Grŵp Strategaeth Meddyginiaethau Cymru Gyfan
All Wales Medicines Strategy Group

History-based penicillin allergy de-labelling in adults

July 2026

This document has been prepared by the Public Health Wales History-Based Penicillin Allergy De-Labelling Task & Finish Group, with support from the All Wales Prescribing Advisory Group (AWPAG) and the All Wales Therapeutics and Toxicology Centre (AWTTC), and has subsequently been endorsed by the All Wales Medicines Strategy Group (AWMSG).

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1.0 Introduction

Penicillin allergy de-labelling has been identified as a key initiative to improve antibiotic prescribing and antimicrobial stewardship.[1]

About 6% of the UK general population have a penicillin allergy label on their record.[2] Evidence indicates that more than 90% of people labelled with a penicillin allergy are not allergic to penicillin and associated beta-lactams when formally assessed.[3-7]

In many cases, the allergy label may be due to an adverse reaction affecting the gastrointestinal system or a skin rash that occurred during a course of penicillin in childhood. In addition, many peoples' reactions to penicillin occurred over 10 years ago and details of the reaction are not recalled or clearly documented. Even if the recorded reaction was a true penicillin allergy, in up to 80% of people, sensitivity can be lost with time and individuals can become tolerant to penicillin after 10 years.[8,9]

Having a label of penicillin allergy often results in people receiving alternative, less appropriate antibiotics, which can lead to increased risk of specific adverse healthcare outcomes, including multidrug-resistant or opportunistic infection.[1,2,10,11] People with a penicillin allergy label are often prescribed more expensive antibiotics; in addition, they experience longer hospital stays, more frequent readmissions, and more frequent outpatient visits.[1,2,7,10-12]

Several studies investigating the economic impact of penicillin allergy labels have concluded that there are benefits to removing incorrect labels, including the potential for significant cost savings to the healthcare system.[12-14] These potential savings include the costs associated with excess bed days and the increased antibiotic spend associated with a penicillin allergy label.

In a 750-bed English hospital, Powell et al. (2020) showed that people with a penicillin allergy label accounted for 3,522 additional bed days annually and were associated with over £1 million of excess spend.[15] In terms of drug cost, there was an additional annual antibiotic spend of £10,637 (2.61% of annual antibiotic spend) for people with a penicillin allergy label on their record.[15]

It is therefore beneficial to assess whether people have experienced a true allergic reaction to penicillin and consider removing their allergy label if not.

1.1 Background

In 2023, Betsi Cadwaladr University Health Board (BCUHB) conducted an audit to evaluate the quality of allergy recording in line with National Institute for Health and Care Excellence (NICE) Clinical Guideline (CG) 183. Ninety-three GP practices were included with a total of 710,418 registered patients. The audit found that 7.3% (n = 51,845) of these people were labelled with a penicillin allergy. Due to the high number of people with a penicillin allergy label, each practice was asked to audit 20 randomly selected patients. The audit found only 35% of patients had the nature of their allergy recorded, and out of this cohort only 23% had a true allergy (level 2 and level 3 reaction – see Table 1) recorded.

Table 1. Symptoms associated with level of penicillin reaction[16]

Symptoms		
Level 1	**Level 2**	**Level 3**
Gastro-intestinal symptoms (nausea, vomiting, diarrhoea) Secondary infection (e.g. thrush or *C. difficile* colitis) Mild symptoms (e.g. headache, joint pain, change of taste in mouth) Family history of penicillin allergy but without personal history of it Mild renal/hepatic impairment (unless resulting in severe renal failure/impairment)	Diffuse or localized rash with no other symptoms more than 1 hour post dose Non-specific childhood rash	Collapse requiring resuscitation Itchy rash/urticaria (hives) within 1 hour of dose Blistering/peeling of the skin Oral/genital ulceration New wheeze Swelling of lips/tongue/ eyes (angioedema) Severe renal/hepatic impairment/failure (e.g. significant deranged biochemistry or requiring dialysis/transplant)

This audit showed that a large proportion of people who have been labelled as having an allergy to penicillin have no clear evidence of a true allergy recorded. De-labelling these people can allow use of penicillin, which is associated with better treatment outcomes, reduced risk of healthcare-acquired infections and shorter length of stay in hospital. Additionally de-labelling could save or re-direct the costs associated with alternative antibiotic use and reduce treatment costs.

1.2 Purpose

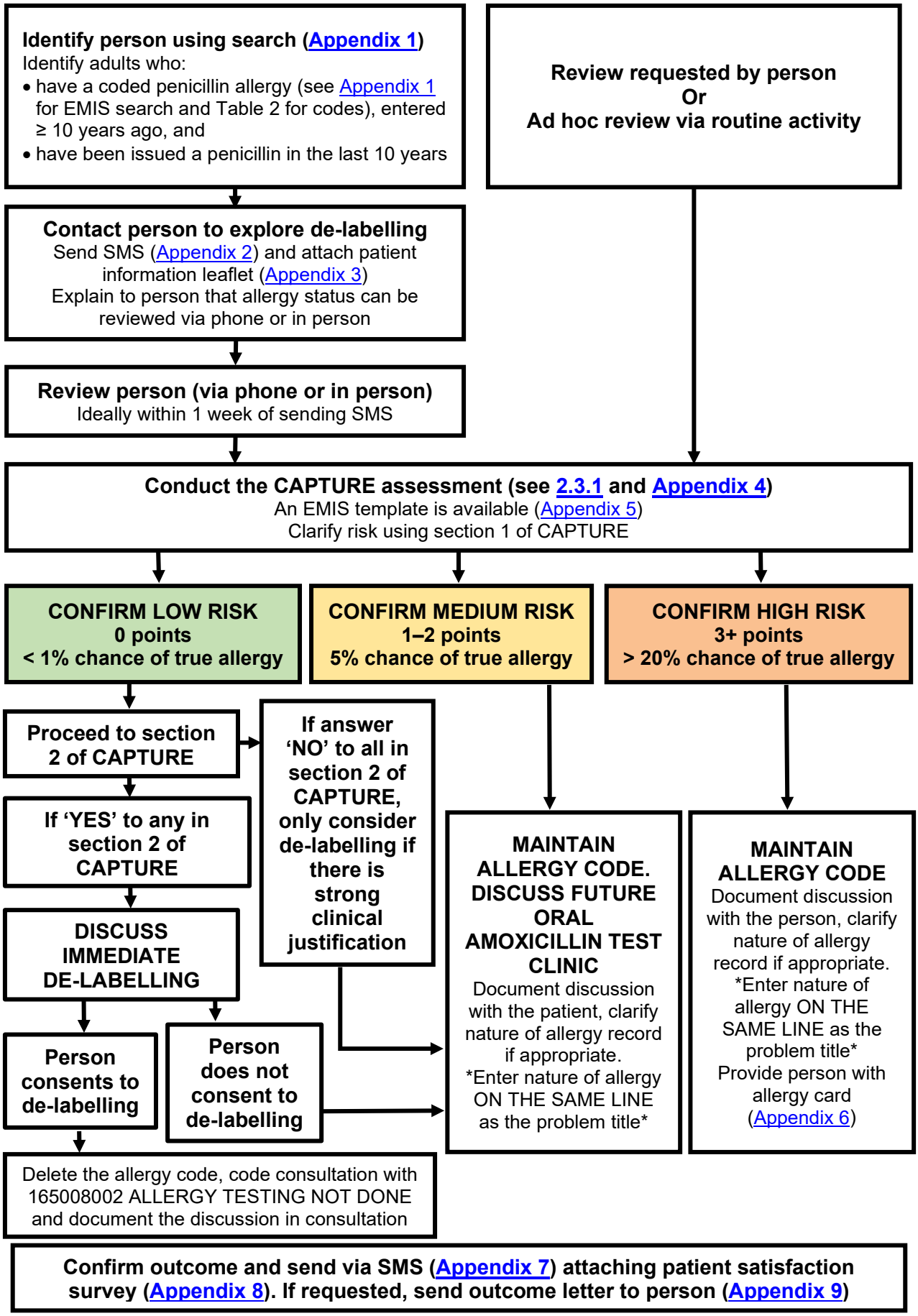
This guidance can be used to support identification of people who have a very low risk of having a true penicillin allergy and can be safely de-labelled based on history alone. This guidance is intended as a framework for best practice for those wishing to conduct penicillin allergy de-labelling based on history alone. It can be used by any registered healthcare professional and in any settings where penicillin allergy history taking or reconciliation is conducted.

