

Identifying Time Zero

Time Zero from the Surviving Sepsis Campaign 2018 Update

- “Time Zero” or “time of presentation” is defined as:
 - The time of triage in the emergency department (ED), if sepsis presentation is in ED
 - OR**
 - If presenting from another care venue, time zero is from the earliest chart documentation consistent with all elements of sepsis or septic shock discovered through chart review

Time Zero for CMS Core Measure SEP-1

- **Severe sepsis** – time zero is identified in one of two ways:
 1. Documentation by physician, advanced practice nurse (APN) or physician assistant (PA) of severe sepsis
 - OR**
 2. Severe sepsis clinical criteria are met when A, B and C are documented within six hours of each other (**the last qualifying element of A, B and C is time zero**)
 - A. Documentation referencing an infection by a physician, APN, PA, pharmacist or nursing
 - B. Two or more SIRS criteria (not attributed to a documented chronic condition). Qualifying time is the later of the two SIRS within three hours of each other:
 - Temperature > 38°C or < 36°C
 - Heart rate > 90 beats per minute
 - Respiratory rate > 20 breaths per minute
 - White blood cell count > 12,000 or < 4,000 or > 10% bands
 - C. New onset organ dysfunction within 24 hours of presentation, evidenced by any one of the following (not attributed to a documented chronic condition):
 - Systolic blood pressure < 90 mmHg or MAP < 65 mmHg
 - Acute respiratory failure as evidenced by a new need for invasive (intubation) or non-invasive ventilation (BiPAP or CPAP)
 - Creatinine > 2.0 mg/dL
 - Urine output < 0.5mL/kg/hour for two consecutive hours
 - Total bilirubin > 2mg/dL
 - Platelet count < 100,000
 - INR > 1.5 or a PTT > 60 seconds
- Lactate > 2

- **Septic Shock** – time zero is identified in one of two ways:
 1. Documentation by physician, APN or PA of septic shock
OR
 2. Severe sepsis present (per above criteria) **AND**
 - Persistent hypotension in the hour after completion of the target fluid volume, evidenced by two consecutive documented recordings of:
 - Systolic blood pressure < 90 mmHg or
 - MAP < 65 mmHg or
 - a decrease in systolic blood pressure by > 40 mmHg from baseline
 - OR**
 3. Severe sepsis present **AND**
 - Tissue hypoperfusion evidenced by initial lactate level ≥ 4

NOTE: SEP-1 has two “time zeros.” All cases have a severe sepsis time zero requiring completion of the bundle within three hours. If criteria for shock is met within six hours of severe sepsis presentation, a second septic shock time zero is started requiring the shock bundle elements be completed within six hours.

For example:

- If shock is identified by initial lactate level ≥ 4 , then a 30 mL/kg bolus must be given within six hours. If hypotension is not present, then no other interventions are needed.
- If shock is identified by systolic blood pressure < 90 or MAP < 65 or a decrease in systolic blood pressure by > 40 mmHg from baseline, then a 30 mL/kg bolus must be given. If hypotension persists after this fluid bolus, then vasopressors must be initiated, and one of the perfusion assessments must be completed.

References

- Levy, M. M., & Rhodes, A. (2018). The Surviving Sepsis Campaign Bundle: 2018 Update. *Society of Critical Care Medicine*, 997-1000. Retrieved from <http://www.survivingsepsis.org/SiteCollectionDocuments/Surviving-Sepsis-Campaign-Hour-1-Bundle-2018.pdf>
- *Specifications Manual for National Hospital Inpatient Quality Measures [5.5a]*. (n.d.). Centers for Medicare & Medicaid Services. Retrieved from <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic/Page/QnetTier2&cid=1141662756099>