Optimizing patient flow in the emergency department

Polish ED improves workflow – and patient flow – by moving testing to the point of care

The District Hospital in Ostrów Mazowiecka in southeastern Poland has 10 departments including an Emergency Department (ED), Intensive Care Unit and a Cardiac Intensive Care Unit, with a total of 360 beds. The ED was established back in 2006. Since then the hospital has invested heavily in the development of this unit by purchasing the latest medical equipment, ambulances etc.

During a routine visit to the hospital's Central Laboratory, Dr Igor Pańkowski, senior physician and ED Director, discovered something that had the potential of optimizing the patient flow in the ED.

"We did not measure any samples in the ED and were challenged with long turnaround times and preanalytical errors", says Dr. Pańkowski. When I discovered that with the ABL800 FLEX blood gas analyzer we could get 18 parameters including creatinine in just 2 minutes, I started to think thoroughly about our processes in the ED."

Meeting the needs for better clinical values of chronically ill patients

Dr. Pańkowski's initial thoughts ultimately led to a decentralization of testing. In July 2009, point-of-care testing was implemented in the ED of the hospital. Radiometer's ABL800 FLEX blood gas analyzer and its new AQT90 FLEX immunoassay analyzer were installed in order to fulfill the diagnostic needs of the department.

Factors leading to this decision were the high quality and accuracy of the analyzers, the wide range of parameters, the short time to results and the possibility to perform measurements on whole blood. But most of all, Dr Pańkowski saw the opportunity to reduce the number of preanalytical errors and optimize the sample flow by having the two Radiometer analyzers at the point of care.

"With creatinine on the ABL800 FLEX we not only meet the needs for better clinical values of acute ill patients, but also for the growing population of chronically ill patients. The GFR indicates how effectively the kidneys clear out the substrates from the body. Besides creatinine, the GFR algorithm is based on age, gender and race. The accurate creatinine measurements on the ABL800 FLEX provide us with a precise GFR reporting," he explains.

"Today, patients spend less time waiting to be treated and we are able to provide faster and more accurate diagnosis."

**Before we had to wait up to 1 hour on glucose, lactate, electrolytes and creatinine results.
Now we get them in 2 minutes and can reduce the time our patients spend in the ED by half.**

Following installation, comprehensive training was provided for the hospital staff on using the analyzers. The nurses quickly adopted the measurement methodology. Hospital staff were very pleased with the quality of the results, particularly as it was comparable to the methods used in the central laboratory.

Saving costs

Already after three months, the District Hospital in Ostrów Mazowiecka concluded the costs of doing point of care testing to be the same as when ordering tests in the lab.

By moving testing to the point of care, the Polish ED was able to decrease time spent on testing, reduce paperwork, secure faster results with higher accuracy, avoid preanalytical errors and reduce patient-sample mix-ups. "Today, patients spend less time waiting to be treated and we are able to provide faster and more accurate diagnosis and treatment," says Dr. Pańkowski.

Customer details

District Hospital in Ostrów Mazowiecka
Emergency department
Poland
Contact: Dr. Igor Pańkowski, ED Director

No. of beds in the ED: 6
No. of patients admitted each year: 12,000
Blood gas tests run: approx. 15 per day
Immunoassay tests run: 5-7 per day

Analyzers: ABL837 blood gas analyzer and AQT90 FLEX immunoassay analyzer

Service: Full service contract

Processes optimized:
- Shorter turnaround time
- Reduced number of errors
- Ability to treat more patients, optimizing patient flow