This guidance is suitable for local adaptation within NHS Wales.

2.0 Good practice guide to de-labelling in the GP setting

A structured process for identifying, contacting and reviewing people, who have a very low risk of having a true penicillin allergy, for potential penicillin de-labelling in primary care is outlined here (see 2.1–2.4). An overview of the process is provided in Figure 1.

Figure 1. Process for reviewing people with a penicillin allergy label in a GP setting



2.1 Identifying people for potential de-labelling

People can be identified through a search or through routine activity.

A search has been developed for EMIS (Appendix 1), using the codes in Table 2.

Table 2. SNOMED clinical terms for identifying people eligible for penicillin de-labelling assessment

SNOMED clinical term	Concept ID
Allergy to penicillin	91936005
Allergic reaction caused by penicillin	15911801000119104
Adverse reaction to penicillins	292954005
Adverse reactions to Penicillins	1013271000006101
All child codes should be included under the parent code	

The search for identifying people who have a very low risk of having a true penicillin allergy is based on the following criteria (which are met by less than 1% of the population):

- People (≥ 18 years old) coded as having a penicillin allergy for 10 or more years, **and**
- People coded as having been issued a penicillin derivative within the last 10 years.

2.2 Contacting the person to explore de-labelling

People identified from the EMIS search should be sent a penicillin allergy patient information leaflet (see Appendix 3). This contact could be via SMS, in which case a template message is available in Appendix 2. Sending the leaflet ahead of the consultation allows the person time to consider the information prior to the assessment. To improve time efficiency, consider providing an appointment booking link in this initial contact to allow the person to select a suitable appointment time to conduct the review.

A qualified healthcare professional should then conduct the allergy assessment either by telephone or in person approximately one week after the initial contact.

2.3 Conducting the allergy assessment

In discussion with the person, conduct an in-depth review of the person's penicillin allergy history and previous reaction to reach a joint decision on whether the allergy label could be safely removed. The one-page ChAllenging Penicillin allergy staTUs – A REview with patient (CAPTURE) assessment (see 2.3.1 and Appendix 4) provides a framework for this discussion and can be used to capture the findings from the review. Complete the CAPTURE assessment using the EMIS template (Appendix 5) or upload a completed copy.

The electronic care record, the paper record and the person should all be used as sources of information. Do not rely on the person as your sole source of information. Often the suspected allergic reaction occurred in childhood and the person may be unaware of the specific details related to the allergy.

During the conversation try to obtain as much detail as possible regarding the person's reaction. Remember that the search identifies people with a penicillin allergy recorded more than 10 years ago and who have subsequently been issued a penicillin derivative within the last 10 years.

2.3.1 One-page CAPTURE penicillin allergy assessment

ChAllenging Penicillin allergy staTUs - A REview with patient (CAPTURE)

Name:
Patient number:
NHS number:
Date of birth:

Over 2.7 million people in the UK are incorrectly labelled as having a penicillin allergy. This can cause harm and lead to worse health outcomes. By completing the following assessment, it is possible to identify people who are not truly allergic to penicillin and discuss removing this label with them.

Section 1: Does the person have an allergy or adverse drug reaction to penicillin on record?

☐ Yes - proceed ☐ No - STOP

When was this last recoded? Click or tap here to enter text.

Which penicillin was involved? ☐ Unknown or ☐ Specify: Click or tap here to enter text.

Details related to index reaction: Click or tap here to enter text.

Exclusion criteria: Under 18 years or unable to give consent

Was this suspected allergy within the last 5 years?	☐ **Yes** (2 points)	☐ **No** (0 points)
Anaphylaxis or angioedema? **OR** Severe cutaneous adverse reaction?* **OR** Urticarial rash?	☐ **Yes** (2 points)	☐ **No** (0 points)
Was treatment required for reaction (e.g. hospital admission, antihistamine, steroid or adrenaline)?	☐ **Yes** (1 points)	☐ **No** (0 points)

* Stevens-Johnson syndrome/toxic epidermal necrolysis, acute generalised exanthematous pustulosis (AGEP), drug reaction with eosinophilia & systemic symptoms (DRESS), Any severe delayed rash with mucosal involvement

Total score:

☐ **0 points: Proceed to section 2** There is < 1% (less than 1 in 100) chance it is a true penicillin allergy

☐ **1-2 points: Allergy remains on record** There is a 5% (1 in 20) chance it is a true penicillin allergy

Would the person like to receive an oral amoxicillin test if available in the future?

☐ Yes ☐ No

☐ **3+ points: Allergy remains on record** There is at least a 20% (1 in 5) chance it is a true penicillin allergy

Section 2: Very low risk symptoms - suitable for de-labelling:

Mild GI symptoms (nausea, vomiting, mild abdominal pain, diarrhoea)?	☐ **Yes**	☐ **No**
Thrush or *C. difficile* bowel infection after taking penicillin?	☐ **Yes**	☐ **No**
Mild symptoms like headache, joint pain, change of taste in mouth?	☐ **Yes**	☐ **No**
Family history of penicillin allergy but without personal history of it?	☐ **Yes**	☐ **No**
Has taken and tolerated **any penicillin** following the initial reaction?	☐ **Yes**	☐ **No**

If answered 'Yes' to any of the above, discuss removing the penicillin allergy label with the person. If answered 'No' to ALL the above, only consider removing the penicillin allergy label if there is strong clinical justification.

Does the eligible person consent to removal of penicillin allergy from their active record?

☐ Yes - the person is comfortable taking penicillin in the future and removing allergy record

☐ No - but the person would like to have oral amoxicillin test in the future if the service is available

☐ No - clarify nature of reaction on records

Name of assessor: **Signature:** **Date of assessment:**

2.3.2 History taking

When taking a penicillin allergy history consider the following factors:

- Is a penicillin allergy label present on the person's record?
- What penicillin was the person given?
- What was the formulation (injection, tablet etc.)?
- How long ago did the reaction occur?
- What type of reaction occurred (facial swelling, anaphylaxis, gastrointestinal upset etc.)?
- When was the onset of the reaction relative to the penicillin administration (minutes, hours, weeks)?
- After which dose in the course did the reaction occur (first, second, third etc.)?
- Did the patient experience a severe cutaneous adverse reaction (SCAR)? This is a type 4 hypersensitivity reaction, and includes:
    - Stevens-Johnson syndrome/toxic epidermal necrolysis
    - Acute generalised exanthematous pustulosis (AGEP)
    - Drug reaction with eosinophilia and systemic symptoms (DRESS)
    - Any severe delayed rash with mucosal involvement
- Did the person experience urticarial rash?
- What treatment was required (in particular, was adrenaline given)?
- Was there any contact with healthcare services?

It is also important to review medication records where possible and note whether the person has received subsequent penicillin and whether any reaction recurred.

