status manifested as irritability, inappropriate crying, drowsiness, confusion, poor interaction with parents, lethargy, or becoming unarousable. The clinical diagnosis of septic shock is made in children who 1) have a suspected infection manifested by hypothermia or hyperthermia and 2) have clinical signs of inadequate tissue perfusion including any of the following: decreased or altered mental status, prolonged capillary refill greater than 2 seconds, diminished pulses, mottled cool extremities, or flash capillary refill, bounding peripheral pulses and wide pulse pressure or decreased urine output less than 1 mL/kg/hr. Hypotension is not necessary for the clinical diagnosis of septic shock; however, its presence in a child with clinical suspicion of infection is confirmatory.

We recommend that each institution develop a recognition bundle (Fig. 1) to optimize identification of patients at risk for septic shock that is based on vital sign abnormalities and high-risk criteria (1C).

The recognition bundle should contain:

1) A trigger tool. Elements that are recommended for use in a trigger tool include vital signs, physical examination, and at-risk populations (an example trigger tool is located in **Fig. 3**).
2) Rapid clinician assessment within 15 minutes for any patient that is identified by the trigger tool.
3) Activation of a sepsis resuscitation bundle within 15 minutes for patients with suspected septic shock. We recommend that each institution also develop or adopt a first-hour resuscitation and stabilization bundle (Fig. 1) to optimize time to completion of first hour and stabilization tasks when a patient with suspected septic shock is identified (1C).

The resuscitation bundle may contain:

1) Intraosseous or IV access within 5 minutes
2) Appropriate fluid resuscitation initiated within 30 minutes
3) Initiation of broad spectrum antibiotics within 60 minutes
4) Blood culture if it does not delay antibiotic administration
5) Appropriate use of peripheral or central inotrope within 60 minutes

The stabilization bundle may contain:

1) Multimodal monitoring to guide fluid, hormonal, and cardiovascular therapies to attain a normal MAP-CVP for age ($55 + 1.5 \times$ age in yr), and $ScvO_2$ greater than 70% and/or CI 3.3–6.0 L/min/m^2
2) Administration of appropriate antibiotic therapy and source control. We recommend that each institution develop or adopt a performance bundle (Fig. 1) to identify barriers to attaining the recognition, resuscitation, and stabilization bundle goals (1C).

The performance bundle should contain:

1) Measurement of adherence as well as achievement of goals and individual components.
2) Assessment of barriers as well as unintended consequences such as inappropriate antibiotic duration or fluid overresuscitation.

ABCs: The First Hour of Resuscitation (Emergency Department Resuscitation)

Goals: (Level 1C)

- Maintain or restore airway, oxygenation, and ventilation
- Maintain or restore circulation, defined as normal perfusion and blood pressure
- Maintain or restore threshold HR.

Therapeutic Endpoints (Level 1C). Capillary refill less than or equal to 2 seconds, normal pulses with no differential between the quality of peripheral and central pulses, warm extremities, urine output greater than 1 mL/kg/hr, normal mental status, normal blood pressure for age (only reliable when pulses palpable), normal glucose concentration, normal ionized calcium concentration.

Monitoring (Level 1C)

- Pulse oximeter
- Continuous electrocardiogram (ECG)
- Blood pressure and pulse pressure
- Temperature
- Urine output
- Glucose, ionized calcium

Airway and Breathing (Level 1C). Airway and breathing should be rigorously monitored and maintained. Supplemental oxygen or high-flow nasal cannula oxygen is titrated as initial therapy to avoid hypoxia and hyperoxia (SpO_2 100%). Lung compliance and work of breathing may change precipitously. In early sepsis, patients often have a respiratory alkalosis from centrally mediated hyperventilation. As sepsis progresses, patients may have hypoxemia as well as metabolic acidosis and are at high risk to develop respiratory acidosis secondary to a combination of parenchymal lung disease and/or inadequate respiratory effort due to altered mental status. The decision to intubate and ventilate is based on clinical assessment of increased work of breathing, hypoventilation, or impaired mental status. Waiting for confirmatory laboratory tests is discouraged. If possible, volume loading and peripheral or central inotropic/vasoactive drug support is recommended before and during intubation because of relative or absolute hypovolemia, cardiac dysfunction, and the risk of suppressing endogenous stress hormone response with agents that facilitate intubation. Etomidate is not recommended. Ketamine with atropine pretreatment should be considered the induction combination of choice during intubation, to promote cardiovascular integrity during the procedure. A short-acting neuromuscular blocking agent can facilitate intubation if the provider is confident and skilled.

Circulation (Level 1C). Vascular access should be rapidly attained. In addition to direct visualization and/or palpation, portable near-infrared imaging devices may assist in peripheral vascular access. Establish intraosseous access if reliable peripheral intravenous line (PIV) access cannot be attained in minutes. Powered intraosseous devices (i.e., intraosseous drill) can facilitate successful intraosseous placement but should