

# Sublingual Immunotherapy: World Allergy Organization Position Paper 2013 Update

---

## POCKET GUIDE

---

### **BASED ON THE WAO DOCUMENT:**

Canonica GW, Cox L, Pawankar R, Baena-Cagnani CE, Blaiss M et al. Sublingual immunotherapy: World Allergy Organization position paper 2013 update. *World Allergy Organization Journal* 2014; 7:6 (28 March).

Chairs: Giorgio Walter Canonica, Linda Cox, Ruby Pawankar

Author Panel: Giorgio Walter Canonica, Linda Cox,

Ruby Pawankar, Carlos E. Baena-Cagnani, Michael Blaiss,

Sergio Bonini, Jean Bousquet, Moises Calderón, Enrico Compalati,

Stephen Durham, Roy Gerth van Wijk, Désirée Larenas-Linnemann,

Harold Nelson, Giovanni Passalacqua, Oliver Pfaar, Nelson Rosário,

Dermot Ryan, Lanny Rosenwasser, Peter Schmid-Grendelmeier,

Gianenrico Senna, Erkka Valovirta, Hugo van Bever, Pakit

Vichyanond, Ulrich Wahn, and Osman Yusuf



# Sublingual Immunotherapy: World Allergy Organization Position Paper 2013 Update

## POCKET GUIDE

Chairs: Giorgio Walter Canonica, MD; Linda Cox, MD; Ruby Pawankar, MD, PhD

© 2014 World Allergy Organization

World Allergy Organization  
International Headquarters  
555 East Wells Street  
Suite 1100  
Milwaukee, Wisconsin 53202  
United States of America

Phone: +1 414 276 1791

Fax: +1 414 276 3349

[www.worldallergy.org](http://www.worldallergy.org)

[info@worldallergy.org](mailto:info@worldallergy.org)



# Contents

---

Purpose of this Document .....	4
Historical Background to Sublingual Immunotherapy.....	5
Allergen Specific Immunotherapy .....	6
Mechanisms of Sublingual Immunotherapy .....	7
Clinical Efficacy of Sublingual Immunotherapy .....	8
Safety of Sublingual Immunotherapy .....	9
Impact of Sublingual Immunotherapy on the Natural History of Respiratory Allergy.....	10
Efficacy of Sublingual Immunotherapy in Children.....	11
Definition of Sublingual Immunotherapy Patient Selection .....	13
The Future of Immunotherapy in the Community Care Setting .....	13
Methodology of Clinical Trials .....	15
Guideline Development: From Evidence-Based Medicine to Patients' Views ....	16
Practical Aspects of Schedules and Dosages and Counseling for Adherence ...	18
Perspectives and New Approaches .....	18
Raising Public Awareness about Sublingual Immunotherapy.....	18

# Purpose of this Document

---

We have prepared this document, “Sublingual Immunotherapy: World Allergy Organization Position Paper 2013 Update”, according to the evidence-based criteria, revising and updating chapters of the originally published paper, “Sublingual Immunotherapy: World Allergy Organization Position Paper 2009”, available at [www.waojournal.org](http://www.waojournal.org). Namely, these comprise: “Mechanisms of sublingual immunotherapy;” “Clinical efficacy of sublingual immunotherapy” – reporting all the data of all controlled trials published after 2009; “Safety of sublingual immunotherapy” – with the recently published Grading System for adverse reactions; “Impact of sublingual immunotherapy on the natural history of respiratory allergy” – with the relevant evidences published since 2009; “Efficacy of SLIT in children” – with detailed analysis of all the studies; “Definition of SLIT patient selection” – reporting the criteria for eligibility to sublingual immunotherapy; “The future of immunotherapy in the community care setting”; “Methodology of clinical trials” – according to the current scientific and regulatory standards; and “Guideline development: from evidence-based medicine to patients’ views” – including the evolution of the methods to make clinical recommendations.

