

Prioritizing the patient through a continuum of personalized care: insights from the 2026 Surviving Sepsis Campaign guidelines

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Sepsis and septic shock remain the leading causes of mortality worldwide, despite decades of international efforts by initiatives such as the Surviving Sepsis Campaign (SSC) and the Global Sepsis Alliance [1,2]. The recently published 2026 SSC guidelines mark an evolution from the 2021 guidelines and present a highly refined and personalized approach to sepsis management that spans the complete clinical trajectory from pre-hospitalization to post-discharge (Table 1) [3]. The new 2026 guidelines provide valuable and practical resources for clinicians treating patients with sepsis and septic shock, in both resource-abundant and resource-limited settings.

Recognizing the importance of early intervention [4,5], the new guidelines suggest using standardized sepsis screening tools during ambulance or aeromedical transport (e.g., National Early Warning Score 2) [6]. The guidelines further suggest administering antimicrobial therapy before hospital arrival for patients with septic shock with an anticipated delay of over 60 minutes, as pre-hospital antibiotic administration has been associated with a possible reduction in mortality [7]. Building on these pre-hospital strategies, the guidelines also introduce “code sepsis,” a coordinated, in-hospital protocol dedicated to the rapid recognition and management of sepsis [8]. Upon sepsis recognition, early administration of antibiotics should be considered. Antimicrobial therapy should be delivered within 1 hour for patients with septic shock or those with a high likelihood of sepsis and within 3 hours for patients with possible infection who do not meet these criteria. In a recent observational study of 273,255 sepsis patients, the greatest absolute mortality reduction was observed among those with septic shock who received antibiotics sooner [9]. The 2026 guidelines extend the scope beyond discharge and focus on providing post-critical illness follow-up services, including physical rehabilitation and mental health support, to address the profound long-term sequelae faced by sepsis survivors. Health systems are advised, in a good practice statement, to implement strategies to ensure that clinicians can support sepsis survivors and their families during the posthospital recovery.

The 2026 SSC guidelines also emphasize a personalized management approach and en-

Editorial

Received: April 28, 2026

Revised: May 8, 2026

Accepted: May 14, 2026

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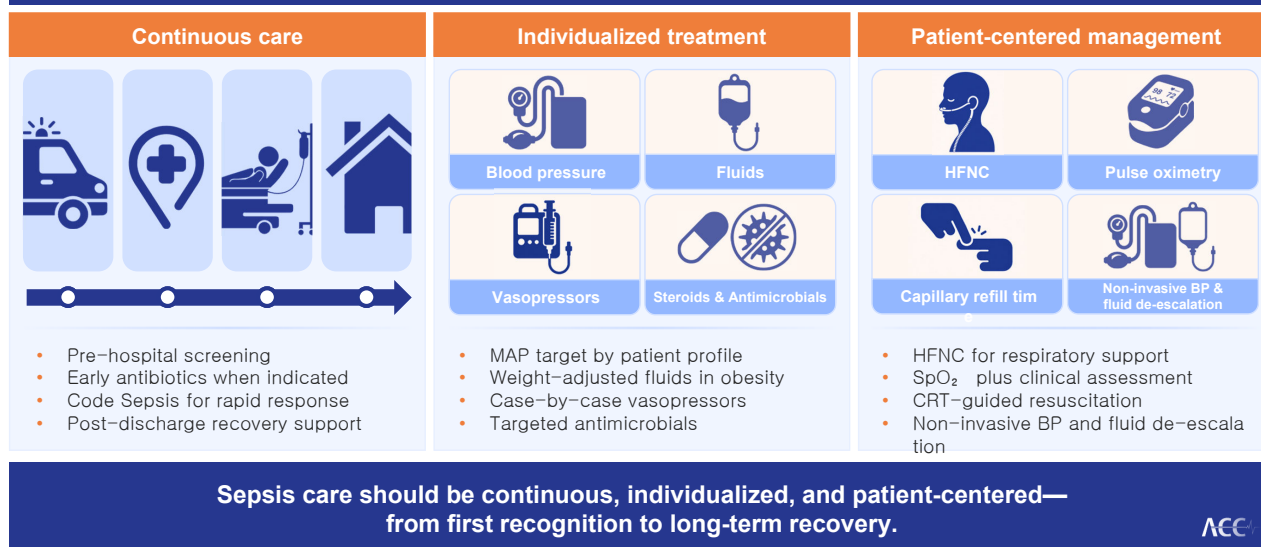
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Infographics

