Sepsis-3 criteria and the pediatric population

The Third International Consensus Definitions for Sepsis and Septic Shock published new clinical guidelines for diagnosing sepsis, dubbed Sepsis-3, earlier this year in the Journal of the American Medical Association (JAMA).

Although CMS chose not to adopt the new criteria in a letter to JAMA a few weeks ago, questions still remain about how CDI should approach sepsis claims, particularly in the pediatric realm.

The new sepsis definitions are not applicable in pediatrics for two reasons, says Christopher Seymour, MD, MSc, head of the Sepsis-3 Task Force and assistant professor at the University of Pittsburgh School of Medicine, in a podcast hosted by the Society of Critical Care Medicine:

1. The new sepsis criteria are based on the patient’s Sequential Organ Failure Assessment (SOFA) Score, a severity score not valid for pediatrics.

2. The intent of Sepsis-3 was to identify patients who have sepsis and septic shock, reflecting a mortality of 10% and 35%, respectively. However, since the mortality rate in pediatric sepsis is different in adult sepsis, these rates would not apply to pediatric patients.

While the new definitions cannot be applied to pediatric sepsis, there should still be a set of clinical criteria in place to help providers recognize the diagnosis.

The International Pediatric Sepsis Consensus Conference information defines pediatric sepsis as the presence of, or as a result of, a suspected or proven infection, says Jeff Morris, RN, BSN, a CDI specialist at USA Children’s and Women’s Hospital in Mobile, Alabama.

The clinical criteria for pediatric sepsis are very different from the adult criteria, and they are dependent on the age of the patient. These clinical criteria can include an abnormal temperature and an abnormal white blood cell count. There are also age-specific values for vital signs.

The SOFA tool was developed with the adult population in mind, says Karen Bridgeman, MSN, RN, CCDS, CDI educator at the Medical University of South Carolina in Charleston. Until the development and validation of pediatric-specific definitions and clinical criteria relating to the SOFA score, the Sepsis-3 criteria should not be applied to the pediatric population. Pediatric clinical documentation specialists should continue to use the Surviving Sepsis Campaign guidelines for querying for a potential diagnosis of sepsis in the pediatric population, Bridgeman says.

CDI specialists must recognize the signs and symptoms of sepsis in the pediatric population, as septic shock may develop long before signs of hypotension, says Bridgeman. Children often maintain their blood pressure until they are severely ill, and shock may arise before hypotension occurs, she says.

Septic shock in pediatrics often presents with tachycardia with signs of decreased perfusion. The decreased perfusion can include decreased peripheral pulses, decreased capillary refill, or capillary refill of less than two seconds and mottled or cool extremities. The CDI specialist also needs to review for decreased urinary output and altered mental alertness, which can both be signs of decreased perfusion, says Bridgeman.

When reviewing the medical record, Bridgeman recommends keeping two questions in mind:

1. Has the patient received and responded to fluid boluses?
2. Does the patient have a known or suspected infection?

In addition, CDI specialists need to review for hyperthermia, increased white blood cell count, deviation from normal age-specific vital signs, and elevated procalcitonin.

Knowledge of normal age-specific vital signs is important in reviewing the pediatric population, as bradycardia can be a sign of sepsis in neonates through 12-month-olds, says Bridgeman.

The query process for pediatric and adult populations remains the same, says Morris. The CDI team will look to see whether the documentation includes clinical indicators for at least two SIRS criteria and a known or suspected infection.

“In pediatrics, you must be prudent when issuing sepsis queries as the majority of our patients technically meet sepsis criteria,” says Morris.

“That’s all you’d be querying for all day long if you stuck to the mentality of ‘they meet criteria.’ We are generally looking for the patient to be described as ill-appearing, meet criteria, and receive an appropriate course of treatment,” he says.

Educating providers on sepsis in the pediatric population is an ongoing challenge, says Valerie Bica, BSN, RN, CPN, CDI specialist at Nemours/A. I. DuPont Hospital for Children in Wilmington, Delaware.

Bica’s team partners with providers and other members of the care team to discuss lab results, vital signs, and what classifies a pediatric patient as having sepsis or septic shock.

The CDI team works closely with the care team to ensure sepsis and septic shock diagnoses are ruled in, or out, clearly in the documentation.

Putting patients first, and educating providers to improve patient care with their documentation, is one way to engage providers and encourage them to improve their sepsis documentation in pediatric populations, Bica says.

“Sepsis and septic shock are concerns for all ages,” says Bica. “I personally believe that the CDI team’s presence throughout the patient care process helps to build our credibility because the care team counts us as one of them.”

Additionally, the pediatric CDI specialist should educate the medical staff on the importance of documentation as it relates to the patient’s severity of illness and risk of mortality, says Bridgeman.

Physician documentation needs to be more definitive and inclusive with a diagnosis of sepsis, as this diagnosis is a frequent target for auditors. The use of “concern for” or other language, such as “likely,” “possible,” and “suspected,” should be trigger words for CDI clarification.

In addition, physicians should be educated to document sepsis throughout their progress notes and include the diagnosis in their discharge summaries where it truly exists and affects the treatment provided, says Bridgeman.

“CDI specialists must remember that children are not little adults,” she says. “Children have different physiologies and emotional development.”

And, while the essential role of the CDI specialist remains the same whether reviewing the adult or pediatric medical record, Bridgeman notes that “the pediatric CDI specialist must develop and apply their knowledge of the pediatrics population in their CDI practice.”

Editor’s note: This post was based on a number of threads in the pediatric section of the new ACDIS Forum. Visit the ACDIS website or click here to learn more.