Positive Blood Culture Management

(Applies to all ED patients <18 years including neonates)

Micro lab contacts ED attending to report positive blood culture and gram stain result

Check patient's chart to verify correct patient, review micro report and risk factors

High risk patient[a]

Yes

No

High risk gram stain[c]

Yes

No

Await result of Blood Culture Identification Panel[3] (result available in chart in approx. 2 hours)

High risk organism[d]

Yes

No

Contact family and assess child's clinical status

Afebrile and showing clinical improvement

No

Yes

PCP follow up vs return to ED as needed

Document contact with family in patient's chart in Emergency Medical Services - Free Text Note

Contact family and request immediate return to ED (See suggested communication)[b]

Document contact with family in patient's chart in Emergency Medical Services - Free Text Note

ED re-evaluation including repeat blood culture

^Consult Peds ID to discuss at any point if questions

Footnotes:

a. High risk patients:
1. neutropenia
2. immunocompromise (e.g. solid organ transplant, receiving myelosuppressive chemotherapy, stem cell transplant within 100 days, primary immunodeficiency, autoimmune or chronic inflammatory disease on immunosuppression, asplenia including Sickle Cell Disease)
3. central line
4. hardware in place
5. repaired or unrepaired congenital heart disease

b. Suggested communication: "Your child's blood culture was positive for a bacteria that might cause illness. We recommend bringing your child back to the MU emergency department quickly for re-evaluation, additional bloodwork, and likely staying overnight in the hospital if your doctor feels it is needed."[2]

c. High risk gram stain:
1. any gram negative species
2. yeast

d. High risk organism:
1. *Gram positives:*
   - i. *Staphylococcus aureus*
   - ii. *Staphylococcus lugdunensis*
   - iii. *Streptococcus pneumoniae*
   - iv. *Streptococcus pyogenes (Group A Streptococcus)*
   - v. *Streptococcus agalactiae (Group B Streptococcus)*
   - vi. *Listeria monocytogenes*
   - vii. *Enterococcus spp.*
2. *Enteric gram negatives:*
   - i. *Enterobacter cloacae complex*
   - ii. *Escherichia coli*
   - iii. *Klebsiella spp. (such as K aerogenes, K oxytoca, K pneumoniae)*
   - iv. *Other: Serratia marcescens, Proteus spp., Salmonella spp.*
3. Enterobacterales (even if no species identification)
4. Pseudomonas aeruginosa
5. Other gram-negative rods (e.g. Acinetobacter calcoaceticus-baumannii complex, Bacteroides fragilis)
6. Neisseria meningitidis
7. Haemophilus influenzae
8. Candida spp.

e. Likely contaminants:
1. Coagulase Negative Staphylococcus
2. Staphylococcus epidermidis
3. No genus/species level identification

^ Consult Peds ID – Discussion with Peds ID is also appropriate at any time point

References:

1. Ann & Robert H Lurie Children's Hospital of Chicago Clinical Practice Guideline: Blood culture follow-up: Emergency Department, 2025
2. Medical College of Wisconsin Clinical Practice Guideline: Blood Culture Call-Back Guidance for the Emergency Department, 2024
3. BIOFIRE® Blood Culture Identification 2 (BCID2) Panel, https://idmp.ucsf.edu/content/guidelines-for-blood-culture-identification-bcid-2-data