

MARCH 2021

CONSENSUS STATEMENT

COVID-19 VACCINATION

FOR INDIVIDUALS WITH
ALLERGIC/HYPERSENSITIVITY DISORDERS

SECTION OF CLINICAL IMMUNOLOGISTS AND ALLERGISTS
COLLEGE OF PHYSICIANS, SINGAPORE



ACADEMY OF MEDICINE
SINGAPORE



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BACKGROUND

1. COVID-19 vaccination started in Singapore on 30 Dec 2020 following the Ministry of Health (MOH) Expert Committee on COVID-19 Vaccination (EC19V) and Health Sciences Authority's (HSA) approval of the following vaccine via the Pandemic Special Access Route (PSAR):
 - (1) Pfizer-BioNTech COVID-19 mRNA vaccine ^[1]
2. The HSA approved product insert for the Pfizer-BioNTech COVID-19 vaccine, dated 12/2020 specifies under Section 4, Contraindications: "Do not administer Pfizer-BioNTech COVID-19 Vaccine to individuals with known history of a severe allergic reaction (e.g., anaphylaxis) to any component of the Pfizer-BioNTech COVID-19 Vaccine":

<https://www.hsa.gov.sg/docs/default-source/hprq-tpb/guidances/pfizer-biontech-vaccine-factsheet-and-pi-for-hcp.pdf>
3. The EC19V has further defined in the document "What Clinicians Need to Know About COVID-19 Vaccination" dated 28 Dec 2020, under the section "Contraindications and Precautions for the Pfizer-BioNTech COVID-19 Vaccine":
 - (1) A history of anaphylaxis to first dose of COVID-19 vaccine (or vaccine components) is a contraindication to getting that vaccine
 - (2) Prior anaphylaxis or severe allergy (difficulty breathing, face/throat/ eye/lip swelling etc) is a contraindication to this vaccine at this time.
4. Hypersensitivity and allergic disorders are classified internationally according to the World Allergy Organization (WAO) 2003 Nomenclature^[2] and the International Classification of Diseases (ICD-11) Chapter^[3]
5. The latest definition and classification of anaphylaxis has been published in the WAO Anaphylaxis Guideline 2020^[4]
6. An international consensus on vaccine allergy and guidance have previously been published^[5,6] It is important to note that most vaccine adverse reactions are reported according to the classification of the Brighton Collaboration Working Group.^[7] Allergic reactions including anaphylaxis as defined by the Brighton Collaboration Working Group was used as part of the Vaccine Adverse Event Reporting System (VAERS) where based on spontaneous reporting, 21 cases of anaphylaxis after 1,893,360 first doses of Pfizer-BioNTech (11.1 cases per million doses) were reported, with 71% of cases occurring within 15 minutes of vaccination^[8]
7. The United States Centres for Disease Control and Prevention (CDC) Guidelines dated 31 Dec 2020 list the following vaccine contraindications: ^[9,10]
 - Severe allergic reaction to any ingredient in an mRNA COVID-19 vaccine
 - Severe allergic reaction after getting the first dose of an mRNA COVID-19 vaccine

- An immediate allergic reaction (even if it was not severe) to any ingredient in an mRNA COVID-19 vaccine
 - An immediate allergic reaction after getting the first dose of an mRNA COVID-19 vaccine
 - Allergy to Polyethylene Glycol (PEG) or polysorbate. Polysorbate is not an ingredient in the mRNA COVID-19 vaccine, it is closely related to PEG, which is in the vaccines.
8. CDC's position on individuals with an immediate allergic reaction (even if not severe) to a vaccine or injectable therapy for another disease is to consult a doctor to help decide if it is safe to get vaccinated. ^[9,10]
 9. The UK Medicines and Healthcare products Regulations Agency (MHRA) and National Health Services (NHS) England's updated guidance on 30 Dec 2020 following close surveillance of the initial roll-out has allowed anyone with a severe history to food, an identified drug or vaccine, or an insect sting to receive the vaccine as long as they are not known to be allergic to any component (excipient) of the vaccine.^[11]
 10. Erythema multiforme, Stevens Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are rarely reported after vaccination.^[12]