Acute and Critical Care

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From pre-hospital recognition to post-discharge recovery, the 2026 SSC guidelines emphasize continuous care, individualized treatment, and patient-centered support.



courage clinicians to continuously monitor and adjust treatment according to individual patient profiles. For instance, while the initial mean arterial pressure (MAP) target remains 65 mm Hg for most adults, guidelines suggest a lower initial MAP target of 60–65 mm Hg for patients aged ≥ 65 years, aiming to reduce the risks associated with excessive vasopressor exposure [10]. Fluid resuscitation is similarly personalized for patients with obesity; the initial 30 ml/kg bolus should be calculated using adjusted or ideal body weight rather than actual body weight [11]. To complement a personalized fluid approach, concurrent vasopressor administration along with initial fluid resuscitation is suggested on a case-by-case basis, particularly in patients with hemodynamically unstable shock [12]. Vasopressors may be started peripherally with frequent monitoring of extravasation [13]. Early initiation of vasopressors is partly intended to limit intravenous fluid volume, although the Crystalloid Liberal or Vasopressors Early Resuscitation in Sepsis (CLOVERS) trial did not confirm better outcomes associated with the restrictive fluid strategy [14]. Refining when and how to initiate vasopressin as an adjunctive agent is another area of personalization that is currently

under rigorous investigation, as evidenced by a recent Optimal Vasopressin Initiation in Septic Shock (OVISS) reinforcement-learning study [15]. Similarly, the 2026 update broadens the recommendation for corticosteroid use to all septic shock patients, rather than limiting initiation to the vasopressor thresholds suggested in the 2021 guidelines, and allows decisions to be made based on clinical judgment [16]. The precision also extends to antimicrobial stewardship, suggesting targeted antimicrobial therapy for patients with identified risk factors, rather than routine empiric coverage against multidrug-resistant pathogens, fungi, or anaerobes [17–19]. This represents a step forward from the 2021 recommendations, as the 2026 update more explicitly discourages routine empiric antifungal therapy and newly addresses empiric anaerobic treatment based on the risk of anaerobic infection. Additionally, selective decontamination of the digestive tract was newly introduced for mechanically ventilated adults with sepsis or septic shock in units with low prevalence of antimicrobial resistance [20]. In contrast to a rapid practice guideline that recommends against uniformly applying high oxygen targets to all intensive care unit patients [21], the 2026 SSC guidelines suggest

