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| **ANMC Pediatric Acute Hematogenous Septic Arthritis/Osteomyelitis Guideline** | | | | | | | |
| **Signs and Symptoms** | | | **Initial Work Up** | | | **Kocher Score for Septic Arthritis**  Reference: Roberts KB. Urinary tract infection: clinical practice guideline for the diagnosis and management of the initial UTI in febrile infants and children 2 to 24 months. Pediatrics. 2011;128(3):595-610. | |
| * Fever * Joint warmth, swelling, and/or tenderness   (Frequency: Knee>hip>ankle>elbow=shoulder)   * Refusal to bear weight or range extremity * Pseudo-paralysis in infants | | | Labs:   * CBC, ESR, CRP * Blood culture if non-weight bearing and febrile   Radiology: X-Rays of the affected area | | | Assign 1 point each:   * Non-weight bearing * Temperature >101.3F (38.5 C) * ESR >40mm/hr or CRP >2.0 mg/dL * Peripheral WBC >12,000 cells/mm3 | |
| **Kocher Score Interpretation** | | | | | | | |
| **Risk of Septic Arthritis** | | **Initial Management of Kocher Score ≥2** | | | | | |
| Score = Risk of Septic Arthritis:  1 = 3%  2 = 40%  3 = 93%  4 = 99% | | ***Urgent diagnosis and management is critical to prevent long-term joint damage.***   * Make NPO and start IV fluids * Collect blood culture if not already obtained * Consult orthopedics *immediately* * STAT MRI\* with contrast of wide region of suspicion * Aspiration considered for joint effusion * Surgical drainage considered for: sub-periosteal abscess, intramedullary abscess, soft tissue abscess or necrotizing fasciitis, septic joint.   **-**If NO SURGERY: consider needle aspiration of joint effusion or area of osteomyelitis   * Send sample for cell count, gram stain, and culture. * **Initiate empiric antibiotics as soon as culture is obtained.** * Admit to the hospital including infectious disease consult * Narrow to targeted antibiotic therapy based on specimen results | | | | | |
| **Initial Management of Kocher Score ≤1** | |
| Candidate for close outpatient observation  Ibuprofen 10 mg/kg q6h PRN pain  Repeat workup if no improvement or wosening in 2-3 days | |
| Synovial fluid WBC Counts Typically Seen in Septic Arthritis:  >25,000cells/microL (hip), >50,000cells/microL (all other joints); PMN predominance | | | | | |
| **Antibiotic Selection** | | | | | | | |
| Common Organisms: *Staphylococcus aureus,* Beta-hemolytic Streptococci, *Haemophilus influenza a, Kingella kingae* | | | | | | | |
|  | **Preferred Therapy** | | | **Type I PCN allergy** | | | **IV to PO Conversion Criteria** |
| **Empiric therapy**¥ | **Vancomycin** – initial dose 15 mg/kg/dose IV q6h (Max 4g/day; pharmacy will manage dosing)  **AND**  **Ceftriaxone** 100 mg/kg/day IV q24h (Max 2g/dose) | | | **Vancomycin** initial dose 15 mg/kg/dose IV q6h (Max 4g/day; pharmacy will manage dosing)  **AND**  **Gentamicin** 5-7.5 mg/kg/day IV (pharmacy will manage dosing) | | | * Afebrile x48h * CRP <3 mg/dL * Susceptibility of organism reveals adequate oral therapy option * No further surgery planned |
| **Treatment Duration and Follow-up** | | | | | | | |
| **Septic Arthritis** | | | | | **Osteomyelitis** | | |
| * At 3 week visit: CBC, ESR, CRP and x-ray * If evidence of osteomyelitis by x-ray or ESR >20 mm/hr or CRP >1 mg/dL, extend therapy to 6 weeks * End of therapy: Stable x-ray, ESR <20mm/hr, CRP <1mg/dL | | | | | * At 3 week visit: CBC, ESR, CRP * At 6 week visit: CBC, ESR, CRP and x-ray * End of therapy: Stable x-ray, ESR <20mm/hr, CRP <1mg/dL | | |
| **Considerations** | | | | | | | |
| \* If sedation required for MRI, with appropriate coordination MRI and surgery can often be performed under one anesthesia  If delay to antibiotics of >6 hours, consider empiric antibiotics in discussion with orthopedics and pediatrics  ¥Empiric antibiotics selected to *cover MRSA, MSSA, beta-hemolytic streptococci, Haemophilus influenza a, Kingella, and enteric GNRs*  *Antimicrobial Stewardship Program Approved 2018; Updated April 2019* | | | | | | | |