2.3.3 Risk assessment

Screen for severe reactions to penicillin using a modified PEN-FAST penicillin allergy clinical decision tool (see Tables 3 and 4, and section 1 of the CAPTURE assessment [see 2.3.1 and Appendix 4]). This is a validated scoring system for assessing reported penicillin allergy.

Table 3. PEN-FAST score criteria (modified for history-based de-labelling only)

	Penicillin allergy test evaluation	Yes	No
F	**F**ive years or less since reaction	+2	0
A **S**	**A**naphylaxis/Angioedema OR **S**evere cutaneous adverse reaction (SCAR)* • Stevens-Johnson syndrome/toxic epidermal necrolysis • Acute generalised exanthematous pustulosis (AGEP) • Drug reaction with eosinophilia and systemic symptoms (DRESS) • Any severe delayed rash with mucosal involvement OR **Urticarial rash**** (Do not score rashes that do not exhibit features of urticaria)	+2	0
T	**T**reatment required for allergy episode e.g. hospital admission, steroids, adrenaline, antihistamines	+1	0

*SCAR criteria. Features of SCAR include painful erythema, ulceration, skin shedding, blistering, and pustules.

**Acute urticaria typically appear < 1 hour after exposure to the index allergen and disappear again in < 1 day. Some guidelines classify isolated urticaria (no other symptoms) and/or focal urticaria as non-severe and therefore not qualifying for a score under the PEN-FAST criteria.[17] This guide suggests assigning 2 points for urticaria, as it is intended for history-based de-labelling only, while acknowledging that the supporting evidence is limited.

Table 4. Interpretation of PEN-FAST score

Score	Risk of true penicillin allergy	Recommendation
0	< 1% (less than 1 in 100)	Continue with assessment.
1–2	5% (1 in 20)	Keep penicillin allergy label on record and ask if the person would like to receive an oral amoxicillin test in the future if the service is available.
3+	At least 20% (at least 1 in 5)	Keep penicillin allergy label on record.

For people scoring 0 in section 1, section 2 of the CAPTURE assessment should be completed.

2.3.4 Reported reaction and subsequent doses

Section 2 of CAPTURE assesses for any symptoms that indicate the person has a very low risk of having a true penicillin allergy. If completion of section 2 of the CAPTURE assessment clearly shows one or more of the below, then the person can be de-labelled without an oral amoxicillin test:

- the reported reaction to penicillin was a non-allergic reaction such as:
  - minor symptoms unrelated to any form of allergic reaction (e.g. headache, joint pain, change of taste in mouth), or
  - mild gastrointestinal symptoms (nausea, vomiting, mild abdominal pain, diarrhoea), or
  - thrush or C. difficile bowel infection,
- there is a family history of penicillin allergy without personal history of allergy,
- the person has received subsequent doses of penicillin without incident.

People who experienced a mild rash and are at low risk of having a true penicillin allergy can also be considered for de-labelling based on history alone if they have tolerated a penicillin since the first reaction. The original reaction may have been caused by an infection and misclassified as an allergy, or the sensitivity may have been lost with time.

If the person seeks reassurance of their tolerance to penicillin, an oral amoxicillin test may be appropriate. Refer the person for an oral amoxicillin test if the service is available.

2.3.5 Discussion with the person

A decision should be made jointly with the person (refer to NICE guideline: Shared decision making NG197) as to whether they have a true allergy or can comfortably be de-labelled.

(i) Eligible for de-labelling based on history

- If the person can be de-labelled based on their history which suggests that it was a non-allergic reaction i.e. side effect(s) or they have tolerated the same penicillin as the index penicillin after the initial reaction, explain to the person that they can receive a penicillin-type antibiotic for any future infections and that their history does not suggest that they had an allergic reaction. However, if the person is not comfortable with being de-labelled, the allergy status can remain on their record. In these situations, discuss whether an oral amoxicillin test may be appropriate (if available).
- If the person can be de-labelled based on their history which suggests that they tolerated a penicillin after the initial reaction, but it could not be confirmed that it was the same penicillin that caused the initial reaction, explain to the patient that it is highly unlikely that they are allergic to penicillin (less than 1% chance), and that they can receive a penicillin-type antibiotic for any future infections. However, if the person is not comfortable that they have a small chance of true penicillin allergy, the allergy status can remain on record. In these situations, discuss whether an oral amoxicillin test may be appropriate (if available).

Patient consents should be obtained according to GMC consent standards.

(ii) Severe reactions that are not an allergy

- Some people might have experienced severe reactions to penicillin that are not allergy reactions. These reactions can understandably mean that the person will

wish to avoid future penicillin treatment. The person should be made aware of the impact of having a penicillin allergy/adverse reaction record and avoiding penicillin. After this discussion, if the person would still prefer to avoid penicillin, the penicillin allergy/adverse reaction record should remain.

The decision to remove the penicillin allergy label must be made jointly between the healthcare professional and the person. Consent must be obtained prior to de-labelling. Even after thorough counselling and provision of other options, such as an oral amoxicillin test, the person may decide not to provide consent for de-labelling and would prefer that their penicillin allergy status is maintained.

(iii) Confirmed true allergy

- If the person cannot be de-labelled as a review of their history confirmed that it was likely a true allergy, counsel the person explaining that they do have a likely true allergy to penicillin and that they should inform clinicians of their allergy when prescribed antibiotics. The person should be offered a penicillin allergy card (see Appendix 6).

2.4 Documenting assessment and outcome

Detailed records should be made of the discussion, and details of the reaction recorded in the patient record. Documentation capabilities and the processes for removing allergy labels will vary between GP software systems. This guidance is based on the EMIS system. A similar approach is recommended on other systems, where feasible.

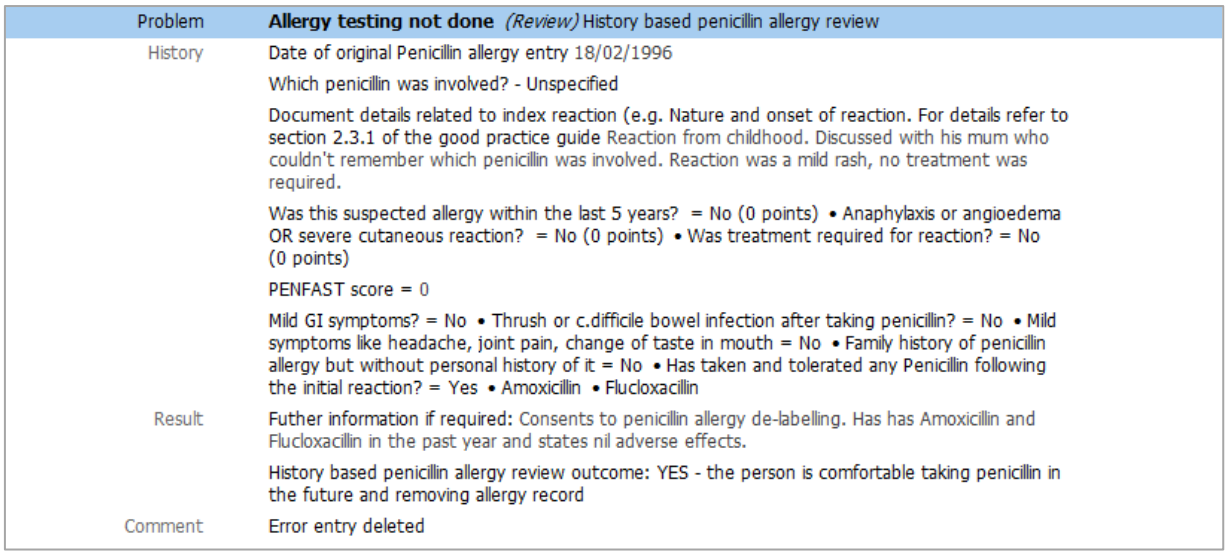
Based on the outcome of the discussion, the person can be assigned to one of the following categories:

1. If a person is happy to be de-labelled, the penicillin allergy code should be deleted (see 2.4.1).
2. Future oral amoxicillin test – If it is uncertain if the person has a true allergy or if the person is not comfortable being de-labelled based on history alone, then discuss with the person that there may be future allergy testing that can be carried out, if and when the service becomes available
3. True allergy – severe/life-threatening reaction – Allergy code to remain on record. Offer allergy card (see Appendix 6).
4. Person does not provide consent for de-labelling – If the person wishes for the allergy label to remain on their record (even if it is clearly based on a non-allergic reaction), keep the allergy label and record details of the reaction on the same line as the code.

