

# Indian Health Service

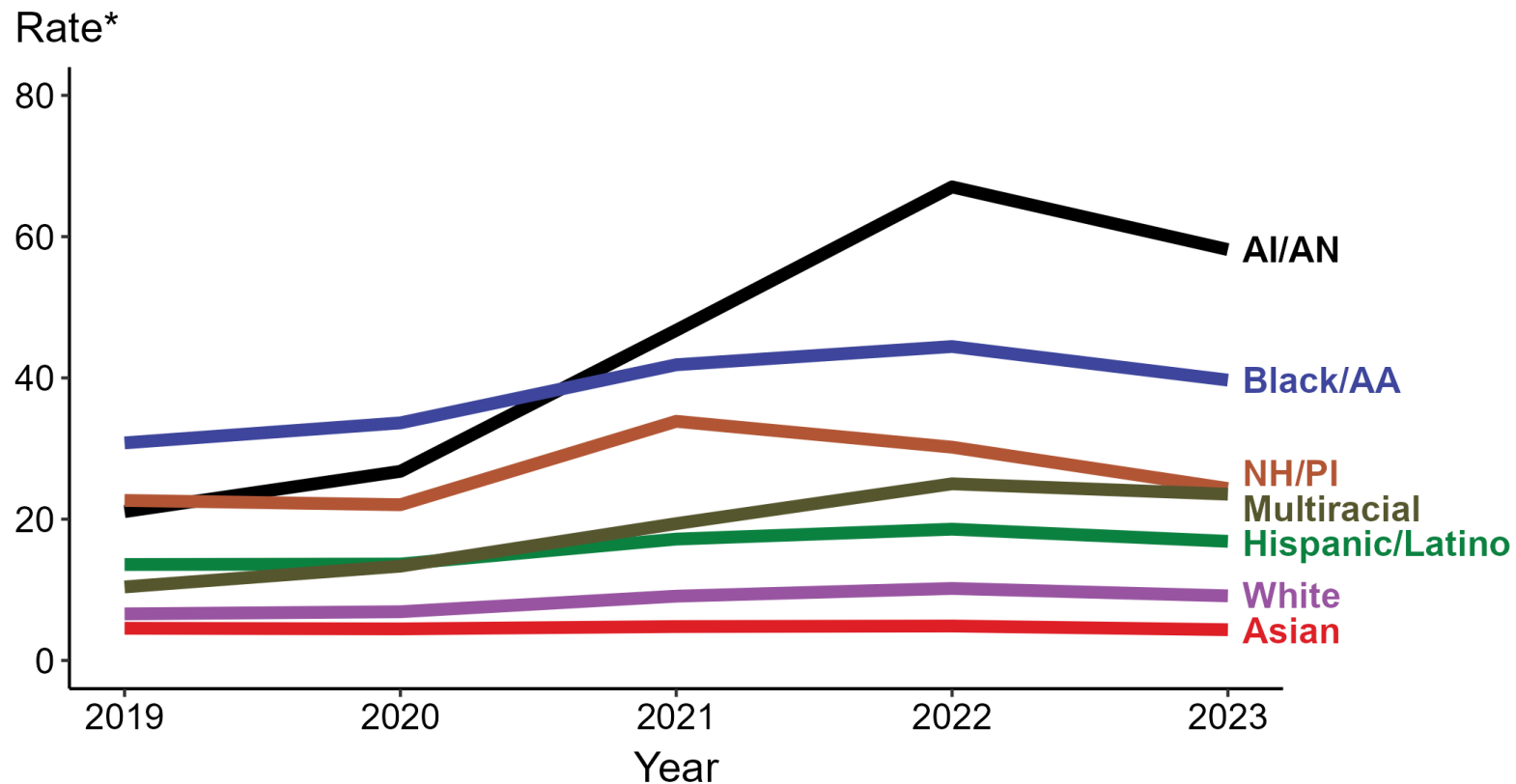
## Penicillin Allergy Assessment Using the PEN-FAST Tool

