Code Sepsis

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A frontal assault on sepsis at JPS has cut the mortality rate in half, saved 38 people who otherwise would likely have died and reduced the length of stay for sepsis patients, saving nearly $1.2 million in three years.

A sepsis patient brought to JPS today is twice as likely to survive as in 2011, before the sepsis DSRIP project got under way with targeted federal healthcare-improvement funds. The sepsis mortality rate at JPS fell to 12.1 percent in 2013. Estimates for the national average range from 20-50 percent. Only one other hospital in the country has reported a sepsis mortality rate below 13 percent.

“It’s like night and day,” said Mark Oltermann, MD, the project’s lead physician. “Now we are making truly data-driven decisions. It makes all the difference in the world.”

“We’re doing it right,” said Lori Muhr, ACNS-BC, clinical coordinator of the sepsis DSRIP. “We have seen how early diagnosis and early treatment have improved the care of the cardiac and stroke patients. We are now being as proactive as possible when the sepsis patient arrives at our door.”

Sepsis is the leading cause of death for hospitalized patients and is the tenth leading cause of death in the U.S.A single episode of sepsis during a person’s lifetime cuts overall life expectancy by five years. Sepsis rivals heart attack and kills more people than breast cancer and AIDS combined, but gets little public attention. “There’s no ‘American sepsis society,’ no telethon,” said Muhr.

Sepsis is a complication of infection. The infection could be pneumonia, a kidney infection, an infected wound on the skin or anywhere else. As the immune system responds to the infection, chemicals are released that trigger inflammation in blood vessels, which then cannot deliver adequate blood supply to vital organs. Treating the original infection does not immediately eliminate the danger; as bacteria die, they release endotoxins that cause blood pressure to drop, leading to septic shock. Among pneumonia patients who do not survive, sepsis is often what killed them.

The sepsis project implemented national Surviving Sepsis Guidelines at JPS, established Code Sepsis in the Emergency Department and a medical team dedicated to rapid diagnosis and treatment. Code Sepsis is called when a patient exhibits signs of infection along with at least one sign of sepsis (low blood pressure, high serum lactate or evidence of organ dysfunction.) Within three hours of the patient’s arrival, blood is drawn for culture and the patient receives a broad-spectrum antibiotic and IV fluid to support blood pressure. A second bundle of tests and treatment is required within six hours.

“We have seen a 7 percent increase in the number of Code Sepsis calls since the program started, and a 4 percent decrease in admissions to the ICU,” said Muhr. “Turning around a sepsis patient in the ED has helped decrease ICU admissions and

decrease length of stay, which in turn reduces medical costs and improves the outcome for sepsis patients.”

In addition to Muhr and Oltermann, the sepsis team includes Donna Bryant, Meg Bryant, Chris Cook, Melissa Cook, Seham Cramer, Greg Fuhrmann, Rebecca Gomez, James Graves, Christy Johnson, Stephanie Maine, Trudy Sanders, Tonia Torregrossa, Jana Villanueva, Katie Watson, Hua Xin, Renee Yarbrough and physicians Stefan Buca, Chet Schrader, Brad Silver, Ryan Stroder and Daniel Ziegler. The project’s executive champion is Aubrey Augustus, senior vice president. “Without a major commitment from administration, you couldn’t make this happen,” said Oltermann. “We have commitment to quality, all the way to the top.”