# Epinephrine Auto-Injector (EAI) Prescriptions Are Not Filled Due to Dislike of Needles: Results of a Patient Survey

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## RATIONALE

While severe allergic reactions and anaphylactic events are rarely fatal, particularly with prompt administration of epinephrine, delays in treatment are associated with higher morbidity and mortality.[1,2,3] Early treatment significantly reduces the risk of hospitalization following anaphylaxis.[4]

In contrast to current clinical guidelines and approved FDA labeling (Package Inserts) of epinephrine that instruct to dose immediately after detecting symptoms of an allergic reaction, many patients/caregivers either do not administer treatment or delay the use of EAIs, even when they know they are having a severe allergic reaction. According to studies:

- Seventy-two percent of parents did not administer epinephrine to their child, even when they knew they were experiencing a severe allergic reaction.[5]
- Over the course of a year, 83% of patients failed to use epinephrine, even when they knew they were having a severe allergic reaction.[6]
- One-third of patients do not receive epinephrine prior to presenting to the emergency department, even when their severe allergic reaction progressed to anaphylaxis.[4,7]

Understanding the contributing factors for the failure or incorrect use of needle injector devices, including patient preparedness (failure to have epinephrine on hand due to not filling prescription, carrying 2 devices), is crucial to effective delivery of epinephrine for the best chance of intended epinephrine-mediated clinical outcomes when treating severe allergic reactions including anaphylaxis.

***neffy*** is an intranasal (IN) epinephrine spray and needle-free delivery device being developed as an alternative to EAIs for the emergency treatment of (Type I) allergic reactions, including anaphylaxis. ***neffy*** is expected to have significant clinical benefit by increasing the likelihood that epinephrine will be administered without delay at the first signs of a severe allergic reaction.

## METHODS

- Data from a third-party database was used to identify potential respondents within the United States, who were then directed to an online screener where they were asked about their experience with allergies. Patients who had been diagnosed by a physician with a severe or potentially life-threatening allergy (defined for patients as "an allergy where you may go into anaphylaxis") were enrolled from a pool of qualified respondents.
- All participants must have been recommended by an HCP to carry an EAI for their allergy but had not filled an EAI prescription within the past 2 years.
- A 15-minute double-blind web-based survey was then administered to the qualifying 100 male and female patients.

## RESPONDENT BACKGROUND

### ALLERGY HISTORY

The most frequent allergic trigger was insect venom (51%), followed by peanuts (46%), shellfish (25%), tree nuts (22%), eggs (18%), and medicine (7%). The majority of patients (82%) had been aware of their allergy(ies) for at least three years, and more than one-third of subjects had been aware for at least 10 years.

### TIME SINCE LAST SEVERE ALLERGIC REACTION (Figure 1)

Fifty-three percent of patients (53.6% of males and 52.5% of females) reported having a severe allergic reaction within the prior two years.

### EXPERIENCE WITH EAIs

At the time of the survey, 50% of patients (56% of males and 46% of females) had previously filled an auto-injector prescription, and 56% of patients (71% of males and 46% of females) had previously used an epinephrine auto-injector.

| | Total (n=100) | Adult Males (n=41) | Adult Females (n=59) |
|---|---|---|---|
| Percent of patients who had previously had an EAI prescription written for them | 87% | 93% | 83% |
| Percent of patients who had previously filled an EAI prescription | 50% | 56% | 46% |
| Percent of patients who had previously used an EAI | 56% | 71% | 46% |

## RESULTS

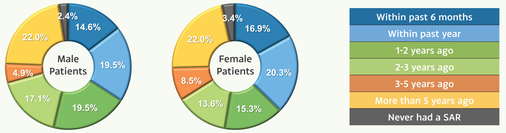
- When asked why they failed to fill their EAI prescription, 57% of patients cited cost, 37% cited dislike of needles, and 34% cited portability issues. (Figure 2)
- When presented with a needle-free delivery device and asked to rank the potential benefits of such a device, 46% of subjects responded that "no needle" was a primary benefit. Other benefits included "easier to use" (24%), "size" (22%), and "easier to carry" (8%). (Figure 3)
- Patients were also asked if an intranasal delivery device would impact their willingness to fill/use epinephrine to treat a severe allergic reaction. Forty-seven percent of patients said they'd be more willing to fill a prescription and 24% said they'd be more likely to carry the device with them. (Figure 3)

**Cost, dislike of needles and portability issues were cited as the primary reasons why patients failed to fill their EAI prescription.**

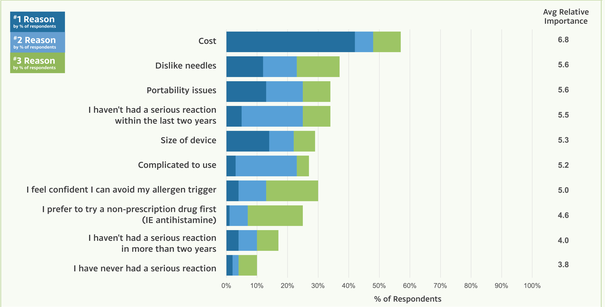
**Forty-seven percent of patients currently not filling an EAI prescription said they would be more willing to fill a prescription for an Epinephrine Device if it was administered intranasally.**

Take a picture or scan to view and download

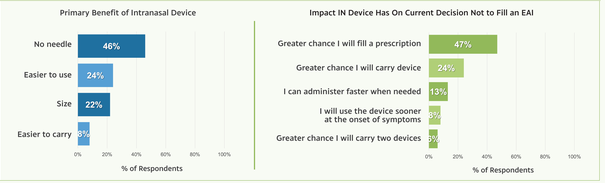
### Figure 1: Time Since Last Severe Allergic Reaction




### Figure 2: Primary Reasons for Failure to Fill EAI Prescription




### Figure 3: Primary Benefit of an Intranasal Device and Its Impact on Epinephrine Use

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