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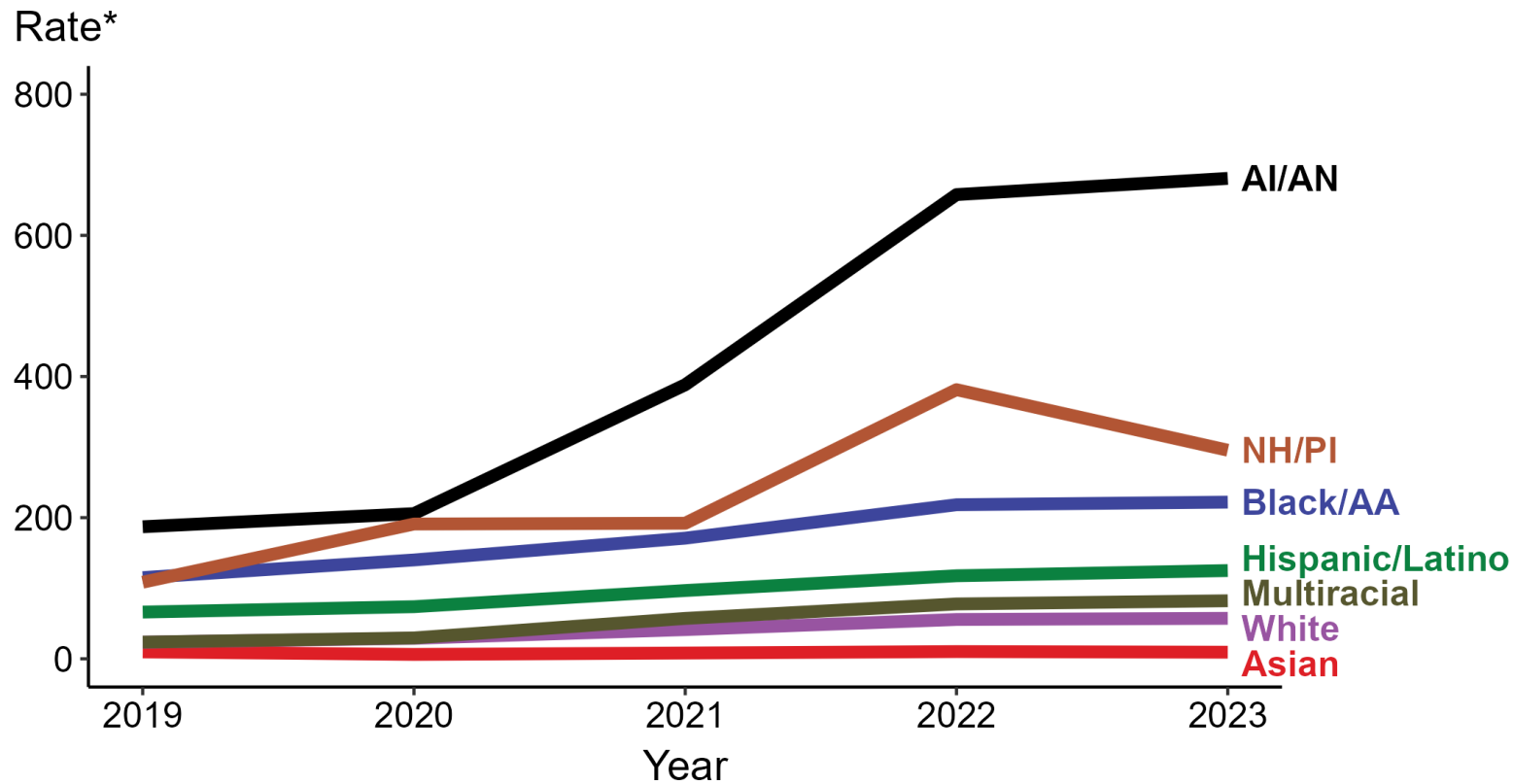
HOLLY VAN LEW, PHARM.D, BCPS, AAHVIP  
NATIONAL HIV/HCV/STI PROGRAM, IHS HQ  
NOVEMBER 21, 2024



