

# Best Article

Pediatric Orthopedics

Afshin Aminian MD

COA

Indian Wells, CA

April 25, 2015

# Copley et al

- The Impact of Evidence-Based Clinical Practice Guidelines Applied by a Multidisciplinary Team for the Care of Children with Osteomyelitis

Children's Medical Center of Dallas, Texas

JBJS

# Osteoarticular Infection (OAI)

- Incidence has been increasing since 1996
- Staph Aureus predominant pathogen
- Other pathogens identified at increasing frequency
  - Shift in Bacteriology
  - Improved diagnostic technology

# OAI Bacteriology

- Kingella Kingae
  - Real time PCR
- Candida
  - 3<sup>RD</sup> MOST COMMON NOSOCOMIAL BLOODSTREAM INFECTION IN CHILDREN
- Anaerobic bacterial strains
  - Bacteroides, Clostridium, Propionibacterium

# OAI Laboratory Studies

- ESR
- CRP
- WBC count
- D-dimer
- Procalcitonin
  - CRP>90 and D-dimer>1.2 used to distinguish local infection from disseminated infection

# Imaging

- MRI
  - With and without gad

# Copley et al

- Compared outcomes of children with OAI who were managed by a multidisciplinary team before and after implementation of an institutional treatment guideline

# Copley et al Compared pre-guideline and post-guideline cohorts

- MRI with 24 hours of admission
- Hold Abx till Cx are sent
- Repeat CRP and ESR q48 hours
- Continue IV abx till CRP < 2 mg/dL and NL exam



# Copley et al ( pre vs. post guideline)

- Delay of MRI (2.5 vs. 1 day)
- BCx prior to start of Abx (79% vs. 92%)
- Tissue Cx prior to start of Abx (62% vs. 79%)
- Number of Abx change (2 vs. 1.4)
- Hospital stay (12.8d vs. 9.7d)
- Hospital readmission (11.4% vs. 6.6%)