Penicillin Allergy Testing

Why It Matters for Your OBGYN Patients

The Problem

- Approximately 8-13% of pregnant patients report penicillin allergies, but **less than 5% are truly allergic**[1]
- **Over 95% of patients labeled as "penicillin allergic" can safely tolerate penicillin** antibiotics[1]
- Penicillin allergies fade over time—**80% of patients lose sensitivity after 10 years**[2]
- Many penicillin allergy labels originate from **childhood rashes that were likely viral exanthems**, not true allergies
- These labels persist for decades, creating **significant consequences for obstetric care**

The Critical Issue: Group B Streptococcus Prophylaxis

GBS is the leading cause of newborn infection, and penicillin allergy labels directly complicate prevention: [3,4]

First-Line Prophylaxis

- **Intravenous penicillin remains the agent of choice** for intrapartum GBS prophylaxis, with ampicillin as an acceptable alternative[5.6]
- Penicillin achieves excellent intraamniotic and fetal blood levels rapidly
- GBS remains universally susceptible to penicillin[7]

The Problem with Alternatives

For patients with penicillin allergy labels, options become increasingly limited:

- **Cefazolin** is recommended for low-risk penicillin allergies—it has similar pharmacokinetics to penicillin and achieves therapeutic levels in cord blood and amniotic fluid within 20 minutes[5,8]
- **Clindamycin** is only an option if the GBS isolate is susceptible—but **42% of GBS isolates are now resistant to clindamycin**[7,8]
- Clindamycin resistance has increased dramatically, exceeding **20% by 2010** and continuing to rise[7]
- The clinical effectiveness of clindamycin as intrapartum prophylaxis was **only 22%** compared to no prophylaxis in one study[8]
- **Vancomycin** is the only remaining option for high-risk penicillin allergy with clindamycin-resistant GBS—requiring weight-based dosing and IV administration every 8 hours[5]

Why It Matters for Your Patients

When a GBS-positive patient has an unverified penicillin allergy and clindamycin-resistant GBS:

- They must receive vancomycin, which has inferior pharmacokinetics
- Vancomycin requires weight-based dosing (20 mg/kg IV every 8 hours)[5]
- This creates logistical challenges during labor
- **Delabeling before delivery eliminates this problem entirely**

Impact on Other Obstetric Infections

Beta-lactam antibiotics are first-line therapy for many common infections in pregnancy:[2,9]

- **Asymptomatic bacteriuria and UTIs**: Amoxicillin and cephalexin are first-line agents[2,10]
- **Chorioamnionitis**: Penicillin/ampicillin in combination with aminoglycosides are commonly used[2,11]
- **Syphilis in pregnancy**: **Penicillin is the ONLY recommended treatment**—there is no acceptable alternative[2]
- **Pyelonephritis**: Amoxicillin combined with aminoglycoside or cephalosporins are preferred[10]
- **Cesarean section prophylaxis**: Cefazolin is the recommended first-line agent

Consequences of Penicillin Allergy Labels in Pregnancy

Being labeled with a penicillin allergy during pregnancy is associated with: [1,2,12]

- **Increased risk of cesarean delivery**
- **Postcesarean wound complications**
- **Longer length of hospital stay**
- Suboptimal GBS prophylaxis with less effective alternatives
- Inability to treat syphilis with the only recommended agent
- Increased C. difficile risk from clindamycin use

ACOG Recommends Penicillin Allergy Testing in Pregnancy

The American College of Obstetricians and Gynecologists states:[5]

"Penicillin allergy testing, if available, is safe during pregnancy and can be beneficial for all women who report a penicillin allergy... Expansion of its use is encouraged in obstetric patients."

Benefits of Prenatal Penicillin Allergy Testing

- **Simplifies intrapartum antibiotic prophylaxis** for GBS-colonized patients
- Enables use of **first-line penicillin** for GBS prophylaxis
- Eliminates need for clindamycin susceptibility testing
- Avoids vancomycin use in patients with clindamycin-resistant GBS
- Allows **optimal treatment of syphilis** when indicated
- Enables first-line therapy for UTIs, chorioamnionitis, and other infections
- Reduces cesarean wound complications and length of stay
- **Provides lifelong benefit** beyond the current pregnancy[5]

Safety Data

A recent systematic review of 2,085 pregnant patients undergoing penicillin allergy evaluation found:[1]

- **93.8% of patients were successfully delabeled**
- Only 17 mild and 8 mild-delayed reactions occurred, requiring minimal intervention
- Only 3 severe reactions (2 anaphylaxis cases managed with epinephrine, 1 mild hepatitis resolved with observation)
- **No hospital transfers were required**
- **No adverse antenatal events were recorded**
- Patient acceptance of testing was 60.9%
- In another study of 136 pregnant women, **99% had negative skin testing and all 131 passed oral challenge**—none had increased risk of cesarean delivery or pregnancy complications[12]

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BOULDER MEDICAL CENTER

PENICILLIN ALLERGY CLINIC

Help us give your OBGYN 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

GBS-Positive or High-Risk Patients with

- Positive GBS screening and reported penicillin allergy
- History of GBS bacteriuria in current pregnancy
- Prior infant affected by GBS disease
- Unknown GBS status and penicillin allergy labels

Patients Requiring Beta-Lactam Therapy with

- Syphilis requiring penicillin treatment
- Recurrent UTIs who would benefit from first-line therapy
- A scheduled cesarean delivery

General Obstetric Patients with

- A penicillin allergy label
- Allergies acquired in childhood or 10 years ago
- Low-risk histories (GI symptoms, family history only, unknown reactions)
- A penicillin allergy label and nursing

2ND FRIDAY
EACH MONTH
IN A.M.

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Safe, Evidence-Based Testing

We use validated, ACOG-endorsed protocols:

- Direct oral amoxicillin challenge for low-risk patients (most patients)
- Risk stratification using validated clinical decision rules (PEN-FAST)
- Skin testing available for higher-risk histories when indicated
- Severe reactions are exceedingly rare
- Cross-reactivity between penicillin and cephalosporins occurs in only about 2% of cases

Ideal Timing for Referral

- Before 36 weeks gestation to allow time for testing before GBS screening
- Early pregnancy for patients with known indications for beta-lactam therapy
- Postpartum/nursing patients planning future pregnancies

Delabeling before delivery ensures GBS-positive patients receive first-line penicillin prophylaxis—regardless of clindamycin susceptibility.

Clinic capacity can expand based on demand.

Boulder Medical Center