Completion of the EMIS template will result in a comprehensive record and will code the consultation as ‘Allergy testing not done’ (see Figure 2). If the template is not used, an equivalent level of detail should be manually recorded and the consultation coded with SNOMED ID concept ALLERGY TESTING NOT DONE 165008002.

Documentation of allergy history should be undertaken in accordance with NICE CG183 Drug allergy: diagnosis and management.

Figure 2. Example of good documentation



Problem	**Allergy testing not done** *(Review)* History based penicillin allergy review
History	Date of original Penicillin allergy entry 18/02/1996
	Which penicillin was involved? - Unspecified
	Document details related to index reaction (e.g. Nature and onset of reaction. For details refer to section 2.3.1 of the good practice guide Reaction from childhood. Discussed with his mum who couldn't remember which penicillin was involved. Reaction was a mild rash, no treatment was required.
	Was this suspected allergy within the last 5 years? = No (0 points) • Anaphylaxis or angioedema OR severe cutaneous reaction? = No (0 points) • Was treatment required for reaction? = No (0 points)
	PENFAST score = 0
	Mild GI symptoms? = No • Thrush or c.difficile bowel infection after taking penicillin? = No • Mild symptoms like headache, joint pain, change of taste in mouth = No • Family history of penicillin allergy but without personal history of it = No • Has taken and tolerated any Penicillin following the initial reaction? = Yes • Amoxicillin • Flucloxacillin
Result	Futher information if required: Consents to penicillin allergy de-labelling. Has has Amoxicillin and Flucloxacillin in the past year and states nil adverse effects.
	History based penicillin allergy review outcome: YES - the person is comfortable taking penicillin in the future and removing allergy record
Comment	Error entry deleted

Following the discussion with the person, an SMS (Appendix 7) should be sent detailing the outcome of the discussion and inviting them to complete an anonymous satisfaction survey (Appendix 8). Feedback obtained from the survey will allow monitoring of the de-labelling process. If requested by the person, the letter confirming the outcome of assessment should be sent (Appendix 9).

2.4.1 Removing the penicillin allergy code from the electronic care record

If the patient is happy to be de-labelled, the relevant coded entries need to be removed in the electronic care record. This is the only way to stop the decision support software flagging penicillin allergy when prescribing. It is not considered best practice to simply delete the original entry as the penicillin allergy status will likely have influenced previous clinical decisions. The recommendation is to re-enter a description of the penicillin allergy code in the care record as free text with the same date as originally entered. The entry should look the same as before but without the associated code attached.

Completing the EMIS penicillin allergy de-labelling template enables the relevant information to be re-entered using an ‘error entry deleted’ code on the original date and enables the inclusion of associated free text (see Figure 3). Following completion of the template, the original allergy code needs to be deleted.

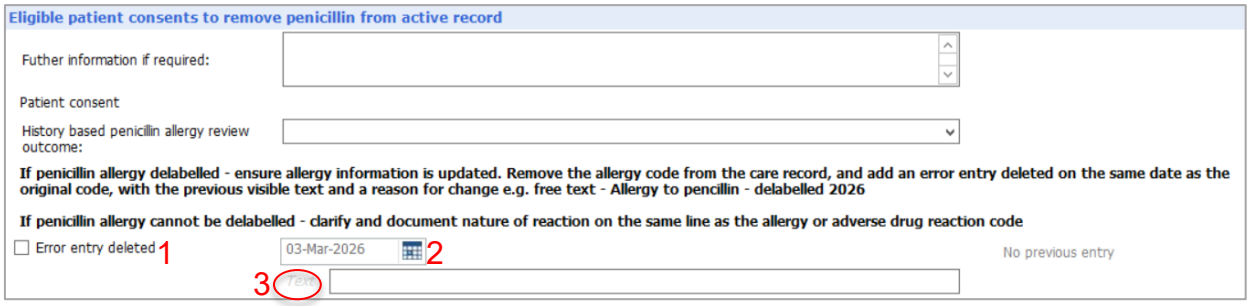
Figure 3. Adding an 'error entry deleted' code using the EMIS template

Step 1 – Identify the original penicillin allergy entry and note the date and associated text.

Step 2 – Complete the EMIS penicillin allergy de-labelling template.

Step 3 – If the person can be de-labelled, complete and save the following information at the end of the template:

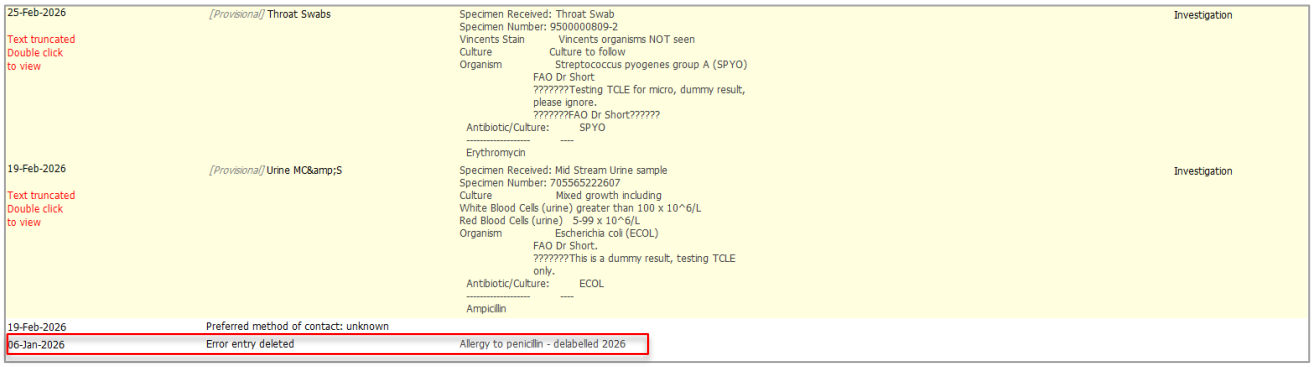
1. Tick 'error entry deleted' box.
2. Enter the date that the penicillin allergy code was originally entered in the care record.
3. Add 'Allergy to penicillin – de-labelled 2026' to the free text box along with any previously visible associated text from the original entry.



Step 4 – Delete the original coded entry.

Once completed, the consultation view in EMIS will show the following information, with the date in brackets showing the original date the penicillin allergy was added.

The information appears against the original entry date in the care history.



Please remember, this process will only add the 'error entry deleted' code and associated information – once this is complete the original allergy code needs to be deleted.

