



January 15, 2026

The Honorable Martin A. Makary, MD, MPH
Commissioner of Food and Drugs
US Food and Drug Administration
10903 New Hampshire Ave.
Silver Spring, MD 20993

Dear Commissioner Makary,

On behalf of the Asthma and Allergy Foundation of America (AAFA), I write to share important clinical evidence regarding needle-free forms of epinephrine for anaphylaxis treatment. We are excited about and encourage the FDA to approve the application for Anaphylm, an innovative sublingual epinephrine formulation under review with a PDUFA action date of January 31, 2026. Needle-free delivery forms of epinephrine provide another lifesaving option for people with anaphylaxis, especially for those who are reluctant to use needles.

Epinephrine is the only option for treating severe allergic reactions and anaphylaxis.¹ Because most anaphylaxis occurs away from a medical setting, having access to all forms of this life-saving drug, including auto-injectors and new needle-free forms, is essential. While one needle-free intranasal form has been approved, approval of a sublingual form will significantly increase patient choice.

Nearly 5.1% of Americans have had anaphylaxis, from a range of causes including food allergy, drug allergy, venom allergy, inhalant allergy and immunotherapy, and from mast cell disorders.² Food anaphylaxis is very common and rising rapidly. Between 40-50% of food allergic children and adults have had a severe reaction. Emergency room visits for food reactions have increased by 124% from 2005 to 2014.^{3,4,5} All such patients are prescribed self-administrable epinephrine.

There has been a longstanding unmet need for needle-free epinephrine treatments as an option for patients. Some patients will hesitate to use an auto-injector (even for their own child), delaying injection by several minutes. Administering epinephrine immediately without delay is critical for good anaphylaxis outcomes.⁶ Delay places the patient at risk for needing additional epinephrine doses, having biphasic (rebound) reactions, and hospital admissions.⁷



Sublingual epinephrine's needle-free epinephrine delivery addresses gaps in current anaphylaxis treatment while delivering enhanced clinical performance and potential good economic value:

- **Improved portability.** Needle-free forms are significantly smaller and more compact, making them easier to carry. For example, Anaphylm is the size of a postage stamp, and can be carried in the credit card slot of a wallet. Studies show that 60% of patients don't always carry auto-injectors due to size and discreet carrying difficulties.⁸
- **Enhanced usability.** Needle-free forms are more intuitive to use, and require less training to do so, making them easier for laypersons in the community and patients to administer. This eliminates barriers with current devices and the small failure rate seen even after auto-injector training.⁹ Anaphylm is placed under the tongue and self-dissolves without any water and still works well even if it moves around in the mouth, the mouth is swollen, or if food or drink was just ingested.
- **Safety profile.** A needle-free design removes variables like injection depth and eliminates the risk of injury from sudden patient movement during administration. This avoids accidental bone injection in smaller patients and eliminates laceration risks from the 3-10 second thigh pressure requirement for some auto-injector devices.^{10,11}
- **Increased patient compliance.** Allergy specialists and patient advocates are hopeful that having the choice of smaller, easier to carry, needle-free options will encourage patients to carry devices consistently and use them earlier during reactions before they become critically severe. When patients have a device that better fits their lifestyle preferences, they are more likely to have it available when needed and feel confident using it promptly.
- **Pharmacological performance.** Pivotal studies data from needle-free options show that these forms have more optimal pharmacokinetic and pharmacodynamic properties. Higher epinephrine levels in the blood are reached, which allows epinephrine to stay in the body longer. This raises heart rate and blood pressure more rapidly and to higher levels than injectable epinephrine delivery methods.¹² These enhanced pharmacological properties are highly desirable when treating anaphylaxis, as faster onset and sustained elevation of vital hemodynamic parameters can improve patient outcomes during severe reactions.



- **Economic advantages.** Research shows these devices can be cost-effective compared with existing therapies.^{13 14} The extended shelf life of the needle-free products compared to auto-injectors reduces the frequency of prescription refills and waste from expired devices.

The availability of needle-free epinephrine options like Anaphylm represents meaningful progress in patient-centered care, filling a critical unmet need. Medical practice sometimes suffers when institutional inertia or opinion overrides scientific evidence. However, the clinical data supporting needle-free epinephrine delivery represents exactly the kind of evidence-based innovation that truly serves all patients equally well.

