

Paper Chase Live

Debunking Penicillin Allergies with JUCM EIC

Presented by UCA Affiliate

HIPPO
EDUCATION

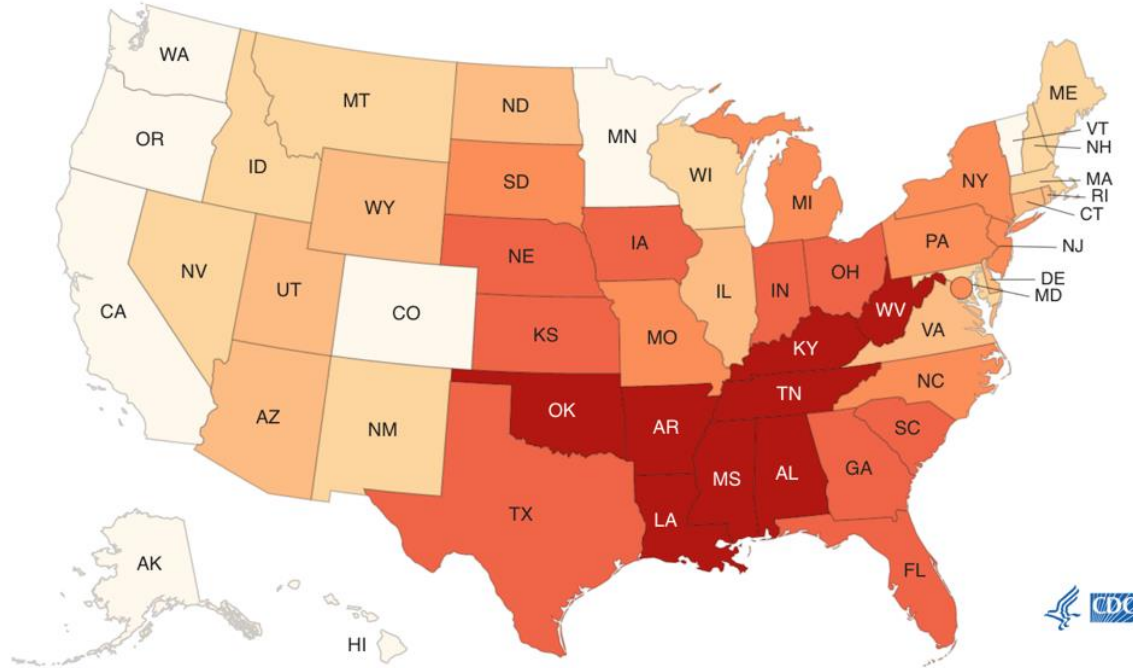
UCA URGENT CARE
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The State of Outpatient Antibiotic Prescribing

Community Antibiotic Prescriptions per 1,000 Population by State – 2021



Prescriptions Per 1,000 Population



Table 2. Top oral antibiotic classes and agents—United States, 2021

ANTIBIOTIC CLASS	NUMBER OF ANTIBIOTIC PRESCRIPTIONS (MILLIONS)	ANTIBIOTIC PRESCRIPTIONS PER 1,000 PERSONS, RATE
Penicillins	46.4	140
Cephalosporins	31.4	95
Macrolides	29.9	90
Tetracycline	25.0	75
B-lactams, increased activity	22.6	68

ANTIBIOTIC AGENT	NUMBER OF ANTIBIOTIC PRESCRIPTIONS (MILLIONS)	ANTIBIOTIC PRESCRIPTIONS PER 1,000 PERSONS, RATE
Amoxicillin	42.9	129
Azithromycin	28.7	86
Amoxicillin clavulanic acid	22.6	68
Doxycycline	21.7	65
Cephalexin	20.5	62

Is it an adverse effect or an allergy?

