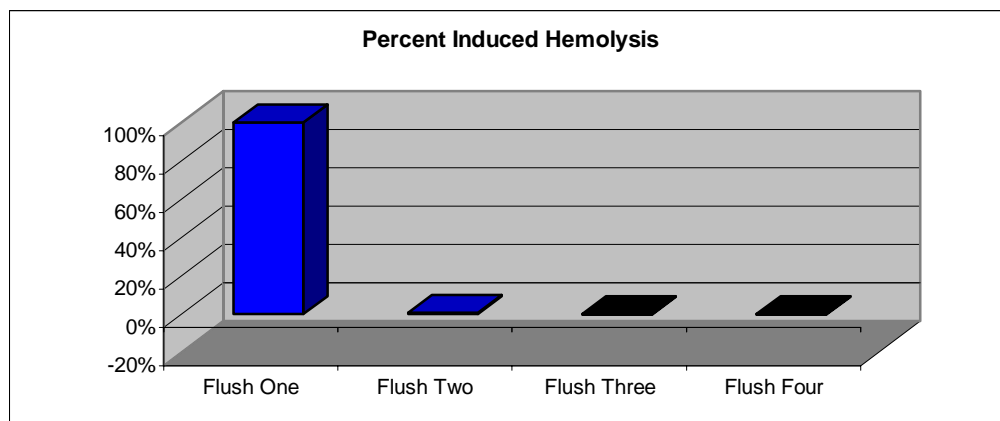
Immediately following the Blood Transfusion Study of the MaxPlus Positive Flow Connector, Apptec Laboratory Services of St. Paul, MN, an independent laboratory facility, conducted a **Blood Clearance Analysis**.

Objective: The purpose of this study is to ascertain if the MaxPlus device can be completely flushed after aspiration or infusion with a blood product.

Method: For each of 10 devices, a blood volume of 5cc was aspirated through the MaxPlus and into the syringe. The syringes were then discarded. Using a sterile syringe, each of ten (10) devices, labeled A1 – A10, were flushed with a 5cc bolus of sterile water. The flush was collected in an appropriately labeled test tube. This flush was repeated an additional three (3) times for each test sample collecting each flush individually for a total of four (4) flushes per device. The amount of residual blood present was determined by inducing hemolysis of the blood with the 5cc bolus of sterile water used for the flush. The absorbance of the resulting 5cc sample was then taken to measure the amount of residual present. The positive controls consisted of 0.35ml of blood collected directly into a sterile tube containing 5cc of sterile water. The negative control consisted of 5cc of sterile water collected directly into a sterile tube.

Clearance Determination: All collected flush samples and controls were mixed gently by inverting a minimum of 10 times. All tubes were then centrifuged at 500 x g for 5 minutes. The absorbance of each resulting supernatant was read at 545 nm on a spectrophotometer. The instrument was blanked with sterile water. After reading the absorbance of each sample, the percent hemolysis was calculated for each.

Test Results: As indicated in the chart below, the first 5cc flush cleared the MaxPlus of 99.34% of hemoglobin. The second 5cc flush cleared the remaining 0.66% of hemoglobin from the device. Flushes #3 and #4 were clear.



Conclusion: The absorbance decreased with consecutive flushes of the MaxPlus. After two consecutive 5cc flushes, 100% of the residual blood had been flushed from the MaxPlus. The results of this study indicate that the MaxPlus Connector can be effectively flushed to remove residual blood from the device.