2.4.2 Documenting a confirmed penicillin allergy

GP practices are recommended to consider the following to improve documentation of allergies and transfer of records:

- When coding a patient with an allergy, ensure the following is recorded as recommended in NICE CG183
  - The named drug associated with the allergy (not just the class)
  - The nature of the reaction
  - The onset date of the reaction
- Adding allergy codes to a medical record
  - EMIS – Enter allergy coding with the exact drug and nature of reaction in free text next to the problem title.
    When adding an adverse reaction problem title, include details about the 'nature of reaction' in **free text ON THE SAME LINE as the coding title**. This allows the information to appear in a patient summary. Ensuring the date of reaction is correct is also important.
    Example 'Adverse reaction to amoxicillin. Rash on hands, face and torso' (date correct).
  - Vision – Enter allergy coding with the drug, nature of reaction and onset date in the patient summary. This allows the information to appear in the patient summary and the hospital GP Portal information.
- Ensure all staff (including administrative and locum staff) are aware of the recommended standards in NICE CG183. Administrative staff may handle discharge letters containing allergy information or transfer summaries of records from a previous practice. Ensure all relevant information is transferred onto the GP record.

2.4.3 Documenting a minor side effect to penicillin

During the transfer of records between settings, it is often difficult to distinguish between minor side effects and true allergies. To improve documentation, GP practices are recommended to document minor side effects with either 'Medication stopped – side effect' or 'Medication side effects present' (see Figure 4). Include free text information on the drug and the nature and severity of the side effect experienced. This method would leave a record of minor side effects experienced, but it would not display under ADR/Allergies. This group of patients would still be able to benefit from having penicillin.

Figure 4. Example of SNOMED CT codes

3.0 Good practice guide to de-labelling in other settings

It may be appropriate to assess people for potential history-based penicillin allergy de-labelling in other settings, including the emergency department, pre-operative assessment clinics (POACs), outpatient clinics or as in-patients in the community hospital setting. A recommended process for reviewing these people is provided here (see 3.1–3.3). An overview of the process is provided in Figure 5.

Where the intended approach is to explore de-labelling via oral amoxicillin testing in a secondary care setting, a separate AWMSG guideline is available: All Wales guidance for penicillin allergy de-labelling in adults in secondary care.

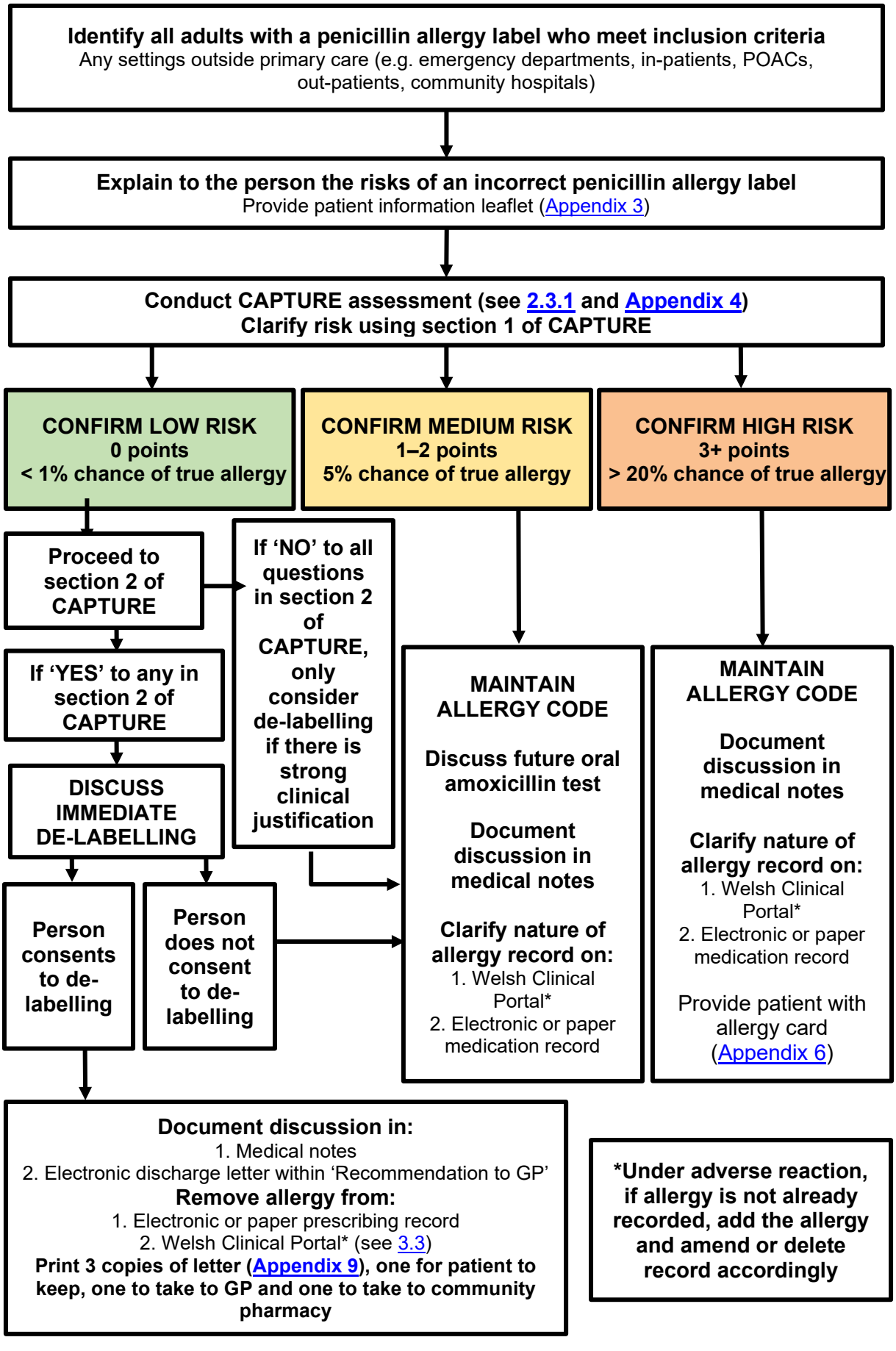
3.1 Identifying people for potential de-labelling

Any person who has an adverse drug reaction or allergy to penicillin on record is eligible for history-based penicillin allergy assessment.

3.2 Conducting the allergy assessment

Follow 2.3 Conducting the allergy assessment.

Figure 5. Process for reviewing people with a penicillin allergy label in other settings

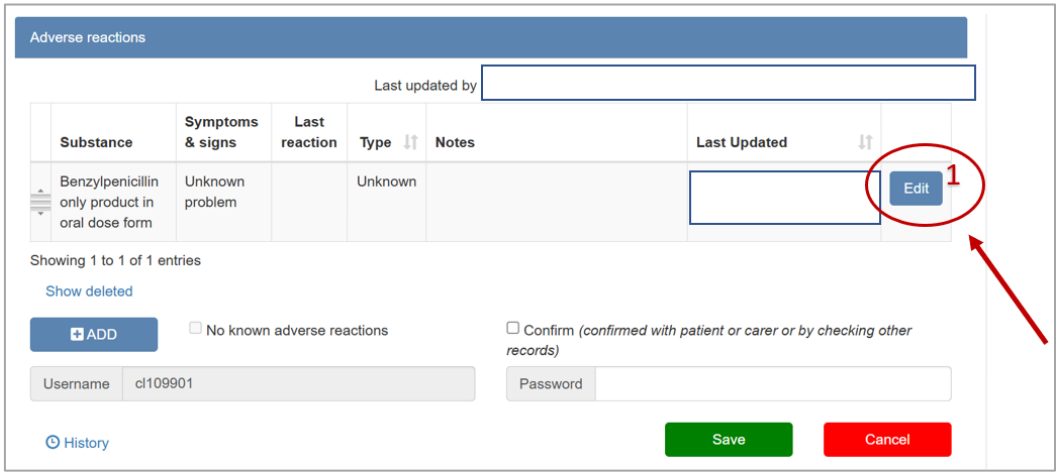


3.3 Documenting assessment and outcome

- Update the outcome of the assessment in medical notes and under the allergy section of the electronic or paper prescribing record.
- Update the allergy section on the Welsh Clinical Portal.

