

## MATERNAL SEPSIS: FAQs

***At what gestational age do you recommend using the Two-Step criteria?***

The Two-Step approach should be used at all gestational ages and in the postpartum period.

***Do you recommend that OB units utilize an OB specific screening tool versus the hospital wide screening or in addition to the hospital wide screening? How do you meet CMS criteria for diagnosis?***

Screening criteria not customized to pregnant and postpartum women leads to significant overdiagnosis of sepsis. We recommend the Two-Step approach outlined in the toolkit to help eliminate false positives and unnecessary intervention. The CMS Sepsis Guidelines directly indicate that different criteria may be used for specific patient populations when justified. There are clear justifications in the Toolkit indicating why pregnant/postpartum women are such a population.

***I see that FHR is not part of the assessment for maternal sepsis. Should we no longer be using that as one of the criteria? Why isn't fetal HR part of the initial criteria?***

Fetal tachycardia is used in the definition of chorioamnionitis/intrauterine infection but has not been validated for defining maternal sepsis.

***If the patient has suspected chorioamnionitis and antibiotics are started but blood cultures aren't done, and later it is determined that they have sepsis, will the patient fall out of compliance with sepsis bundles?***

According to CMS guidelines, it is acceptable to draw blood cultures if antibiotics were commenced in the previous 24 hours before sepsis was identified. If there is a concern for a patient's deteriorating condition due to rapidly advancing infection, antibiotics should be started immediately with documentation that blood cultures will be drawn as soon as possible.

***How long will WBC's be affected by betamethasone?***

Based on a metanalysis, levels are expected to peak at 24 hours and return to baseline around 96 hours.

***How long after labor can you expect lactic acid to return back to baseline levels?***

It is unclear but expected to return to normal within a few hours. Our recommendation is to trend lactate levels every three hours under close observation to monitor the patient accurately. The patient should not return to a setting under normal staffing ratios until vital signs have normalized and the lactate level is trending down.

***Is there a benchmark that we should use if we are not using lactic acid > 2 in an active laboring patient?***

We recommend avoiding using a lactate level above 2 as confirmation of sepsis without another symptom of end organ injury present in **laboring women**. Lactate in labor is variable, therefore, it is difficult to use it to diagnosis sepsis. In most studies looking at lactate levels in labor there are increases seen in women without sepsis, however, lactate levels are not positively correlated with duration of labor or duration of pushing. The patient with an elevated lactate in **labor** in the **absence of**

**additional signs of end organ injury** should be closely surveilled, fluids considered, and lactate repeated for trend assessment. Please see a longer discussion of this issue in the Toolkit on page 17.

***How quickly should the 30ml/kg fluid bolus be administered?***

The bolus should be administered within 3 hours.

***Is the weight used to calculate the fluid bolus current weight or pre-pregnancy weight, ideal or adjusted? Can you share your recommendations for dosing weight used in the fluid bolus in patients with BMI > 30?***

The fluid resuscitation dose is based on the current patient weight. The Surviving Sepsis Campaign recommends 30mL/kg initially to enable clinicians to initiate resuscitation while awaiting more precise measures of hemodynamic status. For pregnant women with a high BMI, we recommend starting with 30ml/kg and closely following fluid resuscitation adequacy with non-invasive techniques.

***Is the 30 ml/kg IV fluid bolus still recommended if the patient is normotensive but has other end organ injury such as desaturation on room air? Is it held if the patient is preeclamptic and receiving magnesium with an increased risk of pulmonary edema?***

You want to give the 30 ml/kg fluid bolus if the patient is having any end organ injury. Keeping the pathophysiology of sepsis in mind, women with sepsis have inadequate tissue perfusion which leads to issues that leave the cells starved of oxygen. You want to restore perfusion as these women are intravascularly dry. Even in the case of preeclampsia, you will want to give the fluid bolus, however, you can use diagnostic tools to determine if the patient is fluid responsive. Using a Non-Invasive Cardiac Monitor (NICOM) can determine whether the patient will benefit from fluids or is fluid overloaded. NICOM is a great diagnostic tool for determining whether the fluid bolus should be given or held.

***Which takes priority when administering the IV fluid bolus and antibiotics?***

There is no need to prioritize one treatment over the other and they are both critical and should not be delayed. Ideally, a patient being treating for sepsis would have two lines to ascertain that fluid resuscitation and blood pressure management would not be jeopardized by the loss of a line. However, a patient with one line could receive a fluid bolus and antibiotics at their respective rates utilizing a secondary line at a port below the pump on a separate channel if absolutely necessary.

***Can we give corticosteroids for lung maturity in sepsis as steroids can flare up an infection? What is recommended?***

The 2019 SMFM Consult Series on Sepsis recommends the consideration of steroids for fetal lung maturity in suspected sepsis after 23-24 weeks of pregnancy. Make the judgment as to whether the patient will likely still be pregnant in 24 hours. If so, steroids should be considered. There is fetal benefit in receiving 24 hours of corticosteroids.