



# Management of food allergies & related allergic conditions

DURING THE COVID-19 PANDEMIC AND BEYOND



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## Learning Objectives

- Update on COVID-19 pandemic
- Considerations for opening your practice
- Describe an approach to triage
- Discuss risks and challenges for food allergy management
- Discuss and implement best practices for telemedicine visits

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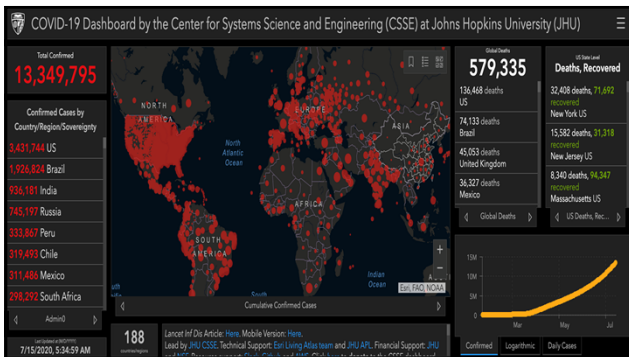
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### COVID-19: A droplet pathogen



6 ft

The respiratory droplets from a sneeze or cough can travel up to 6 feet (nearly 2 meters)

COVID-19 is spread via:  
 Droplets created by talking, coughing, sneezing, singing ...  
 Fomites left on solid surfaces  
 "Aerosolization" the creation of airborne micro-droplets

Image: Public Domain

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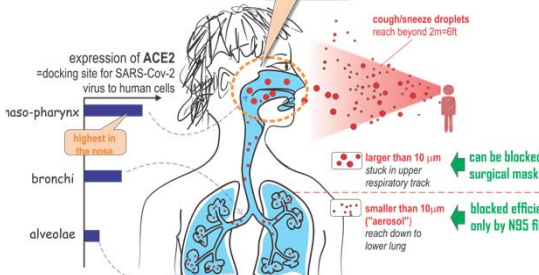
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most likely site of initial infection

cough/sneeze droplets reach beyond 2m=6ft

expression of ACE2 = docking site for SARS-Cov-2 virus to human cells

highest in the nose

nasopharynx

bronchi

alveolae

larger than 10 µm stuck in upper respiratory track

can be blocked by surgical mask

smaller than 10 µm ("aerosol") reach down to lower lung

blocked efficiently only by N95 filter

Image: Dr. Sui Huang

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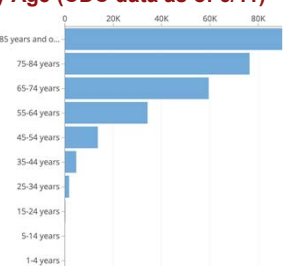
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### Covid-19 Attributable Deaths by Age (CDC data as of 6/11)



Age Group	Approximate Number of Deaths
85 years and older	75,000
75-84 years	65,000
65-74 years	55,000
55-64 years	45,000
45-54 years	35,000
35-44 years	15,000
25-34 years	5,000
15-24 years	2,000
5-14 years	1,000
1-4 years	500

Children are at lower risk of infection & severe COVID-19

(However they are still at risk of infection and can spread COVID-19, to others even when asymptomatic)

Figure: www.cdc.gov

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**SARS-COV-2 Related Multisystem Inflammation MIS-C**

- Bulbar conjunctivitis 89%
- Red and crackled lips 54%
- Neurological sign 31%
- Skin rash 57%
- Fever > 4 days and asthenia (fatigue) 100%**
- Median age 10 years

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- Cervical & Mesenteric lymphadenopathies 60%
- Respiratory signs 34%
- Digestive involvement 83%
  - Nausea, diarrhea 83%
  - Exploratory laparoscopy 5.7%

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- Left ventricle dysfunction 100%
  - Shock 68%
  - VA ECMO 28.6%
  - Coronary dilatation 17%
  - Pericarditis 8%