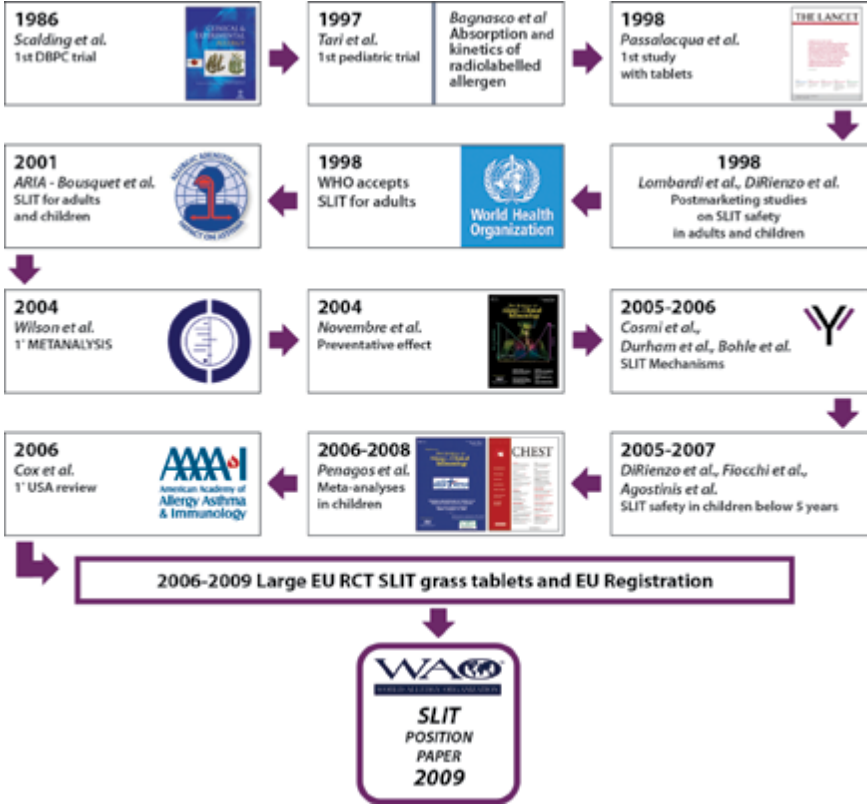
Additionally, we added new chapters to cover a few emerging crucial topics: “Practical aspects of schedules and dosages and counseling for adherence” – which is crucial in clinical practice for all treatments; “Perspectives and new approaches” – including recombinant allergens, adjuvants, modified allergens, and the concept of validity of the single products. Furthermore, “Raising public awareness about sublingual immunotherapy”, as a need for our patients, and strategies to increase awareness of allergen immunotherapy (AIT) among patients, the medical community, all healthcare stakeholders, and public opinion, are also reported in detail.

This **Pocket Guide** is a condensed version of the update paper, featuring key points and unmet needs, for a rapid reference to the highlights of the update paper. Readers should reference the full papers:

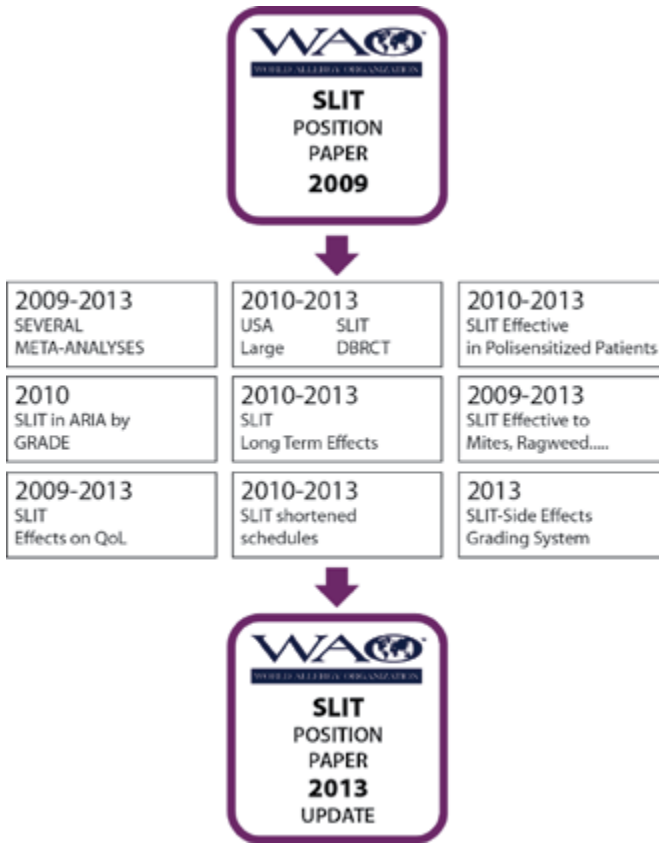
Canonica GW, Cox L, Pawankar R, Baena-Cagnani CE, Blaiss M, Bonini S, Bousquet J et al. Sublingual immunotherapy: World Allergy Organization position paper 2013 update. *World Allergy Organization Journal* 2014; 7:6. (28 March)  
Access at: [www.waojournal.org/content/7/1/6](http://www.waojournal.org/content/7/1/6)

