**Did you know?**

About 10% of the UK population report penicillin allergy, but less than 1% will truly be allergic.

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**Consequences of incorrect allergy coding**

- Unnecessary avoidance of penicillin and other beta-lactam antibacterials
- Increased risk of antimicrobial resistance
- Increased use of broad spectrum antibiotics and patient exposure to fluoroquinolones, clindamycin and vancomycin.
- Higher rates of C. difficile, MRSA and vancomycin-resistant enterococcus infections
- Increased hospital stays and treatment costs with poorer clinical outcomes

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**Take a clear clinical history by asking the following questions**

- What other medication and/or food were you taking/eating at the time of reaction?
- How long ago did the reaction occur?
- What kind of reaction occurred?
- How did the symptoms resolve?
- How was the reaction managed?
- What other medication and/or food were you taking/eating at the time of reaction?

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**The following groups are at increased risk of penicillin allergy**

- Patients with repeated exposure to antibacterials
- Patients with medical conditions that often have repeat exposures to antibacterials e.g. COPD, Cystic fibrosis
- Patients with atopic allergies may be at greater risk of anaphylaxis

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**Medical alerts are available for patients**

Patients with documented penicillin allergy should be encouraged to use various products on the market to alert others of their allergy.

All patients should be advised to remind their doctor, nurse or pharmacist about their allergy prior to receiving prescriptions for antibiotics.

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**Non Immediate Reaction**

Commonly several days later

- Usually T-cell cytokine release reaction with the following symptoms.
  - Maculopapular rash
  - Morbilliform rash
  - Urticarial rash

**Common side effects not considered as penicillin allergy**

- Diarrhoea and vomiting
- Nausea
- Bloating and Indigestion
- Abdominal pain
- Loss of appetite

Reassure patients that these symptoms may be side-effects of medication and not necessarily an allergic reaction. They could also be a result of the infection.

Seek medical attention if symptoms worsen or persist.

These side-effects should pass once the treatment course is complete

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**Recognise Penicillin Allergy**

**Think before you code!**

Informing patients and safety netting

Explain how to recognise severe immediate reactions and seek immediate medical attention if an anaphylactic reaction occurs. Remind patients which antibiotics they could be allergic to e.g.

- Phenoxyethylpenicillin (Penicillin V®),
- Amoxicillin (Amoxil®)
- Pivmecillinam
- Flucloxacillin (Floxapen®)
- Co-amoxiclav (amoxicillin plus clavulanic acid: Augmentin®)
- Co-fluampicillin (flucloxacillin plus ampicillin: Magnapen®)

Reassure that in some cases distantly related antibiotic products related to penicillins may be used without causing any problems. There are also alternative unrelated antibiotics to penicillin available.

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**Immediate Reaction**

Usually within 60 minutes.

Usually IgE mediated reaction with the following symptoms

- Urticaria
- Pruritis
- Angioedema
- Anaphylaxis – requires signs and symptoms in at least two of the following systems.
  - **Cardiovascular** – hypotension, faintness, tachycardia or less commonly bradycardia, tunnel vision, chest pain and/or loss of consciousness.
  - **Skin** – Hives, flushing, itching and/or angioedema.
  - **Respiratory** – Cough, nasal congestion, shortness of breath, chest tightness, wheeze, sensation of throat closure or choking and/or in voice quality.
  - **Gastro-intestinal** - Nausea, vomiting, abdominal cramping and diarrhoea.

- Approximately 80% of patients with IgE-mediated penicillin allergy lose their sensitivity after 10 years. This allows consideration for penicillin re-challenge if previous reaction is deemed to be non-severe.

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**References**

- Dtb.bmj.com. Penicillin allergy-getting the label right. [http://dtb.bmj.com/content/dtb/55/8/33.full.pdf](http://dtb.bmj.com/content/dtb/55/8/33.full.pdf) (accessed 23 May 2017)

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