

## EARN 3 CE CREDITS



PUBLISHED: MAY 2026

EXPIRES: APRIL 2029

### ABSTRACT

Although almost 10% of the US population reports an allergy to penicillin (PCN), most of these patients are not truly allergic. There are well-defined harms associated with unverified PCN allergies including ineffective treatment, overtreatment, and more broad-spectrum treatment that results in antibiotic resistance and adverse effects including *Clostridioides difficile* (*C. diff*) infection. For these reasons, the health-care community is looking to screen and evaluate PCN allergies to ensure that patients receive first-line antibiotics whenever possible. The dental office provides an opportunity to practice PCN allergy stewardship, with the goal of increasing the proportion of patients receiving first-line antibiotic therapy. Tools to support the involvement of the dental team in assisting patients to navigate the reassessment of their allergy labels will be demonstrated.

### EDUCATIONAL OBJECTIVES

At the conclusion of this educational activity, participants will be able to:

1. Discuss the potential consequences of prescribing second-line antibiotic therapies in patients who report a penicillin allergy
2. Describe clinical scenarios in which a patient may be mislabeled as being allergic to penicillin
3. Determine how to implement chairside tools designed to identify patients who may benefit from a reassessment of their penicillin allergy
4. Communicate to the patient the process for penicillin allergy reassessment, including removal of the penicillin allergy label from their medical/dental record(s)



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# Dental allergy stewardship

A PEER-REVIEWED ARTICLE | by Ashlan J. Kunz Coyne, PharmD, MPH, Elaine M. Bailey, PharmD, Erinne Kennedy, DMD, MPH, MMSc

### Misclassification of penicillin allergies

Penicillin (PCN) and related antibiotics continue to play a crucial role in treating bacterial infections and are the most commonly prescribed antibiotics in dentistry.<sup>1</sup> PCNs, including amoxicillin and amoxicillin/clavulanate (Augmentin), are considered first-line antibiotics and are the most frequently implicated drugs causing hypersensitivity reactions. However, although approximately 10% of the population reports an allergy to PCN, most of these patients are not truly allergic. Many patients who experience a side effect—for example, nausea—to penicillin are mislabeled as

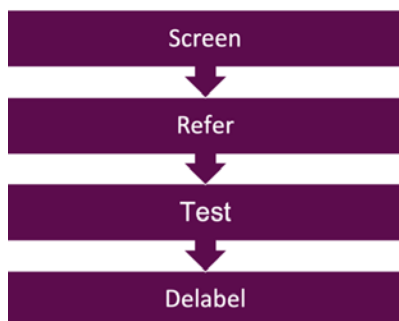
being allergic.<sup>2</sup> In other instances, patients mistakenly believe that because a family member has an allergy, they are also allergic. Finally, most patients who are truly allergic will experience waning sensitivity over time, causing the allergy to disappear fully in most cases. It has been widely reported that approximately 50% of patients with IgE-mediated PCN allergy lose their sensitivity five years after reacting, and this percentage increases to approximately 80% in 10 years.<sup>3-6</sup> Medication-based allergies, such as those to PCN, can wane over time due to multiple factors. The primary factor that results in the waning of allergies is that IgE

antibodies that cause the allergic reaction can decrease or disappear over time. By promoting penicillin allergy reassessment, dental professionals can help ensure safer, more effective antibiotic use and contribute meaningfully to antibiotic stewardship.

### Importance of correctly classifying penicillin allergy

There are well-defined harms associated with unverified PCN allergies, including ineffective treatment, over-treatment, and more broad-spectrum treatment that results in antibiotic resistance and adverse effects, including *Clostridioides difficile* infection (CDI).<sup>7</sup> For example, numerous studies provide evidence that hospitalized patients with a PCN allergy are at risk of poor outcomes including increased hospital length of stay, increased perioperative infections, and overall increased mortality due to use of second-line antibiotics (e.g., azithromycin, clindamycin) in their therapy.<sup>2</sup> Therefore, penicillin allergy assessment and delabeling (PAAD) is becoming more common and protocolized in the in-patient setting, but it is less common in the outpatient setting including dental practices.