American Heart Association

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Comparison of Symptoms	Length of symptoms	Cough	Shortness of breath	Wheezing	Sneezing	Runny or stuffy nose	Smell Dysfunction
<b>Coronavirus* (COVID 19)</b> <small>Symptoms range from mild to severe</small>	7-25 days	Common (usually dry)	Sometimes	Rare	No	Rare	Common
<b>Cold</b> <small>Gradual onset of symptoms</small>	Less than 14 days	Common (mild)	No**	No	Common	Common	Common
<b>Flu</b> <small>Abrupt onset of symptoms</small>	7-14 days	Common (usually dry)	No**	Sometimes	No	Sometimes	Common
<b>Seasonal Allergies</b> <small>Abrupt onset of symptoms</small>	Several weeks	Rare (usually dry unless it triggers asthma)	No**	Sometimes	Common	Common	Sometimes (in severe cases)
<b>Allergic asthma</b>	Several weeks or months (when caused by seasonal allergies) or persistent (often caused by perennial allergens)	Common	Common	Common	No	No	Sometimes (in severe cases)
<b>Chronic</b>	Months	No	No	No	Sometimes	Common	Common

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Comparison of Symptoms	Taste dysfunction	Sore throat	Fever	Feeling tired or weak	Headaches	Body aches and pains	Diarrhea
<b>Coronavirus* (COVID 19)</b> <small>Symptoms range from mild to severe</small>	Common	Sometimes	Common	Sometimes	Sometimes	Sometimes	Sometimes
<b>Cold</b> <small>Gradual onset of symptoms</small>	Sometimes	Common	Short fever period	Sometimes	Rare	Common	No
<b>Flu</b> <small>Abrupt onset of symptoms</small>	Sometimes	Sometimes	Common	Common	Common	Common	Sometimes for children
<b>Seasonal Allergies</b> <small>Abrupt onset of symptoms</small>	Rare	Sometimes (usually mild)	No	Sometimes	Sometimes (related to sinus pain)	No	No
<b>Allergic asthma</b>	Rare	No	No	Sometimes	No	No	No
<b>Chronic rhinosinusitis</b>	Rare	Sometimes	Common in acute exacerbations	Common	Common	No	No

\*Information still evolving \*\*Allergies, colds and flu can all lead to asthma, which can lead to shortness of breath  
Pfeil et al. COVID-19 pandemic: Practical considerations on the organization of an essay class – an EAACI/ARIA Position Paper. Allergy 12 June 2020

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Considerations for opening your practice

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**System-Level Considerations for Re-opening**

1. Accurate **assessment of current SARS-CoV-2 community transmission**.
2. A **sustainable supply of PPE**, a plan for providing PPE for patient visits, and ongoing reassessments of best practices
3. An effective **patient and staff SARS-CoV-2 screening** process.
4. Adequate availability of **rapid, accurate SARS-CoV-2 testing** to assess infection status of patients and/or to assess staff scheduled to work.
5. Accurate **understanding of the degree to which a patient (or staff member) may be at risk** for severe or life-threatening COVID-19.

Searing DA, Dutmer CM, Fleischer DM, Shaker MS, Oppenheimer J, Grayson MH, Stukus D, Hartog N, Hsieh EW, Rider NL, Vander Leek TK. A Phased Approach to Resuming Suspended Allergy/Immunology Clinical Services. The Journal of Allergy and Clinical Immunology: In Practice. 2020 May 22.

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**System-Level Considerations for Re-opening**

6. Implementation of recommendations for **reducing patient density, minimizing close contact time per encounter and achieving physical distancing** requirements.
7. Developing **patient isolation capabilities within an office** space, and reducing the environmental dynamics of an office space that may contribute to transmission risk.
8. Developing office protocols for **how to effectively and efficiently disinfect** rooms after patient visits.
9. **Safely optimize clinic space utilization** and maintain social/physical distancing, including family members accompanying patients.
10. **Determining staff availability** (e.g. based on infection risk & childcare needs)

Searing DA, Dutmer CM, Fleischer DM, Shaker MS, Oppenheimer J, Grayson MH, Stukus D, Hartog N, Hsieh EW, Rider NL, Vander Leek TK. A Phased Approach to Resuming Suspended Allergy/Immunology Clinical Services. The Journal of Allergy and Clinical Immunology: In Practice. 2020 May 22.