Canonica GW, Bousquet J, Casale T, Lockey RF, Baena-Cagnani, Pawankar R, Potter PC et al. Sub-lingual immunotherapy: World Allergy Organization Position Paper 2009. *World Allergy Organization Journal* 2009; 2:233-281. doi:10.1097/WOX.0b013e3181c6c379  
Access at: <http://www.waojournal.org/content/2/11/233>

# Historical Background to Sublingual Immunotherapy



The historical process leading to the WAO SLIT Position Paper 2009.



Highlights of the evidences in SLIT, from 2009 to 2013, the scientific basis for the updating of “Sublingual Immunotherapy: World Allergy Organization Position Paper 2009.”

## Allergen Specific Immunotherapy

(2009 content, update not needed)

An update on subcutaneous immunotherapy, other routes of immunotherapy administration, different allergens and impact of immunotherapy on the natural history of disease.

- Many double-blind, placebo-controlled studies confirm the efficacy of subcutaneous immunotherapy for treatment of allergic rhinitis, allergic asthma, and Hymenoptera venom hypersensitivity.
- Studies are lacking that support immunotherapy with fungal extracts, other than for *Alternaria* and *Cladosporium*, and with cockroach extracts.



- Although limited in number, some controlled studies have demonstrated efficacy of subcutaneous immunotherapy with multiple allergen mixes. However, there have also been negative studies.
- There seem to be 2 distinct and perhaps sequential immunologic responses to immunotherapy, generation of regulatory T-cells (T regs) secreting interleukin (IL)-10 and transforming growth factor (TGF)-beta and immune deviation from TH2 to TH1 responses.
- Subcutaneous immunotherapy has reduced the development of new sensitizations in monosensitized patients and, in a few studies, has reduced the development of asthma in children who only have allergic rhinitis.
- The beneficial effects of subcutaneous immunotherapy persist for years after discontinuation.
- The use of subcutaneous immunotherapy is limited by the occurrence of local and systemic reactions (SRs) and the prolonged period required for build-up to maintenance dosing.

