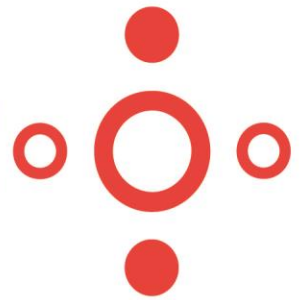


Grŵp Strategaeth Meddyginiaethau Cymru Gyfan
All Wales Medicines Strategy Group



All Wales guidance for penicillin allergy de-labelling in adults in secondary care

July 2024

This document has been prepared by the Cardiff and Vale Penicillin Allergy De-labelling Group (Laurence Alexander Gray, Owen Seddon, Nicholas Swetenham, Richard Cousins, Alice Bone, Wan Yee Lee, Aysha Jameel, Ruth McAleer, Anna Garratt), 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).

Please direct any queries to AWTTC:

All Wales Therapeutics and Toxicology Centre
The Routledge Academic Centre
University Hospital Llandough
Penlan Road
Llandough
Vale of Glamorgan
CF64 2XX

awttc@wales.nhs.uk

029 218 26900

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1.0 Introduction

All Wales Medicines Strategy Group (AWMSG) penicillin allergy de-labelling in adults in secondary care guidance is suitable for local adaptation within NHS Wales.

2.0 Background

Penicillin allergy de-labelling has been identified as a key initiative to improve antibiotic prescribing and antimicrobial stewardship¹.

About 10% of the general population believe they have a penicillin allergy; this has often been because of an adverse reaction affecting the gastrointestinal system or a skin rash that occurred during a course of penicillin in childhood^{2,3}. In addition, many reactions to penicillin have occurred over 10 years ago and details of the reaction are not recalled. Increasing evidence shows that more than 90% of patients labelled with a penicillin allergy are not allergic to penicillin and associated beta-lactams⁴. Having a label of penicillin allergy often results in patients receiving less appropriate alternative antibiotics that can lead to increased risk of specific adverse healthcare outcomes including higher risk of multidrug-resistant or opportunistic infection^{1,5}. Patients with a penicillin allergy label are often prescribed more expensive antibiotics, have longer hospital admissions, are more frequently readmitted, and have a higher frequency of outpatient visits^{3,6}. The economic impact of penicillin allergy labels has been researched by several studies which all concluded the benefits of removing incorrect labels including the potential of significant cost savings to the healthcare system⁶⁻⁸. It is therefore beneficial to assess whether patients have experienced a true allergic reaction to penicillin and consider removing their allergy label.

There is increasing evidence that a direct oral amoxicillin challenge is a safe, effective and simple bedside test for de-labelling penicillin allergy status in patients with a low-risk penicillin allergy history, allowing them to receive beta-lactam antibiotics⁹.

2.1 Who is the guidance for?

The aim of this document is to guide best practice to support the identification and removal of penicillin allergy labels in adults who do not have an acute IgE-mediated Type 1 hypersensitivity reaction. This guidance is only intended for use in adults in secondary care settings reporting a penicillin allergy. This may include hospital clinics or in-patient wards; local implementation will dictate how the direct oral amoxicillin challenge test will be instigated. The guidance does not apply to other antibiotic classes including cephalosporins and carbapenems.

2.2 Relevant existing guidance

- The standards of Care Committee of the British Society for Allergy and Clinical Immunology (BSACI) [guideline for the set-up of penicillin allergy de-labelling services by non-allergists working in a hospital setting](#)³.

3.0 Recommendations

Table 1. Recommendations on penicillin allergy de-labelling testing

1.0	Identification
1.1	Adult patients ≥ 18 years old who have a low risk for true penicillin allergy, providing no exclusion criteria met.
1.2	<p>Exclude patients presenting with any of the following:</p> <ul style="list-style-type: none"> • Medically unstable (National Early Warning Score [NEWS] ≥ 2)* • Pregnant³ • Severe or uncontrolled asthma (Peak Expiratory Flow Rate [PEFR] $< 80\%$ normal)³ • Severe chronic obstructive pulmonary disease (COPD)³ • Unstable coronary artery disease • Severe aortic stenosis³ • Unable to give informed consent³ <p><i>*Review clinical parameters (e.g. target saturations) prior to excluding due to NEWS score.</i></p> <p>If it is unclear whether the patient meets exclusion criteria, contact Microbiology or appropriate specialist services for advice, this may include an immunologist or allergy specialist if available.</p>
1.3	In patients receiving palliative care where expected prognosis is weeks to months, consider using penicillin allergy de-labelling testing only if the patient requires antibiotic treatment.
2.0	Initial assessment
2.1	<p>Take a full allergy history exploring the date of the reaction, its nature and timing of onset relative to the penicillin, what treatment was required, and any contact with healthcare services. It is also important to review medication records where possible and note whether the patient has received subsequent penicillin and whether any reaction recurred.</p> <p>When taking a penicillin allergy history consider the following criteria:</p> <p>Drug</p> <ul style="list-style-type: none"> • What antibiotic was the patient given? • What was the formulation? (injection or a tablet) <p>Reaction</p> <ul style="list-style-type: none"> • When did reaction occur (Days, weeks, how many years ago)? • What type of reaction (Gastrointestinal upset, facial swelling, anaphylaxis etc.)? • Where did the reaction occur (community, GP practice, hospital) • Onset of reaction after taking antibiotic (Minutes, hours, weeks)

