Subcutaneous immunotherapy (SCIT) is a well described and a disease modifying treatment for allergic rhinitis and extrinsic asthma (1). Significant numbers of both Board Certified Allergists and Board Certified Otolaryngic Allergists utilize self-administered outpatient SCIT for the treatment of allergic rhinitis. Up to 30% of Otolaryngic Allergists practice home-based SCIT according to a national American Academy of Otolaryngic Allergy (AAOA) Morbidity and Mortality Survey. The results of the survey demonstrated an exceedingly low (0.3%) adverse reaction rate (2). The authors concluded that home-based SCIT is a safe treatment option in low risk patients (2). This conclusion is further corroborated by noting the results of a large prospective study in which approximately 636,000 patient encounters and 1,144,000 allergy injections were studied (3). The study results demonstrated that home and office allergy injections had similar rates of total reactions; however, home-based SCIT had significantly (26 fold) fewer major reactions. The authors suggest that the low reaction rates, infrequent occurrence of serious reactions, and lack of deaths observed in the study might have been explained by the low risk patient population treated by most Otolaryngic Allergists. The authors further concluded that home-based immunotherapy was found to be safe (3). A recent survey of Board Certified Allergists, members of the American Academy of Allergy, Asthma, and Immunology, demonstrated that “Overall, 16% of respondents allow some home immunotherapy...” 145 answered the question, “If you allow home immunotherapy, do you provide emergency medications to use in case of reactions and instruct patients in their use?” Of these, 108 (74%) said “yes.” This survey summary demonstrates that a sizable proportion of Board Certified Allergists allow patients to receive immunotherapy at home (4). Furthermore, other Board Certified Allergists have also found home-based SCIT to be safe (5,13,14). One of these Board Certified Allergists demonstrated the safety of home-based SCIT in which over 2 million injections were self-administered (5).

The results of Hurst et al (3), demonstrating no reported mortality and fewer severe reactions in the patients on home-based SCIT, are very impressive. Under UAS guidelines, only a low-risk population of allergic patients is approved to receive SCIT. Furthermore, UAS protocols minimize the potential occurrence of adverse reactions by utilizing: moderate immunotherapy doses, a slow build-up phase, and employing procedures to ensure the dispensing of correct doses. Patients undergoing SCIT treatment or allergy testing, in accordance with UAS guidelines, have fewer adverse reactions than their counterparts who are patients of Board Certified Allergists. Under UAS guidelines, the subset of allergy patients who request to self-administer immunotherapy in a home-based manner, prior to approval, are trained and instructed in safe, sterile technique. They then must demonstrate their proficiency to the satisfaction of the prescribing physician. Finally, they receive only one set of IT vials and must return and again demonstrate their
proficiency before the next dose of vials are dispensed. Furthermore, all patients are taught how to treat both minor and severe reactions. They are given prescriptions for an Epi-pen, instructed in its use, and required to carry it with them during the times of SCIT administration.

What does this mean for your patients? Well, the UAS safety record for both SCIT and allergy testing has been demonstrated to be significantly better than the record attained by Board Certified Allergists. Specifically, the occurrence of systemic reactions in SCIT for Board Certified Allergists is 0.1 to 7% (15, 17), while in contrast, the UAS occurrence of systemic reactions for SCIT is only 0.02%. The protocols established by UAS were designed with safety in mind and have proven to be exceedingly safe. The UAS protocols are being utilized currently for 18,252 patients. To date, this excellent safety record is exemplified by noting that only 4 out of 18,252 individuals (or only 4 out of 5,475,600 injections administered) following the UAS protocol for immunotherapy (IT, allergy shots), experienced moderate systemic reactions and all resulted in excellent outcomes. This is equivalent to a 0.02% rate of a systemic reaction vs. 0.1% amongst patients treated by Board certified allergists (15) and 0.3% amongst patients treated by Board certified otolaryngic allergists (2). Therefore, IT-induced systemic reactions are at least 5 times more likely to occur with Board certified allergists than with physicians utilizing the UAS protocols.

With respect to mild to moderate adverse reactions vs. fatal outcomes, reports from Europe documented that 0.2% of patients undergoing SCIT experienced severe systemic reactions; while a ten-fold higher 2% manifest mild to moderate systemic reactions (18). Based upon American surveys of board-certified allergists, there is one fatal reaction occurring for every 2.5 million injections administered (19). Between 1990 and 2001, another study (20) documented 41 fatal reactions which were equivalent to 3.4 deaths annually or approximately 3.4 deaths per 8 million injections. In contrast, there have been no fatal anaphylaxis occurring for the 5,475,600 injections administered or 18,252 individuals being treated based on UAS protocols. Therefore, SCIT-induced systemic reactions are at least 5 times more likely to occur with Board Certified Allergists than with physicians utilizing the UAS protocol. In a similar manner, allergy testing performed by Allergists results in systemic reactions in 0.4% of cases (16). Whereas, systemic reactions only occur in 0.02% of the patients undergoing allergy testing by physicians utilizing the UAS protocols. Thus, there is a 20 fold greater chance of a systemic reaction if allergy testing is performed by an Allergist in comparison to a physician utilizing the UAS testing protocols.

In summary, self-administration of SCIT is a safe procedure in a low risk patient population, particularly if performed in accordance with UAS guidelines. Also, in a similar manner, allergy testing performed in accordance with UAS guidelines is also a very safe procedure.

References:
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