



# Pediatric Infectious Disease Specialists' Management of Acute Staphylococcal Osteomyelitis : An IDSA/EIN Survey

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## Abstract

**BACKGROUND:** Optimal antimicrobial management of acute hematogenous osteomyelitis (AHO) is controversial.

**OBJECTIVE:** To determine the current management strategies of methicillin-susceptible (MSSA) and methicillin-resistant *Staphylococcus aureus* (MRSA) AHO by pediatric infectious disease (ID) specialists.

**DESIGN/METHODS:** Survey of Pediatric ID members of the Emerging Infections Network (EIN)

**RESULTS:** 167 of 244 (68.4%) members replied to the survey. They saw a median of 15 (range 0-76) AHO cases in the preceding year. 89% of respondents ranked MSSA and MRSA as the first or second most common etiologies observed. The most common complication of staphylococcal AHO was subperiosteal abscess (76%); thrombophlebitis and pneumonia were second and third respectively. For MRSA AHO, clindamycin was the intravenous (IV) drug of choice for 57% and vancomycin for 39%. Linezolid was the third line IV agent chosen (47%). Clindamycin was the most common oral agent used in MRSA AHO (89%). Linezolid (34%) and TMP-SMX (31%) were chosen as second line oral agents. 59% of respondents used oral therapy in > 50% of cases. 12% of respondents reported never using oral therapy.

**CONCLUSIONS:** AHO therapy is not standardized. Clinical studies are required determine optimal antimicrobial management of AHO.

