

Recommendations were made for diagnosis and management of allergic reactions to COVID-19 vaccines

Greenhawt M, Abrams EM, Shaker M, et al. **The risk of allergic reaction to SARS-CoV-2 vaccines and recommended evaluation and management: a systematic review, meta-analysis, GRADE assessment, and international consensus approach.** *J Allergy Clin Immunol Pract.* 2021;9:3546-67.



Guideline scope: Diagnosis and management of severe allergic reactions to COVID-19 vaccines.



Methods: An international panel of experts reviewed evidence and drafted recommendations based on systematic reviews that searched multiple databases and clinical trial registries to Mar 2021 for studies and data on risk

for anaphylaxis to COVID-19 vaccines, value of screening for polyethylene glycol and polysorbate allergy, and accuracy of skin testing to diagnose these allergies. Only selected recommendations are reported below due to space constraints.



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Results: Selected clinical recommendations for management of patients potentially allergic to COVID-19 vaccines

Recommendations (strength)*

"We suggest against the clinician routinely performing skin or in vitro testing using SARS-CoV-2 vaccines or excipients outside of the research setting for the purpose of vaccine withholding." (conditional) Low certainty of evidence.

"We recommend a shared decision-making paradigm of care favoring vaccination through full or graded dosing (with or without additional observation time postvaccination) or changing vaccine platforms to another agent over no vaccination ..." (strong) Moderate certainty of evidence.†

"In patients with a suspected immediate allergic reaction to SARS-CoV-2 vaccine whose standard schedule requires more than 1 dose, we recommend referral to an allergist for assessment of additional vaccination over no vaccination/vaccination being withheld."‡ (strong) Moderate certainty of evidence.†

"In patients with a suspected or confirmed but remote past medical history of reaction to a SARS-CoV-2 vaccine excipient, we recommend referral to an allergist for assessment of additional vaccination over no vaccination/vaccination being withheld."‡ (strong) Moderate certainty of evidence.†

"In patients with a definite/confirmed recent allergic reaction to SARS-CoV-2 vaccine and/or excipient, we recommend referral to an allergist for assessment of additional vaccination over no vaccination/vaccination being withheld."‡ (strong) Low certainty of evidence.†

"We suggest against routine H1-antihistamine or systemic corticosteroid premedication prior to vaccination ..." (conditional) Low certainty of evidence.†

*Recommendation strength and certainty of evidence based on Grading of Recommendations, Assessment, Development and Evaluation criteria.

†This recommendation is based on 4 case reports without controls.

‡"In resource-limited settings in which specialist referral is not readily available, alternatives may be presented in a shared decision-making context to provide assessment and opportunity for vaccination by remote consultation, use of alternative vaccine products, or delay in vaccination until a solution can be determined."

Bottom line:

An international panel made clinical recommendations for managing patients potentially allergic to COVID-19 vaccines.



Commentary: Fear of vaccine side effects, including allergy, has contributed to vaccine refusal, and questions about the prevention and management of allergic reactions to COVID-19 vaccines remain unanswered.

Greenhawt and colleagues report consensus recommendations for the management of patients at risk for severe allergic reactions to COVID-19 vaccines. They report that anaphylaxis after both mRNA and adenovirus vector COVID-19 vaccines is very rare (<1/100 000 doses) and has been easily treated, with no reported fatal cases. Centers administering COVID-19 vaccines must have resources and expertise onsite to manage anaphylaxis.

A history of severe allergic reactions, including anaphylaxis, unrelated to the vaccine has not been predictive of COVID-19 vaccine-associated anaphylaxis. Preimmunization skin testing with the vaccine is not recommended because it is not standardized, has unproven value, is costly, and delays vaccine administration.

Although hypersensitivity to vaccine excipients polyethylene glycol-2000 and polysorbate 80 in the mRNA vaccines has been suspected to be responsible for allergic reactions, skin testing has not proven predictive of vaccine-associated anaphylaxis and is not recommended.

All patients with anaphylaxis after the first dose of a COVID vaccine who were given a second dose received it without fatality. It is recommended

that allergists participate in shared decision making before withholding a second dose, giving a graded dose of the same vaccine, or giving an alternate COVID-19 vaccine. The guideline favors giving a second dose without skin testing but with longer postvaccination observation.

There is no evidence that antihistamine or corticosteroid pretreatment of individuals with a strong allergic history, including COVID-19 vaccine-associated anaphylaxis, prevents vaccine-associated anaphylaxis—doing so may impair the development of maximal vaccine-induced immunity and is not recommended.

The benefit of COVID-19 vaccines for preventing severe infection and death vastly outweighs the very low risk for an anaphylactic reaction that can be effectively treated and is rarely, if ever, fatal.

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