# Primary and Secondary Syphilis — Rates of Reported Cases by Race, United States, 2019–2023



# Congenital Syphilis — Rates of Reported Cases by Year of Birth, Race, United States, 2019–2023



IHS Resources:  
“Together  
against syphilis”  
Reference  
Booklet



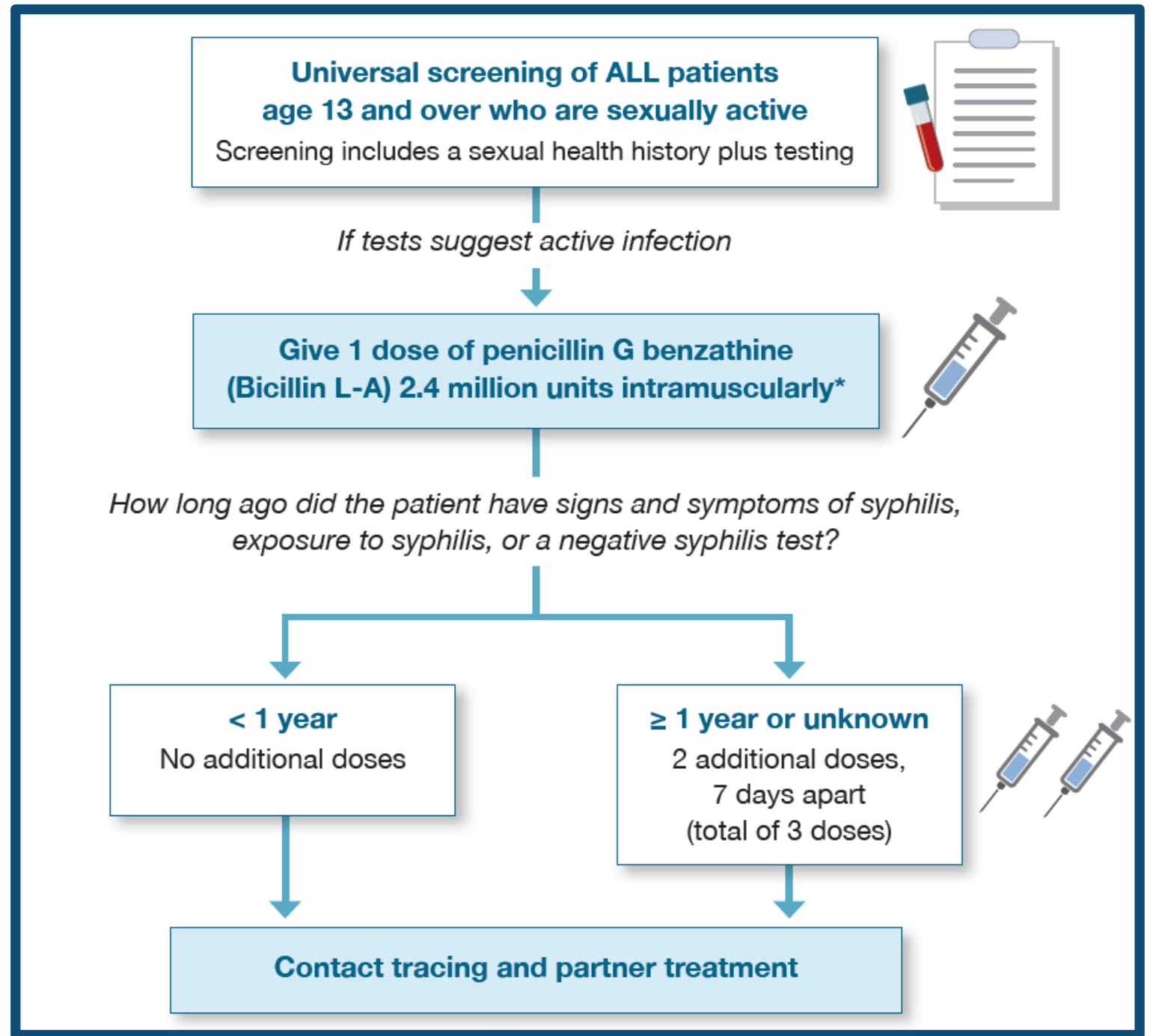
# Together against syphilis

Protecting the American Indian and Alaska Native communities





# Identifying and Treating Syphilis

**Penicillin is the  
DRUG OF CHOICE  
for syphilis treatment**



# Best Practice Syphilis Treatment

**Penicillin is the  
DRUG OF CHOICE  
for syphilis treatment**

	Treatment	Factors
 x1	Penicillin G benzathine 2.4 million units IM	<ul style="list-style-type: none"><li>• Exposure in prior 12 months</li><li>• Signs of syphilis in prior 12 months</li><li>• Prior negative syphilis test in prior 12 months</li></ul>
 x3	Penicillin G benzathine 2.4 million units IM given weekly (total dose 7.2 million units)	<ul style="list-style-type: none"><li>• Exposure <math>\geq</math>12 months ago</li><li>• Signs of syphilis <math>\geq</math>12 months ago and untreated</li><li>• Prior negative test <math>&gt;</math>12 months ago</li><li>• Unknown duration</li></ul>

**Ocular, otic, and neurosyphilis can occur at any stage or duration of infection and requires IV aqueous penicillin treatment.**

## Clarifying penicillin allergy: PEN-FAST

- Although fewer than 10% of patients with a labeled penicillin allergy are truly allergic (e.g., hives, anaphylaxis), it is the most commonly reported drug allergy, reported by 5%-10% of outpatient and 11%-15% of hospitalized patients.<sup>1</sup>
- Penicillin sensitization decreases drastically over 10 years; after 20 years, fewer than 1% of patients with an allergic reaction maintain their sensitivity.<sup>1</sup>
- Nausea, vomiting, rash, and a family history of penicillin allergy are not reasons to avoid treatment of syphilis with penicillin.<sup>2</sup>

**PEN-FAST** can be used for adult patients (age ≥ 18) with a documented penicillin allergy who need syphilis treatment. **It is not appropriate for pregnant patients.**

### Scoring using PEN-FAST<sup>3</sup>

Component	Description	Score
