



# Diagnosis and Management of Osteomyelitis Associated with Stage 4 Pressure Ulcers: Report of a Query to Emerging Infections Network of the Infectious Diseases Society of America

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### INTRODUCTION:

- Few studies exist to guide management of possible osteomyelitis (osteo) underlying stage 4 pressure ulcers.
- We hypothesized that infectious disease (ID) physicians would vary widely in their approach to such patients.

### METHODS

The Emerging Infections Network distributed a 10-question electronic survey in 2018 to 1,332 adult ID physicians in different practice settings to determine their approach to such patients.

### RESULTS

- 558 respondents (response rate: 42%)
- 83% (464) had managed at least one such patient in the past year.
- 60% usually felt confident in diagnosing osteo in this setting.
- Strongest reported indicator of osteo was palpable / visible bone (Figure 1).
- Favored approaches in patients with visible / palpable bone varied:
  - 41% would assume osteo.
  - 27% would attempt pressure off-loading first.
  - 22% would perform diagnostic testing immediately.
- Preferred tests: bone biopsy (culture / histopathology) and MRI
- Diverse favored routes and durations of antimicrobial therapy (Figures 2 and 3),
- Most would treat longer if no full surgical debridement ( $P < .001$ ).
- Per 62%, such osteo is usually / almost always treated excessively.
- 59% suggested multiple topics for future research.

### SUMMARY OF LITERATURE TO DATE :

- Few studies; nearly all are small / retrospective.
- Histologic osteo found in 17-46% of biopsies from exposed bone.
- Neither presence nor duration of local inflammation correlated with histological osteo.
- MRI: non-specific (pressure-induced changes resemble infection)
- Recent large RCT (OVIVA) found PO and IV therapy comparable.
- No evidence to support either:
  - a role for antimicrobials if no debridement and wound coverage – except for short-term therapy (< 2 weeks) for acute soft-tissue infection around the ulcer
  - > 6 weeks of antimicrobials after debridement and wound closure