RECOMMENDATIONS

The Section of Clinical Immunologists and Allergists' recommendations are as follows:

1. **Known history of a severe allergic reaction/ anaphylaxis** to any component of the Pfizer-BioNTech COVID-19 Vaccine: we would recommend to avoid vaccination, ^[1,9,10,11,13] including attempted re-vaccination with Moderna or other mRNA vaccine. A non-mRNA vaccine may be considered when available.
2. **Known history of a severe allergic reaction/ anaphylaxis** to first dose of the Pfizer-BioNTech COVID-19 Vaccine: we would recommend avoid vaccinating the second dose. ^[1,9,10,11,13], including attempted re-vaccination with Moderna or other mRNA vaccine.
3. **Non-severe suspected hypersensitivity/allergic reaction to the first dose:** patient should be assessed by a medical practitioner whether to proceed with the second dose.
4. **Not contraindications to vaccination:**
 - history of severe allergic reactions not related to vaccines or medications e.g. food, pet, venom, environmental, or latex allergies
 - non-steroidal anti-inflammatory drug (NSAID) hypersensitivity – NSAID exacerbated cutaneous disease (NECD), NSAID-induced urticaria/ angioedema *

* Ministry of Health may adopt a more conservative set of guidelines as an additional precaution to protect patient safety and review their guidelines when more information is available.

- angiotensin converting enzyme inhibitor (ACEI) induced angioedema
 - non-IgE mediated drug allergies e.g. aminopenicillin induced maculopapular exanthema, fluoroquinolone induced urticaria, fixed drug eruptions
 - severe cutaneous adverse reactions (SCAR) i.e. Stevens Johnson syndrome, toxic epidermal necrolysis (SJS/TEN) **
 - latex allergy
 - well-controlled chronic or episodic urticaria/ angioedema
 - well controlled asthma including NSAID-exacerbated respiratory disease (NERD)
 - atopic dermatitis
 - patients receiving omalizumab, dupilumab, mepolizumab and other specific biologics for allergic/immunologic diseases.
5. **May receive COVID-19 vaccination** provided they are well-controlled, no recent severe reactions or asthma exacerbation, and following discussion with their attending specialist in clinical immunology/allergy or respiratory physician (for asthma):
- allergen immunotherapy ^[14] including subcutaneous immunotherapy, sublingual for inhalant allergy, or oral tolerance induction for food allergy
 - severe asthma well-controlled on biologics.
6. **Evidence is very limited and evolving.** Patients should discuss the benefits versus the risks of receiving the vaccine with their attending specialist in clinical immunology/allergy ^[6]:
- history of allergic reactions related to mast cell activation syndrome
 - idiopathic anaphylaxis.
7. **Evidence is very limited for the role of the following diagnostic and therapeutic modalities** in determining whether or how patients who developed a non-severe reaction to the first dose could or should receive the second dose, as the mechanism for adverse reaction remains unclear ^[12]:
- skin testing using the vaccine and or medications containing PEG or polysorbate
 - pre-medication with anti-histamine before the second dose
 - any form of incremental vaccine challenge or provocation test for the second dose.
8. **Anaphylaxis action plan:** Healthcare providers vaccinating against COVID-19 are required to be sufficiently prepared to recognize and treat anaphylaxis properly in line with current recommendations on standard of care

** Ministry of Health may adopt a more conservative set of guidelines as an additional precaution to protect patient safety and review their guidelines when more information is available.

9. **Observation period:** Persons without contraindications to vaccination who receive an mRNA COVID-19 vaccine should be observed after vaccination for 30 minutes for both doses.

Following review of HSA Vaccine Adverse Events Reporting after the first 2-3 months of the vaccination program, the observation period may be reduced as follows if most of the second doses are well-tolerated:

- 30 minutes for the first dose, 15 minutes for the second dose
- 30 minutes for both doses for persons with a history of an immediate allergic reaction of any severity to a vaccine or injectable therapy and persons with a history of anaphylaxis due to any cause.

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