Table 1. Selected Recommendations from Surviving Sepsis Campaign 2026 Updates

Change	2026 Recommendations	Strength of recommendation/certainty of evidence	2021 Recommendations
New	For hospitals and health systems, we "suggest" using a "code sepsis" or "sepsis huddle" protocol over not using such a protocol. • Remarks: "Code sepsis" or "sepsis huddle" protocols involve a multidisciplinary team huddle at bedside to discuss and expedite sepsis diagnosis and treatment following a positive sepsis screen.	Conditional/⊕⊕○○	-
New	In acutely ill adults en route to hospital by ambulance or flight, we "suggest" using a standard sepsis screening tool over not using a screening tool.	Conditional/⊕○○○	-
Revisited	For adults with sepsis-induced hypoperfusion or septic shock, we "suggest" administering at least 30 mL/kg of IV crystalloid in the first 3 hours. • Remarks: Consideration should be given to individual patient characteristics and context when selecting initial fluid volume. Clinicians prescribing fluids should perform frequent, ongoing reassessment and closely monitor patients to avoid harms of under- or over-resuscitation. Weight-based fluid volume should be calculated based on actual body weight, or by adjusted or ideal body weight in patients with body mass index > 30 kg/m ² .	Conditional/⊕⊕○○	For patients with sepsis induced hypoperfusion or septic shock we suggest that at least 30 mL/kg of IV crystalloid fluid should be given within the first 3 hours of resuscitation.
New	For adults with sepsis-induced hypotension, we "suggest" initial IV crystalloid fluid bolus resuscitation followed by vasopressor support if hypotension persists. • Remarks: In patients with unstable septic shock, immediate concurrent administration of vasopressors together with IV crystalloid fluid may be warranted on a case-by-case basis. Presence of unstable shock should be determined by physical examination. Suggestive clinical features of unstable shock include severely reduced blood pressure, mottled skin, ashen appearance, cyanosis/decreased oxygen saturation, tachycardia, and altered mentation.	Conditional/⊕○○○	-
Revisited	In adults with septic shock, we "suggest" starting vasopressors peripherally to restore MAP rather than delaying initiation until central venous access is secured. • Remarks: Data are insufficient to recommend a duration of use, dose, or access route (size of peripheral IV line or anatomic location). Midline catheters were not considered.	Conditional/⊕○○○	For adults with septic shock, we suggest starting vasopressors peripherally to restore MAP rather than delaying initiation until a central venous access is secured. • Remarks: When using vasopressors peripherally, they should be administered only for a short period of time and in a vein in or proximal to the antecubital fossa.
New	For adults with septic shock 65 years old or older, we "suggest" an initial MAP range of 60–65 mm Hg over higher ranges.	Conditional/⊕⊕○○	For adults with septic shock on vasopressors, we recommend an initial target MAP of 65 mm Hg over higher MAP targets.
Revisited	For adults with possible, probable, or definite septic shock, we "recommend" administering antimicrobial therapy immediately, ideally within 1 hour of recognition.	Strong/⊕○○○	For adults with possible septic shock or a high likelihood for sepsis, we recommend administering antimicrobials immediately, ideally within 1 hour of recognition.
Revisited	For adults with probable or definite sepsis without shock, we "recommend" administering antimicrobial therapy immediately, ideally within 1 hour of recognition.	Strong/⊕○○○	For adults with possible sepsis without shock, we recommend rapid assessment of the likelihood of infectious versus noninfectious causes of acute illness.