<b>PEN</b>	Penicillin allergy reported by the patient	Yes
<b>F</b>	Five years or less since reaction	2
<b>A</b>	Anaphylaxis or angioedema	2
<b>S</b>	Severe cutaneous adverse reaction	2
<b>T</b>	Treatment required for reaction	1

### Using the PEN-FAST score<sup>3</sup>

Score	Risk of positive penicillin allergy test	Recommendation
<b>0</b>	Very low risk (< 1%)	Prescribe first-line penicillin therapy
<b>1-2</b>	Low risk (5%)	Give an oral penicillin challenge
<b>3</b>	Moderate risk (20%)	Prescribe alternate therapy*
<b>4-5</b>	High risk (50%)	

\*Pregnant patients may require desensitization; consult with allergy or infectious disease.

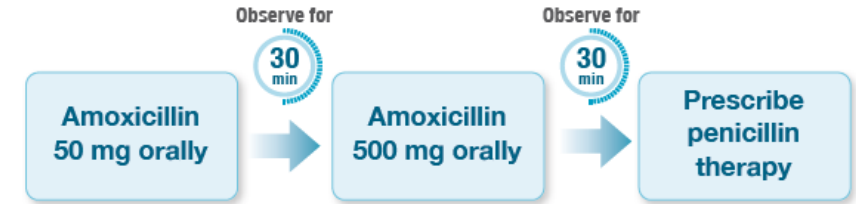
A **Penicillin Allergy Verification Consult**, available at some sites, uses PEN-FAST to guide prescribing. If not available, consider creating a template and establishing a process and protocol for oral penicillin challenge in the clinic.



These are general recommendations only; specific clinical decisions should be made by the treating clinician based on an individual patient's clinical condition. This program is made possible by the Indian Health Service.

Oct 2024

## Oral challenge with amoxicillin



**Remove the penicillin allergy from the patient record.**

### Treatment in patients with a true penicillin allergy<sup>4,5</sup>

Patient category	Recommended treatment	Duration of treatment
<b>Adults with early syphilis</b>	Doxycycline 100 mg orally twice daily	14 days
	Tetracycline 500 mg orally four times daily	14 days
<b>Adults with late syphilis</b>	Doxycycline 100 mg orally twice daily	28 days
<b>Pregnant patients</b>	<b>Desensitization (best option)</b>	
<i>If desensitization is unavailable in early syphilis</i>	Erythromycin 500 mg orally four times daily	14 days
	<b>OR</b> Ceftriaxone 1000 mg IM once daily	10-14 days
	<b>OR</b> Azithromycin 2000 mg orally (if susceptible)	Once
<i>If desensitization is unavailable in late syphilis*</i>	Erythromycin 500 mg orally four times daily	28 days

\*Requires treatment of infant with parenteral penicillin for 10 to 15 days.