## Mechanisms of Sublingual Immunotherapy

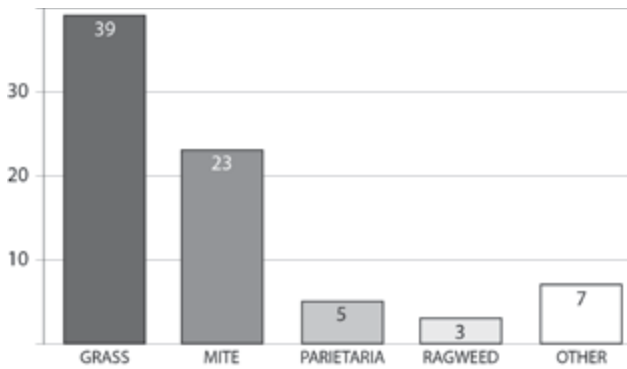
- Allergen immunotherapy provides an opportunity to study antigen-specific tolerance in humans.
- Subcutaneous immunotherapy (SCIT) suppresses allergic Th2-mediated inflammation and increases antigen-specific IgG, probably by induction of regulatory T cells (Tregs), immune deviation (Th2 to Th1), and/or apoptosis of effector memory Th2 cells.
- The oral mucosa is a natural site of immune tolerance (Langerhans cells, FcR1, IL-10, IDO [indoleamine 2,3-dioxygenase]).
- Sublingual immunotherapy (SLIT) in optimal doses is effective; SLIT has been shown to induce long-term remission after discontinuation and may prevent new sensitizations, features consistent with the induction of tolerance.
- SLIT induces modest systemic changes consistent with SCIT, but additional local mechanisms in the oral mucosa and/or regional lymph nodes are likely important.
- Sublingual immunotherapy is associated with
  - retention of allergen in sublingual mucosa for several hours.
  - early increases in antigen-specific IgE and blunting of seasonal IgE.
  - persistent increases in antigen-specific IgG4 and IgE blocking activity that parallel long-term clinical benefits of both SCIT and SLIT.
  - inhibition of eosinophils and reduction of adhesion molecules in target organs.

- an early (at 4-12 weeks) increase in peripheral phenotypic Tregs and delayed (at 12 months) immune deviation in favor of Th1 responses.
- detection of CD25<sup>+</sup>FOXP<sup>+</sup> phenotypic Treg cells in the sublingual mucosa.
- alterations in dendritic cell markers (e.g., increases in expression of complement component C1Q) that correlate with clinical response to treatment and merit further study.
- Biomarkers that are predictive of or surrogates for the clinical response to immunotherapy are not currently available for routine use.
  - Molecular diagnosis of IgE sensitivities will aid patient selection for immunotherapy.
  - Serum IgG-associated functional blocking activity and basophil activation tests merit further study.
  - Studies of peripheral T cell and dendritic cell signatures have yielded important information, but these tests are currently impractical for routine clinical use.

## Clinical Efficacy of Sublingual Immunotherapy

---

- As of June 2013, there were 77 randomized, double-blind, placebo-controlled (RDBPC) trials of SLIT, of which 62 were conducted with grass or house dust mite (HDM) extracts. The majority of these studies were heterogeneous for allergen dose, duration, and patient selection. All statements on efficacy of SLIT do refer to products which have demonstrated efficacy in appropriate studies.
- Seventeen trials, of which one was totally negative, were published after the previous WAO position paper.
- The literature suggests that, overall, SLIT is clinically effective in rhinoconjunctivitis and asthma, although differences exist among allergens.
- The available meta-analyses are in favor of SLIT (rhinitis and conjunctivitis in adults; asthma and rhinitis in children), although the conclusions are limited by the heterogeneity of the studies in term of doses, duration, and patient selection.
- Clinical efficacy and dose dependency have been demonstrated for rhinoconjunctivitis due to grass pollen in adequately powered, well-designed RDBPCs.
- Some open, controlled trials suggested that the clinical efficacy of SLIT is similar to that of injection immunotherapy.
- Dose-finding trials and large studies with properly defined outcomes and sample sizes are needed for the other relevant individual allergens.



Number of double-blind, placebo-controlled trials investigating SLIT up to June 2013.

## Safety of Sublingual Immunotherapy

---

- Sublingual immunotherapy (SLIT) appears to be better tolerated than subcutaneous immunotherapy (SCIT).
- SLIT should only be prescribed by physicians with appropriate allergy training and expertise.
- Specific instructions should be provided to patients regarding the management of adverse reactions, unplanned interruptions in treatment, and situations when SLIT should be withheld.
- The majority of SLIT adverse events are local reactions (e.g., oromucosal pruritus) that occur during the beginning of treatment and resolve within a few days or weeks without any medical intervention (e.g., dose adjustment, medication).
- A few cases of SLIT-related anaphylaxis have been reported but there have been no fatalities.
- Risk factors for the occurrence of SLIT severe adverse events (SAEs) have not yet been established, although there is some suggestion that patients who have had prior systemic reactions to SCIT may be at increased risk.
- There is a need for a generally accepted system of reporting allergen immunotherapy (AIT) adverse reactions that is applicable to both clinical practice and research.
  - A uniform classification system for grading for AIT systemic reactions has been developed.
  - A classification system for grading SLIT local reactions has also been developed.
  - Consistent use of the Systemic Reaction and SLIT Local Reaction Grading Systems is recommended.