Figure 1: Physical signs that indicate osteomyelitis

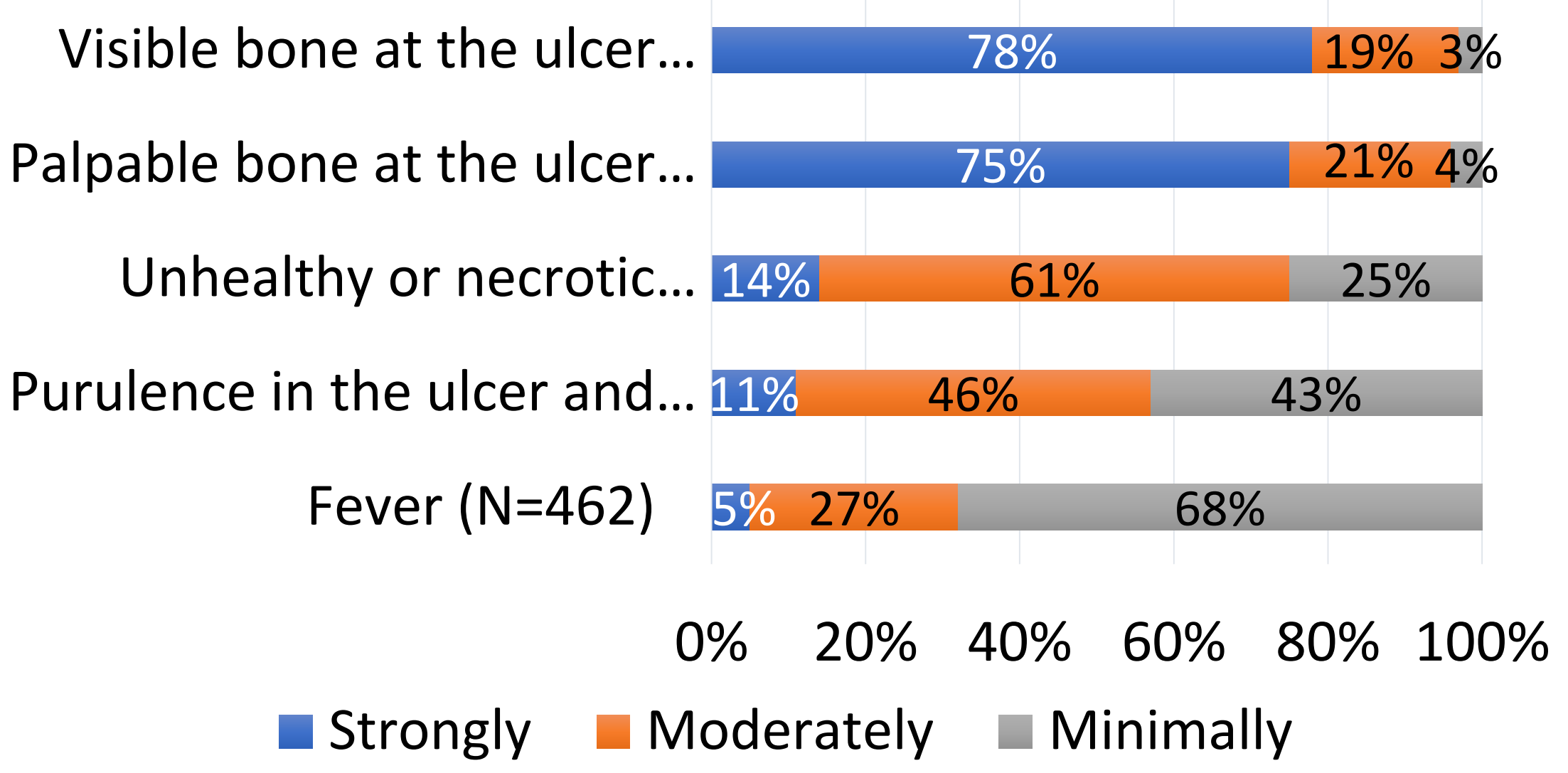


Figure 2: Antimicrobial route

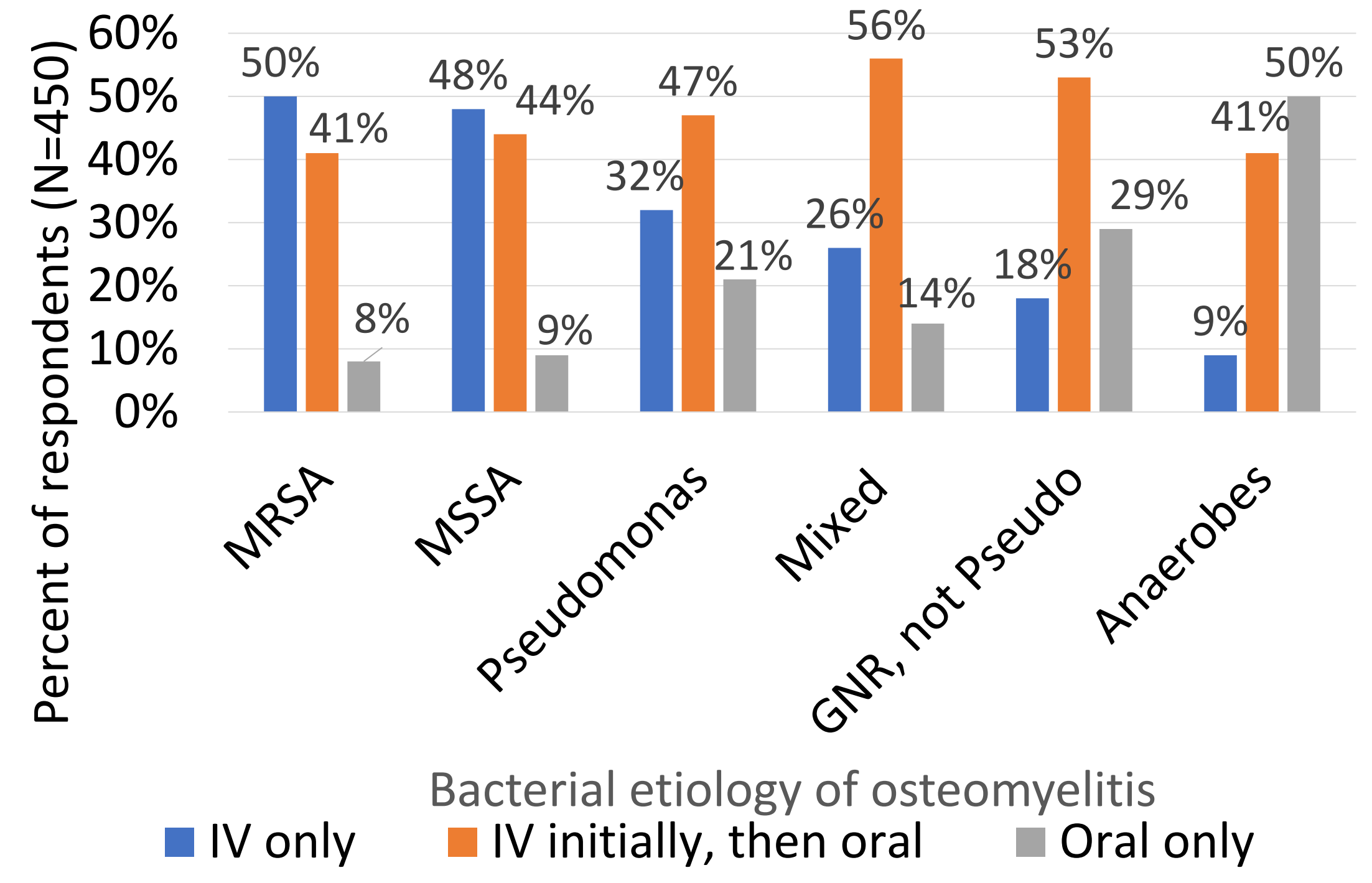
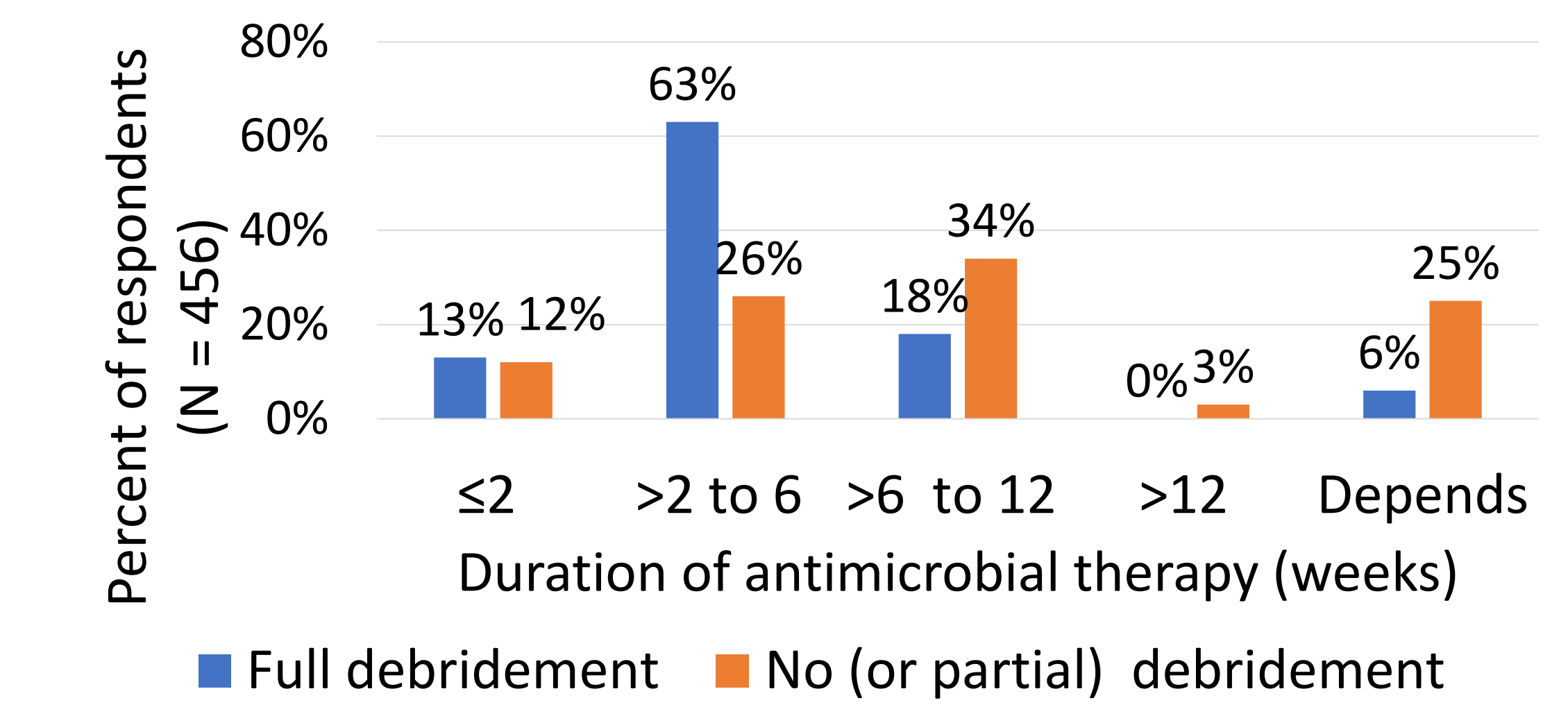


Figure 3: Antimicrobial duration



464 North American ID physicians reported widely divergent diagnostic and treatment approaches to osteomyelitis underlying stage 4 pressure ulcers.

Most of the reported practice is not supported by the available evidence, which is limited and of low quality

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