	<ul style="list-style-type: none"> • Did the patient require any treatment? (in particular, was adrenaline given?) • Did the patient experience a Severe Cutaneous Adverse Reaction (SCAR)? These are a type 4 hypersensitivity reaction, and include: <ul style="list-style-type: none"> ○ Steven-Johnson Syndrome/Toxic Epidermal Necrolysis ○ Acute Generalised Exanthematous Pustulosis (AGEP) ○ Drug Reaction with Eosinophilia & Systemic Symptoms (DRESS) ○ Any severe delayed rash with mucosal involvement <p>Other sources of history</p> <ul style="list-style-type: none"> • GP: Check records: <ul style="list-style-type: none"> ○ If there are details in the primary care record. ○ If the patient has received other penicillins since the documented reaction? If so, did any reaction occur? • Community Pharmacy: Phone to ask: <ul style="list-style-type: none"> ○ If there are details in the community pharmacy record ○ If patient has received other penicillins since the documented reaction? If so, did any reaction occur?
<p>2.2</p>	<p>If the history is clearly a non-allergic reaction such as minor symptoms unrelated to any form of allergic reaction (headache, arthralgia, strange taste in mouth), gastrointestinal upset (nausea, abdominal pain, diarrhoea), candidiasis, family history of penicillin allergy without personal history of allergy or the patient has received subsequent doses of penicillin without incident, the patient can be de-labelled without an oral amoxicillin test. If patients seek reassurance of their tolerance to penicillin, a direct oral amoxicillin test may be appropriate.</p> <p>If patient de-labelled based on history, explain to the patient that they can receive a penicillin-type antibiotic for any future infections. Send a letter to the GP to facilitate updating allergy status in GP records.</p>
<p>3.0</p>	<p>Risk assessment</p>
<p>3.1</p>	<p>If patient history is consistent with an allergic reaction, risk assess the patient using a penicillin allergy clinical decision rule (PEN-FAST) (see Table 2). This is a validated scoring system for assessing reported penicillin allergy^{10,11}.</p>

Table 2. PEN-FAST score criteria¹⁰

	Penicillin allergy test evaluation	Yes	No
F	<u>F</u> ive years or less since reaction	+2	0
A	<u>A</u> naphylaxis/Angioedema OR		
S	<u>S</u> evere cutaneous adverse reaction (SCAR): <ul style="list-style-type: none"> ○ Stevens–Johnson syndrome / toxic epidermal necrolysis ○ Acute generalised exanthematous pustulosis ○ Drug reaction with eosinophilia and systemic symptoms ○ Any severe delayed rash with mucosal involvement 	+2	0
T	<u>T</u> reatment required for allergy episode e.g. hospital admission, steroids, adrenaline	+1	0

3.2

Interpret PEN-FAST score as follows:

Score	Risk of true hypersensitivity reaction/allergy	Recommendations
0	<1%	Proceed to the oral amoxicillin test
1–2	5%	If no anaphylaxis or severe cutaneous adverse reaction, proceed to the oral amoxicillin test. If scoring for anaphylaxis or severe cutaneous adverse reaction, unsuitable for oral challenge without specialist review. Consider referral to a specialist for consideration of detailed allergy assessment.
3	20%	Do not use penicillins; continue to label as ‘penicillin-allergic’
4–5	50%	Do not use penicillins OR cephalosporins; continue to label as ‘penicillin-allergic’

Offer oral amoxicillin test to patients with a PEN-FAST score of zero. Patients with a PEN-FAST score of 1 or 2 should be assessed as per [Appendix 1](#) using the penicillin allergy risk assessment algorithm.

If uncertain about risk assessment score, contact Microbiology or appropriate specialist service for advice, this may include an immunologist or allergy specialist if available.

4.0	Consent
4.1	<p>Discuss the plan for an oral amoxicillin test with the patient and give them the patient information sheet (see Appendix 2 (English) and Appendix 3 (Welsh)). These patient information leaflets are also available in an easy read format on the AWTTC website. Explain the benefits and risks to the patient:</p> <ul style="list-style-type: none"> • Benefits: If the test results show the patient is not allergic to penicillin then the label of penicillin allergy would be removed from their record. This will provide the patient a wider range of effective antibiotic treatment options. • Risks: Low risk of a delayed onset allergic reaction, typically a non-severe rash. Severe reactions such as anaphylaxis are highly unlikely but possible. Inform the patient that they will be closely monitored during the test by staff trained in the recognition and treatment of allergic reactions and other side effects. <p>Provide the patient with the consent form and request a signature if the patient agrees to proceed with the test. See Appendix 4 for draft consent form. File the signed consent form in the patient notes.</p> <p>Opportunistic testing is not offered to patients who are unable to consent, but it can be performed as a best-interests decision if the patient requires antibiotics with specialist Microbiology and/or Infectious Diseases advice.</p>
5.0	Medications to consider stopping before oral amoxicillin test
5.1	<p>Antihistamines should be stopped 24 hours prior to test since they may mask true allergy.</p> <p>ACE inhibitor and beta blocker should be temporarily withheld 24 hours before the test. This is because these antihypertensive medicines can affect management of anaphylaxis as the patient may need larger doses of adrenaline.</p>
6.0	Test Procedure
6.1	<p>To be undertaken in a hospital setting (including clinics and wards), by healthcare professionals who are trained and equipped in anaphylaxis management.</p> <ul style="list-style-type: none"> • Measure patient's observations (blood pressure, heart rate and oxygen saturations, respiratory rate) prior to commencing the penicillin allergy de-labelling test. • If the patient has asthma, peak expiratory flow rate (PEFR) should be included in the observations. • Prescriber should prescribe a single dose of 500 mg oral amoxicillin*. • Administer the antibiotic – the patient should be observed by a trained healthcare professional for the first 20 minutes. • Measure the patient's observations (and PEFR if indicated) at regular intervals, e.g. at 20 minutes and further set of observations at 40 minutes and at 60 minutes. If a patient experiences symptom of an allergic reaction, refer to recommendation 7.1.