(1) Broyles AD, et al. Practical Guidance for the Evaluation and Management of Drug Hypersensitivity: Specific Drugs. *J Allergy Clin Immunol Pract.* 2020;8(9e):S16-S116. (2) Centers for Disease Control and Prevention. Sexually Transmitted Infections Treatment Guidelines, 2021: Managing Persons Who Have a History of Penicillin Allergy. <https://www.cdc.gov/std/treatment-guidelines/penicillin-allergy.htm>. Accessed Aug 29, 2024. (3) Copaeescu AM, et al. Efficacy of a Clinical Decision Rule to Enable Direct Oral Challenge in Patients With Low-Risk Penicillin Allergy: The PALACE Randomized Clinical Trial. *JAMA Intern Med.* 2023;183(9):944-952. (4) World Health Organization. *WHO Guidelines for the Treatment of Treponema pallidum (Syphilis)*. Geneva: World Health Organization; 2016. (5) Centers for Disease Control and Prevention. Sexually Transmitted Infections Treatment Guidelines, 2021: Syphilis. Jan 16, 2024; [www.cdc.gov/std/treatment-guidelines/syphilis.htm](https://www.cdc.gov/std/treatment-guidelines/syphilis.htm). Accessed Aug 16, 2024.

Oct 2024

# IHS Resources PEN-FAST Reference Card



# Syphilis

# Treatment

Penicillin Alternatives for  
TRUE Penicillin Allergy

## Treatment in patients with a true penicillin allergy<sup>4,5</sup>

Patient category	Recommended treatment	Duration of treatment
Adults with <i>early</i> syphilis	Doxycycline 100 mg orally twice daily	14 days
	Tetracycline 500 mg orally four times daily	14 days
Adults with <i>late</i> syphilis	Doxycycline 100 mg orally twice daily	28 days
<b>Pregnant patients</b>	<b>Desensitization</b> (best option)	
<i>If desensitization is unavailable in early syphilis</i>	Erythromycin 500 mg orally four times daily	14 days
	<b>OR</b> Ceftriaxone 1000 mg IM once daily	10-14 days
	<b>OR</b> Azithromycin 2000 mg orally (if susceptible)	Once
<i>If desensitization is unavailable in late syphilis*</i>	Erythromycin 500 mg orally four times daily	28 days

\*Requires treatment of infant with parenteral penicillin for 10 to 15 days.



# Using the PEN-FAST Tool

## Scoring using PEN-FAST<sup>3</sup>

Component	Description	Score
<b>PEN</b>	Penicillin allergy reported by the patient	Yes
<b>F</b>	Five years or less since reaction	2
<b>A</b>	Anaphylaxis or angioedema	2
<b>S</b>	Severe cutaneous adverse reaction	2
<b>T</b>	Treatment required for reaction	1

- PEN-FAST can be used for adult patients (age  $\geq 18$ ) with a documented penicillin allergy who need syphilis treatment.
- It is NOT appropriate for pregnant patients.

# Interpreting PEN-FAST Results

## Using the PEN-FAST score<sup>3</sup>

Score	Risk of positive penicillin allergy test	Recommendation
0	Very low risk (< 1%)	Prescribe first-line penicillin therapy
1-2	Low risk (5%)	Give an oral penicillin challenge
3	Moderate risk (20%)	Prescribe alternate therapy*
4-5	High risk (50%)	

\*Pregnant patients may require desensitization; consult with allergy or infectious disease.

CONSULTS

- Ambulatory Infusion Clinic
- Anesthesia Lumbar Puncture
- Anesthesia Pain Management
- Breast Clinic
- Dental
- Dietary
- Durable Medical Equipment (DME)
- ENT
- Ethics
- EYE
- Eye THC
- Family Medicine
- Lactation
- Native Medicine
- Office of Environmental Health (OEH)
- Opioid Use Disorder
- Orthopedic
- Pathology Test
- Patient Benefits Coordinator
- Penicillin Allergy Verification**

Penicillin allergy has been reported by patient.