## Unmet needs

Several issues regarding the safety of SLIT remain unresolved:

- Is SLIT safe in individuals with moderate to severe asthma?
  - Are there specific precautions to be taken for asthma patients before taking SLIT, such as obtaining peak flow measurement?
- Is SLIT safe in patients who have had systemic reactions with SCIT?
- Interruptions in treatment:
  - After how long an interruption between doses is it safe to resume the usual dose
    - » during the up dosing phase?
    - » during the maintenance phase?
  - Would the recommendations for interruptions in maintenance treatment be different for regimens with an up dosing phase than regimens without an up dosing phase?
- Is it safe to administer all formulations of SLIT without induction? Or do some require an up dosing phase?
- Are gastrointestinal and oropharyngeal infections or lesions (e.g., aphthous ulcers, gingivitis, eosinophilic esophagitis) risk factors for SLIT systemic reactions?
- Under which clinical situations should a SLIT dose be withheld (e.g., recent respiratory tract infection, recent exacerbation of asthma, gastroenteritis)?
- Is SLIT safe in pregnant or breastfeeding women?
- Is SLIT safe in patients with immune deficiency and autoimmune conditions?
- Are there any risk factors that identify which patients may experience a systemic reaction with SLIT?

## Impact of Sublingual Immunotherapy on the Natural History of Respiratory Allergy

- Allergen-specific immunotherapy may alter the natural history of respiratory allergy by preventing the onset of new skin sensitizations and/or reducing the risk of asthma onset.
- Several randomized, double-blind, placebo-controlled (RDBPC) studies in grass pollen rhinoconjunctivitis confirm the persistence of the clinical effects of SLIT for at least 1–2 years after treatment discontinuation.

- There are 2 randomized, open, controlled studies suggesting that SLIT reduces the risk of asthma onset in children with rhinitis. A 5-year prospective RDBPC trial (n = 812 at randomization) in children aged 5–12 years with grass pollen seasonal rhinoconjunctivitis will complete in 2015 and should provide more definitive information.
- Two open, randomized studies have shown that SLIT reduces the onset of new allergen sensitizations. Further RDBPC trials are required.

## Efficacy of Sublingual Immunotherapy in Children

---

- Grass-pollen sublingual immunotherapy (SLIT) is effective in seasonal allergic rhinitis in children  $\geq 5$  years of age.
- Grass-pollen SLIT is probably effective in seasonal allergic rhinitis in children  $\geq 4$  to  $< 5$  years of age.
- Grass or house dust mite (HDM) SLIT can be used for allergic rhinitis in children with asthma.
- Pre-coseasonal SLIT with grass pollen in children might be as effective as continuous treatment.
- SLIT must not be suggested as monotherapy for treating asthma.
- House dust mite SLIT is effective in children with asthma and allergic rhinitis.
- More large randomized trials are needed, especially with HDM SLIT in children.
- No new data on the preventive effect of SLIT in children have been published.

### New insights

Research published since 2009 has provided some interesting new insights into the effects of SLIT.

- Age: Two of the rhinitis studies, 1 also including asthmatic children, and 1 safety trial included children  $\geq 4$  years old, and 1 food-allergy trial included children  $\geq 1$  year old. Therefore, we now have medium-quality preliminary evidence of SLIT efficacy for rhinitis in children from 4 years of age.
- Two medium quality trials investigated continuous versus co- or pre-coseasonal grass SLIT administration:
  - A pre-coseasonal course of grass SLIT in drops over 2 consecutive seasons was compared with continuous administration of SLIT for 2 seasons and placebo in children with allergic rhinitis. Although the study was underpowered to show intergroup differences, both active treatments reduced the combined symptoms and medication score statistically significantly better than placebo. Only the pre-coseasonal schedule reduced the medication score as well.