Nausea



DIARRRHEA

“But, I’m allergic to PCN”

Penicillin is the most commonly reported drug allergy.¹

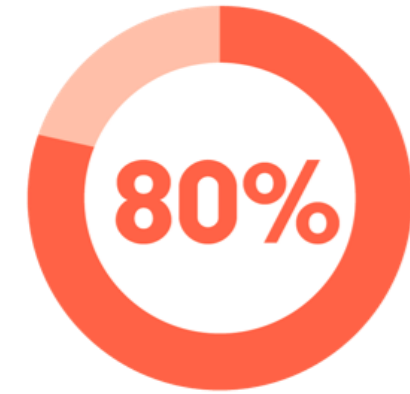


NATIONAL
PENICILLIN
ALLERGY DAY



of patients in the US report penicillin allergy.¹

9 out of 10 reporting penicillin allergy are not truly allergic.⁴



80% of patients with IgE-mediated penicillin allergy lose the sensitivity after 10 years.⁴

cdc.gov

Au LYC, Siu AM, Yamamoto LG. Cost and Risk Analysis of Lifelong Penicillin Allergy. *Clin Pediatr (Phila)*. 2019;58(11-12):1309-1314. doi:10.1177/0009922819853014

Penicillin Allergy Decision Rule (PEN-FAST)



Identifies low-risk penicillin allergies.

INSTRUCTIONS

Apply this calculator to patients who have reported a penicillin allergy.

When to Use ▾

Five years or less since reaction

No 0

Yes +2

Anaphylaxis or angioedema
OR

Severe cutaneous adverse reaction

No 0

Yes +2

Treatment required for reaction

No 0

Yes +1

MDCalc.com

Interpretation

Points

0

Very low risk of positive penicillin allergy test <1% (<1 in 100 patients reporting penicillin allergy)

1-2

Low risk of positive penicillin allergy test 5% (1 in 20 patients)

3

Moderate risk of positive penicillin allergy test 20% (1 in 5 patients)

4-5

High risk of positive penicillin allergy test 50% (1 in 2 patients)

Trubiano JA, Vogrin S, Chua KYL, et al. Development and Validation of a Penicillin Allergy Clinical Decision Rule. *JAMA Intern Med.* 2020;180(5):745-752. doi:10.1001/jamainternmed.2020.0403

Penicillin Allergy and Cephalosporins

Table 1

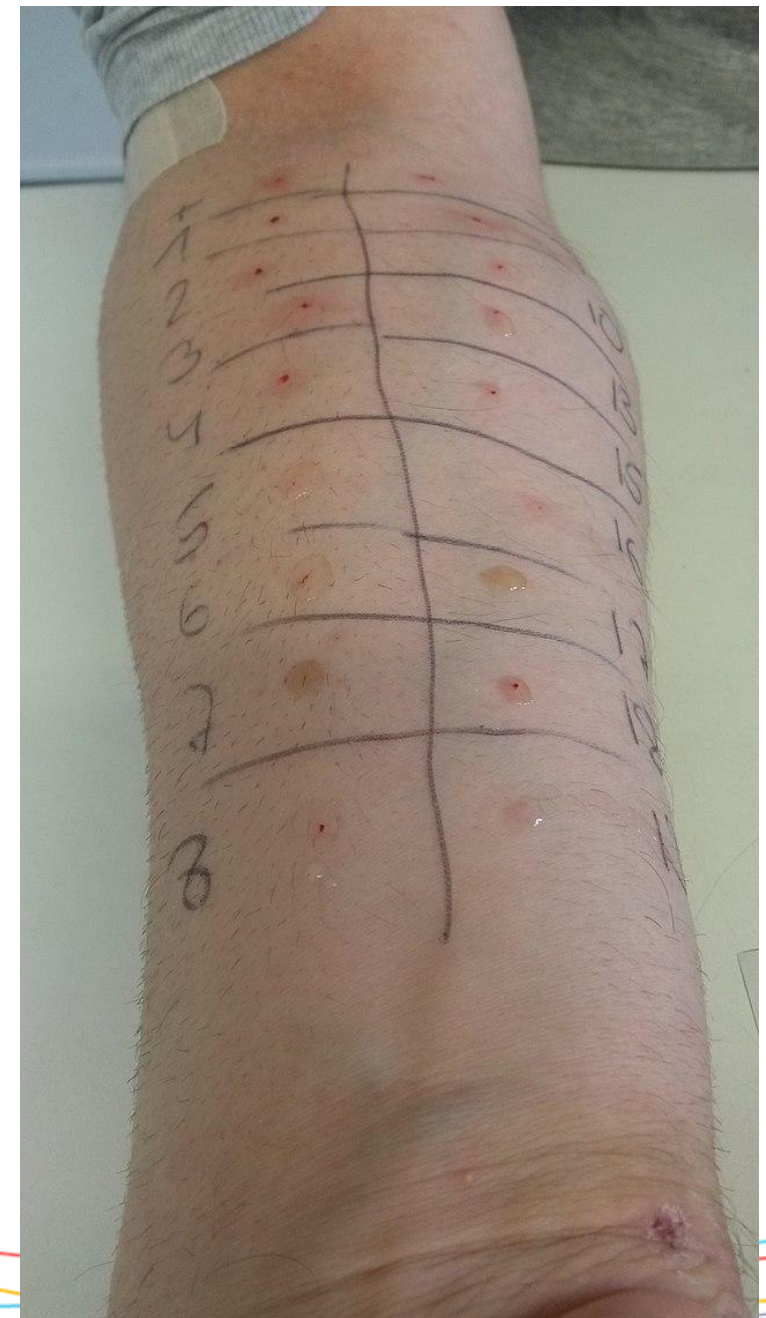
Rate of Cephalosporin Positive Skin Tests in Patients with Confirmed IgE-Mediated Hypersensitivity to Penicillins and Rate of Cephalosporin Positive Graded Challenges in Those with Negative Skin Tests to the Cephalosporin Concerned