The goal of PAAD is to evaluate the presence of an allergy and the like-



**FIGURE 1:** Penicillin allergy assessment and delabeling (PAAD) process

likelihood that it is a true allergy. Recognizing the public health impact of PAAD, the American Academy of Allergy, Asthma & Immunology

recently published a position paper, stating, “Penicillin allergy evaluations should be offered proactively to healthy patients during routine visits, including children and pregnant women, in advance of antibiotic need.”<sup>8</sup> The statement suggests that PAAD, or PCN allergy stewardship, should be performed by all clinicians, including oral health-care professionals, especially for those patients with low-risk histories. Low-risk histories are patients who report mild allergy symptoms that have not been experienced for 10 years.

### What does penicillin allergy stewardship look like in dentistry?

Oral health-care clinicians account for more than one in 10 outpatient antibiotic prescriptions and are uniquely positioned to advance PCN allergy stewardship by evaluating reported PCN allergies as part of their antibiotic prescribing practices.<sup>9</sup>

A Veterans Affairs (VA) study of 500 patients with documented PCN allergies in dental clinics found that 80% were eligible for either skin testing (53%) or an oral test-dose challenge (27%), while 20% did not require testing.<sup>10</sup> These findings highlight that most patients with reported PCN allergies could be evaluated to confirm their allergy status, potentially avoiding unnecessary allergy testing and reducing reliance on broad-spectrum antibiotics. By thoroughly assessing patient allergy histories during intake, dental professionals can help ensure appropriate antibiotic use, improving patient outcomes and reducing risks such as antibiotic resistance.<sup>11</sup>

Practically speaking, it is important to capture detailed information about antibiotic-related allergies on patient intake forms with their medical and dental histories. Ask each patient the following questions and

document this information in the medical history component of the health record:

- What medications are you allergic to?
- When did this allergy last occur?
- How many times has it occurred?
- If you were a child, who told you? Why were you taking the antibiotic?
- What were the symptoms that you experienced?
- What helped the symptoms resolve?
- How long did it take to resolve the allergy?

The answers to these questions will provide the foundational knowledge to proceed with the PAAD model (figure 1). Applying PAAD in a dental practice involves four actions:

- Screen
- Refer for allergy testing or medical evaluation
- Allergy testing
- Delabeling

### Figure 1: Penicillin allergy assessment and delabeling (PAAD) process

#### Screen

**PAAT tool:** A dental-specific tool was recently introduced to assist in screening.<sup>12</sup> The Penicillin Allergy Assessment Tool (PAAT) is a decision-making tool that can be used chair-side to screen patients who report an allergy to PCN.

The PAAT distinguishes between true allergic reactions and non-allergic drug side effects or mild reactions that do not warrant avoiding PCNs. This is essential in optimizing antibiotic therapy, as accurately assessing PCN allergies can prevent unnecessary prescriptions of broad-spectrum antibiotics. Such prescriptions can lead to reduced efficacy, increased adverse reactions, higher rates of antibiotic resistance, and increased health-care costs. By

correctly identifying the nature of a patient's allergy, dental professionals can prescribe the most effective and safest antibiotics for their patients' conditions, ultimately improving patient safety.<sup>13-15</sup>

### 1. Initial patient presentation:

When a patient visits a dental clinic and requires prophylactic or therapeutic antibiotics, it is crucial to assess their reported history of symptoms when taking PCN. The first step is to ask the patient about the specific signs and symptoms they experienced when taking PCN.

**2. Categorize the symptoms:** Once the symptoms are reported, they should be categorized into one of several types.

- **Severe type II-IV hypersensitivity reactions** include conditions such as Stevens-Johnson syndrome, serum sickness, toxic epidermal necrolysis, drug rash with eosinophilia, systemic hemolytic anemia, and drug fever.
- **Severe IgE-mediated reactions** include anaphylaxis, angioedema, wheezing or shortness of breath, laryngeal edema, hypotension, and hives or urticaria.
- It is also important to identify **mild to moderate reactions**, such as a nonimmediate onset, nonurticarial mild rash.
- Lastly, some symptoms may not be allergic reactions but rather **nonallergic drug side effects**, including stomach upset, nausea, diarrhea, abdominal pain, headache, chills, and fatigue.