	<ul style="list-style-type: none"> Record reaction and any symptoms the patient experiences in medical notes and on drug chart. <p><i>*Note: Both single dose and graded penicillin oral challenges are utilised for allergy de-labelling in current practice, but a single dose test is recommended as graded challenges may not provide much additional utility. Studies have demonstrated using a single non-graded dose of oral amoxicillin is a safe and effective strategy to de-label patients¹²⁻¹⁶.</i></p>
7.0	Management of any reactions
7.1	<p>Any allergic reactions that occur while the patient is still in hospital must be documented in the patient's records (notes, drug chart and discharge summary).</p> <ul style="list-style-type: none"> Mild allergic symptoms If rash only and NEWS score does not increase, give an oral antihistamine (i.e. 4 mg chlorphenamine or 10 mg cetirizine) and consider a single dose of 30 mg prednisolone. Severe allergic symptoms Should symptoms consistent with anaphylaxis develop during the test (e.g. hypotension or breathing difficulties), request urgent senior medical review and consider contacting cardiac arrest team. Treat the patient in accordance with the Resuscitation Council Guidelines for management of anaphylaxis¹⁷.
7.2	Inform patients to self-report any reaction that occurs after discharge and provide patient an information leaflet with relevant contact details .
8.0	Interpretation of test result
8.1	<p>A negative penicillin allergy de-labelling test:</p> <p>Patient experiences no symptoms during the period of observation or only presents with non-allergic symptoms. This includes nausea, itch without rash, or globus sensation without breathing difficulties.</p>
8.2	<p>A positive penicillin allergy de-labelling test:</p> <p>Patient experiences any of the following when amoxicillin is administered:</p> <ul style="list-style-type: none"> ○ rash ○ breathing difficulties ○ facial swelling ○ hypotension (BP < 90/60) ○ tachycardia (HR > 100) <p>If there is a reaction, send blood in an SST tube (yellow top) for mast cell tryptase test to aid confirmation of the allergy diagnosis.</p> <p>If uncertain about how to interpret the result, contact Microbiology or appropriate specialist service for advice, this may include an immunologist or allergy specialist if available.</p>

9.0	Communication of test result
9.1	<p>Explain the result of the test to the patient to confirm either that they can be de-labelled (i.e. they are not allergic to penicillin and can receive a penicillin-type antibiotic for future infections), or that they have a confirmed penicillin allergy and should not receive a penicillin-type antibiotic for any future infections.</p> <p>Document test results in the patients notes, and ensure allergy section on drug chart and discharge summary is updated. Hospital electronic records including the 'adverse reactions' section on Welsh Clinical Portal should also be updated where appropriate.</p> <p>Refer to local protocols and where appropriate complete the penicillin challenge outcome reporting form (see Appendix 5) to report the result of the penicillin allergy de-labelling test.</p>
9.2	<p>If the patient has a delayed reaction after the initial test (but within 7 days of receiving amoxicillin), refer to local protocols and where appropriate report using delayed reaction reporting form (Appendix 6).</p> <p>Ensure the results are available to be reviewed by a local governance group e.g. Penicillin allergy de-labelling governance committee (PADL group).</p>
10.0	Reporting
10.1	<p>Send a copy of the results to the GP in addition to the patient's discharge letter, to facilitate updating allergy status in GP records (see Appendix 7).</p> <p>For patients that have been de-labelled based on history alone, please use Appendix 8.</p>
10.2	<p>Ensure patients understand the outcome of the test and provide a paper copy of the result. For positive results see Appendix 9 (English) and Appendix 10 (Welsh) and for negative results see Appendix 11 (English) and Appendix 12 (Welsh).</p>
10.3	<p>For patients with confirmed penicillin allergy, print an allergy card for them to carry in person (see Appendix 13 and Appendix 14 for English and Appendix 15 and Appendix 16 for Welsh).</p>

