



## Facing the Evidence in Acne, Part II: Oral Antibiotics

### CLINICAL QUESTION

**How effective are oral antibiotics in treating acne of at least mild-moderate severity?**

### BOTTOM LINE

**Approximately 17% of patients achieve “success” on oral minocycline versus 9% on placebo at 12 weeks. Oral antibiotics reduce acne lesion count by 10-24% more than placebo. Evidence of the efficacy of adding oral antibiotics to topical agents (example: retinoids, benzoyl peroxide) is limited. Efficacy appears similar between individual antibiotics. Discontinuations due to adverse events are comparable to placebo.**

### EVIDENCE

- Five systematic reviews<sup>1-5</sup> (10-25 randomized controlled trials [RCTs], 165-4521 patients) of oral antibiotics (95% tetracyclines), mild to severe acne. After ~12-24 weeks:
  - Total lesion count (percent absolute reduction):
    - Oral antibiotic=10-24% reduction versus placebo<sup>1-5</sup> (example: 33% versus 23% [placebo]).<sup>4</sup>

- Oral antibiotic + benzoyl peroxide + retinoid (topical)=35-44% reduction versus placebo alone.<sup>2,5</sup>
    - Oral antibiotics versus topical clindamycin: Not statistically different.<sup>2,4</sup>
  - Inflammatory lesion count (percent absolute reduction):
    - Oral antibiotic=13-27% reduction versus placebo<sup>1-4</sup> (example: 46% versus 33% [placebo]).<sup>4</sup>
    - Oral antibiotic + benzoyl peroxide + retinoid (topical)=37% reduction versus placebo alone.<sup>2</sup>
    - Oral antibiotics versus topical clindamycin: Not statistically different.<sup>2,4</sup>
  - Investigators global assessment of success:<sup>4</sup>
    - 17% (minocycline) versus 9% (placebo); number needed to treat (NNT)=13.
  - Discontinuation due to adverse events:
    - No difference versus placebo.<sup>2,5</sup>
      - Exception: One systematic review: minocycline 9% versus 1% placebo (included regimens up to 3 times usual dose).<sup>4</sup>
- No difference between different oral antibiotics in terms of efficacy or adverse event discontinuations.<sup>3,4</sup>
- Limitations: Patient-assessed outcomes not reported in systematic reviews, inadequate efficacy reporting of adding oral antibiotics to topical agents versus topical agents alone; few RCTs comparing oral antibiotics to topical agents; inadequate data on antimicrobial resistance.

## CONTEXT

- Guidelines generally recommend:
  - Adding oral antibiotics to topical treatments for moderate-to-severe acne or acne resistant to topical treatments.<sup>6-8</sup>
  - ~12-week course of oral antibiotics, then reassessment.<sup>6-8</sup> UK guidelines suggest considering a second 12-week course if acne improved but not completely clear.<sup>8</sup>
- Topical retinoids and oral tetracyclines contraindicated during pregnancy;<sup>8</sup> contraception discussion recommended if of childbearing age.

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