**3. Decision-making based on symptom classification:** Based on the classification of the symptoms, appropriate actions can be determined. For patients who have experienced severe reactions, whether type II-IV hypersensitivity or IgE-mediated, it is recommended that they should not be prescribed beta-lactam antibiotics, such as amoxicillin, amoxicillin/

clavulanate, or cephalexin. These patients should be referred for a reevaluation of their PCN allergy by a health-care professional. Similarly, patients with mild to moderate reactions should also be recommended for a reevaluation of their PCN allergy. If they have an immediate need for an antibiotic, cephalexin is generally recommended with azithromycin as an alternative choice. For those whose symptoms fall under nonallergic drug side effects, further allergy testing is not necessary. Instead, the next step involves verifying the patient's allergy status in their medical records (e.g., electronic health record [EHR], dental and pharmacy records).

### 4. Verify allergy documentation:

Check the medical records of patients whose symptoms have been classified as nonallergic to see if the PCN allergy is documented. If the allergy is not documented, there is no need to refer the patient for allergy testing, and it should be noted in the dental record that the patient does not have a PCN allergy. However, if the allergy is documented in any medical record or uncertain, it is advisable to recommend a reevaluation of the PCN allergy by a health-care professional. Typically, most patients will be referred to their primary care provider (PCP) as an immediate next step.

For dental professionals, it is also important to have resources for antibiotic choices and dosing. The American Dental Association (ADA) guidelines provide recommendations for managing oral pain and swelling, while the American Academy of Orthopaedic Surgeons (AAOS) guidelines offer guidance on prophylaxis. In these evidence-based guidelines, recommendations for prescribing antibiotics in patients with PCN allergy are provided. By following this structured approach using the PAAT, dental professionals can prescribe antibiotics in concordance

with the guidelines.

**PEN-FAST tool:** While not specifically designed for the dental setting, the PEN-FAST tool is another option to evaluate the risk of a true PCN allergy based on a patient's reported history.<sup>16,17</sup> To use the PEN-FAST tool in a dental clinic, a dental team member should first gather three elements related to the patient's penicillin allergy history.

- Timing of the allergy episode (whether it occurred within the last five years)
- Type of reaction experienced (such as anaphylaxis, angioedema, or severe cutaneous adverse reactions [SCAR])
- Treatment (whether treatment was required during the allergic episode)

The answers to these questions are used to calculate the PEN-FAST score. A score is assigned based on these criteria: 2 points for a recent allergy event (within five years) and anaphylaxis, angioedema, or SCAR, and 1 point for requiring treatment. The total score, ranging from 0 to 5, helps determine the patient's risk category for having a true PCN allergy.

- A score of less than 3 indicates a low risk, suggesting that the patient may not require formal allergy testing and could potentially be safely prescribed PCN.
- In contrast, a score of 3 or higher indicates a higher risk, warranting further evaluation by an allergist.

By assisting the patient in calculating their PEN-FAST score, the dental office will empower and motivate patients to continue their PCN allergy delabeling journey with their health-care provider with the ultimate goal of removing the allergy label from all health records.

## Refer

The second step in the PCN allergy stewardship is to refer potentially

misclassified PCN-allergic patients for allergy testing. Dentistry has a new tool to assist in this important, although sometimes difficult, step. The Penicillin Allergy Reassessment for Treatment Improvement (PARTI) tool was designed to improve dentist-patient communications in reassessing penicillin allergies to ensure appropriate antibiotic prescribing (figure 2). From January 2022 to May 2023, a mixed-methods study was conducted involving patient focus groups and surveys of health-care workers (HCWs). The focus was on gathering feedback on the PARTI tool's design, functionality, and potential for improving antibiotic stewardship.<sup>18</sup>

The feedback was used to refine the PARTI tool, ensuring it is user-friendly and effective in promoting PCN allergy reassessment. The tool is expected to improve patient safety, antibiotic prescribing practices, and the accuracy of medical records.