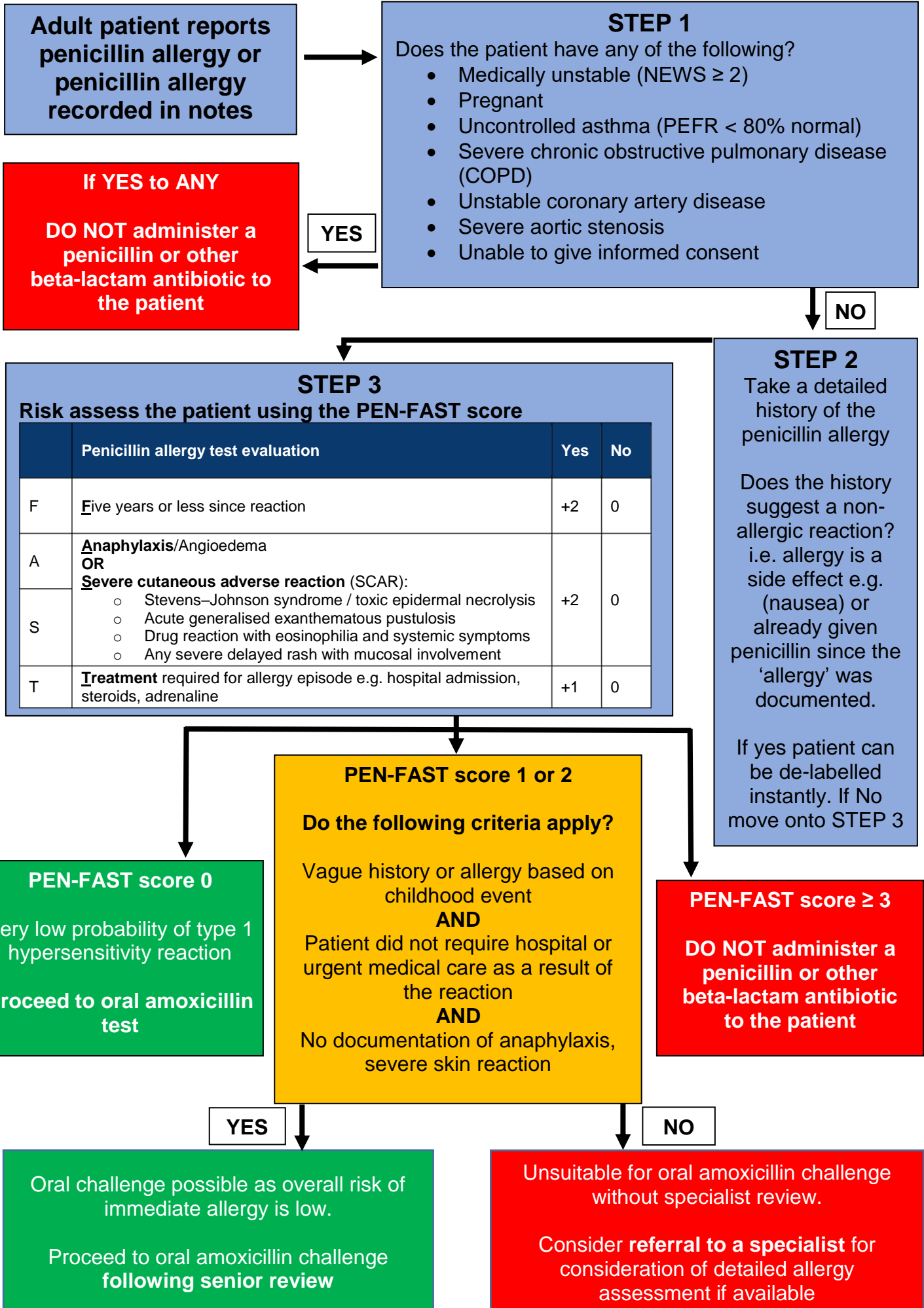
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Appendix 1. Penicillin allergy risk algorithm



Appendix 2. Patient Information Leaflet (English)

Penicillin Allergy Test Patient Information Leaflet

Introduction

This leaflet tells you:

- what penicillin is;
- what an allergy to penicillin is; and
- how to find out if you are allergic to penicillin.

What is penicillin?

Penicillin is a type of antibiotic. It works very well to treat common bacterial infections like pneumonia, tonsillitis and skin infections.

What is an allergy to penicillin?

An allergy is a reaction of your body's immune system. The immune system can react to penicillin or to another penicillin-type of antibiotic. For most people, the allergic reaction is a mild skin reaction or rash that develops slowly several hours or days after taking penicillin.

Sometimes a severe allergic reaction called anaphylaxis can happen. This is very rare but it can be life-threatening. Symptoms of anaphylaxis include a rash that spreads fast, swelling of the mouth, throat or tongue, and breathing difficulties. These symptoms will often happen less than one hour after taking penicillin, and always within two hours of taking penicillin.

Can a family member be allergic to penicillin?

Penicillin allergy does not run in families, so if you have a relative who is allergic to it, there is no reason to think that you will also be allergic to it.

What is the difference between an allergy and side effects?

Most reactions to penicillin are side effects, not allergies. Side effects are mostly mild and brief unpleasant effects of treatment. The most common side effects from penicillin include: skin rashes, being sick, feeling sick, or having diarrhoea. Unlike allergies, having side effects to penicillin should not necessarily stop you from taking penicillin again. Medication can be given to help you manage side effects if needed, to make sure you can receive penicillin in the future.

Why is penicillin important?

Penicillin can work better than other types of antibiotic to treat bacterial infections. Knowing if you are allergic to penicillin is important, to make sure that you are given the best antibiotic for you.

How common is allergy to penicillin?

Around 1 out of 10 people report having an allergy to penicillin. However, evidence suggests that more than 9 out of 10 people who report an allergy to penicillin might **not** be allergic to it; they might just have had side effects from taking penicillin.

Why do we need to test people for an allergy to penicillin?

About 9 out of 10 people who have a record of an allergy to penicillin are found to not have a real allergy to it when tested. Although you may have experienced side effects after taking penicillin, most of these disappear over time. This means that most people can safely take penicillin, giving them more options for antibiotics to treat bacterial infections.

Why am I being offered a test for an allergy to penicillin?

You are being offered this test because your health record states that you have an allergy to penicillin, and the healthcare team has assessed that it is safe to do the test. Doing the test when you are in hospital means that you can be safely monitored and treated if needed while having the test done.

What are the benefits of testing?

If you have the test and the results show that you are not allergic to penicillin, then we will update your medical record to correct your allergy status, and you will be able to take penicillin antibiotics in the future. This will give you more options for treating a range of common bacterial infections, such as skin or chest infections, or if you need to take antibiotics before an operation.

How is the test done?

We will ask you to sign a consent form before the test, to confirm that you understand what the test involves, and any potential risks and side effects. You will be able to ask the healthcare team any questions you might have. The test involves you taking a single capsule of amoxicillin, a penicillin antibiotic. We will carefully monitor you for any allergic reactions and other side effects.

What are the possible risks and side effects?

Side effects are usually mild and include feeling sick. There is a small risk that you might experience an allergic reaction, and this is why we do the test in a hospital. About 1 in 20 people will have an itchy rash over several hours or days. A more severe reaction, including anaphylaxis, might occur but it is very rare. We would only offer this test to people we consider to have a very low risk of an allergic reaction. If you do have an allergic reaction, we will give you immediate treatment with anti-allergy medicines to stop it.

What happens after the test?

