

VACCINE ALLERGY FAQs for GPs

My patient is anxious about their vaccination, can they have antihistamines beforehand?

If your patient has a history of symptoms that would be helped by taking an antihistamine such as urticaria and they are anxious, then they could take 20mg cetirizine (cetirizine 10mg x 2 tablets), 1 hour before their vaccination. However, if they have no such history then antihistamines will not help.

My patient is worried about reacting to the vaccine. Can they be tested for allergy to the vaccine and for allergy to polyethylene glycol (PEG) and polysorbate 80?

There is no indication for allergy testing to the vaccines or their ingredients unless your patient has a previous history suggestive of allergic reactions to any of these. Allergy to these excipients may present as a history of **anaphylaxis** to multiple unrelated drugs (containing PEG) and in such cases, seeking advice from your local allergy service would be appropriate.

My patient is reporting multiple drug allergies; which Covid vaccine can I give them?

If your patient has reported anaphylaxis within minutes of different drugs containing polyethylene glycol (PEG), then this patient should avoid the Covid mRNA vaccines (currently Pfizer and Moderna). PEG is sometimes also called macrogol on the patient information leaflet.

If your patient has a confirmed PEG allergy, but has tolerated an influenza vaccine or other parenteral drug containing polysorbate 80, then the Astra Zeneca vaccine may be administered after ensuring that there are no other contraindications to the AZ vaccine eg risk of thrombosis.

However, if the reaction is non-immediate (>2 hours after vaccination) or non-allergic symptoms (such as dizziness, headaches), then this would not be a contraindication to receiving ANY of the vaccines.

My patient has a history of chronic urticaria/angioedema; do I need to take any precautions?

Their urticaria/angioedema should be controlled prior to vaccination and your patient should remain on regular treatment maintaining control. If control is poor, then adjust the medication well ahead of vaccination. If the urticaria is in remission and your patient is not on antihistamines, you may wish to consider antihistamine cover. Pre-dose with antihistamine eg cetirizine 20 mg (cetirizine 10mg x 2 tablets) one hour before vaccination and continue with cetirizine 10 mg twice daily for 3 days.

My patient has a history of idiopathic anaphylaxis, and the green book tells me to contact you for advice. What should we do?

Idiopathic anaphylaxis is a diagnosis of exclusion by an allergist. This means that the patient has had anaphylaxis (usually with hypotensive collapse) and with no identifiable trigger. If this diagnosis has been confirmed by an allergist, then there is no contraindication to any of the vaccines. However, if the patient has had anaphylaxis within minutes of drugs (containing PEG) and they have not been seen in an allergy clinic, then they should be reviewed prior to vaccination.

Is the Covid vaccine safe in patients with a history of Steven's Johnson Syndrome? Do I need to take any precautions?

Presently there are no reports that the Covid vaccines (Pfizer/Moderna/Astra Zeneca) have triggered Stevens-Johnson syndrome (SJS). If the cause of your patient's SJS is not secondary to a vaccination, then they can be vaccinated with any of the vaccines. SJS following a vaccination is extremely rare with MMR the most frequently reported trigger (Su et al. 2020). If there is a history of SJS following vaccination, then please discuss with an allergist.

Reactions to Previous Vaccinations

My patient developed a rash after their influenza vaccine several years ago. Which vaccine should I give them?

They can receive any of the Pfizer, Moderna or Astra Zeneca vaccines. We would recommend they take 20mg cetirizine (cetirizine 10mg x 2 tablets) one hour prior to vaccination and then continue with cetirizine 10mg twice daily for 3 days or longer depending on their clinical history e.g. if the rash persisted for a week, then they could take cetirizine 10mg bd for one week.

My patient collapsed after their influenza vaccine and taken to hospital. Can they be seen in the allergy clinic and have their first Covid vaccination hospital?

That depends on the cause of the collapse. If the collapse was felt to be due to a non-allergic cause (e.g. vasovagal), then Covid-19 vaccination can proceed in a community setting using standard protocols.

If there were any features of an allergic reaction such as anaphylaxis (e.g. immediate-onset urticaria, angioedema, hypotension, shortness of breath) then:

- 1) Do you know which Influenza vaccine they received?
- 2) Have they had medication since containing polysorbate 80 (in a parenteral drug) or PEG as an excipient?

Depending on the above:

- If they have had medication containing PEG or parenteral polysorbate 80 since the episode then they can have the vaccine locally.
- If their collapse was after an influenza vaccine containing polysorbate 80 or the name of the influenza vaccine they received is unknown and they have not received polysorbate 80 in a parenterally-administered medication or PEG since, then their Covid vaccination should be undertaken under medical supervision.

My patient developed severe swelling of their arm after the influenza vaccine. Which vaccine should I give them?

Your patient can receive any Covid vaccination.

My patient collapsed after receiving the DTP/MMR/Pneumococcal/Hepatitis B vaccine. Can they receive a Covid vaccine in the community?

We are not aware of any previous vaccines that contained PEG and therefore historical vaccine reactions not likely PEG allergic.