Anaphylm has high potential to revolutionize anaphylaxis care. When patients are too hesitant to use needle-based devices during severe reactions, this inaction could lead to costly healthcare utilization including emergency department visits, ambulance transport, and potential hospitalization-- defeating the purpose of containing medication costs. As the PDUFA action date approaches, we respectfully urge your staff to give this application the careful attention it deserves, on behalf of the several million Americans at-risk for anaphylaxis, who could benefit from approval of this drug.

Thank you very much for your time and attention. If you would like additional information, please feel free to contact me or Jenna Riemenschneider, Vice President of Policy and Advocacy (jennar@aafa.org).

Sincerely,

Kenneth Mendez, MBA
President and CEO
Asthma and Allergy Foundation of America

¹ Golden DBK, Wang J, Wasserman S, Akin C, Campbell RL, Ellis AK, et al. Anaphylaxis: A 2023 practice parameter update. *Ann Allergy Asthma Immunol.* 2024;132(2):124-76.

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³ Gupta RS, Warren CM, Smith BM, Blumenstock JA, Jiang J, Davis MM, Nadeau KC. The Public Health Impact of Parent-Reported Childhood Food Allergies in the United States. *Pediatrics.* 2018 Dec;142(6):e20181235.

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- ⁵ Motosue et al., "Increasing Emergency Department Visits for Anaphylaxis, 2005–2014." *J Allergy Clin Immunol Pract*. 2017 Jan - Feb;5(1):171–175.
- ⁶ Rooney E, Tanimoto S, Kaplan H, Lowenthal R. Injectable Devices and Triggers Driving Use: A Patient/Caregiver Survey. *Ann Allergy Asthma Immunol* 2022; 29(5):S16–S17
- ⁷ Shaker MS, Wallace DV, Golden DBK, Oppenheimer J, Bernstein JA, Campbell RL, Dinakar C, Ellis A, Greenhawt M, Khan DA, Lang DM, Lang ES, Lieberman JA, Portnoy J, Rank MA, Stukus DR, Wang J; Collaborators; Riblet N, Bobrownicki AMP, Bontrager T, Dusin J, Foley J, Frederick B, Fregene E, Hellerstedt S, Hassan F, Hess K, Horner C, Huntington K, Kasireddy P, Keeler D, Kim B, Lieberman P, Lindhorst E, McEnany F, Milbank J, Murphy H, Pando O, Patel AK, Ratliff N, Rhodes R, Robertson K, Scott H, Snell A, Sullivan R, Trivedi V, Wickham A; Chief Editors; Shaker MS, Wallace DV; Workgroup Contributors; Shaker MS, Wallace DV, Bernstein JA, Campbell RL, Dinakar C, Ellis A, Golden DBK, Greenhawt M, Lieberman JA, Rank MA, Stukus DR, Wang J; Joint Task Force on Practice Parameters Reviewers; Shaker MS, Wallace DV, Golden DBK, Bernstein JA, Dinakar C, Ellis A, Greenhawt M, Horner C, Khan DA, Lieberman JA, Oppenheimer J, Rank MA, Shaker MS, Stukus DR, Wang J. Anaphylaxis—a 2020 practice parameter update, systematic review, and Grading of Recommendations, Assessment, Development and Evaluation (GRADE) analysis. *J Allergy Clin Immunol*. 2020 Apr;145(4):1082–1123.
- ⁸ Warren CM, Zaslavsky JM, Kan K, Spergel JM, Gupta RS. Epinephrine auto-injector carriage and use practices among US children, adolescents, and adults. *Ann Allergy Asthma Immunol*. 2018 Oct;121(4):479–489.e2.
- ⁹ El Turki A, Smith H, Llewellyn C, Jones CJ. A systematic review of patients', parents' and healthcare professionals' adrenaline auto-injector administration techniques. *Emerg Med J*. 2017 Jun;34(6):403–416.
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- ¹¹ Brown JC, Tuuri RE, Akhter S, Guerra LD, Goodman IS, Myers SR, Nozicka C, Manzi S, Long K, Turner T, Conners GP, Thompson RW, Park E. Lacerations and Embedded Needles Caused by Epinephrine Autoinjector Use in Children. *Ann Emerg Med*. 2016 Mar;67(3):307–315.e8.
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