The healthcare team will explain the result of the test to you. You will also be provided with a copy of the test results. If the test shows you do not have an allergic reaction to penicillin, you will then be able to take penicillin antibiotics if you need them. We will update your medical record and write to your GP to tell them the results of the test.

If the test confirms that you are allergic to penicillin, your medical record will continue to state this, and you should not take penicillin antibiotics in the future. We will also tell your GP about your test result. You will be given an allergy card, keep your card with you at all times.

If you have some symptoms after the test and it is unclear if you have had an allergic reaction, the team looking after you can refer you to a specialist for further assessment.

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Do I need to do the test if it is recommended?

Taking this test is voluntary. If you choose not to have the test, there will be no change to the treatment you receive while in hospital. You can change your mind about having the test at any time.

What will you do with the information about the results of my test?

Many studies have shown testing for allergy to penicillin in this way is a safe way to remove labels of penicillin allergy from patient records. However, as this is a new service it is important that we collect information about the results of the test. This will let the healthcare team monitor the effectiveness of the test process. All your personal details, or information that could identify you, will be removed from the results that they see.

If you develop a rash or any other worrying reaction after discharge from hospital please contact

(INSERT APPROPRIATE LOCAL CONTACT)

Appendix 3. Patient Information Leaflet (Welsh)

Prawf Alergedd Penisilin

Taflen Wybodaeth i Gleifion

Cyflwyniad

Mae'r daflen hon yn dweud wrthyhch:

- beth yw penisilin;
- beth yw alergedd i benisilin; a
- sut i ddarganfod a oes gennych alergedd i benisilin.

Beth yw penisilin?

Mae penisilin yn fath o wrthfotig. Mae'n gweithio'n dda iawn i drin heintiau bacterol cyffredin fel niwmonia, tonsilitis a heintiau'r croen.

Beth yw alergedd i benisilin?

Alergedd yw adwaith gan system imiwnedd eich corff. Gall y system imiwnedd adweithio i benisilin neu i fath arall o wrthfotig penisilin. I'r rhan fwyaf o bobl, mae'r adwaith alergaidd yn adwaith ysgafn ar y croen neu'n frech sy'n datblygu'n araf sawl awr neu ddiwrnod ar ôl cymryd penisilin.

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, ac anawsterau anadlu. Bydd y symptomau hyn yn aml yn digwydd lai nag awr ar ôl cymryd penisilin, a bob amser o fewn dwy awr i gymryd penisilin.

A all aelod o'r teulu fod ag alergedd i benisilin?

Nid yw alergedd penisilin yn rhedeg mewn teuluoedd, felly os oes gennych berthynas sydd ag alergedd iddo, nid oes unrhyw reswm i feddwl y byddwch chi hefyd ag alergedd iddo.

Beth yw'r gwahaniaeth rhwng alergedd a sgil-ffeithiau?

Sgil-ffeithiau yw'r rhan fwyaf o adweithiau i benisilin, nid alergeddau. Yn bennaf, sgil-ffeithiau yw effeithiau ysgafn a byr y driniaeth. Mae sgil-ffeithiau mwyaf cyffredin penisilin yn cynnwys: brech ar y croen, chwydu, teimlo eich bod eisiau chwydu, neu ddolur rhydd. Yn wahanol i alergeddau, ni ddylai sgil-ffeithiau penisilin eich atal rhag cymryd penisilin eto o reidrwydd. Gellir rhoi meddyginiaeth i'ch helpu i reoli sgil-ffeithiau os oes angen, er mwyn sicrhau y gallwch dderbyn penisilin yn y dyfodol.

Pam mae penisilin yn bwysig?

Gall penisilin weithio'n well na mathau eraill o wrthfotigau i drin heintiau bacterol. Mae gwybod a oes gennych alergedd i benisilin yn bwysig, er mwyn sicrhau eich bod yn cael y gwrthfotig gorau i chi.

Pa mor gyffredin yw alergedd i benisilin?

Mae tua 1 o bob 10 o bobl yn dweud bod ganddynt alergedd i benisilin. Fodd bynnag, mae tystiolaeth yn awgrymu ei bod yn bosibl bod mwy na 9 o bob 10 o bobl sy'n

adrodd am alergedd i benisilin heb alergedd iddo mewn gwirionedd; efallai eu bod ond wedi cael sgil-ffeithiau o gymryd penisilin.

Pam mae angen i ni brofi pobl am alergedd i benisilin?

Mae tua 9 o bob 10 o bobl sydd â chofnod o alergedd i benisilin yn darganfod nad oes ganddynt alergedd iddo mewn gwirionedd pan gânt eu profi. Er y gallech fod wedi profi sgil-ffeithiau ar ôl cymryd penisilin, mae'r rhan fwyaf o'r rhain yn diflannu dros amser. Mae hyn yn golygu y gall y rhan fwyaf o bobl gymryd penisilin yn ddiogel, gan roi mwy o opsiynau ar gyfer gwrthfotigau i drin heintiau bacterol.

Pam ydw i'n cael cynnig prawf ar gyfer alergedd i benisilin?

Cynigir y prawf hwn i chi oherwydd bod eich cofnod iechyd yn nodi bod gennych alergedd i benisilin, ac mae'r tîm meddygol wedi asesu ei bod yn ddiogel i chi wneud y prawf. Mae gwneud y prawf pan fyddwch yn yr ysbyty yn golygu y gallwch gael eich monitro'n ddiogel a chael triniaeth os oes angen pan fyddwch yn cael y prawf.

Beth yw manteision profi?

