

Lowell General adopts a nurse-driven protocol for early sepsis treatment

LOWELL GENERAL HOSPITAL

Lowell General Hospital is a non-profit community hospital serving the Greater Lowell area and surrounding communities. The hospital has two campuses in Lowell – Main Campus and Saints Campus – that offer around-the-clock emergency medical care as well as a network of urgent care centers for non-life-threatening conditions.

Challenge

Timely care of patients with sepsis – particularly treatment with antibiotics – is critical to survival. Nurse-driven protocols have been shown to be effective in expediting treatment for patients with sepsis by enabling nurses to begin the first steps of treatment once a patient meets criteria.

Action

At Lowell General, the emergency department (ED) has had a nurse-driven protocol for sepsis in place for about five years. The ED team implemented the protocol shortly after merging with Saints Medical Center, which had one in place prior to the merger. When they merged, they adopted the Saints nurse-driven protocol for sepsis.

The ED team describes the protocol as “very cut-and-dried and easy to follow” in that it can only be initiated when the patients meet certain criteria and all elements of the order set are pre-checked, so there are no decision points for the nurse to negotiate. Once criteria are met, which is two SIRS criteria with a known or suspected infection or in a known neutropenic patient, the protocol may be used. The nurse may then initiate the order set, which includes a 500ml normal saline bolus, sepsis labs and cultures, lactic acid, urine, and vital signs. At that point, the nurse will also notify the physician who assesses the patient and orders the appropriate antibiotics. Recently, the team decided to tweak the order set to add an automatic repeat lactate if the value of the previous one is greater than two.

According to Dr. Nathan MacDonald, the Chief of Emergency Medicine at Lowell General, the biggest barrier to adopting a nurse-driven protocol for sepsis was reluctance from physicians to allow nurses to begin the IV fluid bolus. Some physicians worried that patients with congestive heart failure would be pushed into fluid overload and make their condition worse. But, he says, “I don’t think it’s happened even once since we implemented it.” As a result, “we’ve been able to get good buy-in, certainly throughout the emergency department, but in other departments in the hospital as well.”

Outcomes

It helps that the hospital has been able to collect data and demonstrate the effectiveness of the protocol. Allowing the nursing team to start the IV fluids has cut down on the time it takes to get the IV bolus completed, which improves the hospital’s CMS sepsis bundle compliance. It also helps to reinforce the idea that treatment needs to be started as soon as the patient meets criteria. Data shows that for each hour of delay in starting antibiotics for a patient with sepsis, the risk of dying from sepsis increases. By adopting the nurse-driven protocol, Lowell General has made expeditious treatment a priority.

Another positive outcome of the protocol is that nurses receive training on the protocol and the order set during their annual skills days. This gives the hospital an opportunity to provide a refresher for nursing staff on appropriate sepsis care, just as they do for other emergency conditions such as stroke. Ultimately, the nurse-driven protocol has been a success – it has engaged nurses in providing high quality sepsis care and expedited critical pieces of the sepsis bundle.