## Background

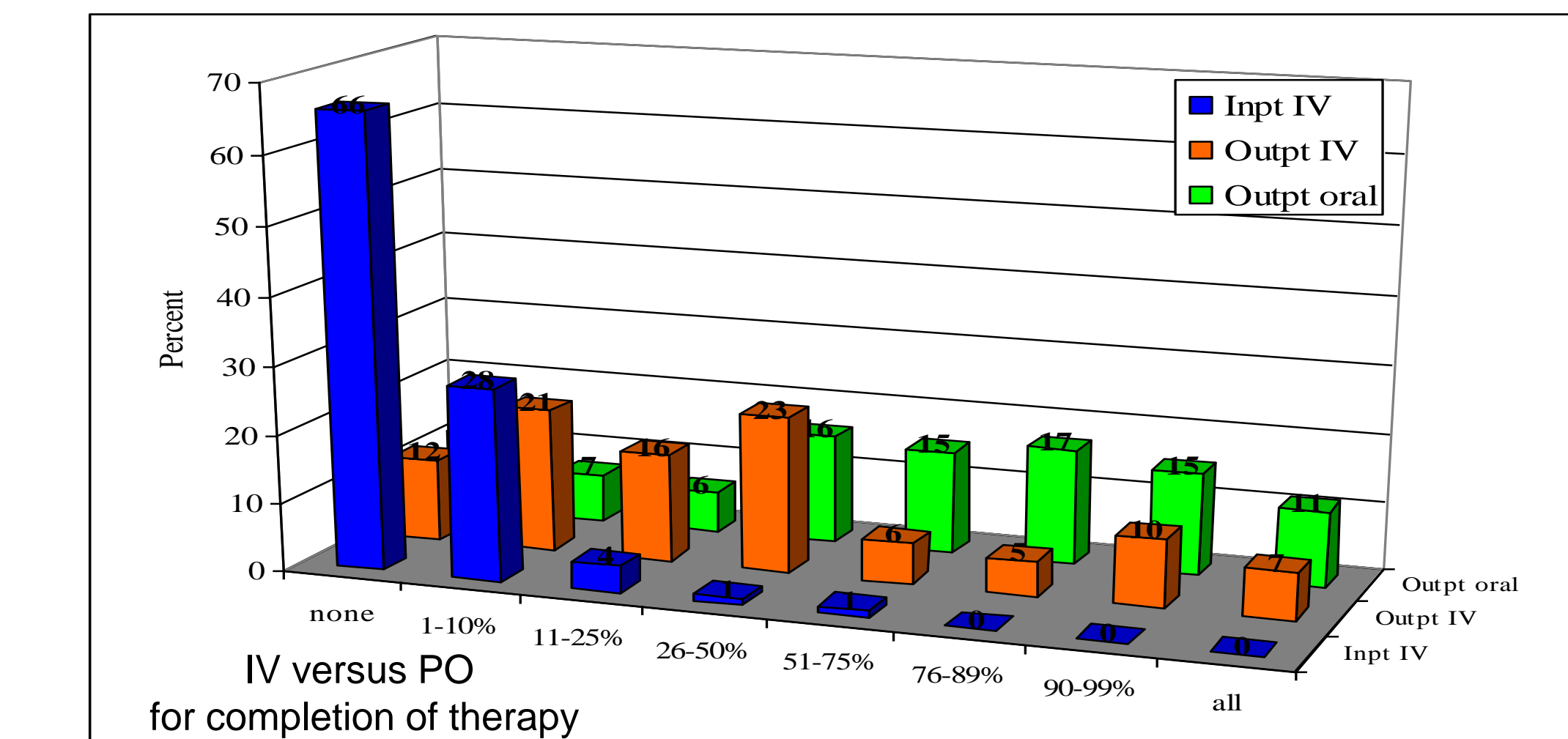
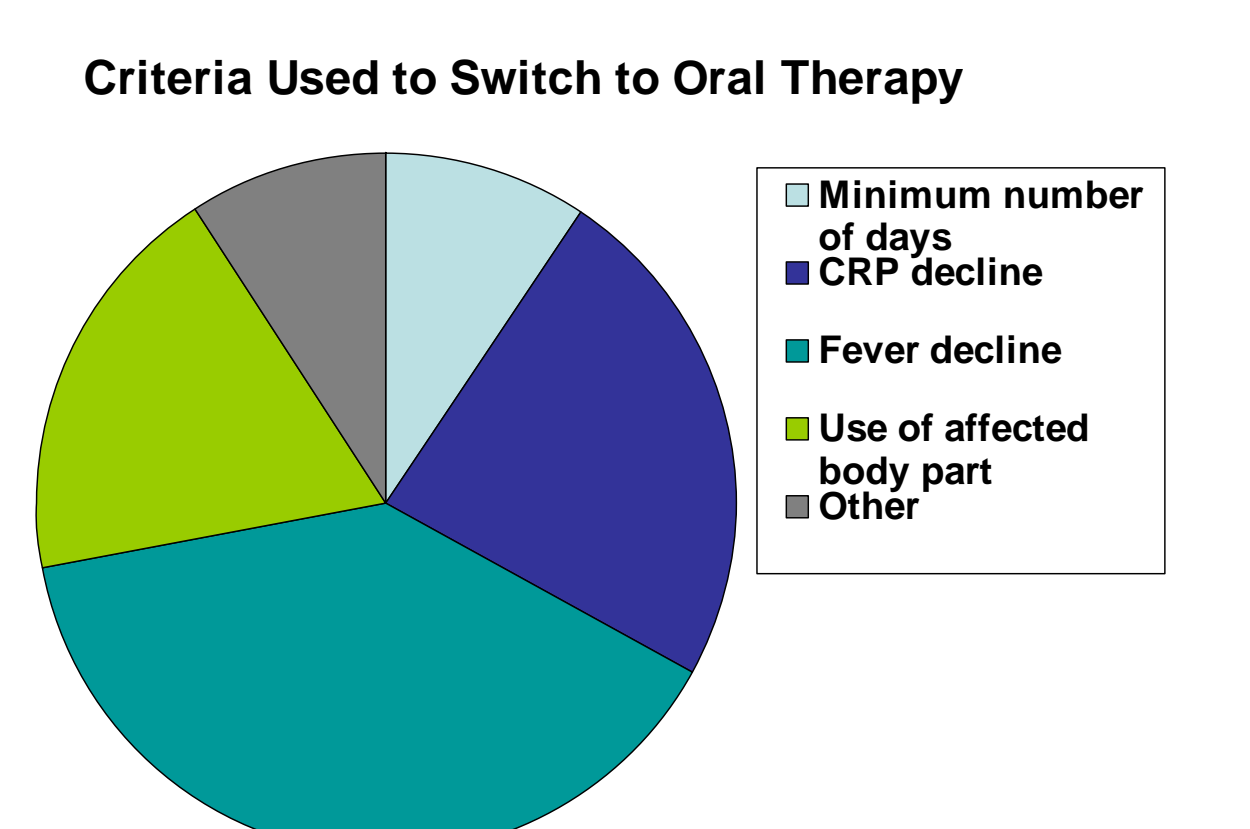
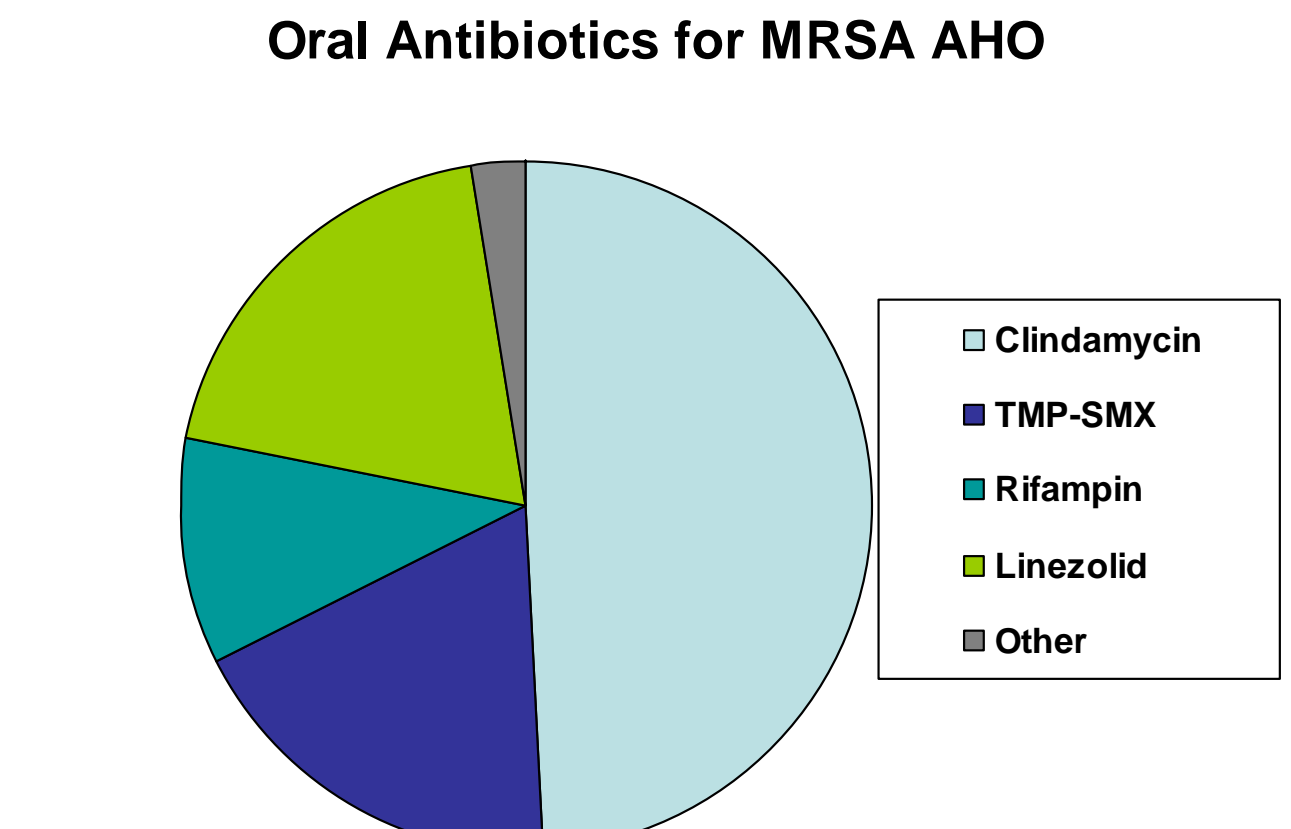