For removal of an allergy from a record on the Welsh Clinical Portal, see Figure 6 for a step-by-step guide. Please note: If the penicillin allergy was not recorded on the existing record, add it, save it and delete it following the below steps.

Figure 6. Step-by-step guide to removing an allergy label on the Welsh Clinical Portal



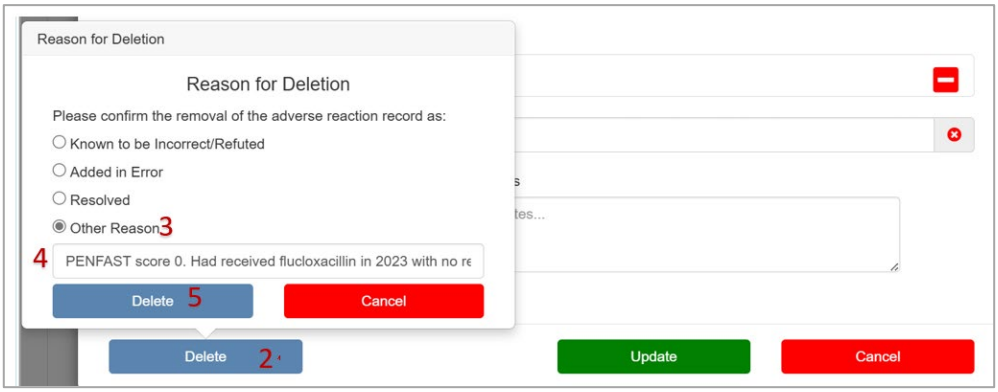
Step 1: Click on **"Edit"**

Step 2: Click on **"Delete"**

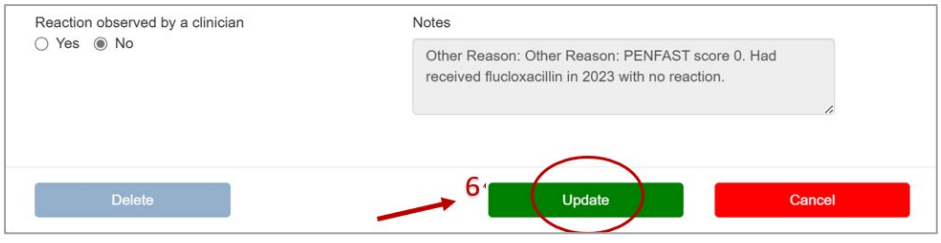
Step 3: Select **"Other reason"**

Step 4: Type in **PEN-FAST score** and **reason for removing allergy** according to the assessment criteria

Step 5: Then **"Delete"** again



Step 6: Click **"Update"** to save



4.0 Audit and evaluation

A SNOMED code for penicillin allergy de-labelling is currently under development. Once this becomes available it should be used to aid audit, evaluation and collection of outcome data.

Engagement with penicillin allergy de-labelling can be further supported with patient resources such as waiting room posters (Appendix 10).

5.0 Acknowledgements

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6.0 Resources

Health Education and Improvement Wales (HEIW) Penicillin Allergy Awareness: This page provides resources for healthcare professional use, to support and raise awareness of penicillin allergy.

Royal Pharmaceutical Society (RPS) Penicillin allergy checklist: This page provides information and a guide to help pharmacists and other healthcare professionals to diagnose if a person is allergic to penicillin or not.

7.0 References

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Appendix 1. Penicillin de-labelling EMIS search

The EMIS search[1] can be accessed here.

Appendix 1. Penicillin de-labelling EMIS sea

[1] Please note that some practices may have “recall letters” identified using this search. Exclude any codes relating to "recall letters", as these are not indicative of penicillin allergy. These can be removed using the filter function once the results have been exported to a spreadsheet.

Appendix 2. Contacting people to explore de-labelling – SMS message

Before the review, send an SMS with a link to the patient information leaflet (Appendix 3). Consider including an appointment booking link to enable the person to book in. Code with Concept ID SNOMED: 58332002 Allergy Education.

SMS example:

Do you think you are allergic to penicillin? Over 90% of people with a penicillin allergy on their medical record are not truly allergic to penicillin. An incorrect record of penicillin allergy may be harmful – please read the attached penicillin allergy information. We will contact you to ask about your allergy in more detail, to make sure that you receive the most appropriate treatment when you need it.

Ydych chi'n meddwl bod gennych chi alergedd i benisilin? Nid oes alergedd i benisilin gwirioneddol gan dros 90% o bobl sydd ag alergedd i benisilin wedi'i nodi ar eu cofnod meddygol. Gall cofnod anghywir o alergedd i benisilin fod yn niweidiol – darllenwch y wybodaeth am alergedd i benisilin sydd ynghlwm. Byddwn yn cysylltu â chi i ofyn am eich alergedd yn fanylach, er mwyn sicrhau eich bod yn derbyn y driniaeth fwyaf priodol pan fydd ei hangen arnoch.

Appendix 3. Allergy to penicillin – Patient information leaflet

What is penicillin?

Penicillin is a type of antibiotic. It works very well to treat common infections caused by bacteria, such as chest infections, tonsillitis, ear infections, sinus infections and skin infections.

Types of penicillin-based antibiotics include amoxicillin, flucloxacillin, co-amoxiclav and phenoxymethylpenicillin.

What is penicillin allergy?

An allergy is a reaction of your body's immune system. An allergy to penicillin causes a range of symptoms. For most people these symptoms are mild and do not need treatment.

Sometimes a severe allergic reaction called anaphylaxis can happen. This is rare, but it can be life-threatening. Symptoms of anaphylaxis include: a rash that spreads fast, swelling of the mouth, throat or tongue, breathing difficulties and collapse. Most people recorded as having an allergy to penicillin will not have had any of these symptoms.

Knowing if you are allergic to penicillin is important, to make sure that you are given the best antibiotic for you.

How common is penicillin allergy?

Around 6% of people in the UK are currently recorded as having an allergy to penicillin. However, evidence suggests that more than 9 out of 10 of these people are not truly allergic when tested.

Why might your medical record show a penicillin allergy when you don't truly have an allergy?

You might have been told that you had a reaction to penicillin as a child. This might have been a rash, which could have been caused by a viral infection and not an allergy or reaction to a penicillin antibiotic.

Sometimes, you might have had non-allergic side effects after taking penicillin. These could include: diarrhoea, feeling sick, being sick, indigestion, headache and thrush. These side effects are common to all types of antibiotics and do not show that you have an allergy to penicillin.

What are the risks of being incorrectly labelled as allergic to penicillin?

Penicillins are often the first antibiotics given to treat an infection. If your medical record shows you have a penicillin allergy, when you need antibiotics you must be given a different type of antibiotic to penicillin to treat the infection.

If penicillin allergy on your medical record is wrong, it can stop you being given the most appropriate medicine to treat an infection.

Evidence suggests that people with a recorded penicillin allergy stay in hospital for longer, and have a higher risk of:

- being readmitted to hospital
- surgical wound infections
- infections (such as MRSA) that are resistant to antibiotic treatment
- severe infections
- being admitted to intensive care.

If your medical record shows you have a penicillin allergy when you don't truly have one, you could miss out on the best and safest treatments for common bacterial infections and be at unnecessarily higher risk of the conditions listed above.

How can I find out if I'm truly allergic to penicillin?

Your GP practice is reviewing people whose medical records state that they have a penicillin allergy.

If you think your medical record might incorrectly suggest that you are allergic to penicillin, then please contact your GP practice to ask them about it.

