ADMINISTRATION OF SUBCUTANEOUS ALLERGEN IMMUNOTHERAPY DURING THE COVID-19 OUTBREAK: A Work Group Report of the AAAAI Immunotherapy, Allergen Standardization and Allergy Diagnostics (IASAD) Committee

The following are considerations for administering allergen immunotherapy for patients where SARS-CoV-2 infection leading to Coronavirus Disease 2019 (COVID-19) is present. Under these extraordinary circumstances, it is reasonable to consider if the current schedule of administration of subcutaneous allergen immunotherapy should be modified. A higher priority to continue immunotherapy should be given to patients being treated for life-threatening venom sensitivity, whereas conditions treated by aeroallergen immunotherapy may be managed by other controller therapies during a temporary suspension or revision of the schedule for allergen injections. Determination of the benefits of continuing immunotherapy versus the potential harm from transmission of SARS-CoV-2 in an office setting must be determined on an individual practice basis, with consideration for national and state governmental recommendations regarding COVID-19. Practitioners also need to consider specific patient characteristics, such as patient age and co-morbidities that may impact the risk of severe COVID-19 disease, including asthma. Options that should be considered for individual patients include: continuing, temporarily stopping allergen immunotherapy, or extending the interval between immunotherapy doses, until the risk of transmission of SARS-CoV-2 through social contact has declined to an acceptable level.

In the event that the benefits from immunotherapy are seen to outweigh the potential harm/burden related to SARS-CoV-2 transmission, considerations below are designed to promote social distancing. Practitioners should not assume that suggestions below will guarantee lack of transmission of the virus that causes COVID-19 in the office setting, but an effort to mitigate those risks. In these cases, allergists should use a shared decision making model to ensure that patients are able to voice their values and preferences and participate in the medical decision making process.

Considerations below are not intended to circumvent the appropriate use of Personal Protective Equipment (PPE), or any recommendations for mandated quarantine or isolation that are legally required by governmental agencies.

In the event that immunotherapy injections are continued, we suggest:

1. For maintenance patients receiving inhalant immunotherapy injections, consider decreasing the frequency of injections to the longest interval permitted for safe administration, as specified in the Immunotherapy practice parameter (Cox L et al. J Allergy Clin Immunol, Jan 2011). For example, for patients on every 2-3 week dosing consider temporarily extending to every 4 weeks. Limited data exist indicating that increasing the maintenance interval to every 6 weeks in select patients based on individual physician judgment may be reasonable, with the understanding that the adverse event rate and efficacy may be affected. If every 6 week dosing is attempted, consider dose adjustment for appropriate patients, if needed, until every 4 week dosing can be resumed.

2. For patients on build up dosing for inhalant allergens, consider allowing for a longer period of time between injections (up to 14 days). The decision of whether to continue increasing versus

leveling off dosing in patients who are coming less often for immunotherapy may need to be individualized based on patient-specific characteristics and tolerance of immunotherapy.

3. For venom immunotherapy, there should be no change in service for initiation or build-up for patients with a history of a systemic reaction to venom, as this is a life-threatening condition, and this is an essential service. Venom immunotherapy should not be initiated or continued for patients with either large local reactions or a history of an isolated cutaneous systemic reaction. For patients on maintenance, consider increasing the dose in a step wise fashion, to the longest interval accepted for efficacy and safety. Consider increasing dosing up to 8-12 weeks in patients who have completed at least one year of maintenance venom immunotherapy. Additional information can be found at:
https://www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20Resources/Venom-Extract-Shortage.pdf

https://www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20and%20Parameters/Stinging-insect-hypersensitivity-2016.pdf

4. For patients with allergic rhinitis, immunotherapy should ideally not be initiated during the COVID-19 pandemic, unless there are unusual circumstances, such as a patient with unavoidable exposure to a trigger that has resulted in anaphylaxis or asthma-related hospitalization, where no other alternative is feasible for the short-to-intermediate term.

5. For those practitioners performing routine peak flows, stop routine peak flows prior to immunotherapy injections as the forceful expiration has the possibility of increasing spread of SARS-CoV-2.

6. Consider elimination of unscheduled “walk in” immunotherapy visits in favor of scheduling immunotherapy administration visits with a limited number of patients per hour to permit ‘social distancing’ in the waiting rooms.

7. Discourage patients from bringing family members, including children, for immunotherapy visits. For children, advise that only one parent come in with the child.

