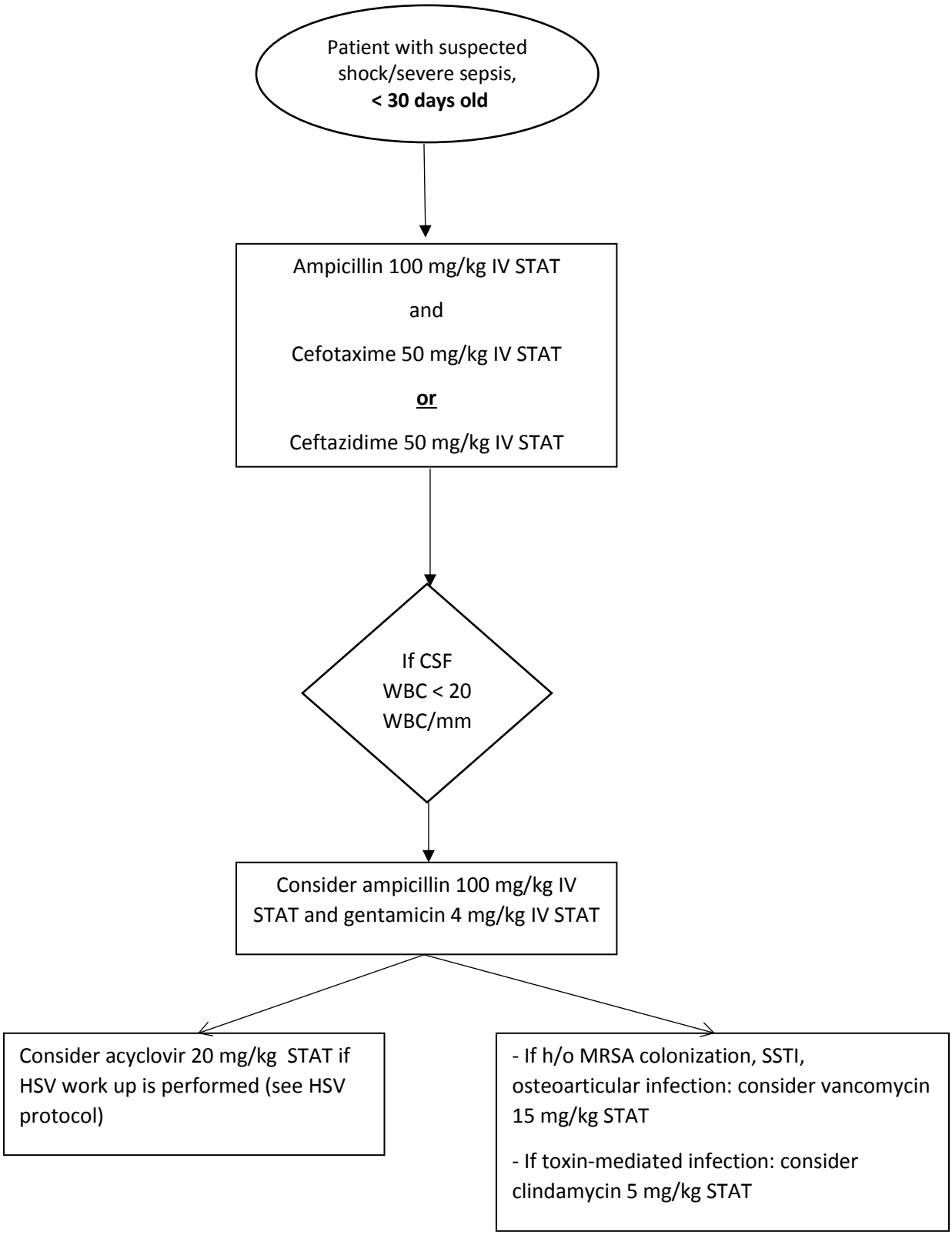
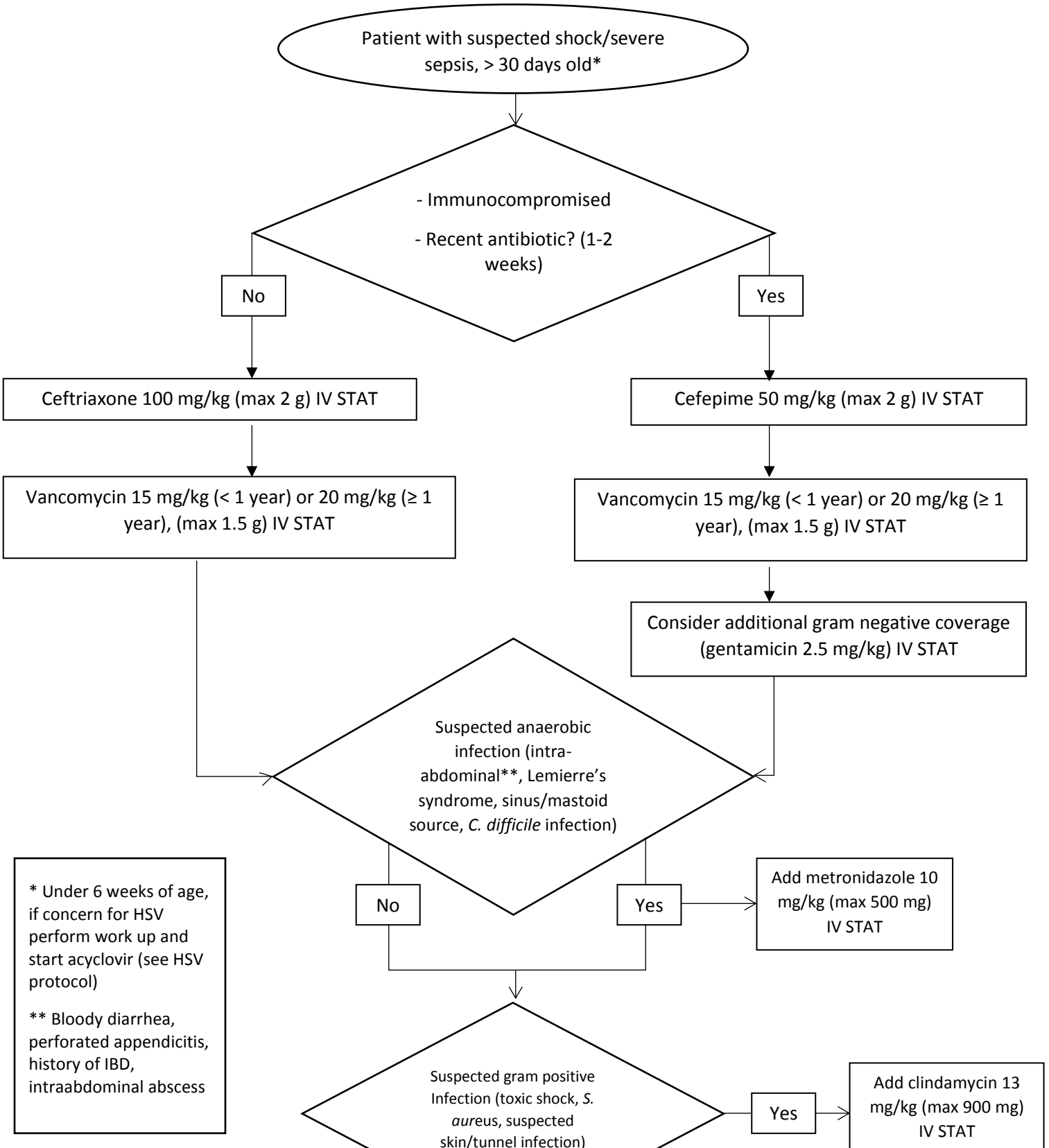
Patient with suspected septic shock/severe sepsis, ≤ 30 days



