

# Antibiotic Options on 11-microbes Result Report

## Use Case

1<sup>st</sup>  
Choice

2<sup>nd</sup>  
Choice

3<sup>rd</sup>  
Choice

Only Facultative Pathogen(s) Above Threshold ( **Aa** , **Ec** , **Cs** )

### Amoxicillin

500 mg tid for 8-10 days, depending on the severity of the infection (Ref.1-3)

### Ciprofloxacin

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 4,5)

### Clindamycin

150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

Only Anaerobic Pathogen(s) Above Threshold ( **Pg** , **Tr** , **TD** , **Pi** , **Fn** , **Cr** , **En** ), with **Pm** low or not detected

### Metronidazole

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 10-12)

### Clindamycin

150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

### Ciprofloxacin

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 4,5)

Only Anaerobic Pathogens Above Threshold, with **Pm** Above Threshold and Anaerobic High Risk Pathogens ( **Pg** , **Tr** , **TD** ) low or not detected

### Clarithromycin

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 20-26)

### Clindamycin

150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

### Metronidazole

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 10-12)

Only Anaerobic Pathogens Above Threshold, with **Pm** Above Threshold and one or more Anaerobic High Risk Pathogens ( **Pg** , **Tr** , **TD** ) Above Threshold

### Clindamycin

150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

### Ciprofloxacin

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 4,5)

### Clarithromycin

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 20-26)

Combination Infection (Facultative + Anaerobic) Above Threshold

### Amoxicillin

500 mg tid for 8-10 days, depending on the severity of the infection (Ref. 1-3)

→ If allergic to Amoxicillin, then Ciprofloxacin 500 mg bid 8-10 days, depending on the severity of the infection (Ref. 18,19)

→ If allergic to Ciprofloxacin, then use Clindamycin 150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

Facultative: **Aa** , **Ec** , **Cs**

AND

### Metronidazole

500 mg bid for 8-10 days, depending on the severity of the infection (Ref. 16,17)

→ If allergic to Metronidazole, use Clindamycin 150 or 300 mg tid for 8-10 days, depending on the severity of the infection (Ref. 13-15)

→ If allergic to Clindamycin, use Doxycycline 100 mg bid for 1 day, followed by 100 mg qd for 8-10 days depending on the severity of the infection (Ref. 6-9)

Anaerobic: **Pg** , **Tr** , **TD** ,

**Pi** , **Pm** , **Fn** , **Cr** , **En**

#### Note:

The prescribing doctor is responsible for patient therapy. Consider the patient's dental and medical history (e.g. pregnancy/nursing, diabetes, immune-suppression, other patient medications) when evaluating the use of antibiotic medications. Many antibiotics may impact/interact with other medications and may produce adverse side effects. Review the manufacturer warnings for any contraindications, or consult with the patient's physician if there are concerns with the selected antibiotic regimen.

## REFERENCES

### Antibiotic:

#### Penicillins (Amoxicillin):

1. Resistance Profile Survey of 50 periodontal strains of *Actinobacillus Actinomycetemcomitans*; *Journal of Periodontology*; 70, 888-892
2. Systemic Antibiotics in Periodontics; *Journal of Periodontology* 2004; 75: 1553-1565
3. Specific Antibiotics in the Treatment of Periodontitis: A Proposed Strategy: Beikler, Prior, Ehmke, Flemming

#### Fluoroquinolones (Ciprofloxacin):

4. Systemic Antibiotics in Periodontics; *Journal of Periodontology* 2004; 75: 1553-1565
5. Specific Antibiotics in the Treatment of Periodontitis: A Proposed Strategy: Beikler, Prior, Ehmke, Flemming

#### Doxycycline:

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8. Systemic antibiotics in the treatment of periodontal disease; *Periodontology* 2000; 28: (1), 106-176
9. The effect of Clindamycin on the microbiota associated with refractory periodontitis: *Journal of Periodontology*, 1990; 61: 692-698

#### Metronidazole:

10. Systemic Antibiotics in Periodontics; *Journal of Periodontology* 2004; 75: 1553-1565
11. Systemic antibiotics in the treatment of periodontal disease; *Periodontology* 2000; 28: (1), 106-176
12. Specific antibiotics in the treatment of periodontal disease; *Journal of Periodontology*, 2004; Beikler, Prior, Ehmke, Flemming

#### Clindamycin:

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14. Specific Antibiotics in the Treatment of Periodontitis: A Proposed Strategy: Beikler, Prior, Ehmke, Flemming
15. Clindamycin in dentistry: More than just effective prophylaxis for endocarditis? *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005; 100: 550-8; Brook, Lewis, Sandor, Jefcoat, Samaranayake, Rojas

#### Metronidazole and Amoxicillin:

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#### Metronidazole and Ciprofloxacin:

18. Systemic Antibiotics in Periodontics; *Journal of Periodontology* 2004; 75: 1553-1565
19. Systemic antibiotics in the treatment of periodontal disease; *Periodontology* 2000; 28: (1), 106-176

#### Clarithromycin:

20. Distribution of Systemic Clarithromycin to Gingiva; *J Periodontol* 2008;79:1712-1718
21. Bacteriostatic and Bacteriocidal in-vitro Activities of Clarithromycin and Erythromycin against Periodontopathic *Actinobacillus actinomycetemcomitans*. *Antimicrob Agents Chemother*. 1998;42: 3000-3001
22. Susceptibilities of 201 Anaerobes to Erythromycin, Azithromycin, Clarithromycin, and Roxithromycin by Oxryase Agar Dilution and E test Methodologies; *Journal of Clinical Microbiology*, May 1995, p. 1366–1367 Vol. 33, No. 5
23. Clarithromycin Accumulation by Phagocytes and its Effect on Killing of *Aggregatibacter actinomycetemcomitans*; *J Periodontol* 2011; 3:497-504
24. Pradeep AR, Katharina R: Clarithromycin, as an adjunct to non surgical periodontal therapy for chronic periodontitis: A double blinded, placebo controlled, randomized clinical trial. *Arch of Oral Biol* 2011: 56;1112-1119
25. Iskandar I, Walters JD: Clarithromycin Accumulation by Phagocytes and Its Effect on Killing of *Aggregatibacter actinomycetemcomitans*; *J Periodontol* 2011: 82; 497-503
26. Rodvold KA, Clinical Pharmacokinetics of Clarithromycin. *Clin Pharmacokinet* 1999 Nov; 37 (5): 385-398

#### Definitions:

Anaerobic - living or active in the absence of free oxygen; "anaerobic bacteria" (Pg, Tf, Td, Pi, Pm, Fn, Cr, En)

Facultative bacteria can use either dissolved oxygen or oxygen obtained from food materials such as sulfate or nitrate ions. In other words, facultative bacteria can live under aerobic, anoxic, or anaerobic conditions. (Aa, Ec, Cs)