Os cewch y prawf a bod y canlyniadau'n dangos nad oes gennych alergedd i benisilin, yna byddwn yn diweddarau eich cofnod meddygol i gywiro eich statws alergedd, a byddwch yn gallu cymryd gwrthfotigau penisilin yn y dyfodol. Bydd hyn yn rhoi mwy o opsiynau i chi ar gyfer trin amrywiaeth o heintiau bacterol cyffredin, fel heintiau'r croen neu'r frest, neu os oes angen i chi gymryd gwrthfotigau cyn llawdriniaeth.

Sut mae'r prawf yn cael ei wneud?

Byddwn yn gofyn i chi lofnodi ffurflen ganiatâd cyn y prawf, i gadarnhau eich bod yn deall beth mae'r prawf yn ei olygu, ac unrhyw risgiau a sgil-ffeithiau posibl. Byddwch yn gallu gofyn unrhyw gwestiynau a allai fod gennych i'r tîm meddygol. Mae'r prawf yn golygu cymryd un capsïwl o amoxicillin, gwrthfotig penisilin. Byddwn yn eich monitro'n ofalus am unrhyw adweithiau alergaidd a sgil-ffeithiau eraill.

Beth yw'r risgiau a'r sgil-ffeithiau posibl?

Mae sgil-ffeithiau fel arfer yn ysgafn, fel teimlo eich bod eisïau chwydu. Mae risg fach y gallech brofi adwaith alergaidd, a dyna pam rydym yn gwneud y prawf mewn ysbyty. Bydd tua 1 o bob 20 o bobl yn cael brech sy'n cosi am sawl awr neu ddiwrnod. Gall adwaith mwy difrifol, gan gynnwys anaffylaxis, ddigwydd ond mae'n anghyffredin iawn. Dim ond i bobl yr ydym yn eu hystyried sydd â risg isel iawn o adwaith alergaidd y byddem yn cynnig y prawf hwn. Os cewch adwaith alergaidd, byddwn yn rhoi triniaeth i chi ar unwaith gyda meddyginiaethau gwrth-alergedd i'w atal.

Beth sy'n digwydd ar ôl y prawf?

Bydd y tîm gofal iechyd yn esbonio canlyniad y prawf i chi. Byddwch hefyd yn cael copi o ganlyniadau'r profion. Os bydd y prawf yn dangos nad oes gennych adwaith alergaidd i benisilin, byddwch wedyn yn gallu cymryd gwrthfotigau penisilin os bydd eu hangen arnoch. Byddwn yn diweddarau eich cofnod meddygol ac yn ysgrifennu at eich meddyg teulu i ddweud wrthynt am ganlyniadau'r prawf.

Os bydd y prawf yn cadarnhau bod gennych alergedd i benisilin, bydd eich cofnod meddygol yn parhau i nodi hyn, ac ni ddylech gymryd gwrthfotigau penisilin yn y dyfodol. Byddwn hefyd yn dweud wrth eich meddyg teulu am ganlyniad eich prawf. Byddwch yn cael cerdyn alergedd, cadwch eich cerdyn gyda chi bob amser.

All Wales guidance for penicillin allergy de-labelling in adults in secondary care

Os oes gennych rai symptomau ar ôl y prawf ac nid yw'n glir a ydych wedi cael adwaith alergaidd, gall y tîm sy'n gofalu amdanoch eich cyfeirio at arbenigwr i gael asesiad pellach.

A oes angen i mi wneud y prawf os caiff ei argymhell?

Mae cymryd y prawf hwn yn wirfoddol. Os byddwch yn dewis peidio â chael y prawf, ni fydd unrhyw newid i'r driniaeth a gewch tra yn yr ysbyty. Gallwch chi newid eich meddwl am gael y prawf unrhyw bryd.

Beth fyddwch chi'n ei wneud gyda'r wybodaeth am ganlyniadau fy mhrawf?

Mae llawer o astudiaethau wedi dangos bod profi ar gyfer alergedd i benisilin yn y modd hwn yn ffordd ddiogel o dynnu labeli alergedd penisilin o gofnodion cleifion. Fodd bynnag, gan fod hwn yn wasanaeth newydd mae'n bwysig ein bod yn casglu gwybodaeth am ganlyniadau'r prawf. Bydd hyn yn galluogi'r tîm gofal iechyd i fonitro effeithiolrwydd y broses profi. Bydd eich holl fanylion personol, neu wybodaeth a allai eich adnabod, yn cael eu tynnu o'r canlyniadau a welant.

Os byddwch yn datblygu brech neu unrhyw adwaith arall sy'n peri pryder ar ôl cael eich rhyddhau o'r ysbyty, cysylltwch â ni

(INSERT APPROPRIATE LOCAL CONTACT)

Appendix 4. Penicillin allergy test consent form

Penicillin Allergy Test

AFFIX PATIENT ID LABEL HERE
OR FILL IN PATIENT DETAILS:

Please read the following statements carefully and initial the boxes if you agree.

I have had the opportunity to discuss the test with the healthcare team.	
I have read and understood the information in the patient information leaflet (including the benefits and risks) and I agree to proceed with an oral amoxicillin challenge test.	
I agree/do not agree* (select appropriate) to the information about the results of my test being collected and used anonymously for scientific purposes including presentations at conferences and publications in journals. (I understand my allergy information may be checked on my GP record for this reason)	

*Please note the penicillin allergy test will still be performed if you do not agree to your anonymous data being used for scientific purposes.

You have the right to change your mind at any time, including after you have signed this form. Please speak to your healthcare team if you have any concerns.