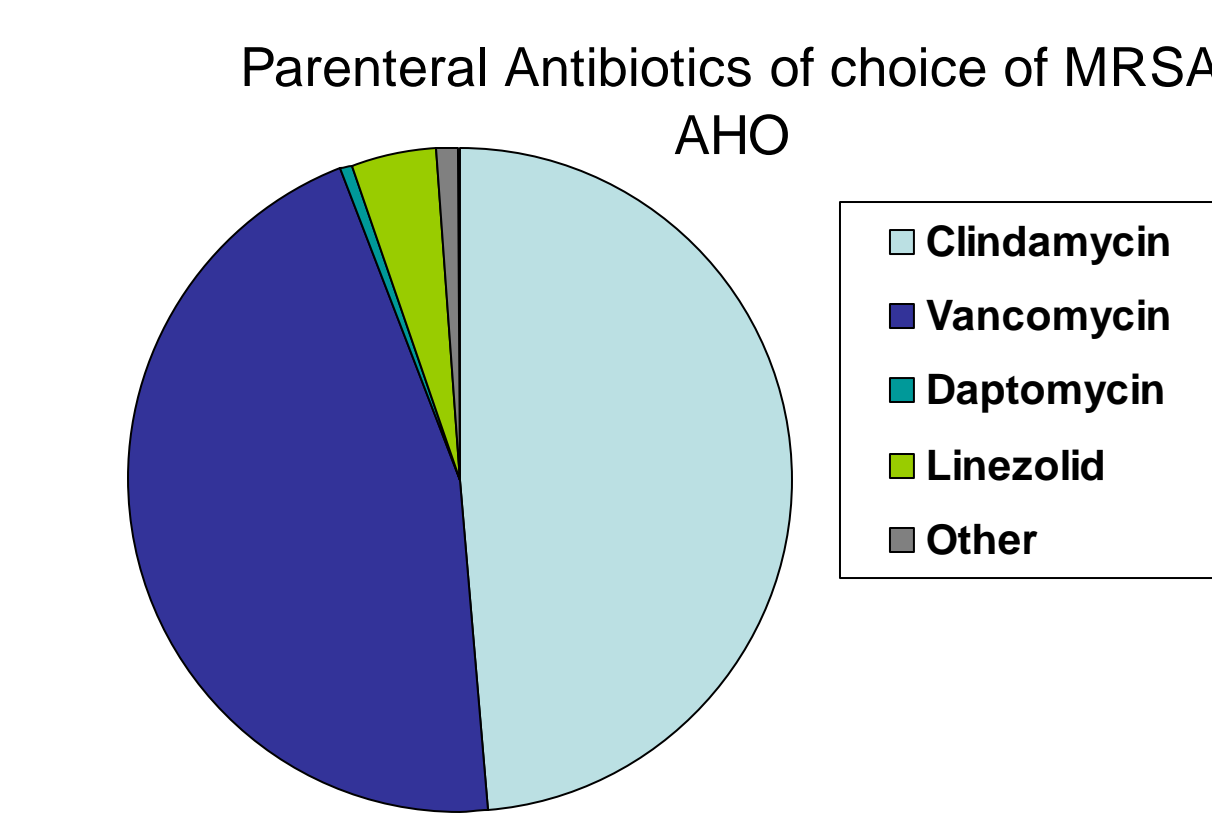
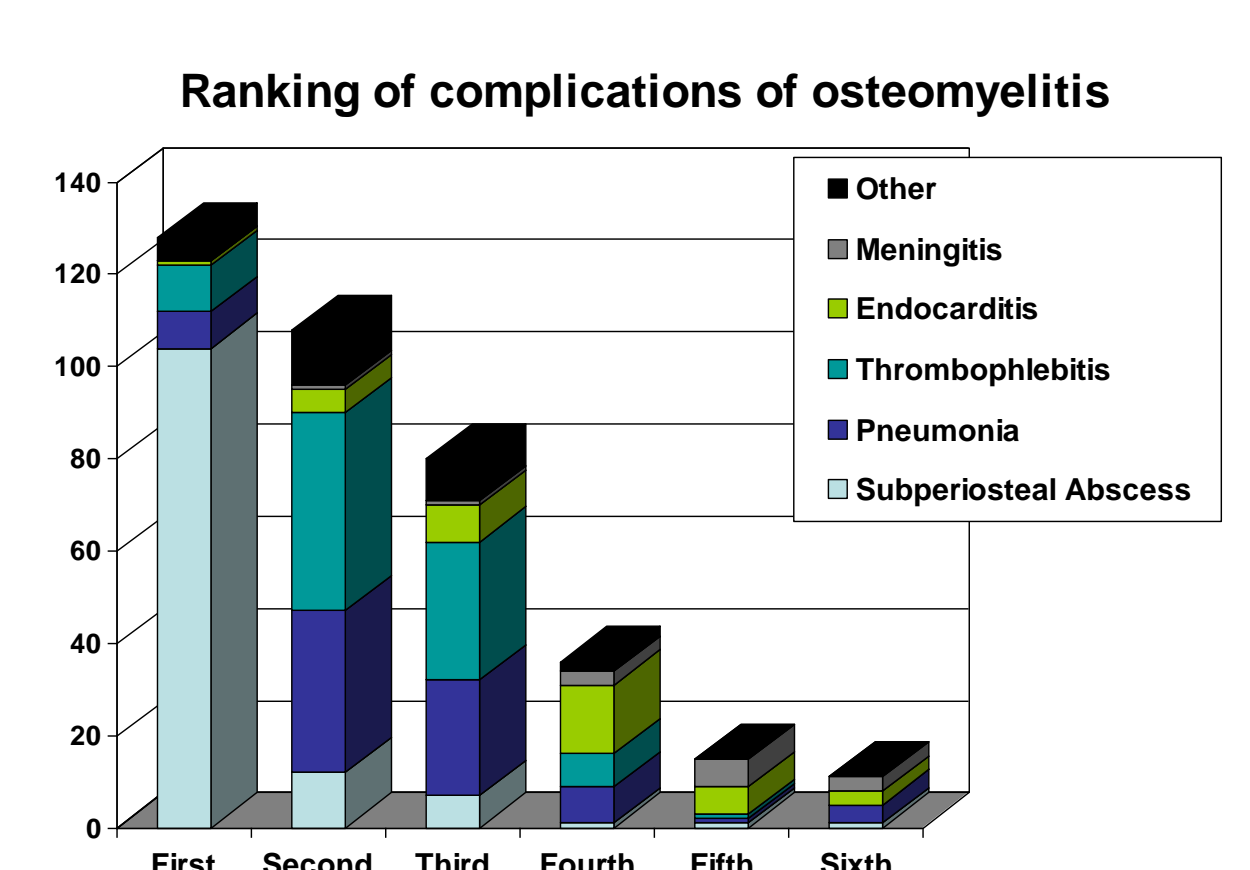
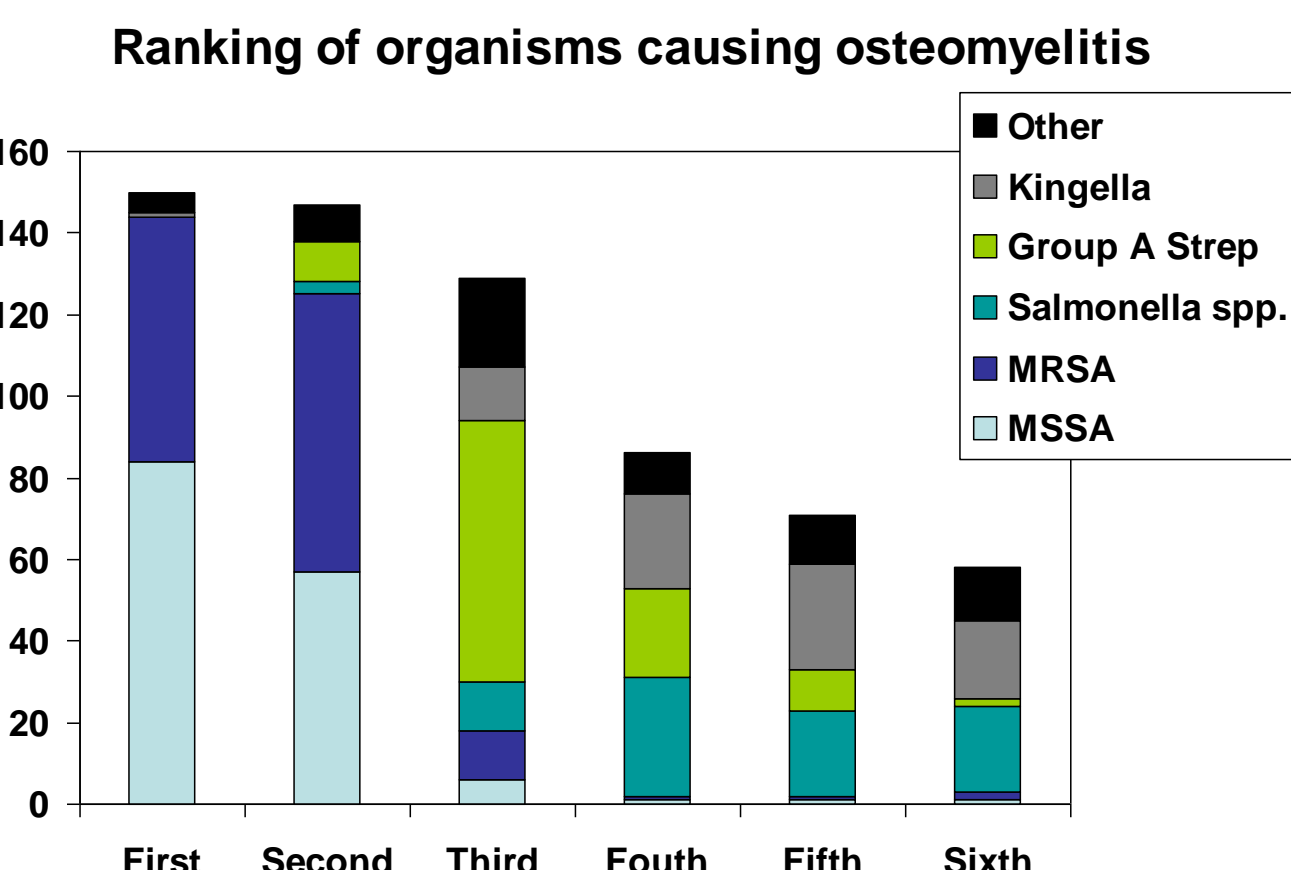
