Clinical Pathways Program

Guideline: Pediatric Bone and Joint Infection, Inpatient

Last updated: 11/29/2021

Clinical guideline summary

CLINICAL GUIDELINE NAME: Pediatric Bone and Joint Infection, Inpatient, Guideline

PATIENT POPULATION AND DIAGNOSIS: Pediatric patients <18 years of age

APPLICABLE TO: Helen Devos Children's Hospital

BRIEF DESCRIPTION: Guideline for management of bone and joint infections in children < 18 years old.

TEAM LEADER(S): Allison Long, John Kemppainen, and Thomas Czolgoszm and Catherine Ezzio

OWNING EXPERT IMPROVEMENT TEAM (EIT): Pediatric Clinical Practice Guideline

MANAGING CLINICAL PRACTICE COUNCIL (CPC): Children's Health CPC

CPC APPROVAL DATE:

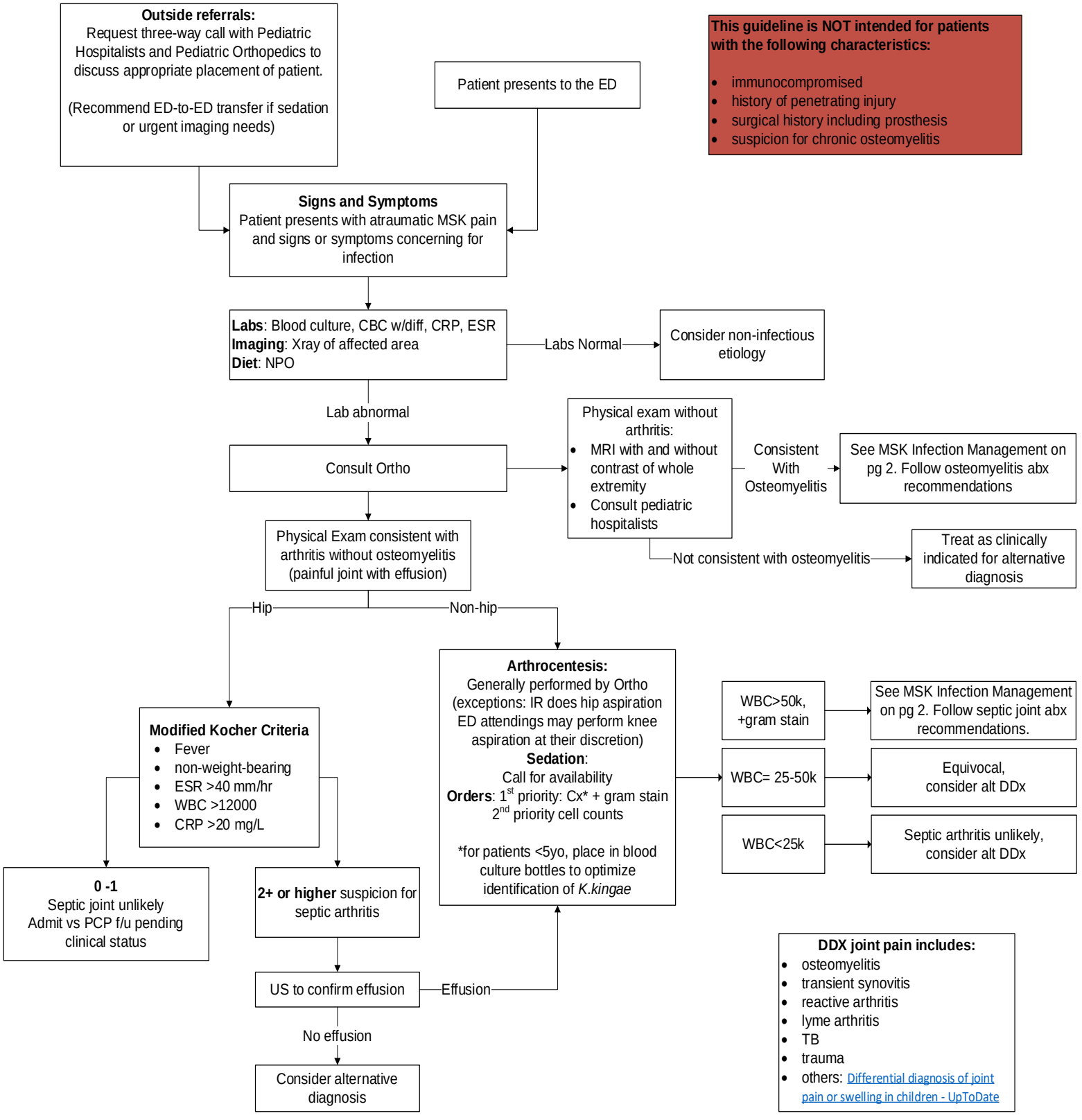
OTHER TEAM(S) IMPACTED: Nursing

IMPLEMENTATION DATE: November 2021

LAST REVISED: November 2021

FOR MORE INFORMATION, CONTACT: Allison Long, John Kemppainen, or Thomas Czolgosz

Clinical algorithm:



Clinical pathways clinical approach

MSK Infection Management:

1. Admit to PHM
2. Consult ID and Ortho
3. Keep NPO until surgical/sedation plan established.
    - Except in extenuating circumstances, patients with septic arthritis will undergo formal joint washout. Timing of this depends partially on clinical stability.
4. Follow fluid and blood culture results
5. Give antibiotics as below (narrow according to susceptibilities if applicable). In the event of both osteomyelitis and septic joint, use coverage suggested for septic joint
6. Trend inflammatory markers q 24-48 hours until CRP <50% peak
7. Discharge Criteria:
    - Afebrile x 24 hour
    - Improved MSK exam
    - CRP approx. 50% peak
8. Discharge planning:
    - Contact ortho for follow up and imaging recs
    - Labs: CRP, ESR, CBC w diff prior to ID appt
    - Septic joint: ID f/u 2wks post discharge
    - Osteomyelitis: ID f/u 3wks post discharge

Antibiotics for septic arthritis:

If septic-appearing or high clinical suspicion, give antibiotics immediately after joint tap

