

Letter to the Editor

Aspiration before immunotherapy injection is not required

To the Editor:

Immunotherapy is an effective treatment for patients with allergic rhinitis, allergic asthma, and insect sting hypersensitivity. A number of safety recommendations regarding immunotherapy have been proposed, including aspiration of the syringe to check for blood before injection.¹ This recommendation is based on expert opinion only because neither the 1994 nor 2002 general immunization recommendations support this practice.^{2,3} Further, there are no published reports regarding experience with syringe aspiration before injection of an allergy shot. Despite the lack of data to support aspiration before injection, many health care professionals still practice this method.³

To determine whether the practice of aspiration should be continued, our experienced allergy nurses were asked at the end of 2004 whether they “had ever seen blood in the syringe after aspiration” during the previous 3 years—a period when aspiration before administration of either an allergy shot or immunization was a standard operating procedure (Table I). Since recall bias may have affected previous unrecorded observations, our nurses prospectively documented whether blood was observed during syringe aspiration for each injection in 2005 (Table I). Based on the absence of a single instance when blood was observed during syringe aspiration, our clinic has ceased the policy of aspiration before injection, which is in general agreement with current Advisory Committee on Immunization Practices immunization guidelines.³

I recognize there are some limitations to these conclusions. Our immunotherapy patient demographics varied as to be expected from a hospital-based allergy practice. Median (range) patient age and arm circumference were 45 years (7-78) and 32 cm (16-46), respectively. Median (range) body mass index (BMI) was 27 (15-46), with 5% of patients underweight (BMI < 18.5), 30% normal (BMI, 18.5-24.9), 41% overweight (BMI, 25.0-29.9), and 30% obese (BMI > 30.0). Our clinic uses a 29-gauge BD Safety Glide insulin syringe (Becton Dickinson, Franklin Lakes, NJ) for allergy shots with shots administered at a 45° angle into the posterior-lateral aspect of the upper arm. The skin fold is gently lifted during administration, which was shown to be a safe practice without aspiration in a small study documenting 204 insulin injections.⁴ The 29-gauge needle is slightly smaller than the recommended 26-gauge or 27-gauge needle, although the needle is the same recommended length ($\frac{3}{8}$ to $\frac{1}{2}$ inch).¹ Further, there were no reported events of blood observed using larger and longer needles during routine intramuscular (23-gauge) and subcutaneous (25-gauge) vaccinations (Table I).

Theoretically, injection of immunotherapy directly into the intravascular space could result in rapid and possibly fatal anaphylaxis. Although previous reports on fatal and

TABLE I. Allergen immunotherapy and routine vaccinations, 2002-2005

Year	Allergy shots		Immunizations	
	Number	Blood*	Number	Blood*
2002-4†	25,285	0	3540	0
2005‡	6642	0	683	0

*Number of times blood was observed in the syringe.

†Recall reporting.

‡Prospective observation.

near-fatal reactions to immunotherapy do not mention aspiration as a factor in these events, health care providers may still desire to aspirate as a safety step.^{5,6} Lifting the skin fold during administration of immunotherapy may also reduce the risk for inadvertent administration into a blood vessel.⁴ However, the absence of blood in the syringe during aspiration of more than 36,000 allergy shots and routine immunizations suggests that injection without aspiration is a safe practice.

Kirk H. Waibel, MD

From the Allergy/Immunology Service, Department of Medicine, Dwight D. Eisenhower Army Medical Center, Fort Gordon, Ga.

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The author has no direct or indirect financial interest in the subject matter or materials presented, including employment, honoraria, consultancies, or relevant stock ownership.

Disclosure of potential conflict of interest: K. H. Waibel is employed by the United States Government and has declared no conflict of interest.

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doi:10.1016/j.jaci.2006.04.008