

Aim: To decrease variation in management of patients with musculoskeletal infections.

EXCLUSION GUIDELINES

Patients **excluded** from this guideline:

- <6 months or >18 years of age
- ≥ 14 days of symptoms
- Critically ill (See [Sepsis Guideline](#))
- Immunodeficiency
- Sickle Cell disease
- Penetrating trauma/foreign body
- Post-operative infection, including surgical hardware infection
- Skull, vertebral, or hand infection
- Concern for necrotizing fasciitis or unusual organism
- Bursitis, superficial myositis (see **Note 7, page 5**)

NOTE 1.

Well-appearing children should ideally have source cultures collected prior to antibiotics; however, orthopedics may recommended starting antibiotics before source cultures in certain cases.

Do not delay antibiotic therapy if:

- Suspicion for sepsis (see [Sepsis Guideline](#))
- Source culture has been obtained
- Blood culture becomes positive
- Multifocal or disseminated infection

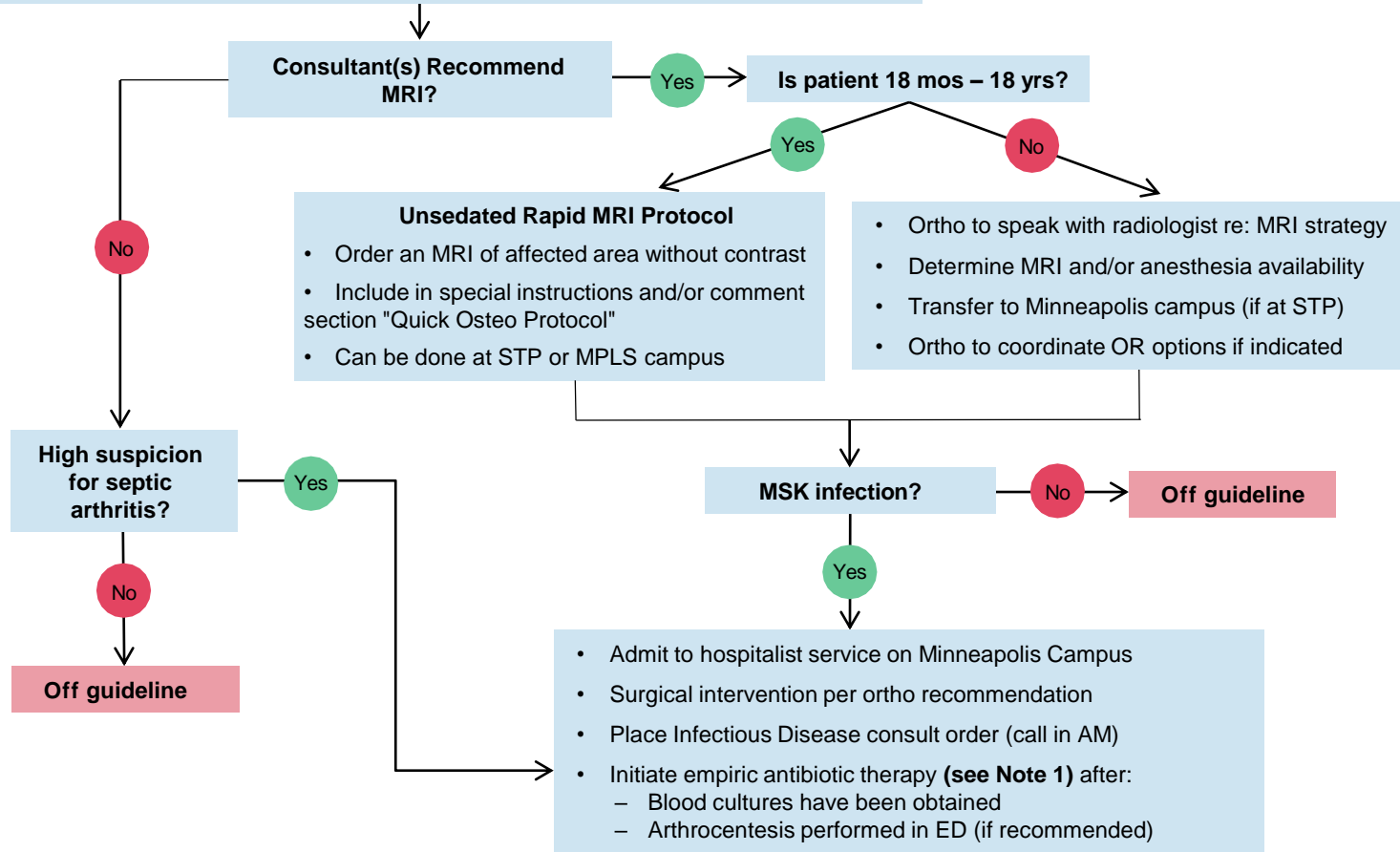
Antibiotics can be thoughtfully considered once:

- Blood culture obtained
- Arthrocentesis performed in ED (if recommended)
- Orthopedics has reviewed the case

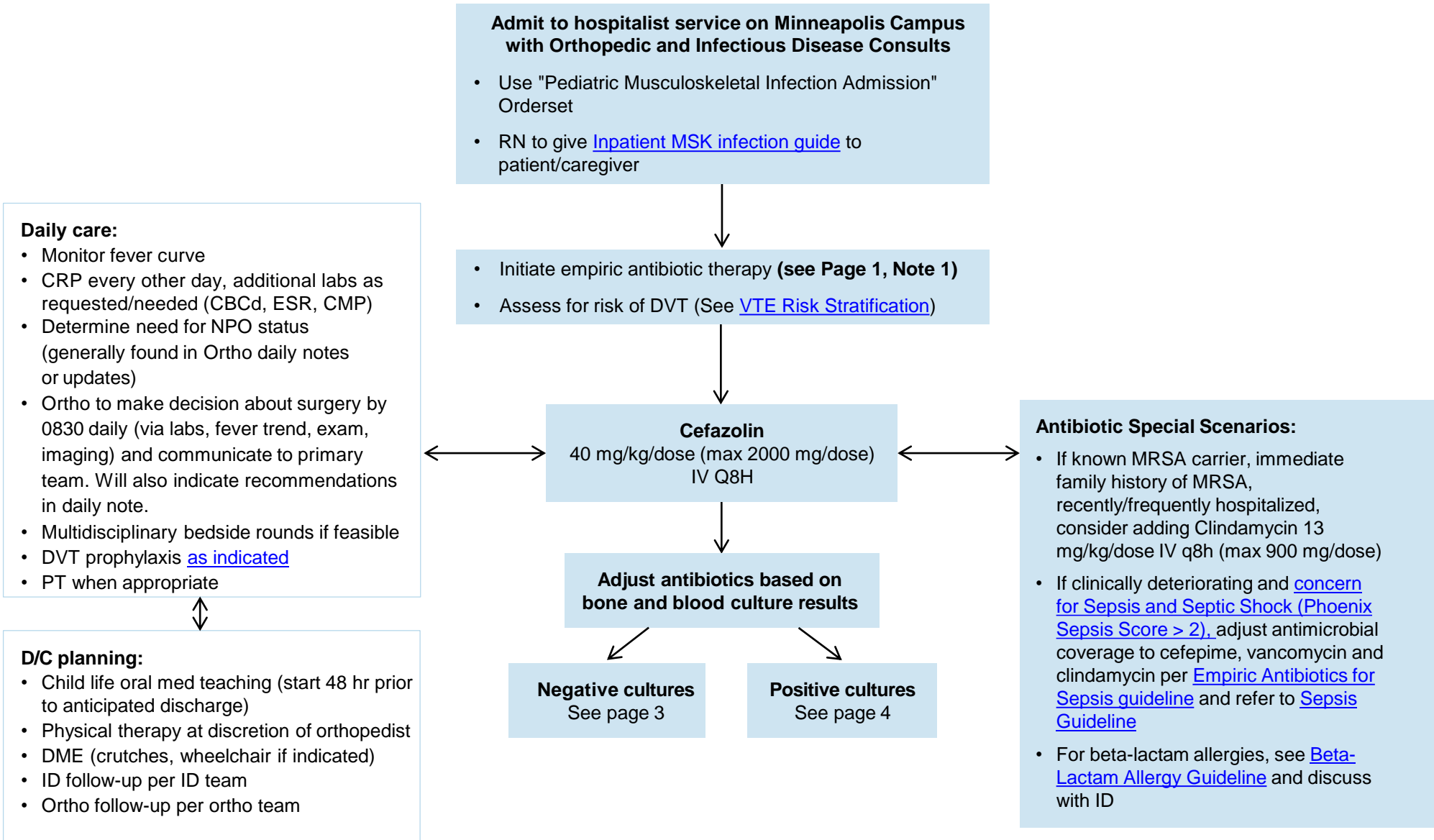
CONCERN FOR MUSCULOSKELETAL INFECTION?* (Acute hematogenous osteomyelitis, septic arthritis, or deep pyomyositis)

