



**PENICILLIN ALLERGY TESTING
(ADULTS)**

(items with check boxes must be selected to be ordered)

PCIS LABEL

This pre-printed order is restricted to use by Allergy & Immunology Physicians.

Nurse's
Initials

Conditions for Penicillin Allergy Testing:

- Patient education provided prior to ordering allergy testing
- Designated allergist to obtain and document consent prior to administration of testing.
- Medications for anaphylaxis management must be at bedside.

MEDICATIONS:

Penicillin Skin Test (for patients with medium to high risk of reaction)

Penicillin Skin Test to be performed on:

Date: _____ Time: _____
Location/Unit for Procedure: _____

Administer by Allergist: benzylpenicilloyl polylysine (PRE-PEN) 6 x 10⁻⁵ Molar (0.25 mL injection)
Minor Determinant Mixture (MDM) (1 mL vial) (2 hour expiry once thawed)
histamine 0.1 mg/mL (1 mL vial)

Administered by Nurse: amoxicillin 500 mg PO x 1 dose (give ***ONLY IF*** skin test is **negative** as per Allergist documentation in Physician Orders)

Direct Penicillin Oral Challenge (for patients with low risk of reaction)

Pharmacy to send to unit to await Allergist assessment

Administered by nurse: amoxicillin 500 mg PO x 1 dose (give ***ONLY IF*** Allergist documentation to proceed in physician orders)

If signs of anaphylaxis (as per Criteria for Anaphylaxis Management¹ below), give following medications:

- epinephrine 1 mg/mL (1:1000) 0.5 mg IM to anterolateral thigh Q5MIN PRN (maximum 3 doses)
- diphenhydAMINE 25 mg PO x 1 dose PRN for anaphylaxis
- loratadine 10 mg PO x 1 dose PRN for anaphylaxis

AND

- Notify physician STAT (and Richmond NAR team, if clinically required)
- Call lab to draw serum tryptase within 2 hours of reaction

MONITORING*: PRIOR to Penicillin Skin Test ***OR*** Direct Penicillin Oral Challenge, baseline exam (including skin) and vital signs

AFTER Penicillin Skin Test ***OR*** Direct Penicillin Oral Challenge, stay with patient for 10 minutes to observe for any signs or symptoms of anaphylaxis¹ as described below. Perform vitals Q15MIN x2. Post administration, reassess after 30 minutes and 60 minutes.

Nurse to call allergist with results of penicillin oral challenge

FOLLOW-UP DOCUMENTATION:

After Allergy Testing is complete:

- Nurse to update "Allergy Documentation Form" and unit clerk to fax to Pharmacy
- Allergist to complete form request to update PharmaNet and unit clerk to fax completed form to PharmaNet
- Nurse to give standardized letter to patient with results of penicillin skin test and/or direct penicillin oral challenge

¹Criteria for Anaphylaxis Management: Patient presents with sudden or delayed symptoms of either Cardiovascular or Respiratory system ***OR*** involvement of any 2 of the following systems):

- Cardiovascular: Hypotension more than 30% decrease from baseline after exposure to penicillins
- Respiratory: Dyspnea, wheeze, cough, stridor, hypoxia
- Gastrointestinal: Abdominal pain, emesis, diarrhea
- Skin/Mucous Membranes: Generalized hives, pruritus, flushing, swelling of lips, tongue or uvula

Date _____ Time _____ Printed Name _____ Signature _____ College ID _____

PROCEDURE FOR PERFORMING THE PENICILLIN SKIN TEST

Procedure	Details
<p>Step 1: Preparation</p>	<p>Supplies: histamine 0.1 mg/mL (1 mL vial), benzylpenicilloyl polylysine 6×10^{-5} molar (0.25 mL ampoule), minor determinant mixture (MDM) (1 mL vial), epinephrine 1 mg/mL (1:1000) (1 mL ampoule), alcohol swabs, 4 x Duotip® skin test applicators, 2 x 27 gauge needles, 2 x 1 mL syringes, paper tape measure/ruler</p> <p>Procedures:</p> <ol style="list-style-type: none"> i. Cleanse inner volar surface of forearm using alcohol swabs ii. Label spot for each reagent: <ol style="list-style-type: none"> a. histamine (<i>for skin prick test only</i>) (positive control) b. sodium chloride 0.9% (preservative-free) (negative control) c. benzylpenicilloyl polylysine (PRE-PEN) d. Minor Determinant Mixture (MDM)
<p>Step 2: Skin Prick Test</p> <ol style="list-style-type: none"> i. Use different syringes and needles for each reagent ii. Place 1 drop of each reagent on the skin in marked spot and prick skin with Duotip® applicator iii. Observe for 15 minutes <p>Time: _____</p>	<p><u>Test Results:</u> Histamine – MUST be positive – wheal of at least 3 mm. (Check 5 minutes after prick, as histamine wheal may be transient)</p> <p>Penicillin reagents (PRE-PEN and MDM) Negative = no wheal or diameter is below 3 mm to penicillin reagents compared with negative control AND histamine control is positive <i>Proceed to Step 3.</i></p> <p>Positive = wheal is 3 mm or greater or larger than negative control; erythema and itching are common <i>Proceed to Step 5.</i></p>
<p>Step 3: Intradermal test</p> <ol style="list-style-type: none"> i. Repeat Step 1 on opposite forearm or upper, outer arm below deltoid ii. Inject 0.03 mL of each reagent (sodium chloride 0.9%, PRE-PEN, MDM), to create a bleb of ~2 to 3 mm iii. Circle size of bleb after injection iv. Observe for 15 minutes. <p>Time: _____</p>	<p><u>Test Results:</u> Negative = no increase in size of bleb / less than 3 mm larger than negative control <i>Proceed to Step 4.</i></p> <p>Positive = wheal/bleb increases 3 mm or more from original size or is 3 mm larger than the negative control; erythema and itching are common <i>Proceed to Step 5.</i></p>
<p>Step 4: Penicillin Challenge</p> <p>Observe closely for 60 minutes after challenge dose</p> <p>Time: _____</p>	<p>Patients with a negative Intradermal Test may receive an oral penicillin challenge</p> <p>Challenge with amoxicillin will detect allergies to penicillin or amoxicillin/ampicillin (side chain reactions), whereas challenge with penicillin would identify only beta-lactam ring allergies (thought to be less common)</p> <p>Alternately, administer the drug which is needed for course of treatment</p>
<p>Step 5: Update the Allergy/ Intolerance Sheet</p>	<p>Prescriber's Order Sheet: "Allergy Documentation Form" updated</p> <p>Allergy/Intolerance Sheet to be updated by Nurse reading results:</p> <ul style="list-style-type: none"> • "Penicillin skin test POSITIVE" • *OR* • "Penicillin skin test NEGATIVE; patient tolerated ___ (DRUG NAME) ___ challenge; patient is not allergic to penicillins." • <p>Nurse to give letter to patient with results of penicillin skin test and/or direct penicillin oral challenge</p>