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Describe an approach to triage of the allergy patient

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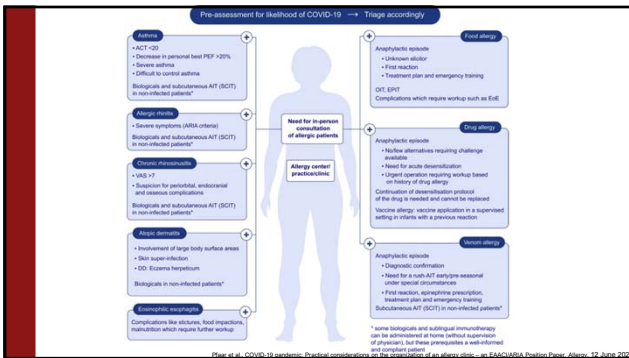
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Changes and challenges for food allergy management

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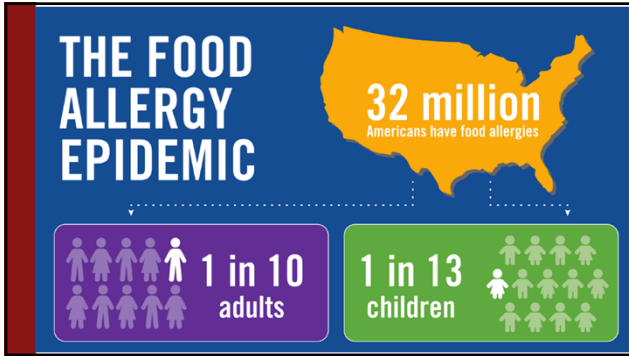
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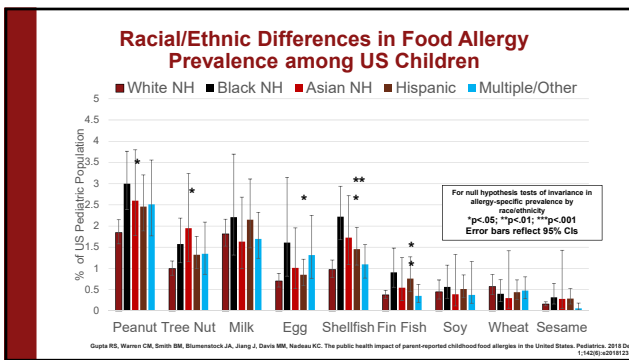
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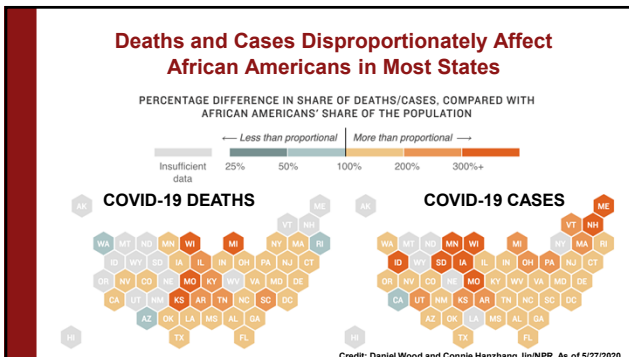
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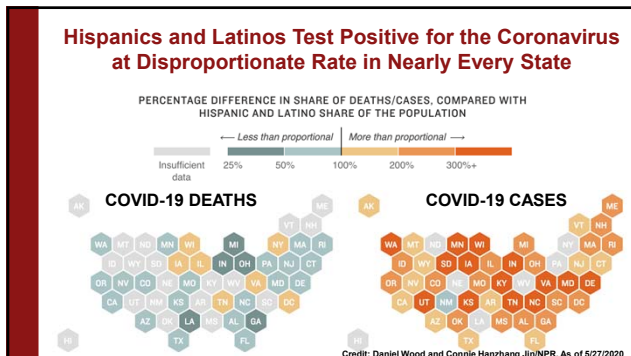
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### An approach to triage for food allergy

Food challenges may be deferred unless:

- Critical essential nutrients need to be reintroduced.
- Peanut is being withheld unnecessarily in a child with high risk requiring supervised **early introduction**.
- At the end of a research study interval, since delay could affect **study outcomes**.