**Figure 2: Penicillin Allergy Reassessment for Treatment Improvement (PARTI) tool**

### Step-by-step guide to using the PARTI tool

- **Identify candidates for allergy reassessment:** When a patient reports a penicillin allergy, begin with a structured screening such as the **PAAT** or the **PEN-FAST** clinical rule. These tools help estimate risk and identify patients whose allergy history suggests a low or uncertain likelihood of true PCN allergy. Patients with nonsevere symptoms or reactions that occurred more than five years ago are often good candidates for reassessment.
- **Complete part 1 (dentist section):** For patients screened as potentially eligible for reassessment, fill out **part 1** of the **PARTI** tool. Check all applicable reasons such as “Not a true allergy,” “Allergic reaction

### Penicillin Allergy Reassessment for Treatment Improvement (PARTI) Tool

DENTIST	<p><b>STEP 1</b> (Completed by the dentist)</p> <p>You are a candidate for allergy reassessment because (check all that apply):</p> <p><input type="checkbox"/> Not a true allergy    <input type="checkbox"/> Allergic reaction was &gt;5 years ago</p> <p><input type="checkbox"/> Error in chart    <input type="checkbox"/> Allergy does not prevent penicillin use</p> <p><input type="checkbox"/> Other - Please specify: _____</p> <p>Dentist Name: _____</p> <p>Dentist Contact info: _____</p>
PATIENT	<p><b>STEP 2</b> (Completed by the patient)</p> <p>Patient Name: _____</p> <p>You will discuss allergy reassessment with a healthcare provider and/or allergist.</p> <p>Healthcare Provider Name: _____</p> <p>Healthcare Provider Contact info: _____</p> <p>Appointment date(s) for allergy reassessment and/or testing* _____</p> <p>Healthcare provider: _____</p> <p>Allergist: _____</p> <p><small>*It may take multiple visits for you to receive allergy testing.</small></p>
HEALTHCARE PROVIDER	<p><b>STEP 3</b> (Completed by healthcare provider that completes allergy testing)</p> <p>I agree that you (check all that apply):</p> <p><input type="checkbox"/> Have a true penicillin allergy.    <input type="checkbox"/> Require further allergy testing.</p> <p><input type="checkbox"/> Do not have a true penicillin allergy.</p>

#### Why Does This Matter?

##### Allergies Are Rare.

**WHO:** You are a patient that has been identified as benefiting from allergy testing for using penicillin

**WHY:** Antibiotics are prescribed when a patient is allergic to penicillin and are often associated with harsh side effects

**WHAT:** Only 1% of the population has a true penicillin allergy

**WHEN:** As soon as possible, visit your healthcare provider to see if you are a candidate for allergy reassessment and/or testing to improve antibiotic therapy

**Patient Follow-up Checklist**

Communicate your updated allergy status with your providers, who can update your **Health Records**, by sharing this card with them as soon as possible.

Dental Office     Pharmacy

Healthcare Clinic     Hospital



**FIGURE 2:** Penicillin Allergy Reassessment for Treatment Improvement (PARTI) tool

more than five years ago,” “Error in chart,” or “Allergy does not prevent penicillin use.” Record your name and contact information. This documents that the patient meets criteria for medical follow-up based on PAAT or PEN-FAST results and provides a clear referral record.

- **Discuss and hand off to the patient (patient section):** Review the PARTI form with the patient and explain why reassessment is recommended. Have the patient complete **part 2** by adding their name, the health-care provider or allergist they plan to see, and any appointment information. Encourage the patient to take this completed form, along with their PAAT or PEN-FAST screening summary, to

the next health-care visit.

- **Specialist confirmation (health-care provider section):** The health-care provider who performs allergy testing completes **part 3**. They indicate whether the patient has a true penicillin allergy, requires further testing, or does not have a true penicillin allergy. This step confirms the patient's updated allergy status and allows for accurate documentation and possible delabeling.
- **Update records and follow up (checklist):** Use the *Patient Follow-up Checklist* section of the tool to ensure the updated allergy status is communicated to all relevant locations such as the dental office, pharmacy, health-care clinic, and hospital. Dentists should confirm that the patient's electronic health record has been updated before prescribing beta-lactam antibiotics in the future.

