



Holding Antibiotics in Diabetic Foot Infections

Diabetic foot infections (DFIs) are an increasingly common problem in the United States with many requiring surgical debridement and long courses of antibiotics.¹ Patients admitted for DFIs may be started on antibiotics while awaiting surgical plans, even if they are clinically stable. But how do pre-operative antibiotics impact culture yield and our ability to determine how to best treat these patients? Is it time to re-think the antibiotic timing in hospitalized non-septic DFI patients?

Do Pre-operative Antibiotics Impact Culture Yield?

A retrospective cohort study was done on 238 inpatients with moderate or severe DFI who have tissue or bone cultures taken in the operating room.² Patients with negative culture results received more total pre-operative antibiotics than those whose culture grew any bacteria.² Similarly, in another retrospective study of hospitalized adult patients with orthopedic infections, culture yield was lower in those who received pre-operative antibiotics. 19% of those who received pre-operative antibiotics had negative cultures versus only 6% of those who received no pre-operative antibiotics.³

Guideline Recommendations: Given that negative culture results may lead to decreased culture growth and thus hinder antibiotic de-escalation, IDSA guideline and WikiGuideline recommend to defer antibiotic initiation until tissue and/or bone microbiological samples are obtained in clinically stable patients.^{1,4}

Should we get a quick superficial swab culture on admission?

No, superficial swabs of DFI are often contaminated. The IDSA guidelines and WikiGuideline do not recommend superficial swab cultures because they do not provide accurate results.^{1,4} You can read more about superficial versus deep wound cultures [here](#).

Key Takeaway: In non-septic patients admitted for diabetic foot infections, antimicrobial therapy should be withheld until tissue and/or bone cultures are obtained to increase culture yield. This delay can greatly improve antibiotic regimen optimization.

References:

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