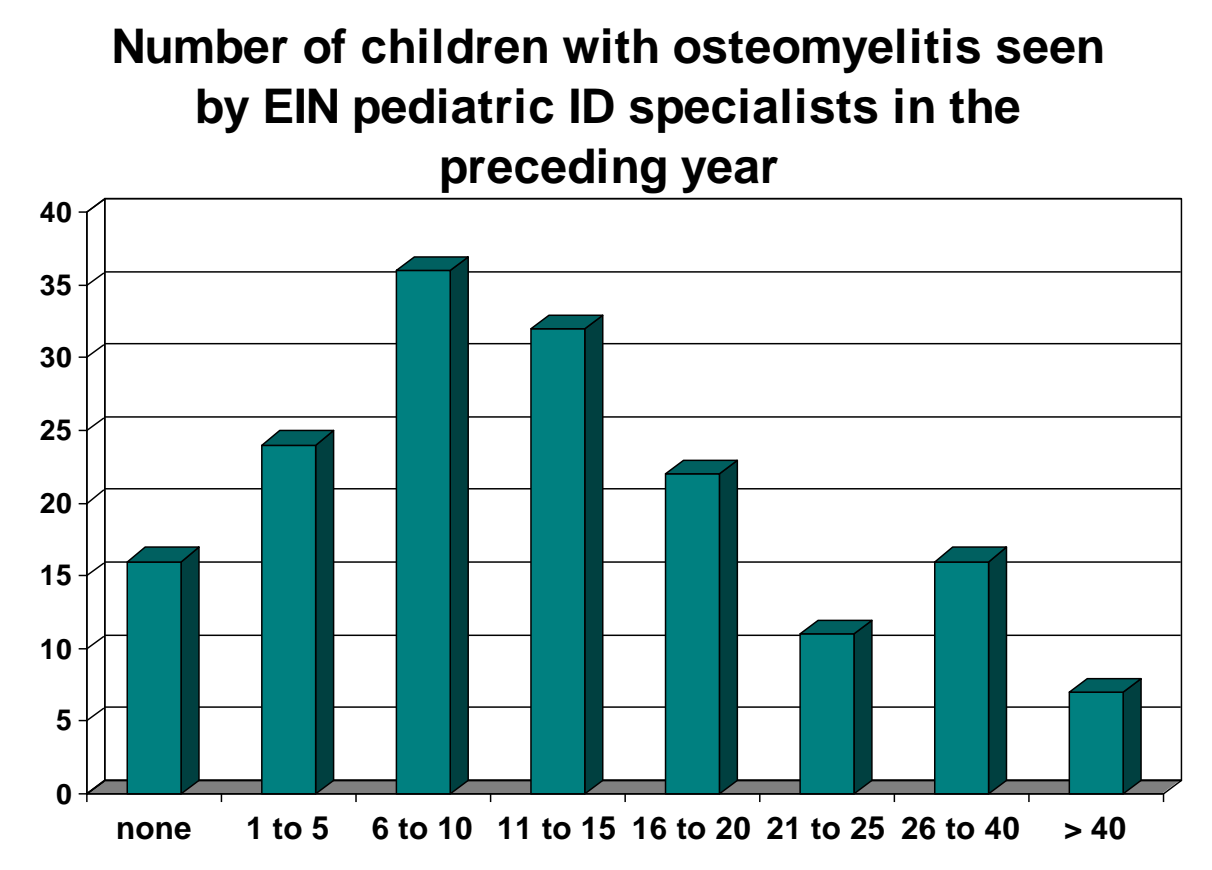
- On January 12, 2007 a query was posted to the Emerging Infections Network (EIN) regarding oral stepdown therapy in pediatric osteomyelitis
- Responses to the posting were highly varied reflecting the lack of consensus for optimal management of AHO hindered by lack of randomized trials of treatment duration or oral stepdown therapy