If anaphylaxis is suspected as a cause of their collapse, then please follow the advice as follows:

Diphtheria, Typhoid and Pertussis Vaccinations

- If Repevax was administered it contains polysorbate 80. If your patient has since taken medications containing PEG your patient could receive Pfizer or Moderna vaccinations. If they have received an influenza vaccine or other parenteral drug containing polysorbate 80 then they could have any Covid vaccine. But if they have not then they should be referred for advice.
- Infanrix hexa powder and suspension for injection and Infanrix-diphtheria tetanus pertussis (acellular), poliomyelitis and hib vaccine do not contain polysorbate 80 or PEG. Your patient can receive any Covid vaccination.

MMR:

- MMR Vax Pro, Priorix, Vaxelix, do not contain polysorbate 80 or PEG. Your patient can receive any Covid vaccination.

Pneumococcal:

- Pneumococcal Polysaccharide Vaccine (MSD), Pneumovax 23, do not contain polysorbate 80 or PEG. Your patient can receive any Covid vaccination
- Prevenar 13: contains polysorbate 80. If your patient has taken medication containing PEG then they can have Pfizer or Moderna vaccinations. If they have received an influenza vaccine or other parenteral drug containing polysorbate 80 then they could have any Covid vaccine. But if they have not then they should be referred for advice.

Hepatitis B Vaccine:

- Engerix, Hendrix, HBVax pro do not contain polysorbate 80 or PEG. Your patient can receive any Covid vaccination

Following the Vaccine

My patient began to cough and developed throat tightness shortly after their Covid vaccination. What should I do next?

If there were no other signs of allergic reaction (rash, visible swelling) and the cough settled either spontaneously or after oral antihistamines then they can have the second dose after pre-dosing with antihistamines continued for 3 days or longer if required.

If there were objective signs of an allergic reaction, then the cough was likely due to anaphylaxis and the patient referred for further investigation

My patient began to feel short of breath shortly after their Covid vaccination but did not need hospital admission. What should I do next?

If there were no other signs of allergic reaction (rash, visible swelling) and the SOB settled either spontaneously or after oral antihistamines then they can have the second dose after pre-dosing with antihistamines and continued for 3 days or longer if required. If, however, there were other objective signs of an allergic reaction then the cough was likely due to anaphylaxis and the patient should be referred for further investigation

My patient developed tingling of their mouth and tongue and skin after their Covid vaccination. About an hour later they developed mild swelling of their lip which settled with an antihistamine. What should I do next?

Consider pre-dosing with cetirizine 20mg (cetirizine 10mg x 2 tablets), one hour before their next vaccination. Check their baseline observations prior to vaccination, so that if they feel unwell, you will have a baseline for comparison. Observe for 60 minutes after the vaccine.

My patient developed urticaria/angioedema the night after their Covid vaccination and had to go to hospital. What should I do about their next vaccine?

Delayed urticarial rashes or angioedema to the Covid vaccines are not due to allergy but rather due to the immunogenic effect of vaccination. Therefore, testing for allergy is unnecessary. Your patient may develop a similar reaction after the next dose and therefore

pre-dosing with antihistamine such as cetirizine is recommended - for example with cetirizine 20mg (cetirizine 10mg x 2 tablets) before and cetirizine 10mg bd for 3 days or longer after vaccination.

My patient developed urticaria/angioedema the day after their Covid vaccination. It has lasted now for 2 weeks. Can you test them and organize their next vaccine in hospital?

Delayed reactions to the Covid vaccines are not due to allergy but rather due to the immunogenic effect of vaccination. Therefore, testing for allergy is unnecessary. Your patient may develop a similar reaction after the next dose and therefore pre-dosing with antihistamine such as cetirizine is recommended - for example with cetirizine 20mg (cetirizine 10mg x 2 tablets) before and cetirizine 10mg twice daily for up to 2 weeks after vaccination.

My patient developed a large area of swelling at the site of their Covid vaccination. It took a week to resolve. Can they have allergy testing and their next vaccination in hospital?

Mild pain and tenderness are common side-effects of the vaccine. Some patients will also develop redness and swelling local to the site of the vaccination within 48 hours. Delayed swelling and redness developing 4-11 days after the vaccine and lasting for more than a week, has been described in a small proportion of patients receiving the Moderna vaccine (Blumenthal et al., N Engl J Med 2021; 384:1273-1277). Treatment is symptomatic: antihistamine for itch, paracetamol for pain and ice packs for discomfort. Patients can still get

their second dose in the community but should be observed for 30 minutes after vaccination. Allergy testing is not needed.

Other Allergies:

My patient is allergic to wasp/bee stings, can they have their Covid vaccination in hospital?

Allergy to venom is not a risk factor for anaphylaxis to any of the vaccines. The vaccines can be given in the community and no special precautions are needed

My patient has allergic rhinitis, asthma, eczema and food allergies; is the Astra Zeneca vaccine the best one?

They can receive any of the Covid vaccinations.

My patient is allergic to alcohol; can they have the Covid vaccine?

Allergy to alcohol is rare and not usually to the alcohol itself as in most patients some types of alcohol are tolerated. The Pfizer and Moderna vaccines do not contain alcohol. The Oxford/AstraZeneca vaccine contains ethanol (alcohol) as an excipient. Your patient may have the Pfizer or the Moderna vaccine. It is unlikely the small amount of alcohol in the AZ vaccine would cause a problem.