Case Study Airedale General Hospital

Safe intelligent haematology auto-validation

Smooth working practices have been recognised as valuable to the efficient use of pathology staff time, with IT-based solutions critical to data management and automatic results validation. Here we discuss how the ABX Pentra ML data management software has met the specific needs of Airedale General Hospital for workflow enhancement and enabled the pathology laboratory to move towards LEAN working.

One year on from rewarding a new five-year contract to HORIBA Medical for two new ABX Pentra DX 120 haematology analysers and accompanying ABX Pentra ML data management software, Airedale General Hospital has significantly improved auto-validation procedures for haematology results. With over 60% of all results now being safely and intelligently validated automatically, this has freed up staff time significantly, whilst also improving turnaround times and service levels.

In reviewing its requirements for new routine haematology analysers, the pathology laboratory at Airedale General Hospital recognised the need to implement smooth working practices in order to ensure the best use of valuable staff time. IT-based solutions ensuring efficient data management and subsequent automatic results validation were considered a key differentiator in the Trust's tender selection process.

"Having already been working with HORIBA Medical for a number of years, we were very impressed by the reliable work horse solutions that our previous ABX Pentra high throughput haematology analysers had proven to be. In addition, HORIBA Medical has also always provided us with an excellent level of customer service and training support," explained Dr Afruj Ali Ruf, Consultant Healthcare Scientist. "We did now however need a greater degree of data management support and the ABX Pentra ML was the most flexible data manager that we had seen, giving us the greatest scope to safely develop our auto-validation capabilities."

Adapting the ABX Pentra ML to meet the specific requirements at Airedale was a relatively simple process since the Hospital had already developed basic rules based validation with the previous system. "Having already established our groupings of normal blood count ranges, such as for pregnant and post operative patients based on our historical data, we were able to confidently

and quickly implement intelligent auto-validation procedures using the ABX Pentra ML," continued Dr Ruf. "The ABX Pentra ML was very simple to configure to recognise such groupings and apply the necessary normal ranges."

The ability to easily develop rules based on certain clinical details, clinicians, or even samples from a certain location, as well as good IT links to haematology clinics has meant that the majority of results can now be delivered in real time. Faster turnaround times (TATs) have improved levels of service for patients who may have had to travel long distances to attend clinics. Airedale covers the greatest geographical area of all UK NHS Trusts and encompasses three Primary Care Trusts crossing the Yorkshire/Lancashire border!

"Now that we have our normal ranges confidently established within the ABX Pentra ML, our auto-validation procedures now only ever intelligently flag truly abnormal results. This gives our experienced staff more time to proactively investigate these further to provide more in depth clinically relevant results," added Dr Ruf. "Having already achieved a 60% auto-validation rate is fantastic, but we know that we can work with HORIBA Medical to make our ABX

Pentra ML work even harder for us. Since our staffing levels are finite but our workload isn't, we're now looking to develop further rules."

In addition to the two ABX Pentra ML validation stations in the main laboratory, a satellite ABX Pentra ML validation station has also been installed remotely from the routine laboratory, next to the microscopes used for the examination of blood films. This means that comments on blood films made for abnormal samples can be typed and uploaded directly to the LIMS. This not only enables sample validation at the site of the microscope to further increase TATs, but it also minimises opportunity for transcription errors. In addition, it also assists workflow since laboratory personnel always know exactly at which stage in the analytical process a sample is.

"All of this workflow enhancement really can only be achieved with a readily configurable data management system and a company happy to work in partnership with us, both of which we have found in the ABX Pentra ML and HORIBA Medical," concluded Dr Ruf. "Having such a flexible data management system is really helping us towards 'LEANing' our result validation process."

The ABX Pentra ML data management software has enabled Airedale General Hospital to safely develop their auto-validation capabilities.

"Having such a flexible data management system is really helping us towards 'LEANing' our result validation process."

Dr Afruj Ali Ruf,
Consultant Healthcare Scientist,
Airedale General Hospital

Analysis **Anywhere**