

Analyzer Software Upgrade for ABORh Testing Increases Productivity

Poster ID: AP200

Session # II

Background: A regional blood donor screening facility uses Galileo analyzers for ABORh and weak D typing for samples that resulted as No Typed Determined (NTD) on the PK7200. Although the Galileo had significantly improved the testing process of these NTD samples from previous methods, it also had higher Invalid (INV) and NTD rates than expected. An INV interpretation is reported when a problem is detected during testing. The majority of the INVs were the result of carry-over of reagents during the pipetting process. In response, a software upgrade was developed by the manufacturer to decrease the volume of anti-sera aspirated into the reagent probe and change the pipetting order of the reagents. These modifications were designed to reduce the possibility of reagent carry-over. This upgrade was evaluated to determine effectiveness to improve the ABORh INV and NTD rates on the Galileo, thus improving productivity.

Method: A study was conducted by comparing INV and NTD data from five Galileos for a period of three months (Sep 07-Nov 07) prior to the upgrade to a period of three months (Dec 07-Feb 08) after the upgrade. Data was gathered from statistical result reports generated from the Galileos and from the laboratory information system.

Results: The upgrade reduced the INV rate from 14.6% to 4.9% and the NTD rates dropped from 5.4% to 3.5% (a high NTD rate is expected since these samples were previously resulted as NTD on another automated system). The reduced NTD rate equates to an average of 20 ABORh tests per day resolved by the Galileo that would have either required repeat testing on the Galileo or manual ABORh testing.

Conclusion: These data indicate that the ABORh INV and NTD rates were greatly reduced after the upgrade thereby reducing the need for repeat ABORh testing. A related outcome of the process improvement was reduced testing cost and turn around time due to reduced testing. The manufacturer provided software upgrade effectively reduced INV and NTD rates

Time Period	Total Volume	Galileo ABORh Tests	Total INV	Total NTD
Pre-Upgrade (Sep 07-Nov 07)	421029	16079	2348 (14.6%)	873 (5.4%)
Post-Upgrade (Dec 07-Feb 08)	413668	16953	825 (4.9%)	591 (3.5%)

J. Jue
J. Dunn-William
G. Robertson
S. Caglioti

Blood Systems
Laboratories, Tempe
AZ