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Five years or less since reaction

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Anaphylaxis or angioedema

OR

Severe cutaneous adverse reaction

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Treatment required for reaction

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Total Score: \*

Total Points:

0= Very Low Risk of positive penicillin allergy test <1%

1-2= Low risk of positive penicillin allergy test 5%

3= Moderate risk of positive penicillin allergy test 20%

4-5= High risk of positive penicillin allergy test 50%

Score is 0: Prescribe patient first-line therapy

Score is 1-2: Give patient direct oral challenge:

50mg oral amoxicillin followed by 30 minutes of observation

THEN

500mg oral amoxicillin followed by 30 minutes of observation

No Reaction:

Penicillin allergy has been delabeled.

First line treatment has been prescribed for patient.

Reaction:

Alternative therapy has been prescribed to patient.

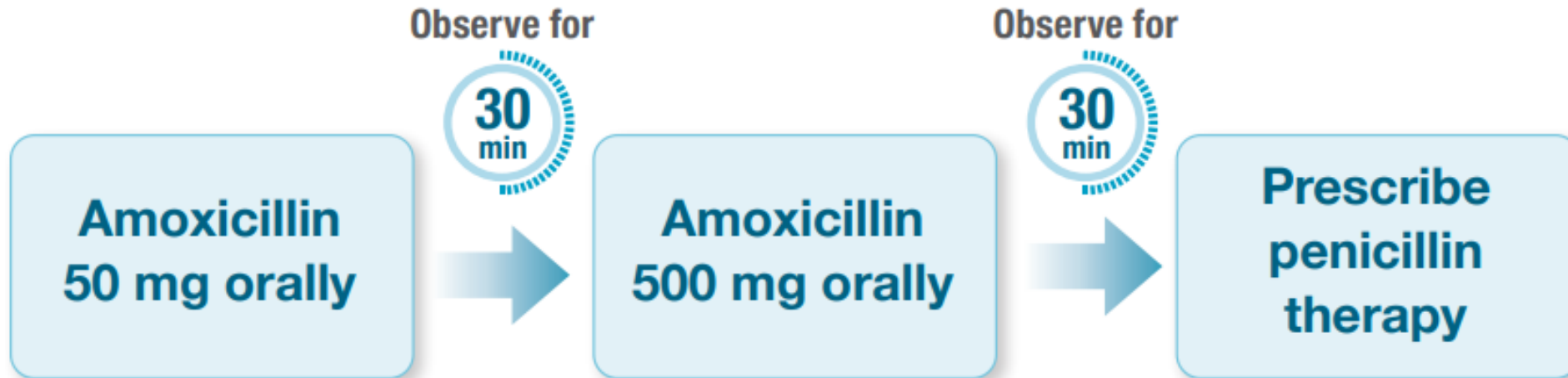
Patient's allergy information has been updated in EHR.

Score is 3-5: Used alternative therapy

Comments:

# Oral Penicillin Challenge – No reaction

## Oral challenge with amoxicillin



Remove the penicillin allergy from the patient record.

# IHS CMO Letter

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- Presumptive treatment of syphilis for anyone having signs or symptoms of syphilis or with known exposure to syphilis
  - **Provide testing and treatment with Penicillin G Benzathine for all contacts and partners, including non-beneficiaries**
- Offer and provide DoxyPEP to appropriate populations indicated in the IHS guidelines to prevent bacterial STIs, including syphilis, chlamydia and gonorrhea



# Incentives

- Used to enhance screening and adherence to treatment
- \$30 limit per person/per visit
- Can not come in the form of cash or anything that can easily be converted into cash
- [IHS pharmacist-led STI screening program resulted in 10 fold increase using incentives](#)



# Resources



## **PEN-FAST**

Think about using an allergy tool like **PEN-FAST**<sup>6</sup> to clarify the penicillin allergy in non-pregnant adults.

- IHS STI Strategic Initiative:
  - [Sexually Transmitted Infections \(STI\) Initiative | Strategic Initiatives](#)
- Indian Country ECHO Syphilis Resources Hub:
  - <https://www.indiancountryecho.org/syphilis-resources>



# Contact Information

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For questions about Incentive Gift Cards, contact:

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