Alergedd i benisilin – Gwybodaeth i gleifion

Beth yw penisilin?

Math o wrthfiotig yw penisilin. Mae'n gweithio'n dda iawn i drin heintiau cyffredin a achosir gan facteria, fel heintiau ar y frest, tonsilitis, heintiau clust, heintiau sinws a heintiau croen.

Mae amoxicillin, flucloxacillin, co-amoxiclav a phenoxymethylpenicillin yn fathau o wrthfiotigau sy'n seiliedig ar benisilin.

Beth yw alergedd i benisilin?

Alergedd yw adwaith gan system imiwnedd eich corff. Mae alergedd i benisilin yn achosi ystod o symptomau. I'r rhan fwyaf o bobl, mae'r symptomau hyn yn ysgafn ac nid oes angen triniaeth arnynt.

Weithiau, gall adwaith alergaidd difrifol o'r enw anaffylacsis ddigwydd. Mae hyn yn anghyffredin iawn ond gall fygwth bywyd. Mae symptomau anaffylacsis yn cynnwys: brech sy'n lledaenu'n gyflym, chwyddo yn y geg, y gwddf neu'r tafod, anawsterau anadlu a llewygu. Ni brofi'r unrhyw un o'r symptomau hyn gan y rhan fwyaf o bobl y cofnodir bod ganddynt alergedd i benisilin.

Mae gwybod a oes gennych alergedd i benisilin yn bwysig, er mwyn sicrhau eich bod yn cael y gwrthfiotig gorau i chi.

Pa mor gyffredin yw alergedd i benisilin?

Ar hyn o bryd cofnodir bod gan tua 6% o bobl yn y DU alergedd i benisilin. Fodd bynnag, mae tystiolaeth yn awgrymu pan gânt eu profi bod mwy na 9 allan o 10 o'r bobl hyn heb alergedd mewn gwirionedd.

Pam y gallai eich cofnod meddygol ddangos alergedd i benisilin pan nad oes gennych alergedd mewn gwirionedd?

Efallai y cawsoch wybod eich bod wedi cael adwaith i benisilin pan yn blentyn. Gallai hyn fod wedi bod yn frech, a allai fod wedi cael ei achosi gan haint feirysol ac nid alergedd neu adwaith i wrthfiotig penisilin.

Weithiau, efallai eich bod wedi profi sgil-effeithiau nad ydynt yn arwydd o alergedd ar ôl cymryd penisilin. Gallai'r rhain gynnwys: dolur rhydd, teimlo'n sâl, bod yn sâl, diffyg treuliad, cur pen a'r llindag. Mae'r sgil-effeithiau hyn yn gyffredin i bob math o wrthfiotigau ac nid ydynt yn dangos bod gennych alergedd i benisilin.

Beth yw’r risgiau o fod ag alergedd i benisilin?

Yn aml math o benisilin yw'r gwrthfiotigau cyntaf a roddir i drin haint. Os yw'ch cofnod meddygol yn dangos bod gennych alergedd i benisilin, pan fydd angen gwrthfiotigau arnoch rhaid i chi gael math gwahanol o wrthfiotig i benisilin i drin yr haint.

Os yw’r alergedd i benisilin ar eich cofnod meddygol yn anghywir, gall eich hatal rhag cael y feddyginiaeth fwyaf priodol i drin yr haint.

Mae tystiolaeth yn awgrymu bod pobl y cofnodwyd bod ganddynt alergedd i benisilin yn aros yn yr ysbyty am gyfnod hirach, ac mae ganddynt risg uwch o:

- gael eu haildderbyn i'r ysbyty
- heintiau clwyfau llawfeddygol
- heintiau (fel MRSA) sy'n gwrthsefyll triniaeth gwrthfiotigau
- heintiau difrifol
- cael eu derbyn i ofal dwys.

Os yw'ch cofnod meddygol yn dangos bod gennych alergedd i benisilin pan nad oes gennych un mewn gwirionedd, gallech golli’r cyfle i gael y triniaethau gorau a mwyaf diogel ar gyfer heintiau bacterol cyffredin a wynebu risg uwch diangen o'r cyflyrau a restrir uchod.

Sut alla i ddarganfod a oes gen i alergedd gwirioneddol i benisilin?

Mae eich practis meddyg teulu yn adolygu pobl y mae eu cofnodion meddygol yn nodi bod ganddynt alergedd i benisilin.

Os ydych chi'n meddwl y gallai eich cofnod meddygol awgrymu yn anghywir bod gennych alergedd i benisilin, yna cysylltwch â'ch meddyg teulu i’w holi amdano.

Appendix 4. One-page CAPTURE penicillin allergy assessment

ChAllenging Penicillin allergy staTUs - A REview with patient (CAPTURE)

Name:
Patient number:
NHS number:
Date of birth:

Over 2.7 million people in the UK are incorrectly labelled as having a penicillin allergy. This can cause harm and lead to worse health outcomes. By completing this assessment, it is possible to identify people who are not truly allergic to penicillin and discuss removing this label with them.

Section 1: Does the person have an allergy or adverse drug reaction to penicillin on record? ☐ Yes - proceed ☐ No - STOP
When was this last recoded? Click or tap here to enter text.
Which penicillin was involved? ☐ Unknown or ☐ Specify: Click or tap here to enter text.
Details related to index reaction: Click or tap here to enter text.
Exclusion criteria: Under 18 years or unable to give consent

Was this suspected allergy within the last 5 years?	☐ **Yes** (2 points)	☐ **No** (0 points)
Anaphylaxis or angioedema? **OR** Severe cutaneous adverse reaction?* **OR** Urticarial rash?	☐ **Yes** (2 points)	☐ **No** (0 points)
Was treatment required for reaction (e.g. hospital admission, antihistamine, steroid or adrenaline)?	☐ **Yes** (1 points)	☐ **No** (0 points)

* Stevens-Johnson syndrome/toxic epidermal necrolysis, acute generalised exanthematous pustulosis (AGEP), drug reaction with eosinophilia & systemic symptoms (DRESS), Any severe delayed rash with mucosal involvement

Total score:

☐ **0 points: Proceed to section 2** There is < 1% (less than 1 in 100) chance it is a true penicillin allergy

☐ **1-2 points: Allergy remains on record** There is a 5% (1 in 20) chance it is a true penicillin allergy

Would the person like to receive an oral amoxicillin test if available in the future?

☐ Yes ☐ No

☐ **3+ points: Allergy remains on record** There is at least a 20% (1 in 5) chance it is a true penicillin allergy

Section 2: Very low risk symptoms - suitable for de-labelling

Mild GI symptoms (nausea, vomiting, mild abdominal pain, diarrhoea)?	☐ **Yes**	☐ **No**
Thrush or *C. difficile* bowel infection after taking penicillin?	☐ **Yes**	☐ **No**
Mild symptoms like headache, joint pain, change of taste in mouth?	☐ **Yes**	☐ **No**
Family history of penicillin allergy but without personal history of it?	☐ **Yes**	☐ **No**
Has taken and tolerated **any penicillin** following the initial reaction?	☐ **Yes**	☐ **No**

If answered 'Yes' to any of the above, discuss removing the penicillin allergy label with the person. If answered 'No' to ALL the above, only consider removing the penicillin allergy label if there is strong clinical justification.

Does the eligible person consent to removal of penicillin allergy from their active record?

☐ Yes - the person is comfortable taking penicillin in the future and removing allergy record

☐ No - but the person would like to have oral amoxicillin test in the future if the service is available

☐ No - clarify nature of reaction on records

Name of assessor: **Signature:** **Date of assessment:**

Appendix 5. Penicillin de-labelling EMIS CAPTURE assessment template

The EMIS CAPTURE assessment template can be accessed here.