8. Stop use of electronic kiosks and shared pens for shot check in, as these may facilitate the spread of Coronavirus. Likewise, eliminate shared reading materials such as magazines in the waiting room, and eliminate shared toys in children’s waiting areas.

9. Regularly disinfect surfaces involved with the administration of immunotherapy, and in waiting rooms for immunotherapy, with approved virucidal disinfectant agents. This will help keep both patients and staff safe and provide them with the reassurance that these measures are being done regularly. Specific guidance for the practicing clinician can also be found at:
https://education.aaaai.org/resources-for-a-i-clinicians/covid-19

10. Removing some chairs from injection waiting areas to facilitate social distancing, or space out chairs from each other.

11. Limit congregation of patients in the waiting room. One way to do this is to use open exam rooms or other unused rooms in the office area to hold patients during their post injection

waiting period. Having patients wait in their car until it is time to receive their injection is another option.

12. Consider offering extended shot clinic hours to accommodate a slower hourly flow.

13. Consider offering 'split-shifts' to employees to cover extended hours and assist in childcare as schools are closed in certain areas.

14. Home administration of immunotherapy is strongly discouraged, except for rare and special circumstances, as outlined in the Immunotherapy Practice Parameters: *"Under rare circumstances, when the benefit of allergen immunotherapy clearly outweighs the risk of withholding immunotherapy (ex., patients with a history of venom-induced anaphylaxis living in a remote region), at-home administration of allergen immunotherapy can be considered on an individual basis. In this instance there should be a discussion with the patient, with careful consideration of the potential benefits and risks involved in home administration and alternatives. Informed consent should be obtained from the patient and appropriate family members after this discussion. Under these circumstances, another adult person should be trained to administer the injection and to treat anaphylaxis, should it occur."* https://www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20and%20Parameters/Allergen-immunotherapy-Jan-2011.pdf

15. Patients receiving injections **should still remain** in the office for a post-injection monitoring period as specified in the Immunotherapy practice parameters. It is acceptable to patients to wait in their car **prior to** receiving injections; however, waiting outside of the office after receiving an injection, such as in the patient's car, is not an acceptable alternative.

16. All patients should be asked about recent travel, and presence of cough and fever. Consider checking the temperature when patients arrive, and decline to give an injection for patients with fever.

17. Consider calling all injection patients on the day they are scheduled to pre-screen for COVID-19 symptoms, or have patients call in to pre-screen for COVID-19 PRIOR to coming to the office for an allergy injection.

18. When the COVID-19 pandemic is over, follow practice parameter guidelines regarding resumption of allergen immunotherapy after a prolonged gap in therapy. https://www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20and%20Parameters/Allergen-immunotherapy-Jan-2011.pdf Specific dosing recommendations are in Table E5, published online Dec 2, 2010, Volume 127, issue 1, at www.jacionline.org.

In addition, special procedures for compounding immunotherapy in the Allergist/Immunologist's office during the COVID-19 pandemic may be needed. There is a potential for significant supply chain disruption and /or the diversion of the gowns, facemasks, gloves, hair covers and 70% sterile IPA that are needed for the safe production of allergen immunotherapy extracts. This has the potential to make compliance with current USP 797 challenging. Cessation of compounding extracts during this crisis may also be considered.

1. Reevaluate current processes to ensure the most efficient use of the proper attire. This is crucial to eliminate waste and further tax supply chains.

2. The use of sterile gloves should continue as long as they are available. If sterile gloves are no longer available then, and only then non sterile gloves are permitted but only if 70% sterile isopropyl alcohol is available so that compounding personnel can disinfect their gloves prior to the beginning of the compounding activity and intermittently thereafter.

3. If hair covers are no longer available then every effort should be made to keep hair away from the face and compounding area.

4. If gowns become in short supply OR if gowns are no longer available then personnel may continue to make allergen extracts without wearing a gown. At such time that gowns become available the compounders must immediately resume the use of gowns.

5. 70% sterile isopropyl alcohol (IPA) use is critical to the safe compounding of allergen extracts. If 70% IPA is no longer available then allergen extract compounding must stop.

As we strive to provide the best possible medical care in the face of the COVID-19 pandemic, the situation may change rapidly, please return to this site often for updates and additional information.

Tolly Epstein, MD FAAAAI

Punita Ponda, MD FAAAAI

Peter S. Creticos, MD FAAAAI

Andrew Murphy, MD FAAAAI

Bryan Martin, DO FAAAAI

Yvonne Hsieh, MD FAAAAI

And the IASAD Committee