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Table 1. Continued

Change	2026 Recommendations	Strength of recommendation/certainty of evidence	2021 Recommendations
			Remarks: Rapid assessment includes history and clinical examination, tests for both infectious and noninfectious causes of acute illness and immediate treatment for acute conditions that can mimic sepsis. Whenever possible this should be completed within 3 hours of presentation so that a decision can be made as to the likelihood of an infectious cause of the patient's presentation and timely antimicrobial therapy provided if the likelihood of sepsis is thought to be high.
Revisited	For adults with possible sepsis without shock, we "suggest" a time-limited course of rapid investigation and if concern for infection persists, the administration of antimicrobial therapy within 3 hours from the time when sepsis was first suspected.	Conditional/⊕○○○	For adults with possible sepsis without shock, we suggest a time-limited course of rapid investigation and if concern for infection persists, the administration of antimicrobials within 3 hours from the time when sepsis was first recognized.
New	For adults with definite or probable sepsis and hypotension (i.e., septic shock) and who have an anticipated time to in-hospital medical evaluation of over 60 minutes, we "suggest" administering antimicrobial therapy in ambulance or flight. Remarks: Prehospital antibiotic delivery should be implemented only after having a structured process in place to screen for sepsis in ambulance or flight, as discussed in recommendation 3.	Conditional/⊕○○○	-
New	For adults with sepsis or septic shock at high risk of infection with a specific MDR pathogen, we "suggest" using empirical antimicrobial therapy with coverage for this multidrug resistant pathogen. Remarks: Risk factors for MDR pathogens include colonization with the MDR pathogen of concern, previous infection with the MDR pathogen of concern, prolonged use of broad-spectrum antibiotics, and prolonged hospitalization in a unit with a high prevalence of the MDR pathogen of concern.	Conditional/⊕○○○	For adults with sepsis or septic shock at high risk of MRSA, we recommend using empiric antimicrobials with MRSA coverage over using antimicrobials without MRSA coverage. For adults with sepsis or septic shock and high risk for MDR organisms, we suggest using two antimicrobials with gram-negative coverage for empiric treatment over one gram-negative agent.
New	For adults with sepsis or septic shock at low risk of infection with a specific MDR pathogen, we "suggest against" using empirical antimicrobial therapy with coverage for this MDR pathogen.	Conditional/⊕○○○	For adults with sepsis or septic shock at low risk of MRSA, we suggest against using empiric antimicrobials with MRSA coverage, as compared with using antimicrobials without MRSA coverage. For adults with sepsis or septic shock and low risk for MDR organisms, we suggest against using two gram-negative agents for empiric treatment, compared with one gram-negative agent.
Revisited	For adults with sepsis or septic shock, we "suggest against" using empirical antifungal therapy. Remarks: Empiric antifungal therapy should be considered on a case-by-case basis in selected patients with sepsis or septic shock and risk factors for fungal infection, including immunosuppression, prolonged use of antibiotics, prolonged hospitalization, and intra-abdominal sources of infection.	Conditional/⊕⊕○○	For adults with sepsis or septic shock at high risk of fungal infection, we suggest using empiric antifungal therapy over no antifungal therapy. For adults with sepsis or septic shock at low risk of fungal infection, we suggest against empiric use of antifungal therapy.

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Table 1. Continued

Change	2026 Recommendations	Strength of recommendation/certainty of evidence	2021 Recommendations
New	For adults with sepsis or septic shock without risk factors for anaerobic infection, we "suggest" using an empiric antibiotic regimen without anaerobic coverage. • Remarks: When coverage of potential MDR pathogens is required, agents with anaerobic activity (e.g., piperacillin-tazobactam or carbapenems) are appropriate when alternative agents lacking anaerobic coverage are insufficient.	Conditional/⊕○○○	-
New	For adults with sepsis or septic shock with specific risk factors for anaerobic infection, we "suggest" using an empiric antibiotic regimen that includes anaerobic coverage. • Remarks: Risk factors for anaerobic infection include intra-abdominal or deep-seated gynecological/obstetric source of infection, necrotizing soft-tissue infection, head and neck infection, and central nervous system abscesses or empyema.	Conditional/⊕○○○	-
New	In mechanically ventilated adults with sepsis or septic shock in units with a low prevalence of antimicrobial resistance, we "suggest" using selective decontamination of the digestive tract.	Conditional/⊕⊕○○	-
Revisited	For adults with septic shock, we "suggest" using either invasive or noninvasive blood pressure monitoring. • Remarks: Invasive blood pressure monitoring is advised in patients with shock who: require intermediate-to-high dose vasopressors, escalating doses of vasopressor, or multiple vasopressors; are receiving frequent arterial blood sampling; or have noninvasive blood pressure measurements which are inconsistent on repeated assessments.	Conditional/⊕○○○	For adults with septic shock, we suggest using invasive monitoring of arterial blood pressure over noninvasive monitoring, as soon as practical and if resources are available.
Revisited	For adults with sepsis or septic shock, we "suggest" using capillary refill time to guide resuscitation as an adjunct to other measures of perfusion.	Conditional/⊕⊕○○	For adults with septic shock, we suggest using capillary refill time to guide resuscitation as an adjunct to other measures of perfusion.
New	For adults with sepsis, we "suggest" measuring oxygenation by either pulse oximeter (SpO ₂) or arterial blood gas (SaO ₂) in conjunction with physical examination and clinical acumen. • Remarks: Arterial blood gas measurements are the gold standard for assessing oxygenation; include other important information such as pH, PaCO ₂ , lactate, and bicarbonate; and are preferable when available. SpO ₂ /FIO ₂ by pulse oximeter may substitute for PaO ₂ /FIO ₂ ratio but is less accurate in patients in shock, with darker skin tones, and/or with oxygen saturations <90% or >97%.	Conditional/⊕○○○	-
Revisited	For adults with sepsis and acute hypoxemic respiratory failure, we "suggest" titrating FIO ₂ to target either higher, more liberal oxygen levels or lower, conservative oxygen levels depending on patient factors and resource limitations. • Remarks: Although there was variability across trials informing this recommendation, most used a lower target of approximately 90%–93% SpO ₂ and a higher target of SpO ₂ ≥96%. "In our practice", panelists target SpO ₂ between 90% (IQR, 90%–92%) to 96% (IQR, 94%–98%) for patients with sepsis and acute hypoxemic respiratory failure.	Conditional/⊕⊕○○	There is insufficient evidence to make a recommendation on the use of conservative oxygen targets in adults with sepsis-induced hypoxemic respiratory failure.