- Make patient NPO
- Obtain labs: Blood culture, CBC with diff, CRP, ESR, CMP. *Consider Lyme serology with reflex confirmation*
- Obtain initial imaging: Plain films; add joint ultrasound if shoulder, elbow, hip, knee, ankle
- **Call ortho early to discuss initial labs and imaging results**
- If isolated joint swelling, consider joint aspiration in ED with sedation **after discussion with ortho**
- Manage pain (NSAIDS **are** ok to use)
- Administer IV fluids if needed

*Patients referred into system with definite diagnosis of MSK infection should be directed to the **Minneapolis campus**



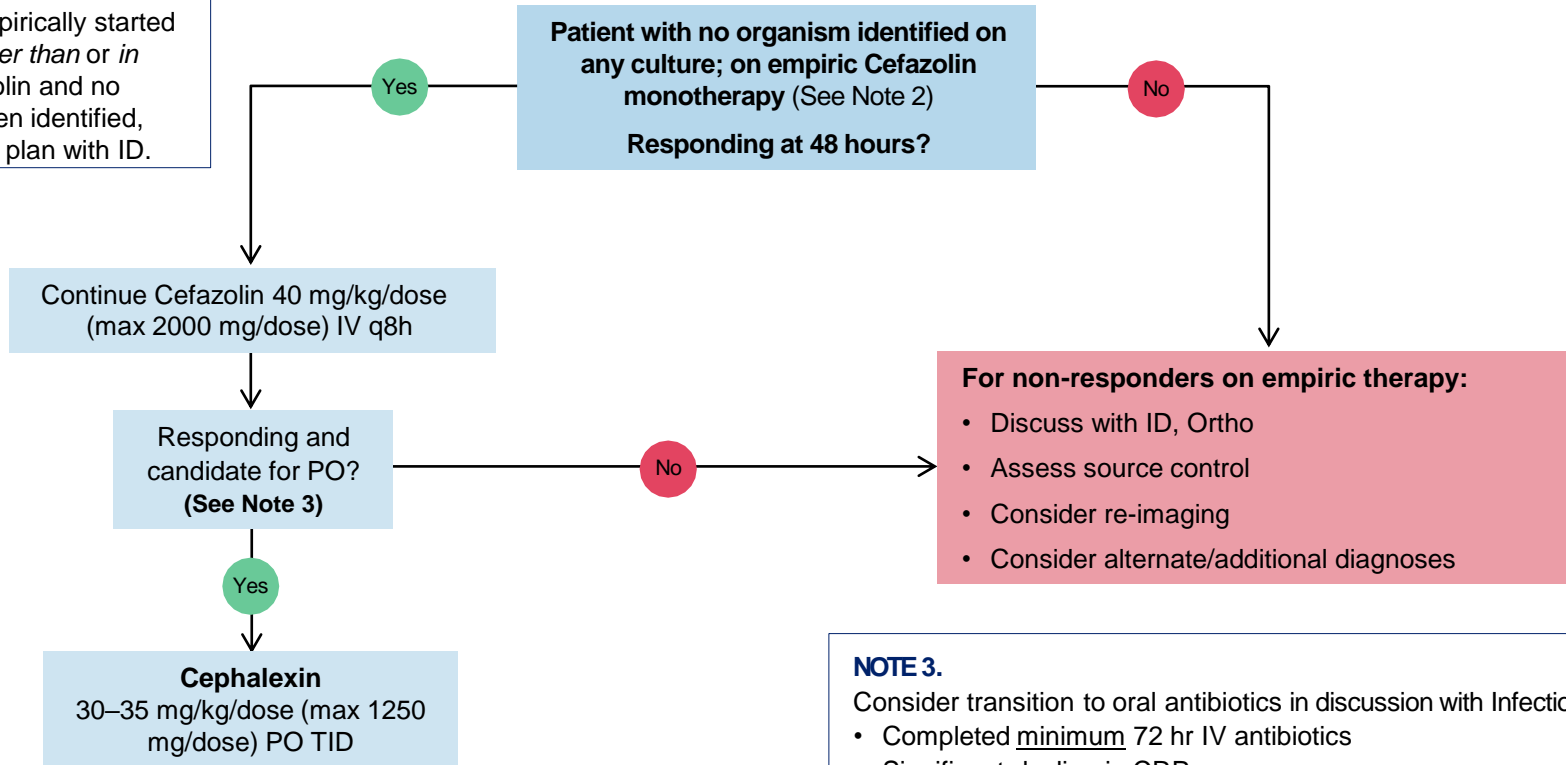
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NOTE 2.

