

Penicillin Allergy Testing

Why It Matters for Your Dental Patients

The Problem

- Approximately 10% of patients report penicillin allergies, but **less than 5% are truly allergic**¹
- Over 90% of patients labeled as "penicillin allergic" can safely tolerate penicillin antibiotics²
- Penicillin allergies often fade over time—80% of patients lose sensitivity after 10 years¹

Risks of Alternative Antibiotics in Dentistry

When patients with unverified penicillin allergies receive alternative antibiotics, they face:

- **Higher treatment failure rates:** Clindamycin shows a 7-fold increased risk of treatment failure compared to amoxicillin-clavulanate for odontogenic infections³
- **Increased adverse reactions:** Clindamycin has the highest rate of fatal and nonfatal adverse drug reactions of any antibiotic commonly prescribed by dentists⁴
- **C. difficile infection risk:** Clindamycin carries significantly higher risk of potentially fatal C. difficile infections^{1,4}
- **Less effective prophylaxis:** Alternative antibiotics are less effective at preventing bacteremia and infective endocarditis⁵

Benefits of Penicillin Allergy Testing

- Enables use of first-line, most effective antibiotics (amoxicillin, penicillin V)
- Reduces risk of treatment complications and failures
- Improves antibiotic stewardship and reduces antimicrobial resistance
- Provides safer perioperative prophylaxis for dental procedures
- Better outcomes for endocarditis prevention in high-risk patients⁶

References

1. [Evaluation and Management of Penicillin Allergy: A Review](#). Shenoy ES, Macy E, Rowe T, Blumenthal KG. JAMA. 2019;321(2):188-199. doi:10.1001/jama.2018.19283.
2. [A Closer Look at Penicillin Allergy History: Systematic Review and Meta-Analysis of Tolerance to Drug Challenge](#). DesBiens M, Scalia P, Ravikumar S, et al. The American Journal of Medicine. 2020;133(4):452-462.e4. doi:10.1016/j.amjmed.2019.09.017.
3. [Antimicrobial Therapy in the Management of Odontogenic Infections: The Penicillin-Allergic Patient](#). Mahmoud R, Arbel S, Ianculovici C, et al. International Journal of Oral and Maxillofacial Surgery. 2024;53(3):251-257. doi:10.1016/j.ijom.2023.09.001.
4. [Risk of Adverse Reactions to Oral Antibiotics Prescribed by Dentists](#). Thornhill MH, Dayer MJ, Durkin MJ, Lockhart PB, Baddour LM. Journal of Dental Research. 2019;98(10):1081-1087. doi:10.1177/0022034519863645.
5. [Impact of Antibiotic Prophylaxis on the Incidence, Nature, Magnitude, and Duration of Bacteremia Associated With Dental Procedures: A Systematic Review](#). Lafaurie GI, Noriega LA, Torres CC, et al. Journal of the American Dental Association (1939). 2019;150(11):948-959.e4. doi:10.1016/j.adaj.2019.06.017.
6. [Prevention of Viridans Group Streptococcal Infective Endocarditis: A Scientific Statement From the American Heart Association](#). Wilson WR, Gewitz M, Lockhart PB, et al. Circulation. 2021;143(20):e963-e978. doi:10.1161/CIR.0000000000000969.
7. [Reaction Risk to Direct Penicillin Challenges: A Systematic Review and Meta-Analysis](#). Blumenthal KG, Smith LR, Mann JTS, et al. JAMA Internal Medicine. 2024;184(11):1374-1383. doi:10.1001/jamainternmed.2024.4606.

BOULDER MEDICAL CENTER

PENICILLIN ALLERGY CLINIC

Help us give your dental patients access to optimal GBS prophylaxis and first-line antibiotic therapy.

WHEN: Mornings on 2ND Friday of each month

WHERE : BMC Louisville, 80 Health Park Drive

APPOINTMENTS: Call (303) 440-3083

WHO TO REFER

- Patients with reported penicillin allergies who require dental procedures
- Patients needing antibiotic prophylaxis for endocarditis prevention
- Patients with odontogenic infections who may benefit from penicillin-based therapy
- Any patient with a penicillin allergy label acquired in childhood or at least 10 years ago

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2ND FRIDAY

**EACH
MONTH**

IN A.M.

BMC LOUISVILLE

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Safe, Evidence-Based Testing

Safe, evidence-based evaluation including detailed history, risk stratification, and when appropriate, direct oral challenge or skin testing. Most patients (>95%) can be safely "de-labeled" and cleared to use penicillin antibiotics

Clinic capacity can expand based on demand.



Boulder Medical Center