- Pajno et al. demonstrated that 3 years of continuous or co-seasonal SLIT with grass pollen extract had different efficacy in children with seasonal asthma and rhinitis. At the end of 3 years, both treatments were equally efficacious in reducing total symptoms and lung symptoms and in inducing immunological changes, but during the first 2 years these changes were more pronounced for the continuously treated group.
- A very-low-quality study indicated that mono- or polysensitized patients respond equally well to single-allergen SLIT.
- Adherence in pre-school children was promising in an Italian study.

### Unmet needs

A number of issues regarding the use of SLIT in children remain to be resolved:

- Dosing:
  - What is the optimal dose of allergens other than grass pollen in children?
  - What is the bioavailability of drops and tablets in children, and how will this affect the optimal dose?
  - Is efficacy retained in SLIT with multiple non-cross-reacting allergens?
  - What is the optimal duration of treatment needed to maintain long-term effects?
- Indications:
  - How efficacious is SLIT in children who are unresponsive to pharmacotherapy?
  - What is the long-term efficacy of SLIT?
  - Can SLIT prevent respiratory allergy in children with only eczema, or persistent asthma in children with rhinitis?
  - Can SLIT be used in children <4 years old?
- Other allergens
  - What are the safety, efficacy, and optimal dosing of SLIT for latex allergy?
  - What are the safety and efficacy of sublingual versus oral immunotherapy for food allergies, for example to milk, peanut, or hazelnut?

# Definition of Sublingual Immunotherapy

## Patient Selection

---

- To be eligible for sublingual immunotherapy (SLIT), patients should have
  - History of symptoms related to allergen exposure
  - Documented positive allergen-specific IgE test
  - The allergen used for immunotherapy must be clinically relevant to the clinical history.
- A molecular allergy diagnosis provides further guidance for an appropriate SLIT prescription.
- Age does not appear to be a limitation.
- Single-allergen SLIT has been demonstrated to be effective in both monosensitized and polysensitized patients.
- Use of SLIT for latex allergy, atopic dermatitis, food allergy, and Hymenoptera venom is under investigation; more evidence is needed to support its clinical use for these indications.
- SLIT may be considered as initial treatment. Failure of pharmacological treatment is not an essential prerequisite for the use of SLIT.
- SLIT may be proposed as an early treatment in the therapeutic strategy for respiratory allergy.
- SLIT may be particularly indicated in the following patients:
  - Patients whose allergy is uncontrolled with optimal pharmacotherapy (that is, those with severe chronic upper airway disease).
  - Patients in whom pharmacotherapy induces undesirable side effects.
  - Patients who refuse injections.
  - Patients who do not want to be on constant or long-term pharmacotherapy.

## The Future of Immunotherapy in the Community Care Setting

---

- **The significance of primary care**
  - The prevalence of allergic diseases is increasing rapidly worldwide; the point of first contact for most allergy patients is primary care.
  - Globally, allergic diseases are under-recognized and under- or misdiagnosed because the symptoms of IgE-mediated allergic disease (e.g., rhinitis, asthma, eczema, conjunctivitis) overlap with many other conditions.
  - The corollary is that allergic diseases are frequently treated inappropriately.