## Objective

- To determine the current epidemiology of pediatric AHO in pediatric infectious disease practices throughout the EIN

## Results

- Overall response rate was 167/244 (68.4%)
- Characteristics of respondents: Median age 52 years (IQR 47-57)
- 80% practicing in urban, academic, salaried position
- No difference in demographics between respondents and non-respondents



- Treatment failures seen by 32% of respondents
- Treatment failures seen with both IV and PO antibiotics

## Materials & Methods

- Survey designed for pediatric ID member of the EIN
- Demographic variables collected
- Members queried regarding:
  - How often they manage AHO and whether they are seeing MRSA
  - Antibiotic management (choice of antibiotic, durations of IV and oral therapy)
  - Criteria used to guide management
- Invitation to complete the survey sent to 244 Pediatric EIN members and posted on the EIN website
- Results descriptive and hypothesis generating

## Discussion

- AHO is a common problem in pediatric ID practices
- MRSA AHO is seen frequently
- Complicated AHO is described frequently
- Pediatric ID specialists split on use of oral stepdown therapy
- Most using oral stepdown therapy use combination of clinical and lab features to guide timing
- Treatment failures seen with both IV and oral therapy
- Clindamycin and vancomycin used most frequently
- Linezolid use frequently with little data on its efficacy
- Survey subject to recall bias/anecdotal impressions
- Numbers are estimates (at best) of actual practice
- Research required to better define the following:
  - Optimal management of complications
  - Optimal empiric and definitive therapies, IV and oral
  - Alternatives to clindamycin with increasing clindamycin resistant MRSA

## References

1. Le Saux et al., BMC Infect Dis 2002; 2:16

