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Acute At Home Management of Anaphylaxis During the Covid-19 Pandemic



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Recent estimates indicate that several million Americans are at risk of contracting COVID-19 and many fatalities will likely result. Implicit in these numbers is the risk involved for uninfected patients with COVID-19 seeking medical care in an emergency situation. Allergists/immunologists may need to modify recommendations for the acute management of anaphylaxis during these unprecedented times to ensure optimal outcomes of anaphylaxis while weighing the infectious risk and health care burdens associated with the COVID-19 pandemic.¹ The following recommendations reinforce and expand on the recent expert opinion to assist allergists/immunologists in considering how to adjust their practice under these unique circumstances.^{1,2} Decision-making will vary based on local contexts and resources as rates of COVID-19 and access to health care differ geographically. Moreover, there will be cases of severe anaphylaxis where we would not deviate from the usual plan of contacting emergency services immediately after using epinephrine (Figure 1). Patients should be empowered to activate emergency medical services (EMS) if they feel concerns or feel urgent care is needed after epinephrine use, and EMS should be activated if severe symptoms do not completely resolve or if they recur. We recommend using telemedicine to proactively discuss the modified management of anaphylaxis and communicate thresholds for activating EMS, per individual patient's

profile, local COVID-19 burden, and careful assessment of the risk-to-benefit ratio.

Patients with specific disorders that require the immediate administration of epinephrine (Table 1) to treat acute immediate hypersensitivity reactions are typically advised to immediately use their epinephrine autoinjector and activate emergency services to be evaluated at an emergency department (ED).¹⁻⁶

In view of the risk of contracting COVID-19 at overburdened ED facilities, such as New York City, it may be advisable for patients to follow a revised management algorithm (Figure 1). Successful implementation of at home management of an acute anaphylactic event requires capable and adherent patients and caregivers who have a clear understanding of the risk and benefits.⁷ It is critical for patients to have at least 2 epinephrine autoinjectors available for management. Patients who were treated with multiple doses of epinephrine in the past should have additional epinephrine auto-injectors available. Patients should inspect the epinephrine injectable devices to determine an expiration date and to identify any potential issues associated with malfunction (see recent Food and Drug Administration communication).⁸ The expired and otherwise "suspicious" epinephrine devices should be replaced as soon as possible; however, if a patient has access to only a recently expired auto-injector, he or she should be informed that use of that device is preferable to nontreatment if a severe reaction were to occur.⁸ Patients with underlying asthma should take prescribed asthma medications and maintain optimal asthma control. Having access to a home blood pressure and pulse monitor can also be helpful.

A modified algorithm for the acute management of anaphylaxis is displayed in Figure 1. Patients should administer their epinephrine autoinjector as soon as there are symptoms of a severe allergic reaction. After the epinephrine autoinjector is used, patients should be monitored for response to treatment, and if severe symptoms resolve promptly (eg, wheezing, shortness of breathing, difficulty breathing, vomiting, throat swelling, faintness, hypotension), they should notify their doctor on a nonurgent basis. If severe symptoms persist or worsen, a second dose of epinephrine should be injected, and if prompt resolution of severe symptoms is not achieved, emergency services should be activated. If patients have questions regarding subsequent management, they might attempt to contact their physician urgently although during the COVID pandemic access might be limited. For patients with a prior history of severe anaphylaxis, it might be prudent to proactively discuss the modified management of anaphylaxis, if feasible, for example, via telemedicine. There should be clear, open communication regarding the risk/benefit assessment for ED evaluation, taking into account symptoms, prior history (ie, asthma and anaphylaxis history), access to EMS/ED if symptoms progress, patient/caregiver knowledge, and comfort as well as other

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Revised Anaphylaxis Management Algorithm During COVID Pandemic

To be implemented based on the local risk / benefit assessment



Patients with history of severe anaphylaxis such as those who have been intubated and ventilated, or had reactions treated with more than two doses of epinephrine should follow their routine anaphylaxis plan and activate emergency services immediately when anaphylaxis is recognized.

IMPORTANT REMINDER: Anaphylaxis is a potentially life-threatening, severe allergic reaction. If in doubt, give epinephrine.