### Patient education and follow-up

After the five PARTI steps are completed, take time to educate the patient about the purpose and benefits of allergy reassessment. Explain that confirming or removing a penicillin allergy label can improve antibiotic choices and may allow them to use penicillin safely in the future if testing shows no true allergy. Encourage the patient to bring the completed PARTI form to their primary care provider or allergist for evaluation and possible testing. Remind them that it may take more than one visit to complete allergy testing. Once reassessment is finished, ensure that any updates to their allergy status are entered into the dental and medical records so all providers have accurate information. Dental professionals should also share feedback on how well the PARTI tool works in practice and suggest improvements to make it as clear, useful, and patient-centered

as possible.

### Continuous improvement

The PARTI tool is designed to be a dynamic resource that continues to evolve based on user experience. Dental professionals are encouraged to share feedback from patients and collaborating health-care providers on the tool's clarity, usability, and impact. This input supports ongoing quality improvement and helps ensure the tool remains effective, user-friendly, and aligned with best practices for accurate penicillin allergy labeling and responsible antibiotic prescribing.

By implementing the PARTI tool in dental practices, dental professionals can improve the accuracy of PCN allergy labeling, promote appropriate antibiotic use, and enhance patient safety through the maintenance of accurate medical records.

After the PARTI form is completed and the patient is referred, the next steps in the penicillin allergy assessment process involve testing and, when appropriate, delabeling. These steps help close the loop on the patient's care and ensure that penicillin allergies are accurately documented or removed from the record when testing confirms tolerance.

### Test

Patients referred through the PARTI process may receive an oral challenge with amoxicillin or undergo skin testing, depending on their clinical history. Penicillin skin testing (PST) involves pricking the skin with a small amount of PCN. The choice of evaluation is dependent upon the patient's history, and in cases of a negative skin test, the patient may also be given an oral challenge.

PCN allergy evaluation is important in advancing antibiotic stewardship across various health-care settings. Multiple studies have

demonstrated the benefits of PST in identifying true allergies, allowing for more appropriate antibiotic use, reducing reliance on broad-spectrum alternatives, and ultimately improving patient outcomes. Recent literature on the implementation and impact of PST across different clinical settings highlights the growing recognition of its importance among health-care professionals, including those in hospital, ICU, pharmacy, infectious disease, and dental practice settings.

The studies collectively highlight the diverse settings in which PCN allergy testing can be implemented to improve patient care, optimize antibiotic use, and reduce health-care costs. By understanding the benefits and applications of PST across different clinical environments, health-care professionals, including oral health-care workers, can better manage reported PCN allergies and contribute to broader efforts in antimicrobial stewardship.

### Delabel

When allergy testing confirms that a patient does not have a true penicillin allergy, the next step is to delabel the allergy in all health records. Oral health-care clinicians are being called to delabel PCN allergies across the lifespan, including children. Parents with questions may benefit from reviewing the "What parents need to know" article regarding penicillin allergies.<sup>19</sup>

If a patient is found not to have an allergy to PCN, when the information is received from the allergy testing, the label will need to be updated across all medical records. This includes but is not limited to pharmacies, primary care and women's health, health-care specialty practices, dental offices, optometry offices, wellness offices, and any other offices that might gather patient

health information. While it can be challenging to remove the designation from their medical record(s),<sup>20</sup> removing the allergy, updating their medical history, and removing any warnings or restrictions that were previously linked to the health record are important.

If a patient is found to have a mild sensitivity to PCN, the patient will continue to be labeled as PCN allergic; however, alternate therapy for this patient can be cephalosporins or azithromycin, depending on the guidelines and indications.<sup>13-15</sup>

Lastly, if a patient receives results that suggest a severe PCN allergy, azithromycin is the preferred medication of choice for treatment of tooth pain, swelling, and prophylaxis.<sup>12-15</sup> It is important to note that the guidelines no longer support clindamycin as therapy in patients with a penicillin allergy due to the risk for *C. diff* and the black box warning associated with this medication.