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Table 1. Continued

Change	2026 Recommendations	Strength of recommendation/certainty of evidence	2021 Recommendations
Revisited	For adults with sepsis and acute hypoxemic respiratory failure, we “suggest” using HFNC as the initial therapy over noninvasive positive pressure ventilation.	Conditional/⊕⊕○○	For adults with sepsis-induced hypoxemic respiratory failure, we suggest the use of high flow nasal oxygen over noninvasive ventilation.
New	For adults with sepsis and acute hypoxemic respiratory failure, we “suggest” using HFNC over high flow alternating with noninvasive positive pressure ventilation.	Conditional/⊕○○○	
Revisited	For adults with septic shock, we “suggest” using IV corticosteroids.	Conditional/⊕⊕○○	For adults with septic shock and an ongoing requirement for vasopressor therapy we suggest using IV corticosteroids. • Remarks: The typical corticosteroid used in adults with septic shock is IV hydrocortisone at a dose of 200 mg/day given as 50 mg intravenously every 6 hours or as a continuous infusion. It is suggested that this is commenced at a dose of norepinephrine or epinephrine $\geq 0.25 \mu\text{g/kg/min}$ at least 4 hours after initiation.
New	For adults with septic shock after the acute resuscitation phase, we “suggest” using active fluid removal. • Remarks: Acute resuscitation refers to escalating doses of vasopressors, ongoing high doses of vasopressors, or needing ongoing volume expansion. Active fluid removal refers to diuretics and, if diuretics are insufficient, ultrafiltration or extracorporeal fluid removal. Factors to be considered when deciding to initiate active fluid removal include cardiorespiratory function, vasopressor dose, clinical course, peripheral edema, weight, and fluid balance.	Conditional/⊕○○○	-
New	Health systems should implement strategies to ensure clinicians have the knowledge and competency to support sepsis survivors and their families during the post-hospital recovery.	Good practice statement	-
New	Health systems should implement strategies to support sepsis survivors and their families during the post-hospital recovery.	Good practice statement	-
Revisited	For adult survivors of hospitalization for sepsis or septic shock who received invasive mechanical ventilation >48 hours, we “suggest” offering physical rehabilitation services after hospital discharge. • Remarks: Physical rehabilitation services may vary in format, intensity, and duration, depending on locally available resources and patient needs.	Conditional/⊕⊕○○	For adult survivors of sepsis or septic shock receiving mechanical ventilation for > 48 hours or an intensive care unit stay of >72 hours, we suggest referral to a post-hospital rehabilitation program.
Revisited	Adult survivors of hospitalization for sepsis or septic shock who demonstrate clinical symptoms of mental health disorders should be referred to appropriate healthcare professionals for evaluation and management.	Good practice statement	For adult survivors of sepsis or septic shock, we recommend assessment and follow-up for physical, cognitive, and emotional problems after hospital discharge.