		Reagents	Patients,* n (%)	Positivities	Cephalosporin(s)	Route	n/Challenges, (%)
Audicana et al ²⁷	34	PPL, MDM, AM, AX	Cephalexin, ceftazidime	5 (14.7)	Cephalexin (5)	Cephalexin, ceftazidime	Oral, intravenous 0/29 0/30
Novalbos et al ²⁸	41	PPL, MDM, BP, AX	Cefazolin, cefuroxime, ceftriaxone	0	None	Cefazolin, cefuroxime, ceftriaxone	Intramuscular, intramuscular, intramuscular 0/41 0/41 0/41
Romano et al ²⁹	128	PPL, MDM, BP, AM, AX	Cephalothin, cefamandole, cefuroxime, ceftazidime, ceftriaxone, cefotaxime	14 (10.9)	Cefamandole (9), cephalothin (8), ceftriaxone (3), cefuroxime (2), ceftazidime (2), cefotaxime (2)	Cefuroxime axetil, ceftriaxone	Oral, intramuscular 0/101 0/101
Caimmi et al ³⁰	69	PPL, MDM, BP, AX	Cefuroxime	0	None	Cefuroxime axetil	Oral 2/69 (2.9)
Romano et al ³¹	252	PPL/BP-OL, MDM/MD, BP, AM, AX, PP	Cephalexin, cefadroxil, cefaclor, cefamandole, cefuroxime, ceftazidime, ceftriaxone, cefotaxime, cefepime	84 (33.3)	Cefadroxil (62) cefaclor (38), cephalothin (33), cefamandole (11), ceftriaxone (6), cefotaxime (3), cefuroxime (2)	Cefaclor, cefadroxil, cefuroxime axetil, ceftriaxone	Oral, oral, oral, intramuscular 3/170 (1.8) 4/167 (2.4) 0/244 0/244
Rodriguez-Bouza ³²	29	PPL/BP-OL, MDM/MD, BP, AM, AX	Cefuroxime	1 (3.4)	Cefuroxime (1)	Cefuroxime	Intramuscular 2/28 (7.1)
Romano et al ³³	131	BP-OL, MD, BP, AM, AX, PP	Cefazolin, ceftibuten	1 (0.7)	Cefazolin (1), ceftibuten (1)	Cefazolin, ceftibuten	Intramuscular, oral 0/129 0/129
Sánchez de Vicente et al ³⁴	137	PPL, MDM, AX	Cefuroxime, ceftriaxone	2 [†] (1.5)	Cefuroxime (1), ceftriaxone (1)	Cefuroxime, ceftriaxone	Oral, intravenous 0/136 0/125
Total	821			107 (13)			11/1825 (0.6)



Caruso C, Valluzzi RL, Colantuono S, Gaeta F, Romano A. β -Lactam Allergy and Cross-Reactivity: A Clinician's Guide to Selecting an Alternative Antibiotic. *J Asthma Allergy*. 2021;14:31-46. Published 2021 Jan 18. doi:10.2147/JAA.S242061

- Educate patients! Risks of “penicillin allergy” label > likelihood of serious reaction to a PCN
- For very low risk patients an oral penicillin challenge (or cephalosporin) is safe
- For moderate to high risk patients, refer for allergy testing



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