Age and patient characteristics	**Starting antibiotics**	**Other notes**
<28 days old	Vancomycin + Ceftazidime	Consider sepsis workup for infants <3mo
Septic-appearing OR No washout within 8 hrs OR Positive blood culture	Vancomycin+ Cefazolin	Make **every** effort to get joint tap aspirate for culture prior to starting vancomycin
All other children	Clindamycin + Cefazolin	Covers MRSA, MSSA, GAS, and Kingella kingae

Antibiotics for osteomyelitis:

If the patient is not clinically septic, AND ortho has decided on surgical debridement and/or bone biopsy, HOLD on antibiotics until bone cultures are collected. If blood culture is positive for suspicious organism (ie NOT coag negative staph, which is likely a contaminant), it is ok to start antibiotics prior to OR washout.

If patient is <5yo and there is adequate fluid during surgical debridement, inoculate fluid into blood culture bottles to evaluate for Kingella kingae

Well-appearing No MRSA risk factors	Cefazolin
Well-appearing + MRSA risk factors**	Clindamycin*
Ill-appearing	Vancomycin+ Cefazolin
Sickle cell disease	Ceftriaxone***

*if positive blood culture, switch to vancomycin

** MRSA risk factors include: personal history of MRSA infection, family history of MRSA infections, personal history of recurrent skin and soft tissue infections, or IV drug use.

*** if patient has sickle cell disease AND is ill-appearing, add vancomycin

Surgical Debridement for osteomyelitis if:

- Unstable septic patient
- Concomitant joint infection
- Surgically significant abscess

Consider biopsy if:

- Malignancy on the differential
- Failure of empiric therapy

Osteomyelitis Considerations:

- 5-10% of cases have chronic infection.
- Other complications include abscess or DVT-- consider if recurrent fever or bacteremia.
- If no inciting event (eg, minor trauma with transient bacteremia) or risk factors (e.g. immunodeficiency, sickle cell disease, indwelling vascular catheters) consider screening for CGD

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