



# Changes in Allergy Pattern in Covid Pandemic

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“The virus doesn’t move, people move it” we stop moving, the virus stops moving, the virus dies. It’s that simple [1].”

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## Introduction

In accordance to the above statement, both- the basic problem and the solution to this problem have been mentioned & that is- ‘stay home, stay safe and follow the Covid protocols’. In the last 2 years, the world has witnessed this century’s one of the most dreadful and contagious viral infection- Covid 19. COVID-19 is a respiratory disease characterized by- Fever, Chills, Cough, Shortness, of breath or trouble breathing, Feeling tired and weak, Muscle or body aches, Headache, New loss of taste or smell, Sore throat, Stuffy or runny nose, Diarrhea, Nausea or vomiting, Other symptoms reported are: Pink eye, Painful blue or purple lesions (such as a sore or bruise)

on toes (COVID toes), Hives or rashes. These symptoms are similar to some symptoms of an allergy which lead to a legitimate risk of a “twindemic” in the 2020-21 flu season that could overwhelm already exhausted hospital systems, flu was a sparse infection risk while another respiratory virus was uncontrolled at unprecedented rates [2] and hence many people who suffer from allergies may have symptoms that overlap with the symptoms of Covid-19, without actually having Covid-19. Because of this it is important to differentiate between allergy symptoms and any new symptoms that arise which could be due to Covid-19 (Table 1).

**Table 1:** Differences Between Seasonal Allergies & Covid-19.

S. No.	Seasonal Allergies	Covid-19
1	Fever is uncommon	Fever is a common presentation
2	Body pain is uncommon	Body pain is present
3	Mild fatigue	Relatively more extreme fatigue
4	Much longer time course	Acute illness, symptoms appear in 2-14 days
5	Generally, cough is not seen in allergy unless in cases of asthma or significant post-nasal drip	Cough(dry) is a common symptom.
6	Relieved by anti-allergic medications.	Not relieved by anti-allergic medications.

## Effect of Covid-19 Pandemic on Allergies

Many of the preventative measures used in combating COVID-19 spread such as face coverings and hand washing can aggravate allergy symptoms [3]. Yes, it does sound like a paradox that the measures that is being promoted all over the world to overcome covid-19 crisis, can cause further damage to allergic patients! Those suffering from any allergy – including food allergies – should they come into contact with an allergen whilst having COVID-19 may (in some cases) suffer from a worse allergic reaction. Therefore, it is important that extra caution is exercised following a positive COVID-19 result, and regular medication is continually taken. Aggravation of symptoms of allergies following Covid-19 protocols is the concern of the hour, for e.g.-

a) Asthma and face coverings: Those with severe asthma may be legally and medically exempt from wearing face coverings where they are legally required to do so, such as in shops/indoor public spaces. Patients with mild or moderate asthma will be able to wear the mask with some difficulty however, those with severe asthma with frequent exacerbations, frequent symptoms and hospital visits may not be able to wear the mask for long durations and may have to obtain a medical exemption from their doctor; that will; put them at the risk of Covid infection. The option of wearing a specific types of face mask that solves this problem might be more suitable, thus exploring the range of options (more breathable fabric) before opting not to wear one at all will be a more appropriate course of action, especially in the spirit of collective public health [3].

b) Eczema and hand washing: Frequent hand washing using soap and water for at least 20 seconds or sanitizing with 70% alcohol content is one of the golden rule to fight against covid-19, but those with Eczema may notice that their symptoms worsen with frequent hand washing and especially after sanitizing.

But since the benefits of sanitizing and hand washing outweigh the risks associated with dry skin, it is advised to choose sanitization over risk of any allergic reaction due to it. To overcome some of the adverse effects of frequent hand washing on the skin, we must-

a. Moisture immediately after hand washing and sanitizing

b. Sanitizers can have adverse effect on some persons especially if they are allergic to them; so whenever indicated those that suffer from eczema or other skin conditions should preferentially use warm water and soap to wash their hands whenever possible followed by moisturizing [3].

c) Effect of Vaccinations: People who suffer from severe allergic reactions (especially to any vaccine or injectable medicine) are advised to seek medical advice before getting any COVID-19 vaccine; But if it is a common allergy issue of skin, then one can take the COVID-19 vaccine without any fear. If one is on allergy medication, then the medication should be continued after vaccination. Some of the current emergency vaccines are mRNA-based vaccines (Pfizer/BioNTech and Moderna). Anyone who has had an allergic reaction to such vaccines; or any of their ingredients, should not get these vaccines, and instead wait for a non-mRNA vaccine such as the Oxford/AstraZeneca vaccine [3]. It is also recommended that individuals with a history of allergies to oral medications or a family history of allergic reactions, or who might have a mild allergy to vaccines (but no anaphylaxis) may still get vaccinated [4,5]. If there is any allergic reaction post the vaccination then it should be reported to the doctors at the vaccination centre.

## A Case Study

### Do respiratory allergies and allergic asthma have protective mechanism in covid-19?

A study conducted by the University of Wisconsin School of medicine and public health, observed that there is a decrease in gene expression of the Covid virus in cases of patients with asthma and allergies. The main target of Covid virus is the ACE 2 receptors that are found mainly in the lungs, hence, it was assumed that Covid

virus would also exaggerate the signs and symptoms of an asthmatic or allergic individual as they are susceptible to viral infections. 3 cohort studies were conducted for both children and adults and it was observed that there is reduced ACE2 gene expression associated with moderate and high levels of allergy and asthma [6]. However, as it is said, 'when nothing is sure, everything is possible', and hence there may be various other contributing factors as well that shape the Covid-19 response in allergic individuals and to discover it, a handful of further research work awaits us. All things considered, some of the symptoms associated with certain allergies may share commonalities with the symptoms of COVID-19/flu/cold, and proper management of allergy symptoms is important throughout the pandemic period, especially in distinguishing between symptoms. Further examination of these relationships could identify novel therapeutic strategies to control this pandemic more effectively. People with specific allergies such as asthma, eczema and food allergies should stay proactive and maximize their efforts in reducing their risk of getting COVID-19 [3].

## Conclusion

Covid-19 is challenging us in ways that are unprecedented in modern times, not least of which because it is breaking everywhere at once, but it is rightly said that 'tragedy should be utilized as a source of strength'. No matter what sort of difficulties, how painful experience is, if we lose our hope that's our real disaster [7]. "covid-19 will reshape our world. We don't know yet when the crisis will end. But we can be sure that by the time it does, our world will look very different" - Josep Borrell [8].

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