Appendix 5. Penicillin de-labelling EMIS CAF

Appendix 6. Allergy card

Appendix 7. Outcome communication and satisfaction survey invitation – SMS

Outcome SMS examples

De-labelled:

After a thorough review of your penicillin allergy history, we can advise you that: **There is no evidence to support a "penicillin allergy" label.** "Penicillin allergy" has now been removed from your active record. As discussed, you will be able to take penicillin antibiotics in the future if required. Please inform your other healthcare providers, such as your community pharmacy and dentist, of these results so they can provide you with the most appropriate care in the future.

Please take a few minutes to complete a survey via (To be inserted by local health board)

OR

Label remaining:

After a thorough review of your penicillin allergy history, we can confirm that your penicillin allergy label will remain on your record, and we have updated information related to your penicillin allergy as discussed.

Please take a few minutes to complete a survey via (To be inserted by local health board)

Outcome SMS examples (Cymraeg):

Dadlabelu:

Ar ôl adolygiad trylwyr o'ch hanes yn ymwneud â'ch alergedd i benisilin, gallwn ddweud: **Nid oes unrhyw dystiolaeth i gefnogi'r label "alergedd i benisilin".** Mae "alergedd i benisilin" bellach wedi'i dynnu oddi ar eich cofnod actif. Fel y trafodwyd, byddwch yn gallu cymryd gwrthfiotigau penisilin yn y dyfodol os bydd angen. Rhowch wybod i'ch darparwyr gofal iechyd eraill, fel eich fferyllfa gymunedol a'ch deintydd, am y canlyniadau hyn fel y gallant roi'r gofal mwyaf priodol i chi yn y dyfodol.

Rhowch ychydig funudau o'ch amser i gwblhau arolwg ar (To be inserted by local health board)

NEU

Label yn parhau:

Ar ôl adolygiad trylwyr o'ch hanes alergedd i benisilin, gallwn gadarnhau y bydd eich label alergedd i benisilin yn aros ar eich cofnod, ac rydym wedi diweddaru gwybodaeth sy'n ymwneud â'ch alergedd i benisilin fel y trafodwyd.

Rhowch ychydig funudau o'ch amser i gwblhau arolwg ar (To be inserted by local health board)

Appendix 8. Satisfaction survey

An editable Microsoft Forms template (available here) can be adapted for use by GP practices and in other settings where the history-based penicillin allergy de-labelling process has been applied. This form is for anyone who has gone through at least part of the penicillin allergy de-labelling process.

The form description can be adapted as necessary, for example to include details of how the person's data will be used. Where the survey is used as paper copy, instructions should also be included on where to return the form.

The content of the survey template is included below:

Penicillin allergy review – Satisfaction survey

*Required

1. Before this allergy review, did you think you were allergic to penicillin?*

☐ Yes

☐ No

2. Before being contacted by your GP practice, were you aware of the potential harms caused by having an incorrect penicillin allergy record?*

1				5
Not aware at all	2	3	4	Fully aware

3. Did you receive the patient information leaflet via SMS (text message)?*

☐ Yes (proceed to Question 4)

☐ No (proceed to Question 6)

4. How easy was the patient information leaflet to read (sent via SMS)?

1				5
Difficult to read	2	3	4	Easy to read

5. How helpful was the patient information leaflet (sent via SMS)?

1				5
Unhelpful information	2	3	4	Helpful and informative

6. Did you have your penicillin allergy label removed as a result of this review?*

☐ Yes (proceed to Question 7)

☐ No (proceed to Question 8)

7. How comfortable do you feel about taking penicillin in the future? (Skip to Question 9)

Very comfortable	Somewhat comfortable	Neither comfortable nor uncomfortable	Somewhat uncomfortable	Not at all comfortable

8. What was the reason for keeping the penicillin allergy on your record?

☐ I would prefer to have an allergy test before making a decision on removing penicillin allergy from my record

☐ I am uncomfortable with taking penicillin

☐ This review confirmed that I am truly allergic to penicillin

9. How would you rate your overall experience with this penicillin allergy review?*

10. Do you have any other comments to help us to improve this service?

11. Would you be happy to be contacted to discuss this further or provide a patient story to publicise this service?*

☐ Yes (proceed to question 12)

☐ No (proceed to end of survey)

☐ Maybe (proceed to question 12)

12. Please provide your name and email address or telephone number:

Appendix 9. Template letter for GP/community pharmacy/other healthcare providers

PENICILLIN ALLERGY DE-LABELLING

Patient name:

Patient date of birth:

Patient hospital or NHS number:

Dear XXXXXXXXXX

The person named above underwent assessment of their penicillin allergy label during a recent XXXXXXXX (input health service attended i.e. clinic) attendance.

After a thorough review of their penicillin allergy history, we can advise you that:

There is no evidence to support a "penicillin allergy" label.

This has been discussed with the person who understands they will be able to take penicillin antibiotics in the future if required.

This information should be shared with other healthcare providers including their regular GP, community pharmacy and dentist if possible, so they can provide the most appropriate care in the future.

Best wishes,

Insert name and job title

Enquiries contact: *insert details*

Appendix 10. Poster for waiting areas

Allergic to Penicillin?

Only 1 in 10 people with a penicillin allergy on their medical records truly have an allergy.

The 9 out of 10 who are not truly allergic to penicillin may be at risk of harm from not being given a penicillin to treat their infection. This is because:

- The alternative antibiotics we use for people with penicillin allergy may not work as well, and increase risks of developing side effects and difficult-to-treat infections.
- People with penicillin allergy on their medical records spend longer in hospital, and need more medication to be given intravenously through a drip.
- Penicillin allergy is lost over time, after 5 years 50% are resolved, increasing to 80% after 10 years.
- Side effects like diarrhoea and nausea are not nice, but they are not allergies, and will usually pass once the course of treatment is finished.
- Sometimes symptoms of the infection (e.g. rash) can be misinterpreted as an allergic reaction.

Ask your healthcare professional
"Do I really have a penicillin allergy?"

#KeepAntibioticsWorking

Alergedd i benisilin?

Dim ond 1 o bob 10 o bobl sydd ag alergedd i benisilin ar eu cofnodion meddygol sydd ag alergedd go iawn.

Gall y 9 allan o 10 nad oes ganddynt alergedd i benisilin mewn gwirionedd fod mewn perygl o niwed o beidio â chael penisilin i drin eu haint. Mae hyn oherwydd:

- Efallai na fydd y gwrthfiotigau amgen rydyn ni'n eu defnyddio ar gyfer pobl sydd ag alergedd i benisilin yn gweithio cystal, a gallent gynyddu'r risg o ddatblygu sgil-effeithiau a heintiau sy'n anodd eu trin.
- Mae pobl sydd ag alergedd i benisilin ar eu cofnodion meddygol yn treulio mwy o amser yn yr ysbyty, ac mae angen rhoi mwy o feddyginiaeth yn fewnwythiennol drwy ddrip.
- Mae alergedd i benisilin yn diflannu dros amser, ar ôl 5 mlynedd mae 50% yn cael gwared ar yr alergedd, gan gynyddu i 80% ar ôl 10 mlynedd.
- Nid yw sgil-effeithiau fel dolur rhydd a chyfog yn ddymunol, ond nid ydynt yn alergeddau, a byddant fel arfer yn diflannu unwaith y bydd y cwrs triniaeth wedi dod i ben.
- Weithiau gellir camddehongli symptomau'r haint (e.e. brech) fel adwaith alergaidd.

Gofynnwch i'ch gweithiwr gofal iechyd proffesiynol “Oes gen i alergedd i benisilin mewn gwirionedd?”

#CadwGwrthfiotigauYnGweithio