

Penicillin Allergy Testing

Why It Matters for Your Infectious Disease Patients

The Problem

- Approximately 10% of patients report penicillin allergies, but **less than 5% are truly allergic**^{1,2}
- Over 90% of patients labeled as "penicillin allergic" can safely tolerate penicillin antibiotics^{1,2}
- Penicillin allergies fade over time—80% of patients lose sensitivity after 10 years²

Impact on Antimicrobial Stewardship and Patient Outcomes

Penicillin allergy labels undermine antimicrobial stewardship goals and lead to:

- **Increased antimicrobial resistance:** Higher rates of MRSA, VRE, and multidrug-resistant organisms^{2,3}
- **Higher C. difficile infection risk:** 23-26% increased incidence with alternative antibiotics²
- **Increased mortality:** Patients with penicillin allergy labels have higher mortality rates, particularly at or after 180 days⁴
- **Longer hospital stays and higher costs:** Estimated \$1,915 higher healthcare costs per patient per year³
- **Treatment failures:** Vancomycin is less effective than beta-lactams for MSSA bacteremia; higher failure rates with non-beta-lactam therapy for gram-negative infections^{2,3}

Critical Infections Where Penicillin Is Essential

- **Syphilis:** Penicillin is the **only proven treatment** for neurosyphilis, congenital syphilis, and syphilis in pregnancy^{5,6,7,8}
 - Desensitization is recommended for penicillin-allergic patients requiring treatment
 - No adequate alternatives exist for neurosyphilis or pregnancy
- **MSSA Bacteremia:** Nafcillin, cefazolin, or penicillin (if susceptible) are superior to vancomycin^{2,9}
 - Decision-analysis models show inferior outcomes when vancomycin is used instead of beta-lactams
 - Up to 25% of MSSA strains are penicillin-susceptible
- **Endocarditis:** Beta-lactams are first-line therapy; alternatives are less effective²
- **Bone and Joint Infections:** Beta-lactams provide optimal outcomes; alternatives associated with higher failure rates²

Benefits of Penicillin Allergy Delabeling

- **Enables guideline-concordant therapy:** Restores access to first-line antibiotics for optimal treatment^{1,10}
- **Improves antimicrobial stewardship:** Reduces broad-spectrum antibiotic use and resistance^{2,3,11,12}
- **Better patient outcomes:** Lower mortality, fewer treatment failures, reduced complications^{4,13}
- **Cost savings:** Significant reduction in healthcare expenses³
- **Supports WHO and IDSA priorities:** Recognized as cornerstone antimicrobial stewardship intervention¹¹

References

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PENICILLIN ALLERGY CLINIC

Help us give your infectious disease 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 syphilis (any stage) requiring penicillin therapy
- Patients with MSSA bacteremia or endocarditis who would benefit from beta-lactam therapy
- Patients with bone/joint infections requiring optimal antibiotic coverage
- Immunocompromised patients (up to 35% have antibiotic allergy labels)
- Any patient with penicillin allergy label acquired in childhood or more than 10 years ago
- Patients requiring frequent antibiotic therapy where first-line options are critical

Benefits of Penicillin Allergy Delabeling

- Enables guideline-concordant therapy: Restores access to first-line antibiotics for optimal treatment
- Better patient outcomes: Lower mortality, fewer treatment failures, reduced complications
- Supports WHO and IDSA priorities: Recognized as cornerstone antimicrobial stewardship intervention

2ND FRIDAY

**EACH
MONTH**

IN A.M.

BMC LOUISVILLE

80 HEALTH PARK DR.
SUITE 200, LOUISVILLE
(303) 440-3083

Safe, Evidence-Based Testing Approach

We use validated clinical decision rules (PEN-FAST) to risk-stratify patients and perform safe, efficient evaluation.

- Low-risk patients: Direct oral challenge (>95% success rate)
- Moderate-risk patients: Skin testing followed by oral challenge when appropriate
- High-risk patients: Comprehensive evaluation with appropriate precautions
- Over 95% of patients can be safely "de-labeled" and cleared to use penicillin antibiotics

Proven Impact

Published studies demonstrate that penicillin allergy delabeling programs result in:

- 10-fold increase in narrow-spectrum penicillin use
- Significant reduction in restricted antibiotic use
- Improved appropriate antibiotic prescribing
- Enhanced antimicrobial stewardship outcomes

Clinic capacity can expand based on demand.



Boulder Medical Center