



VOICE OF THE CUSTOMER



THE *i*-STAT SYSTEM GIVES SATAKUNTA HOSPITAL IN FINLAND A MULTI-DEPARTMENT, LAB-DRIVEN POINT-OF-CARE TESTING SOLUTION

Satakunta Central Hospital in Pori, Finland, is part of the Satakunta Hospital District Municipal Association, serving a provincial population of more than 200,000 in one of the country's largest regions. The hospital provides a range of specialized healthcare, primary care, and social services, with an emphasis on quality care and service to patients and families.



THE CHALLENGE

A continuous drive to improve clinical efficiency creates the need to make accurate diagnostic test results available rapidly.

The laboratory team at Satakunta Hospital faces the ever-increasing demand for efficient service delivery. To meet that need, the hospital has been using point-of-care diagnostics solutions for more than 10 years. While speed and efficiency are crucial, the laboratory must have confidence that point-of-care testing (POCT) results are accurate and reliable.



THE SOLUTION

The *i*-STAT System helps the medical teams deliver lab-quality results at the patient's bedside in minutes.

With more than 25 *i*-STAT handheld blood analyzers in use across the hospital, the *i*-STAT System has become a mainstay for point-of-care testing since its adoption in to the hospital over 15 years ago.

“The handheld *i*-STAT blood analyzer is incredibly useful,” says Anne Mattila, Clinical Chemist in the Satakunta Hospital laboratory since 1987, explaining that the versatile *i*-STAT System is used in the emergency department, neonatal intensive care unit, operating room, intensive care unit, maternity unit, and in the hospital's satellite community and ambulatory care locations. The *i*-STAT Analyzer is used to test blood gases, chemistries, cardiac markers, and lactate, and due to its ease-of-use, makes it simple for the lab to control.

“The ICU team checks blood gases at the bedside and the instant results shown help us decide whether further support is needed.”

Intensive Care Specialist

MEETING DEPARTMENT-SPECIFIC TESTING NEEDS

With so many hospital departments using the *i*-STAT System, there is often the need for quick assistance from the lab team to run a test to support their efficiency. For example, when patients are transferred to the shock room for stabilization between the ED and ICU, blood tests can be quickly and easily performed by the lab team using the *i*-STAT.

The lab team manages requests for blood tests using the My+ App LIMS vendor software when support for managing the tests is required by the departments. Preprogrammed *i*-STAT blood tests for each department enable the lab staff to know what needs to be tested whenever they receive an app alert that a department is requesting support.

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“As we have a number of *i-STAT* devices to manage, we have placed verification labels on each to inform the user that the lab has verified that device for particular sample tests; for example, CHEM8+ cartridges which help indicate the patients’ health by testing levels for eight chemistries and electrolytes” Mattila explains. “We work closely with the hospital’s point-of-care coordinators to ensure verification and management and have direct contact with the departments in the hospital that are using them.”

i-STAT IN THE INTENSIVE CARE UNIT



The *i-STAT Analyzer* is used regularly in ICU’s Medical Emergency Team. “Patients present with shortness of breath or cardiac symptoms and we need to be able to check their blood gases quickly at the bedside,” explains one of the hospital’s Intensive Care Specialists. “The ICU team checks blood gases at the bedside and the instant results shown help us decide whether further support is needed.”



The ICU staff use the *i-STAT Analyzer* for managing acute patients suffering CO2 retention or presenting problems with blood oxygen supply. For example, a 70-year-old female who had been admitted to the Pulmonary ward, suddenly presented with acute symptoms. The ward called the ICU for help. The patient’s poor oxygen saturation, trouble breathing, and shortness of breath quickly spiraled. Using the *i-STAT CG4+* cartridge with an arterial blood sample, the ICU team quickly determined the patient’s pCO2 levels were high, indicating the urgent need for non-invasive breathing support.

Because the *i-STAT* was next to the bedside, the Physician received the results quickly and the patient was able to receive required treatment fast, encouraging them to have the best chance of recovery.

i-STAT IN THE MATERNITY WARD AND NEONATAL INTENSIVE CARE UNIT



The Satakunta Hospital maternity ward manages more than 1,500 births a year. For each baby born, the maternity staff uses the *i-STAT G3+* cartridge to analyze umbilical cord blood gases, measuring oxygen, carbon dioxide and pH levels looking for evidence of birth asphyxia.



In close proximity to the maternity ward, the NICU cares for high-risk newborns, accommodating up to nine babies at a time. “Every morning we run the tests on our babies,” explains one of the Head Nurses. “We use the *i-STAT CG8+* cartridge which offers us a quick and reliable insight into the blood sugar, blood gases and electrolytes for each of our little patients.”

Minimal sample volumes must be used to avoid the need for frequent blood transfusions, and rapid results are required so that changes in clinical care can be made in a timely fashion. The *i-STAT* low blood volume requirement makes it an ideal point-of-care device for this need.

The NICU team has been using the *i-STAT Analyzer* at the bedside for more than 10 years and it has become a crucial device for the unit. With blood sampling from a heel prick or an arterial line, the accessibility is ideal for the NICU team. “The *i-STAT* is more than an important device in the ward; we just couldn’t be without it,” a nurse explains. “When we need to use the *i-STAT* on a newborn, it’s because we need a quick decision. There is no waiting for the results from the laboratory, as they are right there in our hands.”

i-STAT IN THE OPERATING ROOM



The *i-STAT Analyzer* plays an important role in the Operating Room—before, during, and after surgery. An Anesthetic Nurse explains they use the EG6+ cartridge with patients in the OR. “If the anesthesiologist requires a patient’s blood gases to be run before a procedure, the test can be performed simply using the *i-STAT System*. We scan the ID code and information is sent directly to the LIS,” she explains. “Post-operatively, we can repeat the test for blood gases, and if the patient has an arterial line then we can just use this for taking the blood sample.

With the handheld *i-STAT Analyzer*, the OR team can run tests right at the patient’s bedside. This results in a short turnaround time for test results and reduced operating delays. Monitoring blood gases throughout the perioperative period helps the team identify patients who are deteriorating early, for a timely clinical intervention.

“The *i-STAT* is simple, we trust it, and it’s quick!”

Anesthetic Nurse

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i-STAT