Patient with suspected septic shock/severe sepsis, > 30 days



* Under 6 weeks of age, if concern for HSV perform work up and start acyclovir (see HSV protocol)

** Bloody diarrhea, perforated appendicitis, history of IBD, intraabdominal abscess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Additional Considerations

- Antibiotic administration within 1 hour
- Check prior positive cultures. For patients with history of resistant pathogens, add coverage based on historic susceptibilities.
- For patients on broad-spectrum antimicrobials, consider yeast coverage.
- For patients with suspected pneumococcal, Hib, or meningococcal meningitis, consider dexamethasone immediately before or shortly after first antibiotic dose.
- Consider Pediatrics ID consultation.

Pathogen specific considerations

- *Staphylococcus aureus*: *S. aureus* is good to consider in any patient with typical focus of infection. These would include severe pneumonia (particularly if follows influenza), patients with indwelling catheters or foreign material, skin, bone, joint or muscle infections, abnormal cardiac anatomy, etc. Today one must consider both MSSA and MRSA. At our hospital, the rate of MRSA is 45% of all *S. aureus*. Vancomycin should be used in all patients with sepsis at risk for *S. aureus*. However, studies show that **if susceptible, beta-lactam drugs (oxacillin, cefazolin) are associated with better outcomes, and vancomycin is often not therapeutic initially, particularly in pediatrics. Therefore, if a patient has suspected sepsis with *S. aureus*, consider double coverage until susceptibilities have returned (vancomycin + cefazolin or vancomycin + oxacillin).**

- Coagulase negative staphylococci: This is worth considering in any patient with an indwelling catheter. While these patients can have mild sepsis, it would be unusual to have severe sepsis. As it can be a skin contaminant, **it is important to get two blood cultures** prior to initiating antibiotics (vancomycin), in order to sort out contamination vs. pathogen.

- Yeast: yeast should be considered in patients with a combination of the following risk factors: broad spectrum antibiotics, multiple indwelling tubes/catheters, GI compromise, abdominal catastrophe, immune compromise. Most of our yeast is susceptible to fluconazole (20 of 21 isolates last year), but in a severely ill child agents with less resistance (amphotericin B, micafungin) should be considered, though neither of these have good penetration into the spinal fluid (fluconazole does).

- Multidrug resistant gram negative organism (MDRO): MDROs are emerging pathogens in our community. These organisms are highly resistant to most conventional drugs. This resistance pattern is most often seen in certain strains of *Klebsiella*, *E. coli*, *Pseudomonas*, *Serratia*, *Acinetobacter*, *Stenotrophamonas*, and others. Consider MDROs in patients who have had them before, in patients that have been on long-term, broad spectrum antibiotics (fluoroquinolones, IV cephalosporins, carbapenams). Drugs of choice are the cefepime, carbapenams, tigecycline, colistin, often in combination with other agents. The dosing for treatment is often non-traditional and help is recommended from ID or antimicrobial stewardship.

Infectious Diseases Workup

- Blood cultures x 2 (before antibiotics)
- Urine culture (cath. Specimen)
- If diarrhea: send stool multiplex PCR
- If draining wound: send drainage for culture
- If requires intubation: send tracheal aspirate for culture
- Send nasal swab for MRSA PCR
- If concern for CNS infection: send CSF for PCR, cell count and differential, glucose and protein

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