SAN BERNARDINO COUNTY | Public Health
Communicable Disease Section

2024


# HAIIP CONNECTION

**Healthcare-Associated Infections and Infection Prevention**

SPRING ISSUE | MAY 2024

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## 1. Penicillin Allergy

According to the Centers for Disease Control and Prevention (CDC), approximately **10%** of U.S. patients report having an allergic reaction to a penicillin (PCN) class antibiotic in their past. However, many who report a PCN allergy do not have a true IgE-mediated reaction. When assessed for an allergic reaction, less than **1%** of the population have a penicillin-induced anaphylaxis reaction. This is extremely rare. Approximately **80%** of patients with a true IgE-mediated penicillin allergy lose their sensitivity after 10 years.

### DID YOU KNOW?

**Penicillin is the most commonly reported drug allergy**

**YET...**

**9 out of 10 patients are not truly allergic**

**Most patients lose their penicillin allergy after 10 years**

**Adverse reactions related to antibiotics can be mistaken as an allergy, such as:**

- Headaches, nausea, vomiting, and diarrhea.
- Itching without rash.
- Vaginal burning due to yeast infection.

**Common reasons penicillin allergy is reported incorrectly:**

- Viral rash occurring at the same time of antibiotic use.
- Patients have a family member with PCN allergy and feel they may have it as well.

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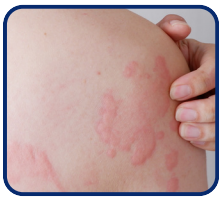
CDPH HAI PROGRAM

# Ways Nurses Can Assist

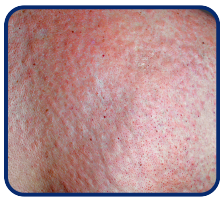
**Learn to differentiate between various types of reactions caused by antibiotics.**

**Hives**



- Itchy, red bumps with a white center.
- Occurs within 6 hours of antibiotic administration.
- Predicted by skin test.

**Maculopapular rash**



- Rough to touch.
- Occurs ≥ 72 hours of antibiotic use.
- Common with PCN, amoxicillin, ampicillin, and cephalosporins use.
- CANNOT be predicted by skin tests.
- Low recurrence rate in those with previous reactions.

**Anaphylaxis**

- Immediate reaction within a few hours of administration.
- IgE-mediated response presents with laryngeal edema, facial swelling, urticaria, hypotension, and/or wheezing/shortness of breath.
- Predicted by skin test.
- After 10 years, 80% of patients are no longer at risk for anaphylaxis.

[Penicillin Allergy - StatPearls (nih.gov)]

**Document proper medical history while evaluating a patient's drug reactions.**

[Questions to ask during assessment of allergies]

- What medication were you taking when the reaction occurred?
- What kind of reaction occurred?
- How long ago did the reaction occur?
- How was the reaction managed?
- What was the outcome?

**Educate patients on penicillin allergy.**

[Penicillin Allergy FAQ from American Academy of Allergy Asthma & Immunology]

# What Can Facility Leaders do?

- Create an internal protocol for effectively collecting allergy information (i.e. guide on assessment of PCN allergies).
- Educate and support staff with updated studies on beta-lactam antibiotics.
- Provide tools and resources to properly educate patients on allergic reactions.

# What Antibiotics Can be Utilized Instead of Penicillin in Case of a True Allergy?

Studies have shown that a major factor for cross-reactivity between cephalosporins and penicillin was the R1 side chain in the molecular structure. Amoxicillin shares the same side chain as ampicillin, cephalexin, cefadroxil, cefprozil, cefaclor, and cefatrizine. Ampicillin has the same side chain as cefaclor, cephalexin, cephradrine, cephaloglycin, and loracarbef. Distinctly, cefazolin does not share a similar side chain with any of the current FDA-approved beta-lactams. Cephalosporins: A Focus on Side Chains and β-Lactam Cross-Reactivity-PMC (nih.gov) Understanding the cross-reactivity between antibiotics is key to safe and effective use of beta-lactams in patient care, potentially leading to better outcomes.

**For more information on the cross-reactivity chart for beta-lactams, refer to:**

- Infectious Diseases Society of America IDSA-Newsletter July-10-2021
- Oxford Academic- Clinical Infectious Diseases-April 2021