Consider telehealth or visit postponement for patients that:

- Have had no interim reactions.
- Are new to the practice and do not involve IgE-mediated allergy to the 8 common food allergens plus seeds or FPIES, or EoE visits needing food elimination testing.
- Research visits for food allergy immunotherapy or other ongoing protocols.

Check if there are any additional guidelines set by the facility.  
If non-urgent, skin testing and phlebotomy can be deferred.

Shaker et al. JACI in practice, May 2020

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### Food Allergy Action Plans During COVID-19

- COVID-19 has created new fears and risks for food-allergic individuals seeking emergency care.
- Under normal circumstances, following an anaphylactic reaction, experts advise seeking emergency care after administering an epinephrine auto-injector to ensure optimal patient care.
- However, during this pandemic, some patients whose symptoms have resolved following treatment with one or two EAs may be safer recuperating at home rather than seeking emergency care.<sup>1</sup>

**REMEMBER: the quicker epinephrine is administered the less likely a reaction will progress to a catastrophic event.<sup>2</sup>**

**FARE** Revised Anaphylaxis Management Algorithm During COVID-Pandemic  
To be implemented based on the local COV-19 patient assessment

**WARNING:** Patients with history of severe anaphylaxis such as those who have intubated and ventilated, or had seizures triggered or worsened during COVID-19, should be managed as high-risk patients requiring air and end-tidal CO<sub>2</sub> monitoring and continuous pulse oximetry.

**IMPORTANT:** Anaphylaxis is a potentially life-threatening, severe allergic reaction. If it occurs, give epinephrine.

**SEVERE SYMPTOMS: ANY OF THE FOLLOWING**

<b>LUNGS</b> Shortness of breath, wheezing, hyperinflated chest	<b>HEART</b> Fast or slow rate, dizziness, fainting, chest pain	<b>EYES</b> Reddened, swollen, itchy, tearing	<b>THROAT</b> Tight or hoarse throat, trouble swallowing or speaking
<b>SKIN</b> Widespread hives, swelling of face, lips, tongue, or throat	<b>MOUTH</b> Swelling, numbness of the tongue or lips	<b>OTHER</b> Falling, vomiting, loss of consciousness	<b>Mild symptoms that have not yet gotten worse:</b> Itchy, watery eyes, sneezing, runny nose, hives, skin redness and/or swelling

**1. SELECT EPINEPHRINE IMMEDIATELY** unless unable to breathe while reading.

**2. Notify someone in your home to help you.**

**3. If alone with only one device, use the device which should be provided in your state (either auto or auto- and dose) and follow the guidance of the device. Do not use the other device.**

**4. Additional oral antihistamines, steroids, and/or inhalers if available.**

**5. Additional alcohol for respiratory symptoms if prescribed and available.**

**6. Notify your allergist and/or pediatrician if possible.**

**SEVERE SYMPTOMS RESOLVE OR IMPROVE:**  
Repeat epinephrine if patient is 12 hours or older  
• 1 repeat epinephrine dose

**SEVERE SYMPTOMS DO NOT IMPROVE OR RESOLVE:**  
Repeat epinephrine  
• Continue to monitor for 4-6 hours for the appearance of symptoms  
• Do not delay to administer treatment if symptoms worsen  
• Repeat epinephrine as prescribed  
• Notify your allergist and/or pediatrician  
• Notify your emergency department

**SEVERE SYMPTOMS IMPROVE OR RESOLVE:**  
Repeat epinephrine  
• Repeat epinephrine as prescribed

<sup>1</sup>Castillo TB, Wang J, Nowak-Wegzyn A. Acute At-Home Management of Anaphylaxis During the Covid-19 Pandemic. The Journal of Allergy and Clinical Immunology in Practice. 2020 Apr 18.  
<sup>2</sup>Shaker MS, Oppenheimer J, Wallace DV, Golden DB, Lang DM, Lang ES, Berkman JL, Campbell RE, Chu D, Drisaker C, Ellis AC. Making the GRADE in anaphylaxis management: towards recommendations integrating values, preferences, context, and shared decision-making. Annals of Allergy, Asthma & Immunology. 2020 May 14.  
FARE - Food Allergy Research & Education

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### Food labeling requirement changes

- On May 22, the Center for Food Safety and Applied Nutrition with the FDA announced a "temporary flexibility policy regarding certain labeling requirements for foods for humans during COVID-19 pandemic."
- Ingredients substituted must not cause adverse health effects, including food allergens.
- The Food Allergy Research & Education (FARE) held meetings with the FDA and is continuing to have discussions with them to ensure the safety of the food allergy community .