To more fully advance patient safety, it is imperative to empower patients as their own advocates in resolving inaccurate PCN allergy labels.<sup>21</sup> Unfortunately, the majority of studies addressing PCN allergy reassessment and delabeling have not sufficiently integrated patients as active collaborators.<sup>22</sup> When patients have participated in the process, they highlighted the importance of good communication about the personalized risks and benefits of testing.<sup>23</sup>

Dental health-care professionals working with their patients finally can delabel inaccurate PCN allergy notations from the dental record, and then continue to encourage, advocate, and communicate with their patients' health-care teams to ensure that patients' health-care records align.

### Conclusion

Dental team members are encouraged to practice dental allergy stewardship

with healthy patients during routine visits before antibiotic need. New dental-specific tools are available to assist in PCN allergy assessment and delabeling. By increasing the proportion of patients who can receive first-line antibiotic therapy, the dental profession can help reduce the use of broad-spectrum antibiotics and associated adverse outcomes, thereby advancing patient safety.

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**Elaine M. Bailey, PharmD**, earned her doctor of pharmacy degree and completed fellowship training in anti-infective pharmacotherapy at Wayne State University. She has held positions in academia, hospital pharmacy, and pharmaceutical industry medical affairs, and served as the executive director of the Michigan Antibiotic Resistance Reduction (MARR) Coalition. Through her work with the MARR Coalition and collaboration with the Association for Dental Safety (formerly OSAP), her goal is to educate dental practices and patients to be better stewards of antibiotics, to curb the public health crisis of antibiotic resistance and improve patient care.

**Erinne Kennedy, DMD, MPH, MMSc**, graduated from Nova Southeastern College of Dental Medicine in 2015. She completed a one-year general practice residency at a Veterans Health Administration hospital in 2016, and her dental public health residency in 2018. She graduated as an inaugural student in a master's program in dental education at Harvard School of Dental Medicine in spring 2019 and serves as the assistant dean for curriculum and integrated learning at Kansas City University College of Dental Medicine. She has a passion for antibiotic stewardship, has been a member of the ADA expert panel for developing antibiotic stewardship guidelines and is a subject matter expert for ADS on antibiotics.

## QUESTIONS

QUICK ACCESS CODE 22451

**ONLINE COMPLETION:** Use this page to review questions and answers. Visit [dentalacademyofce.com](http://dentalacademyofce.com) and sign in. If you have not previously purchased the course, select it from the Course Library and complete your online purchase. Once purchased, click the "Start Course" button on the course page. You will have an opportunity to review an online version of the article. When finished, click the "Next" button to advance to the quiz. Click "Start Quiz," complete all the program questions, and submit your answers. An immediate grade report will be provided. Upon receiving a grade of 70% or higher, your verification form will be provided immediately for viewing and printing. Verification forms can be viewed and printed at any time in the future by visiting the site and returning to your Dashboard page.