- **Allergy education**
  - Allergy teaching should become a core part of undergraduate and postgraduate curricula.
  - Primary care teams, in particular, require further training in the detection, diagnosis, management (including prevention), and treatment of allergic disorders.
  - Pragmatic programs need to be developed for a better patient-physician partnership.
- **Delivery of SLIT in the community setting**
  - Primary care physicians (PCP) and general practitioners (GPs) should know how to select the appropriate treatment for a patient's illness and should be trained to make a comprehensive assessment and to recognize treatment failure (inadequate therapy, improperly administered therapy, inadequate control) and exacerbations of illness.
  - PCPs/GPs interested in treating allergic diseases with allergen immunotherapy (AIT) should be trained in all aspects of SLIT, including assessment of patients and administration of SLIT. Emphasis should be placed on detection and management of side effects, including local and systemic reactions.
  - Before SLIT therapy is devolved from allergists to primary care, carefully performed research to identify the risks, benefits, and cost-effectiveness of treatment will be required. This will be a requirement for commissioners, and without it, implementation is unlikely.
- **Collaboration between primary care team and allergists**
  - In order to control allergic diseases, it is essential to encourage and promote cooperation and collaboration between primary health care clinicians (including physicians, nurses, and others) and relevant specialists. Currently the status quo does not reflect this prerequisite for successful vertical integration of allergy care.
  - Primary health care clinicians should be able to administer SLIT under the mentorship of a trained allergist and maintain regular liaisons with the allergist.
  - In collaboration, the allergist and the PCP/GP will plan the SLIT, administer it to the patient, and arrange follow up as and when needed; they will also jointly decide when to discontinue therapy.
  - However, the decision whether or not to initiate SLIT (as for SCIT) should be made by the allergist.



## Unmet Needs

- Primary health care providers should learn to differentiate between allergic disease and symptoms with non-allergic causes such as respiratory viral infections and common, pharmacologically mediated reactions to foodstuffs, such as chilies and spices, which cause a runny nose and watery eyes.
- PCP/GPs should be educated about the local allergens in their areas of practice and their seasonal prevalence. This may include seasonal airborne allergens other than plant pollens.
- Primary health care clinicians should be able to use readily available pharmaceutical agents to ameliorate the symptoms of allergic rhinitis.
- Primary health clinicians, allergists, and other specialists who treat allergy-related illnesses, such as pulmonologists, otorhinolaryngologists, ophthalmologists, and dermatologists, should cooperate and collaborate to plan preventive and therapeutic measures.
- Primary health care clinicians need educational initiatives to help them to understand immunotherapy and, more importantly, to be able to recognize which patients might benefit from SLIT.
- Primary health care clinicians should collaborate with their specialist colleagues to develop care pathways to develop effective service delivery.

## Methodology of Clinical Trials

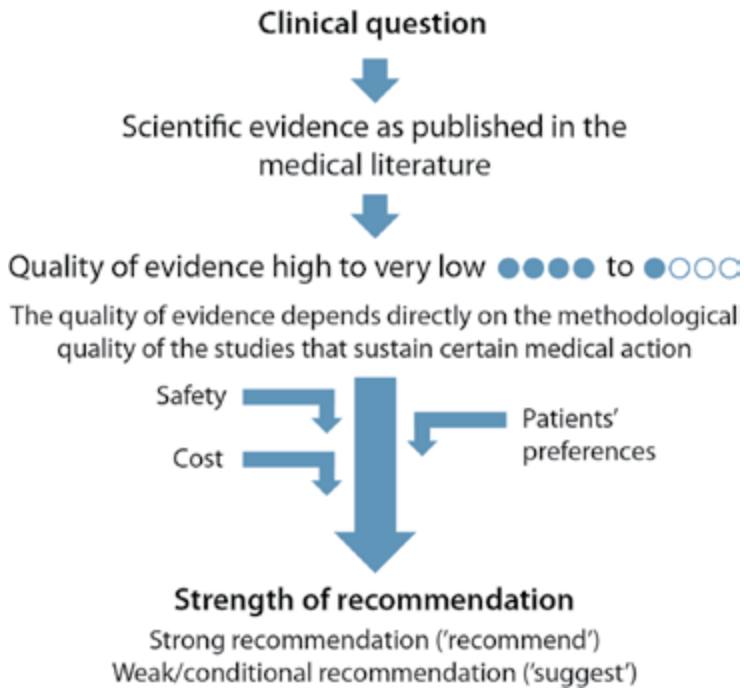
---

- Allergen immunotherapy (AIT) requires specifically designed and sized trials that incorporate adequate methodology and interpretation.
- Subjects included in AIT trials should have experienced moderate to severe disease in previous years.
- Strategies to guarantee adequate allergen exposures and to avoid confounding factors require further development and implementation.
- The risk of unblinding due to side effects requires an analysis of the efficacy that takes into account the incidence of side effects in both the AIT and control groups.
- Standardized and validated primary endpoints that properly assess symptoms and medication usage are of paramount importance for improving the comparability of study results.
- The validation of a clinical minimal difference of the primary outcome and of a “responder” definition is crucial to discriminate improvements in real-life conditions.
- Secondary outcomes and surrogate markers do not replace the primary endpoint and can only provide additional information.