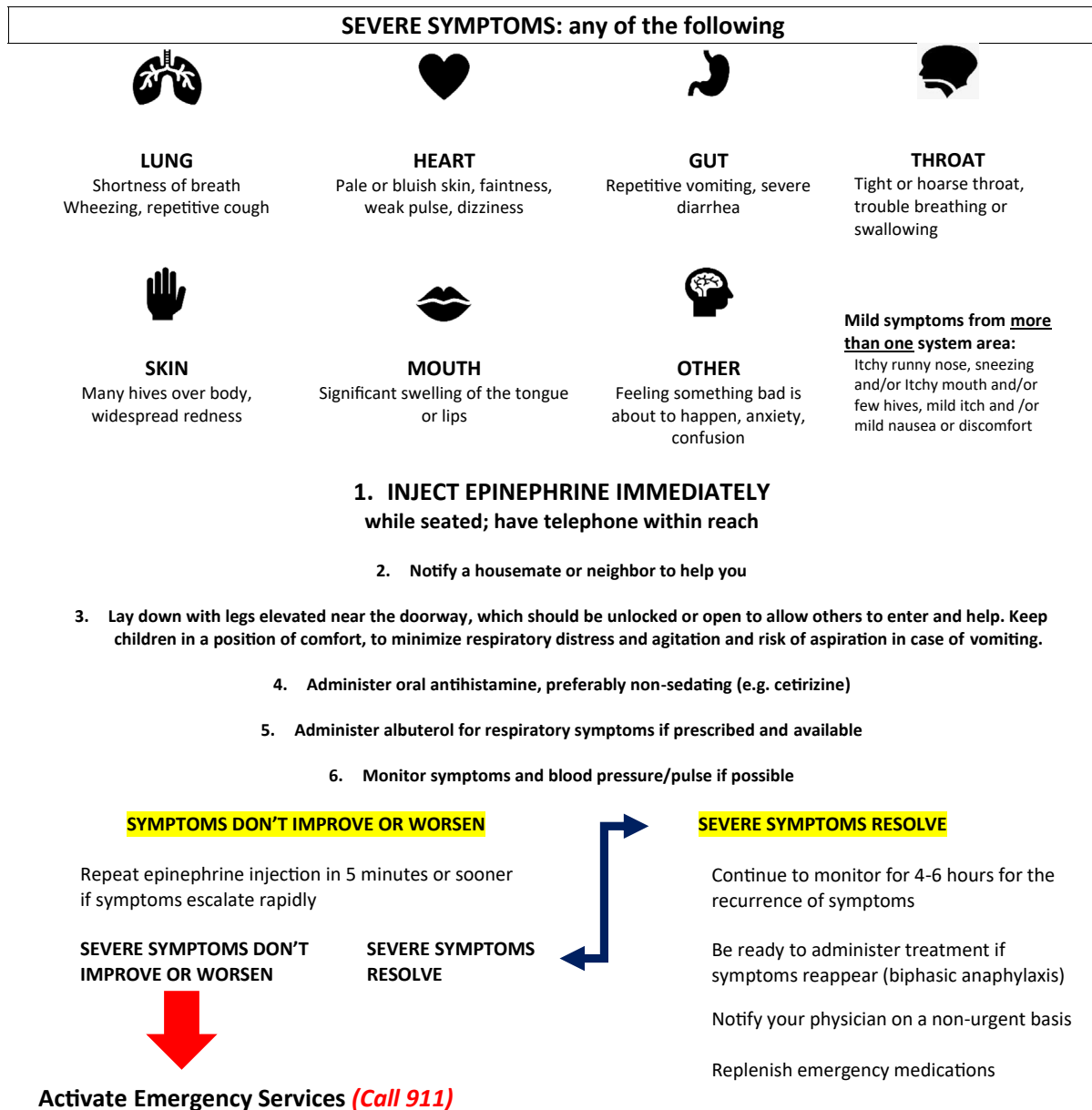


FIGURE 1. Revised anaphylaxis algorithm replacing the standard management protocol during the COVID-19 pandemic.

factors that may influence decision-making.⁶ It is also important to emphasize that the recommendation for ED evaluation is based on the assessment of how likely there will be need for additional medical intervention to manage anaphylaxis, and not because epinephrine is a dangerous medication (this misconception should be dispelled). Telephone or telehealth video follow-up can be

helpful to address any questions that may arise regarding avoidance of anaphylaxis triggers and management of future reactions. Biphasic or prolonged anaphylaxis can occur.⁹ Patients need to be educated about this possibility and be ready to emergently manage a recurrence. If they have exhausted their supply of epinephrine autoinjectors managing the initial symptoms and

TABLE I. Disorders commonly treated with epinephrine

Food-induced anaphylaxis, including reactions during food oral immunotherapy
Medication/drug-induced anaphylaxis
Venom-induced anaphylaxis
Idiopathic anaphylaxis
Physical urticarias resulting in anaphylaxis
Mast cell disorders
Home-administered allergen immunotherapy

symptoms have resolved or improved significantly, they should continue monitoring and obtain a refill of EAI. If symptoms have persisted or escalated, they should call 911 and seek immediate medical assistance.

Open communications with patients and families regarding risks and benefits of ED evaluation after epinephrine administration for anaphylaxis are strongly encouraged.⁶ Patients should understand that these modifications reflect a shift in risk/benefit assessment as infectious risks and health care system burdens associated with ED visits during the COVID-19 pandemic are significantly higher than usual. The successful implementation of home management of an acute anaphylactic event requires patients to be calm, educated, and in possession of medications needed to treat an acute reaction. As with all anaphylactic reactions, the quicker epinephrine is administered the less likely a reaction will progress to a catastrophic event.⁶

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