Patient

Signature Date

Print name

Prescriber

Signature Date

Print name

Appendix 5. Penicillin challenge outcome reporting form

Penicillin challenge outcome reporting form	
1. Patient name	
2. Patient date of birth	
3. Patient hospital or NHS number	
4. Patient location	
5. Date of assessment	
6. What is the penicillin allergy history?	<input type="checkbox"/> Isolated non-urticarial rash <input type="checkbox"/> Gastrointestinal upset <input type="checkbox"/> Pruritus without rash/skin changes <input type="checkbox"/> Unknown <input type="checkbox"/> Other
7. PEN-FAST criteria (If they fulfil any of these, do not de-label without specialist advice)	<input type="checkbox"/> It has been 5 years or less since reaction <input type="checkbox"/> Anaphylaxis or angioedema <input type="checkbox"/> Severe cutaneous adverse reaction (SCAR): <ul style="list-style-type: none"> • Stevens–Johnson syndrome / toxic epidermal necrolysis • Acute generalised exanthematous pustulosis • Drug reaction with eosinophilia and systemic symptoms • Any severe delayed rash with mucosal involvement <input type="checkbox"/> Treatment required for allergy episode e.g. hospital admission, steroids, adrenaline <input type="checkbox"/> None of the above
8. If you de-labelled your patient, what was the reason?	<input type="checkbox"/> De-labelled on history alone <input type="checkbox"/> De-labelled after a 500 mg oral amoxicillin challenge <input type="checkbox"/> De-labelled after receiving penicillin for treatment (please specify below)
9. If your patient wasn't de-labelled, what was the contraindication?	<input type="checkbox"/> Medically unstable (NEWS \geq 2) <input type="checkbox"/> Pregnant <input type="checkbox"/> Uncontrolled asthma (PEFR <80% normal) <input type="checkbox"/> Severe COPD <input type="checkbox"/> Unstable coronary artery disease <input type="checkbox"/> Severe aortic stenosis <input type="checkbox"/> Unable to consent <input type="checkbox"/> None of the above <input type="checkbox"/> Other (please specify below)

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10. If penicillin was given, was there any adverse reaction in the first hour after administration? if yes, give details	<input type="checkbox"/> No reaction <input type="checkbox"/> Hypotension <input type="checkbox"/> Wheeze <input type="checkbox"/> Angioedema <input type="checkbox"/> Reduced oxygen saturations <input type="checkbox"/> Rash <input type="checkbox"/> Other (please specify below)
11. Please provide your name	
12. What is the best contact number for you?	
13. What is your e-mail address?	
14. Do you have any ideas on how penicillin allergy de-labelling can be improved in future?	

Appendix 6. Delayed penicillin reaction reporting form

Delayed penicillin reaction reporting form	
1. Patient name	
2. Patient date of birth	
3. Patient hospital or NHS number	
4. Date of penicillin challenge test	
5. Date of onset of symptoms	
6. Does the patient have a rash?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. Does the patient have any symptoms other than a rash, or anything else you wish to report? (please give as much detail as possible)	
8. Please provide your name	
9. What is the best contact number for you?	
10. What is your e-mail address?	

Appendix 7. Test result template letter for GP

PENICILLIN ALLERGY TEST RESULTS

Patient Name	
Patient Date of Birth	
Patient hospital or NHS number	

Dear Dr XXXXXXXXXXXX

The patient listed above underwent assessment of their penicillin allergy label during a recent hospital attendance.

After review of their penicillin allergy history, and discussion of the risk and benefits, a supervised penicillin oral challenge test was performed. A dose of 500mg of oral **amoxicillin** was administered on [date]. Based on the results of this challenge test we can advise you that:

There is no evidence to support a “penicillin allergy” label. We request that you remove this allergy label from your patient’s medical record and record details of the allergy test (antibiotic and date). The risk of allergic reaction to penicillin in a de-labelled patient is the same as that of the general population and **they can therefore receive penicillin antibiotics.**

OR

There was evidence of an allergic reaction as detailed below:

We request that you highlight this allergy status in your patient’s medical record and record details of the allergy test (antibiotic and date).

This information should be shared with other healthcare providers and also their regular community pharmacy if possible.

If you have any queries regarding the test process or outcome please do not hesitate to contact me.

Best Wishes,

Insert name and job title

Enquiries contact: insert details

Appendix 8. De-labelling based on history alone template letter for GP

PENICILLIN ALLERGY DE-LABELLING

Patient Name	
Patient Date of Birth	
Patient hospital or NHS number	

Dear Dr XXXXXXXXXXXX

The patient listed above underwent assessment of their penicillin allergy label during a recent hospital 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 patient who understands they will be able to take penicillin antibiotics in the future if required.

This information should be shared with other healthcare providers and also their regular community pharmacy if possible.

Best Wishes,

Insert name and job title

Enquiries contact: *insert details*

Appendix 9. Patient result letter – Positive (English)

Allergy to penicillin test result: Positive

You recently had a test for allergy to penicillin.
You had a reaction during test, which confirms that:

You are allergic to penicillin

What does this mean?

This means that you should **not** take antibiotics that contain penicillin.
Examples of antibiotics to avoid because they contain penicillin, include:
phenoxymethylpenicillin (penicillin V), amoxicillin, flucloxacillin and co-amoxiclav (Augmentin).

What happens now?

We will give you a card to keep that will let healthcare staff know that you have an allergy to penicillin. This card will list all the medicines that you should not take.

Remember to ask any healthcare staff who may prescribe or give you medicines, to check if a medicine has penicillin in it.

We will send your GP a letter to tell them about the result of the test so that they can update your medical record.

If you have any questions about the type of reaction you have had, please ask our healthcare team looking after you to tell you more about what happened.

Appendix 10. Patient result letter – Positive (Welsh)

Canlyniad prawf alergedd i benisilin: Positif

Yn ddiweddar cawsoch brawf am alergedd i benisilin.
Cawsoch adwaith yn ystod y prawf, sy'n cadarnhau:

Bod gennych alergedd i benisilin

Beth mae hyn yn ei olygu?

