



# Protocol for the administration of an oral penicillin challenge

This protocol is designed to be used in conjunction with the algorithm overleaf and should only be applied by staff trained and equipped in anaphylaxis management.

Antibiotic challenges can result in immediate allergic reactions, including anaphylaxis. Patients must be closely observed during this procedure and must not leave the ward.

**Ensure that properly equipped resuscitation equipment is immediately available in the clinical area.**

## Preparation:

1. Review the exclusion criteria for oral challenge. **Oral antihistamines should be stopped 72 hours prior to challenge since they may mask true allergy.**
2. Select the antibiotic to be used. In most cases this should be the penicillin antibiotic to which the patient had the adverse reaction. If the antibiotic is unknown then amoxicillin is an appropriate choice.
3. Discuss the plan for an oral penicillin challenge with the patient and give them the patient information sheet.
4. Record in the case notes that consent has been obtained

## Procedure for the oral challenge:

1. Measure the patient's observations (HR, BP, oxygen saturations, RR). If the patient has asthma then measure peak expiratory flow rate (PEFR).
2. Medical staff should prescribe and administer the antibiotic and then remain within the clinical area for the first 20 minutes.
3. Antibiotics should be administered as a single oral dose:
  - Amoxicillin 500mg **OR**
  - Flucloxacillin 500mg
4. Inform the patient to notify you immediately if they experience any adverse symptoms
5. Measure the patient's observations (and PEFR if indicated) if they experience any symptoms and at regular intervals e.g. at 10 minutes, 20 minutes, 40 minutes and 60 minutes
6. Record any symptoms that the patient experiences.
7. If the patient reports any of the symptoms of a positive test (see box) or they have a rising NEWS score then the patient should be reviewed immediately by an appropriate senior member of staff

## Post-procedure care

1. Interpret the oral challenge as shown in the box.
2. If the challenge is negative give the patient the patient information leaflet, record in the discharge letter and ask the patient's GP to amend their allergy status on the practice records
3. If the challenge outcome is positive written and electronic record must clearly state this. The patient should be provided with the information leaflet and the GP informed of this outcome

## Exclusion Criteria

- Medically unstable (NEWS  $\geq$  2)
- Pregnant
- Uncontrolled asthma
- Unstable coronary artery disease
- ACE inhibitor or beta blocker unless can be withheld 24 hours before

## Interpretation of Oral Challenge

### Negative Test

No symptoms reported during the period of observation and patient's NEWS score does not rise. Patient experiences isolated nausea or isolated itch without any of the other features of a positive test.

### Equivocal test

If there is doubt about the interpretation of the test then it should be discussed with a senior clinician and referral to a local allergy service (if available) should be considered.

### Positive Test

Patient experiences any of the following: itchy rash, breathing difficulties, facial swelling, hypotension

## Management of Reactions

**If severe symptoms** - hypotension or breathing difficulties institute immediate management of anaphylaxis, call for senior medical review and consider contacting cardiac arrest team via '2222'

**If mild symptoms** – isolated rash and NEWS score not elevated then give antihistamine (i.e. 4mg chlorpheniramine or 10mg cetirizine) and consider single dose of prednisolone 30mg.