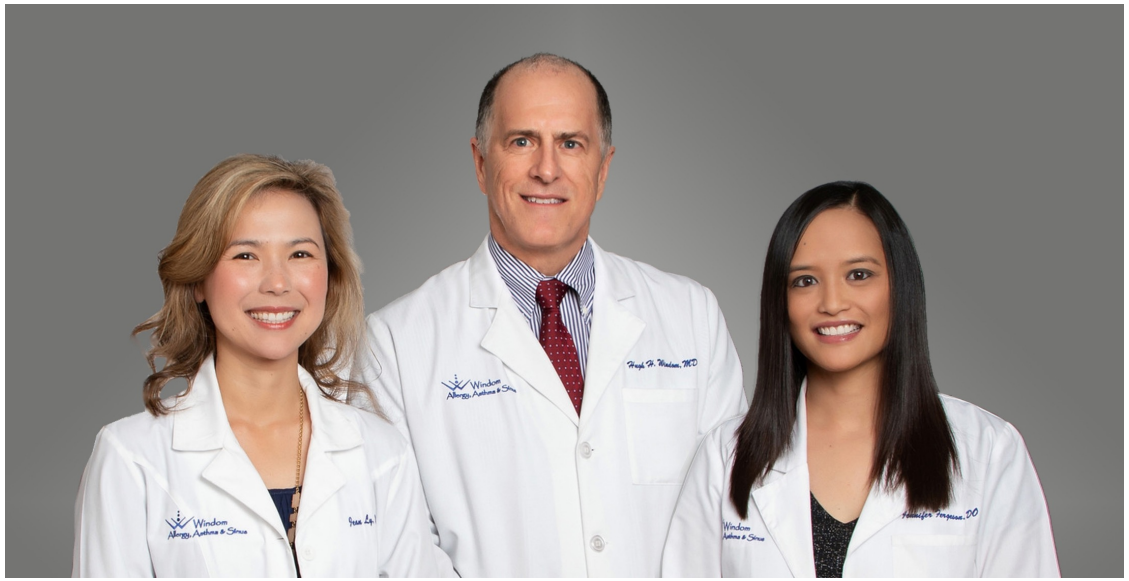

OIT Maintenance Protocols

Jennifer Fergeson DO

Division of Allergy/Immunology, Dept. of Internal Medicine, USF Morsani College of Medicine
Serving: USF Morsani College of Medicine and Public Health, Moffitt Cancer Center, Tampa General Hospital
James A Haley Veterans' Administration Hospital & Johns Hopkins All Children's Hospital, Tampa and St. Petersburg, Florida

Should maintenance dosing be similar to allergy shots?

- Year 1 – every 2-4 weeks
- Years 2-3 – every 4-6 weeks
- Years 4-5 – every 6-8 weeks

Dose frequency is reduced as long as patient is tolerating allergen exposure

No biomarker identified to correlate with stopping SCIT

- In vivo – skin test, allergen challenge
- Immunologic surrogate marker –↓ specific IgE level, ↓ sIgE/total IgE ratio, ↑ IgG_4, ↑ serum IgA_1 and IgA_2, □ ↑ TGF-β
- Inflammatory markers – ↓ eos's, ↓ serum or nasal ECP, or ↓ ICAM-1
- Quality of life questionnaire

Senna G et al Curr Opin Allergy Clin Immunol 2011;11:375-80

OIT Course After Reaching Maintenance

- Year 1 - dosing 6-7 days/week
- Year 2 - dosing 5 days/week (weekend off?)
- Year 3 - dosing 4 day/week (QOD)
- Year 4 - dosing 3 days/week (M-W-F?)
- Year 5 - dosing 1-2 days/week

Once the patient reaches maintenance dose (M), they will be asked to dose daily until a high dose challenge in 2-3 months. If they pass the challenge, they can reduce the frequency of dosing to 6 days/week then follow-up annually with high dose challenge and blood testing to prove they remain protected despite less frequent dosing.

Annual High Dose Challenge

- **Purpose:** Clinical confirmation that annual dose reduction is still protective
- **Method:** One hour visit with single dose oral challenge
  - Foods: Peanut, tree nuts, sesame
  - ≤ 2 foods use 3-times home dose
  - > 2 foods use 2-times home dose (due to increased allergen load)
- **Exceptions:**
  - Staple foods (milk, egg, in some cases wheat)
  - Patients maintaining same dose/frequency

Annual High Dose Challenge Results

Frequency of dosing	% Pass Rate
5-7 days/wk	9/9 (100%)
3-4 days/wk	15/15 (100%)
1-2 days/wk	5/5 (100%)

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Peanut OIT 2015-2018, 3-7 year Follow Up

N – 155
Median age – 7

Epi Reactors – 33 patients
(Median sIgE 87, age 9)

No Epi – 122 patients
(Median sIgE 31, age 6)

3 dropped

30 reached maintenance (M)

1st reaction

18 buildup

12 in maintenance

9 had repeat rxn's in M

9 no more rxn's

5 had repeat rxn's

7 no more

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Maintenance Phase Troublemakers

- Patients who reacted in build up phase – 50% recidivism rate
- 12/155 (8%) reacted for 1st time in maintenance
  - 6 started as teens (median age 11)
  - 7 had only 1 reaction, 5 had from 2-5 reactions
  - 7 reacted within 1 year of maintenance, the later 5 only had 1 reaction
  - Dosing frequency at time of rxn. – daily for all, therefore:

Annual dose reduction strategies would have no impact on 1st time Epi reactions

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Summary

- Prior Epi reactions are the best predictor of future reactions in our data

  - How should we treat them: reduce dose, consider SLIT???

- Maintenance reactions began before reducing dose frequency, leaving time as good a reason as any to guide adjusting dose frequency (like with SCIT)

- Confirmatory data from other sites needed

- Annual high dose challenge provides reassurance to the patient/family for accidental ingestion as dosing frequency declines