# 2. Enhanced Standard Precautions

**Definition**

**Implementation**

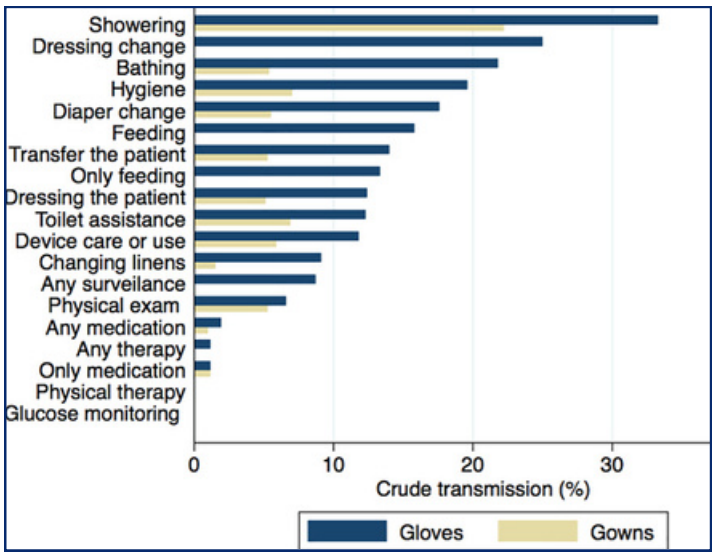
**Precautions**

**INFECTION PREVENTION AND CONTROL**

## What Are Enhanced Standard Precautions?

- A resident-centered, risk factor-based approach that is used to prevent multidrug-resistant organisms (MDRO) transmission in skilled nursing facilities (SNFs) and long-term acute care facilities (LTACs).
- For residents at high risk of MDRO colonization and transmission: use personal protective equipment (PPE), such as gown and gloves, for **high-contact care activities** based upon the risk.
- Does not rely on knowledge of the resident's MDRO colonization status.
- Allows residents with adequate hygiene and containment of body fluids to leave the room to participate in group activities.

**Transmission of MDRO to Healthcare Staff**



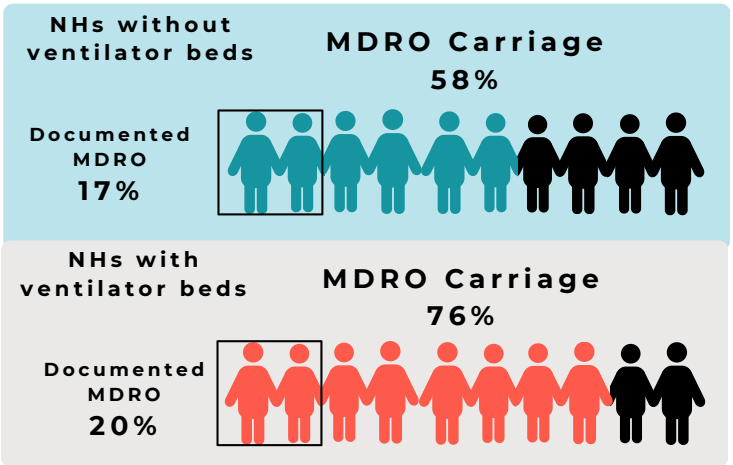

## Why we Need Enhanced Standard Precautions?

- Increases the resident's interactions with others and involvement in group activities.
- Decreases the feeling of isolation among residents and improves their mental well-being.
- Improves resident and family satisfaction.
- Reduces PPE fatigue among healthcare providers.
- Reduces the risk of MDRO transmission in facilities.
- Enhanced Standard Precautions Implementation

The image to the right demonstrates the percentage of MDROs carriage and documented MDROs in facilities with skilled units and facilities with ventilator units. Even though roommates could be negative, other residents in the same facility could be positive causing a higher risk for MDROs.

The majority of **nursing homes (NHs)** residents and **LTACs** patients harbor MDROs. MDRO status is frequently **unknown** to the facility. The high MDRO prevalence highlights the need for prevention efforts in NHs/LTACs as part of regional efforts to control MDRO spread.

**MDRO Prevalence in NHs**




Oxford University Press-The SHIELD Orange County Project

# Who Needs Enhanced Standard Precautions?

Enhanced Standard Precautions **must** be implemented if the resident has one of the following medical special devices:

- A central line for giving medication or fluids, typically observed in dialysis procedures.
- A tracheostomy tube inserted into the throat to assist with breathing.
- A feeding tube inserted into the stomach.
- A urinary catheter for urine drainage.
- Any resident dependent on a ventilator.
- Any unhealed sores or wounds.


# When do Healthcare Staff Use Enhanced Standard Precautions?

Enhanced Standard Precautions should be applied during six key moments, primarily occurring within the resident's bathroom or room.

Prior to performing each activity, perform hand hygiene and don PPE. Upon completion of the activity, remove PPE and perform hand hygiene inside the room. Whenever feasible, bundle high-contact activities together.

**Moment 1: Morning and evening care**. Helping to perform activities of daily living such as oral care, bathing, dressing, and grooming.
**Moment 2: Toileting and changing**.
**Moment 3: Caring for devices and giving medical treatments**.
**Moment 4: Wound care.**
**Moment 5: Mobility assistance and preparing to leave the room**. Do not wear gown and gloves outside the resident's room.
**Moment 6: Cleaning and disinfecting the environment** (especially high-touch areas).

# 3. Health Observances


NATIONAL NURSES WEEK MAY 6-12

OLDER AMERICANS MONTH MAY 2024



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