Symbols for certainty of evidence: ⊕⊕⊕⊕ high, ⊕⊕⊕○ moderate, ⊕⊕○○ low, ⊕○○○ very low.

IV: intravenous; MAP: mean arterial pressure; MDR: multidrug resistant; MRSA: methicillin-resistant *Staphylococcus aureus*; IQR: interquartile range; HFNC: high-flow nasal cannula.

individualized oxygen targets, either higher ($\geq 96\%$ SpO₂) or lower (90%–93% SpO₂), based on patient characteristics and resource availability [22]. As part of the de-escalation phase, guidelines suggest initiating active fluid removal with diuretics, and if these prove insufficient, escalating to ultrafiltration or extracorporeal fluid removal based on individual assessment [23].

The 2026 guidelines also highlight emerging strategies that prioritize patient comfort through noninvasive and low-burden management. For instance, for patients with acute hypoxemic respiratory failure, the guidelines suggest using a high-flow nasal cannula (HFNC) as the initial therapy over noninvasive positive pressure ventilation (NIPPV), noting that HFNC provides better comfort and ease of use without interfering with the patient's ability to eat and speak. However, a definitive mortality benefit of HFNC over NIPPV has not been established [24,25]. Peripheral oxygen saturation monitoring can be used in conjunction with clinical evaluation to assess oxygenation, but it cannot replace the gold standard of arterial blood gas analysis because of its lower accuracy in patients with darker skin tones [26]. In terms of hemodynamic and perfusion monitoring, the 2026 guidelines support the use of capillary refill time (CRT), a simple, noninvasive, and rapid bedside assessment, as a valuable tool to guide resuscitation in conjunction with existing indicators, such as serum lactate [27]. The ANDROMEDA-SHOCK-2 trial demonstrated that a personalized CRT-guided resuscitation protocol was superior to usual care for a hierarchical composite outcome in early septic shock, primarily by reducing the duration of organ support [28]. Furthermore, the guidelines revisited blood pressure monitoring recommendations and shifted from a preference for invasive measurement to the recognition of noninvasive blood pressure monitoring as an alternative to arterial catheter insertion [29]. The Early versus Deferred Arterial Catheterization in Critically Ill Patients with Acute Circulatory Failure (EVERDAC) trial, published after the evidence review for the 2026 SSC guidelines was finalized, showed that a noninvasive blood pressure monitoring strategy was noninferior to early arterial catheter insertion for 28-day all-cause mortality [30]. Nevertheless, there are concerns regarding the consistency between these two methods. Given that discrepancies between noninvasive and invasive measurements have been associated with worse outcomes [31], noninvasive blood pressure mon-

itoring should be considered a reliable alternative, primarily when repeated measurements remain consistent with the clinical picture.

Overall, the 2026 SSC guidelines underscore the multidimensional shift in sepsis care. This evolution is based on three key components: continuous care from pre-hospital diagnosis to post-hospital recovery, a transition to tailored and individualized treatment, and efforts toward noninvasive and patient-centered management. Clinicians should initiate early screening and treatment in the pre-hospital stage, administer antimicrobials early when sepsis is suspected but tailor their use according to disease severity and risk of infection, individualize hemodynamic and respiratory support according to patient profiles, and provide continuous care even after discharge. Although personalized treatment is often informed by evidence from smaller or more narrowly defined patient populations, it represents a meaningful advancement over uniform protocols that do not account for individual clinical variations. The 2026 guidelines provide a comprehensive roadmap for every clinician by integrating personalized interventions with a holistic view of the patient's entire clinical trajectory.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

FUNDING

None.

ACKNOWLEDGMENTS

None.

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Conceptualization: WYK. Writing – original draft: GK. Writing

– review & editing: WYK. All authors read and agreed to the published version of the manuscript.

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