Mae hyn yn golygu **na** ddylech gymryd gwrthfotigau sy'n cynnwys penisilin.
Mae enghreifftiau o wrthfotigau i'w hosgoi oherwydd eu bod yn cynnwys penisilin, yn cynnwys: phenoxymethylpenicillin (penicillin V), amoxicillin, flucloxacillin a co-amoxiclav (Augmentin).

Beth sy'n digwydd nawr?

Byddwn yn rhoi cerdyn i chi ei gadw a fydd yn rhoi gwybod i staff gofal iechyd bod gennych alergedd i benisilin. Bydd y cerdyn hwn yn rhestru'r holl feddyginiaethau na ddylech eu cymryd.

Cofiwch ofyn i unrhyw staff gofal iechyd a all roi meddyginiaethau ar bresgripsiwn i chi, i wirio a oes gan feddyginiaeth benisilin ynddi.

Byddwn yn anfon llythyr at eich meddyg teulu i ddweud wrthynt am ganlyniad y prawf fel y gallant ddiweddarau eich cofnod meddygol.

Os oes gennych unrhyw gwestiynau am y math o adwaith a gawsoch, gofynnwch i'n tîm gofal iechyd sy'n gofalu amdanoch i ddweud mwy wrthynt am yr hyn a ddigwyddodd.

Appendix 11. Patient result letter – Negative (English)

Allergy to penicillin test result: Negative

You recently had a test for allergy to penicillin.
Your result confirms that:

You do not have an immediate or severe allergy to penicillin

What does this mean?

Your risk of having an allergic reaction to penicillin is no higher than the general population. This means that if you ever need treatment for a bacterial infection in future you will be able to take antibiotics that contain penicillin.

You no longer need to tell healthcare staff looking after you that you are allergic to penicillin; for example, if you are taken into hospital.

If you had side effects when you took penicillin in the past, such as feeling sick (nausea), you may still want to tell your healthcare team about them. You may be given medication to take with the antibiotics to reduce their side effects.

What happens now?

We will send a letter to your GP to tell them the results of the test, and to ask them to update your medical record to remove 'penicillin allergy' from it. We will also remove 'penicillin allergy' from your hospital record.

Please tell any other healthcare staff who may prescribe or give you medicines in future that your allergy record has been updated.

If you have any questions about the test for allergy to penicillin, or questions about your result and what that means for you, please speak to a member of our healthcare team looking after you.

Appendix 12. Patient result letter – Negative (Welsh)

Canlyniad prawf alergedd i benisilin: Negatif

Yn ddiweddar cawsoch brawf am alergedd i benisilin.
Mae eich canlyniad yn cadarnhau:

Nad oes gennych alergedd uniongyrchol neu ddifrifol i benisilin

Beth mae hyn yn ei olygu?

Nid yw eich risg o gael adwaith alergaidd i benisilin yn uwch na'r boblogaeth gyffredinol. Mae hyn yn golygu, os bydd angen triniaeth arnoch ar gyfer haint bacterol yn y dyfodol, byddwch yn gallu cymryd gwrthfotigau sy'n cynnwys penisilin.

O hyn ymlaen, nid oes angen i chi ddweud wrth staff gofal iechyd sy'n gofalu amdanoch fod gennych alergedd i benisilin; er enghraifft, os ewch i'r ysbyty.

Os cawsoch sgil-ffeithiau pan wnaethoch gymryd penisilin yn y gorffennol, megis teimlo'n sâl (cyfog), efallai y byddwch am ddweud wrth eich tîm gofal iechyd amdanynt o hyd. Efallai y rhoddir meddyginiaeth i chi i'w chymryd gyda'r gwrthfotigau i leihau eu sgil-ffeithiau.

Beth sy'n digwydd nawr?

Byddwn yn anfon llythyr at eich meddyg teulu i roi canlyniadau'r prawf iddynt, ac i ofyn iddynt ddiweddarau eich cofnod meddygol i ddileu 'alergedd penisilin'. Byddwn hefyd yn dileu 'alergedd penisilin' o'ch cofnod ysbyty.

Dywedwch wrth unrhyw staff gofal iechyd eraill a allai ragnodi neu roi meddyginiaethau i chi yn y dyfodol fod eich cofnod alergedd wedi'i ddiweddarau.

Os oes gennych unrhyw gwestiynau am y prawf ar gyfer alergedd i benisilin, neu gwestiynau am eich canlyniad a beth mae hynny'n ei olygu i chi, siaradwch ag aelod o'n tîm gofal iechyd sy'n gofalu amdanoch.

Appendix 13. – Allergy card (English front)

I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



I have a penicillin allergy

Please do not prescribe any medicine that contains penicillin (see list on other side)



Appendix 14. – Allergy card (English back)

These antibiotics have penicillin in them:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

These antibiotics have penicillin in them:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

These antibiotics have penicillin in them:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

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- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

These antibiotics have penicillin in them:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

These antibiotics have penicillin in them:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Appendix 15. – Allergy card (Welsh front)

MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



MAE GENNYF ALERGEDD I BENISILIN

Peidiwch â rhagnodi unrhyw feddyginiaeth sy'n cynnwys penisilin (gweler y rhestr ar yr ochr arall)



Appendix 16. – Allergy card (Welsh back)

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin

Mae penisilin yn y gwrthfotigau hyn:

- Amoxicillin
- Ampicillin
- Benzylpenicillin
- Co-amoxiclav (Augmentin®)
- Co-fluampicil (flucloxacillin + ampicillin)
- Flucloxacillin
- Penicillin (phenoxymethylpenicillin)
- Piperacillin/tazobactam (Tazocin®)
- Pivmecillinam
- Temocillin