

Shorter TAT, better processes and faster treatment in the accident and emergency department



Rapid, point-of-care immunoassay testing enables faster triage processes and reduces the length of stay

Instant, bedside immunoassay testing for critical cardiac biomarkers can be crucial to the provision of swift and appropriate treatment in an acute care setting, allowing further assessment or urgent treatment of a patient to be ruled in or ruled out without delay. Buckinghamshire Healthcare NHS Trust has introduced point-of-care immunoassay analysis in the Accident and Emergency (A&E) departments at Stoke Mandeville and Wycombe Hospitals, improving turnaround times for Troponin I (TnI) and D-dimer, and consequently patient flow. Unnecessary treatments have been reduced, with corresponding time and cost savings.

“In the past, a blood sample would be taken from the patient and sent to the laboratory,” explains Esa Rintakorpi, Clinical Nurse Lead at Stoke Mandeville Hospital. “We would then have to wait for the result in order to confirm diagnosis of a deep vein thrombosis or pulmonary embolism before

sending the patient for a CT scan. Typically, this would take two hours. Now, we can take a sample, place it in the analyzer, and have the result within 20 minutes, allowing us to order a CT scan immediately, if necessary. That’s a great time saving,” he concludes.

Reduction in unnecessary treatments

Prior to installing the AQT90 FLEX immunoassay analyzer D-dimer analysis was exclusively performed in the laboratory. As there is no out-of-hours laboratory service available to process these tests, and the laboratory has some downtime each morning while they calibrate and quality control their measuring systems, samples are typically not submitted before 9.30am or after 4pm.



Our AQT90’s have absolutely highlighted the need for good processes within the hospital.





The A&E department therefore uses the AQT90 FLEX to analyse samples taken outside these hours, as well as when they experience exceptional numbers of admissions. Additionally, the laboratory does not perform D-dimer testing for patients over 65 years old, as they predict that D-dimer levels will be raised for patients in this age group. In these situations, the AQT90 FLEX is used to ensure that patients are correctly ruled in or ruled out, avoiding unnecessary treatments.

Better processes and faster treatment with the AQT90 FLEX

Being able to test TnI and D-dimer at the point-of-care with the AQT90 FLEX has led to tightened local policies regarding further treatment and/or assessment of patients at the Stoke Mandeville & Wycombe Hospitals.

The hospitals have introduced a new patient pathway based upon risk stratification, which has improved the effectiveness and efficiency of their services. A risk 'score' determines the course of patient treatment. With the AQT90 FLEX, now even very low-risk cardiac patients, possibly with a negative TnI on admission, are followed up through the Rapid Access Clinic 5-7 days later. D-dimer risk is based upon Well's scoring.

The introduction of the AQT90 FLEX to the A&E department at Stoke Mandeville has contributed to achieving the department's goal of no more than 2 % of patients waiting more than 4 hours to be treated. Patient flow has improved and there has been a reduction in unnecessary treatments, saving time and resources while simultaneously improving patient care.

Customer details

**Buckinghamshire Healthcare NHS Trust
Stoke Mandeville & Wycombe Hospitals
Accident & Emergency Department (A&E)
England**

Contacts: Mr Esa Rintakorpi, Clinical Nurse Lead

No. of beds: approx. 450 (150 'flexi' beds)

No. of admissions each year:
approx. 100,000 in both hospitals

Parameters measured: Troponin I, D-dimer

No. of tests: 50 per week per hospital



Now, we can take a sample, place it in the analyzer, and have the result within 20 minutes, allowing us to order a CT scan immediately, if necessary. That's a great time saving.