- Which of the following drugs are included when patients indicate that they have a penicillin allergy?
  - Penicillin
  - Amoxicillin
  - Augmentin
  - All of the above
- What percent of the population reports an allergy to penicillin?
  - 1%
  - 10%
  - 21%
  - 31%
- How do we define an allergy disappearing over time in a patient with a previously reported allergy?
  - Waning sensitivity
  - Lost immunity
  - Missing immunity
  - None of the above
- What percentage of patients who report a penicillin allergy will lose their sensitivity after 10 years?
  - 60%
  - 70%
  - 80%
  - 90%
- Which of the following organizations supports PAAD?
  - AAAAI
  - AAAI
  - ADA
  - AMA
- What does the acronym PAAD stand for in this article?
  - Penicillin Allergy Assignment and Delabeling
  - Penicillin Allergy Assessment and Diagnosis
  - Penicillin Autoimmunity Assessment and Delabeling
  - Penicillin Allergy Assessment and Delabeling
- Where have we studied and recommended the use of PAAD for dental practice?
  - Veterans Affairs
  - Dental schools
  - FQHCs
  - None of the above
- Ideally, when should penicillin allergy evaluation be offered?
  - Proactively
  - Reactively
  - Never
  - None of the above
- In a VA study that measured the applicability of penicillin allergy assessment in dental practice, what percentage of patients was eligible for skin testing?
  - 3%
  - 35%
  - 53%
  - 55%
- Reviewing a thorough medical history for the patient including a detailed allergy history is an example of which of the following steps?
  - Screen
  - Refer
  - Test
  - Delabel
- Connecting a patient with a clinician (e.g., pharmacist, allergist, or primary care clinician) for allergy testing is an example of which of the following steps?
  - Screen
  - Refer
  - Test
  - Delabel
- How many steps are related to PAAD in practice?
  - 2
  - 4
  - 8
  - 10
- Which of the following questions is not helpful to ask a patient with a reported medication allergy?
  - When did this allergy last occur?
  - What were the symptoms that you experienced?
  - What helped the symptoms resolve?
  - Why don't you like taking medication?
- Which of the following questions will help the clinician understand if their patient may have experienced waning sensitivity without knowing it?
  - When did this allergy last occur?
  - What were the symptoms that you experienced?
  - What helped the symptoms resolve?
  - How long did it take to resolve the allergy?
- Which of the following questions will help the clinician understand if their patient may have experienced a side effect of the medication and not a true allergy symptom?
  - When did this allergy last occur?
  - What were the symptoms that you experienced?
  - What helped the symptoms resolve?
  - How many times has it occurred?
- What are the four steps of the PAAD in practice?
  - Screen, refer, test, diagnose
  - Screen, refer, trial, delabel
  - Screen, refer, test, delabel
  - None of the above
- What does PAAT stand for?
  - Penicillin Allergy Assessment Tool
  - Penicillin Allergy Assessment Triage
  - Personalized Allergy Assessment Tool
  - None of the above
- Which of the following is not an example of a type II-IV hypersensitivity reaction (severe)?
  - Stevens-Johnson syndrome
  - Serum sickness
  - Drug fever
  - Chills
- Which of the following is not an example of an IgE-mediated reaction (severe)?
  - Anaphylaxis
  - Angioedema
  - Hypotension
  - Fatigue
- Which of the following is an example of a nonallergic drug side effect?
  - Nonimmediate onset nonurticarial mild rash
  - Diarrhea
  - Systemic hemolytic anemia
  - All of the above are side effects

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21. What is the recommendation for type II-V and IgE-mediated reactions (severe)?

- A. Patients who have experienced severe reactions should not be prescribed any beta-lactam antibiotics (e.g., amoxicillin, amoxicillin/clavulanate, cephalexin).
- B. Patients who have experienced severe reactions can be prescribed any beta-lactam antibiotics (e.g., amoxicillin, amoxicillin/clavulanate, cephalexin).
- C. Patients who have experienced severe reactions should be prescribed alternate antibiotics such as clindamycin.
- D. None of the above

22. What does PARTI stand for?

- A. Penicillin Allergy Reassessment for Treatment Improvement
- B. Penicillin Allergy Referral for Treatment Improvement
- C. Penicillin Allergy Reassessment for Treatment Indications
- D. None of the above

23. What is the reason for using the PARTI tool in practice?

- A. To improve the accuracy of PCN allergy labeling, promote appropriate antibiotic use, and enhance patient safety by ensuring accurate medical records through interprofessional practice
- B. To improve the accuracy of PCN allergy labeling, promote inappropriate antibiotic use, and enhance patient safety by ensuring accurate medical records through interprofessional practice
- C. To improve the accuracy of PCN allergy labeling, promote appropriate antibiotic use, and enhance patient safety by ensuring inaccurate medical records through interprofessional practice
- D. None of the above