If patient was empirically started on antibiotics *other than or in addition to* cefazolin and no organism has been identified, discuss antibiotic plan with ID.



NOTE 3.

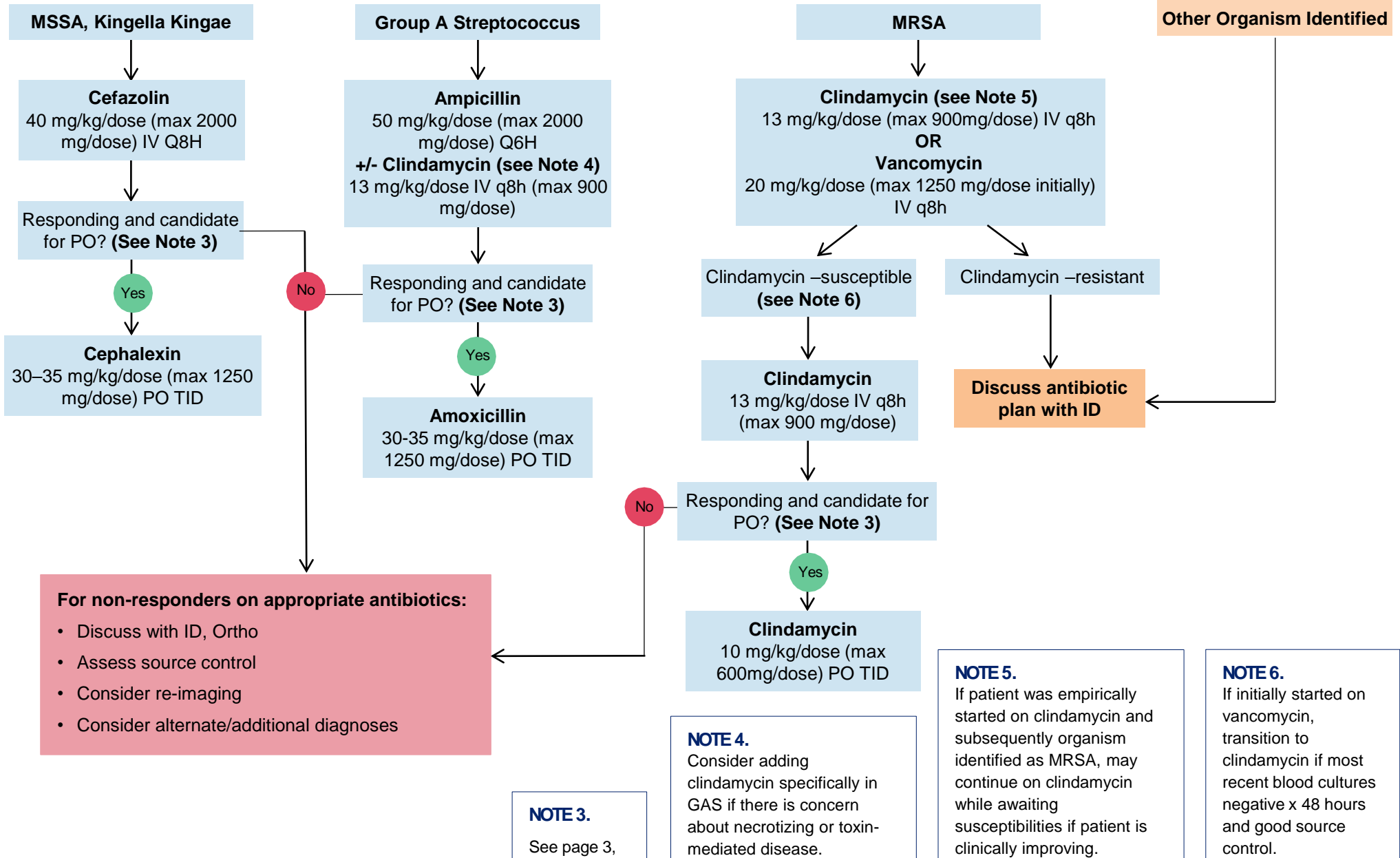
Consider transition to oral antibiotics in discussion with Infectious Disease if:

- Completed minimum 72 hr IV antibiotics
- Significant decline in CRP
- Most recent blood cultures negative x 48 hr
- Afebrile x 48 hr
- Regaining use of involved extremity
- Demonstrates oral intake including meds
- No further surgery planned
- No barrier to outpatient care

Minimum recommended antibiotic durations by diagnosis ("Day 1" is post-op day 1 or first negative blood culture, whichever is most recent):

- Septic arthritis: 14 days
- Pyomyositis: 21 days
- Osteomyelitis: 28 days

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NOTE 3.
See page 3,

NOTE 4.
Consider adding clindamycin specifically in GAS if there is concern about necrotizing or toxin-mediated disease.

NOTE 5.
If patient was empirically started on clindamycin and subsequently organism identified as MRSA, may continue on clindamycin while awaiting susceptibilities if patient is clinically improving.

NOTE 6.
If initially started on vancomycin, transition to clindamycin if most recent blood cultures negative x 48 hours and good source control.

NOTE 7.

Although bursitis and superficial myositis (e.g. extension from cellulitis) may follow similar pathways to more invasive infection, the timelines and recommendations for parenteral antibiotics and total duration of antibiotics may differ. Antibiotic dosing may differ as well, although antibiotic choice may be similar. Extent and severity of infection may also impact clinical decision-making.

REFERENCES

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2. Woods CR, Bradley JS, Chatterjee A, et al. Clinical Practice Guideline by the Pediatric Infectious Diseases Society (PIDS) and the Infectious Diseases Society of America (IDSA): 2023 Guideline on Diagnosis and Management of Acute Bacterial Arthritis in Pediatrics. *J Pediatric Infect Dis Soc.* 2024 Jan 29;13(1):1-59. doi: 10.1093/jpids/piad089. Erratum in: *J Pediatric Infect Dis Soc.* 2024 Aug 24;13(8):443. doi: 10.1093/jpids/piae065. PMID: 37941444.
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