FDA Constituent Update, May 22, 2020  
FARE, June 2020

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### Telemedicine



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### Tele-Presence 5

A Ritual for Connection in Virtual Visits

- Prepare with intention** Pause and refresh between virtual visits, and familiarize yourself with the next patient
- Listen Intently and completely** No!d, maintain eye contact by looking at the camera, and avoid interruptions
- Agree on what matters most** Establish a virtual visit agenda that incorporates patient priorities and goals
- Connect with the patient's story** Engage virtually with the patient's home environment and social support
- Explore emotional cues** Tune into facial expressions, body language, and changes in tone and volume

Based on Zulman, et al. JAMA. 2020;323:70-81.

Shankar M, et al. MEDPAGE TODAY's KevinMD, April 2020



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**Virtual exam**

- Immediately you can observe the patient's appearance. Do they look comfortable? Any difficulties in breathing or speaking?
- **Vitals:** Ask the patient to take their temperature and blood pressure and show you the readings. Respiratory rate can be observed.
- **Respiratory exam:** Ask patient to take a deep breath and observe for harsh breath sounds and/or cough. Observe for nasal flaring, chest retractions, and other signs labored breathing.
- Exam maneuvers can be demonstrated, and the patient may perform on themselves, such as sinus and lymph node exams.

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**Additional tips for telemedicine**

- For patients with food allergies, ask them about any changes to their food consumption habits. If getting take-out food, make sure to inform the restaurant of their allergies and check the food before eating (there can be mix ups with orders).
- Review previous lab work with the patient.
- Review medications and can ask the patients to show you how they use their medicines.
- When appropriate, with the patient's permission you can ask the patient to show you around their home so that you may look for home environment allergic triggers.

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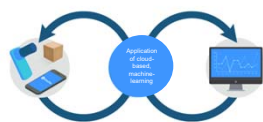
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**Advances in mobile spirometry technologies**



- Permit remote symptom monitoring by providers
- Reduce healthcare system burden
  - Reduce patient burden
  - Reduce follow-up latency when symptoms worsen
- May improve outcomes among patients/caregivers:
- Patient-facing dashboards facilitate understanding
  - Real-time alerts can change management practices in response to worsening symptoms
  - Real-time alerts may prevent attacks when environmental conditions worsen/triggers are present

The latest sensors have accuracy/reliability approaching much larger/more expensive laboratory units<sup>1</sup>

<sup>1</sup>Zhou P, Yano L, Harris W. A smart phone based handheld wireless spirometry with flexible and portable connectivity to laboratory spirometry. Sensors. 2019;19(11):2487.

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**Some useful online resources**

<a href="#">CDC Coronavirus Resources</a>	<a href="#">AAAAI telemedicine tools</a>	<a href="#">AAAAI COVID-19 resources for AI clinicians</a>
<a href="#">AAAAI podcasts and videos on telemedicine tips</a>	<a href="#">FARE advocacy for new FDA guidance on food labeling</a>	<a href="#">EQUIL COVID-19 resources</a>
	<a href="#">EQUIL resource center for COVID-19</a>	

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**Final thoughts**

- As COVID-19 restrictions are lifted, new challenges will arise and will require your clinical judgment and flexibility to adjust clinical care.
- You may need to weigh the risks of virus with benefits of treatment to the patient.
- Continue to advocate for and support your patients. They may have lots of questions and feel uncertain about treatment during this time, and issues may be addressed on a one-on-one basis.
- Despite the challenges, this is an important time to remember that we are all in this together.

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## Thank you

**Please complete the evaluation survey**

available via the link below or by scanning the QR code using the camera of your smartphone

<https://www.surveymonkey.com/r/QJBRJ6J>



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