24. How can patients be tested for penicillin allergies?

- A. Skin testing
- B. Oral challenge
- C. Salivary test
- D. A and B

25. In which step does a patient receive allergy skin testing?

- A. Screen
- B. Refer
- C. Test
- D. Delabel

26. Which of the following statements are true about penicillin allergy skin testing for patients?

- A. Most patients with a history of penicillin allergy can safely receive penicillin following negative skin tests, suggesting that penicillin skin testing is a safe and effective method to reduce the use of broad-spectrum antibiotics.
- B. Most patients with a history of penicillin allergy cannot safely receive penicillin following negative skin tests, suggesting that penicillin skin testing is a safe and effective method to reduce the use of broad-spectrum antibiotics.
- C. Most patients with a history of only mild penicillin allergy can safely receive penicillin following negative skin tests, suggesting that penicillin skin testing is a safe and effective method to reduce the use of broad-spectrum antibiotics.
- D. None of the above

27. A patient returns to your office after testing, and you learn that they are not truly allergic to penicillin. You are updating your medical record today. Which of the following recommendations do you make to the patient moving forward?

- A. Remind them to share this information with all of their health-care providers and ensure that all of their medical records contain the same information.
- B. No recommendation is needed; the process is complete.
- C. Remind them to share this information only with their PCP.
- D. None of the above

28. What does it mean for a patient to be delabeled?

- A. To remove an inaccurate penicillin allergy label when reevaluation/testing is complete
- B. To remove any allergy labels in a patient record
- C. To remove the patient's name from any patient communications
- D. None of the above

29. Who should we empower to lead resolving inaccurate PCN allergy labels?

- A. Patients
- B. Dentists
- C. Pharmacists
- D. Social workers

30. Once a patient is delabeled, it is \_\_\_ to change their medical records to reflect this change.

- A. Challenging
- B. Easy
- C. Super-fast
- D. None of the above

## Dental allergy stewardship

NAME:	TITLE:	SPECIALTY:
ADDRESS:	EMAIL:	AGD MEMBER ID (IF APPLIES):
CITY:	STATE:	ZIP:
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### EDUCATIONAL OBJECTIVES

- Discuss the potential consequences of prescribing second-line antibiotic therapies in patients who report a penicillin allergy
- Describe clinical scenarios in which a patient may be mislabeled as being allergic to penicillin
- Determine how to implement chairside tools designed to identify patients who may benefit from a reassessment of their penicillin allergy
- Communicate to the patient the process for penicillin allergy reassessment, including removal of the penicillin allergy label from their medical/dental record(s)

### COURSE EVALUATION

- Were the individual course objectives met?

Objective #1: Yes No      Objective #3: Yes No

Objective #2: Yes No      Objective #4: Yes No

*Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 0.*

- |                                                                          |     |    |   |   |   |   |
|--------------------------------------------------------------------------|-----|----|---|---|---|---|
| 2. To what extent were the course objectives accomplished overall?       | 5   | 4  | 3 | 2 | 1 | 0 |
| 3. Please rate your personal mastery of the course objectives.           | 5   | 4  | 3 | 2 | 1 | 0 |
| 4. How would you rate the objectives and educational methods?            | 5   | 4  | 3 | 2 | 1 | 0 |
| 5. How do you rate the author's grasp of the topic?                      | 5   | 4  | 3 | 2 | 1 | 0 |
| 6. Please rate the author's effectiveness.                               | 5   | 4  | 3 | 2 | 1 | 0 |
| 7. Was the overall administration of the course effective?               | 5   | 4  | 3 | 2 | 1 | 0 |
| 8. Please rate the usefulness and clinical applicability of this course. | 5   | 4  | 3 | 2 | 1 | 0 |
| 9. Please rate the usefulness of the references.                         | 5   | 4  | 3 | 2 | 1 | 0 |
| 10. Do you feel that the references were adequate?                       | Yes | No |   |   |   |   |
| 11. Would you take a similar course on a different topic?                | Yes | No |   |   |   |   |

- If any of the continuing education questions were unclear or ambiguous, please list them.

\_\_\_\_\_

- Was there any subject matter you found confusing? Please describe.

\_\_\_\_\_

- How long did it take you to complete this course?

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

Mail/fax completed answer sheet to:

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