- Safety should be assessed using an universally accepted system to grade and classify adverse events.
- Study duration should be based on the type of efficacy being studied: treatment of allergic symptoms, sustained clinical effect, long-term efficacy and disease-modifying effect, or curative effect.
- Owing to variations in allergen content and formulations between extracts, appropriate SLIT dose-finding studies should be carried out for each product.
- Allergen challenge chambers provide a promising tool for evaluating the therapeutic effects of AIT in phase 2 trials, but additional studies are needed for comparison with natural pollen exposure.
- Large studies with standardized procedures investigating short- and long-term protection against food allergy, atopic dermatitis, and latex allergy are needed.
- Better adherence to the CONSORT criteria is needed to improve the quality of reporting of AIT trials.

## Guideline Development: From Evidence-Based Medicine to Patients' Views

- Guidelines should be evidence-based and lately also safety, patient preference and costs are taken into account in the development of recommendations.
- Local guidelines on allergen immunotherapy have now been developed in several different countries/regions of the world. Their content is briefly reviewed in this chapter.
- Immunotherapy—sublingual and subcutaneous—has been included as one of the treatment options in several guidelines on the management of allergic diseases (rhinitis, asthma, etc.).
- There are progressively more systematic reviews on sublingual immunotherapy that sustain guideline recommendations.
- The quality of the manuscripts reporting clinical trials on which sublingual immunotherapy guidelines are based can still be improved, e.g., taking into account the CONSORT criteria.



**The GRADE system: From clinical question to recommendation**

**Unmet needs**

- Immunotherapy guidelines should be based on up-to-date internationally recognized tools such as GRADE (Grading of Recommendations Assessment, Development and Evaluation), SIGN (Scottish Intercollegiate Guidelines Network), or NICE (National Institute for Health and Care Excellence) to make them more robust.
- Recommendations given in immunotherapy guidelines should differentiate between and for different allergic diseases, adults versus children, and—in some cases—different allergen groups.
- It is of importance to make the latest evidence of SLIT more visible and accessible, so recommendations on the use of SLIT in Guidelines on the management of related allergic diseases can be based on the latest data.
- To adjust recommendations on SLIT use in Guidelines properly conducted studies on its effects on disease progression and prevention are crucial.
- A recently published standardized reporting system for local side effects associated with SLIT should be used in future clinical trials, so results are more uniform and can be used for issuing the safety part of guidelines.

# Practical Aspects of Schedules and Dosages and Counseling for Adherence

---

- Extracts supplied by different manufacturers are still quantified by in-house reference materials with different (manufacturer-specific) units. As a consequence, a comparison of the potency of different allergy immunotherapy (AIT) products is not feasible.
- Standardization of materials and methods for determining the major allergen content of different AIT products would be preferable. A first approach in this direction has been made by the European Academy of Allergy and Clinical Immunology (EAACI) “CREATE” project.
- Adherence to sublingual immunotherapy (SLIT) is crucial for the effect size of this therapy. Real-life data from the SLIT European market reveal low levels of adherence.
- There is a clear need for improving adherence by systematically addressing it and its determinants and by putting more effort into educating patients, general practitioners (GPs), and specialists.

## Perspectives and New Approaches

---

- Recombinant allergens can be considered the promising future of allergen immunotherapy (AIT). They are currently used in clinical practice for advanced allergy diagnosis and will possibly be used in the future for AIT.
- After the patent expires on a biological therapeutic product, similar products may emerge on the market. These products are not generics, but are rather defined as “biosimilars”. It will be critical to have AIT products in the category of biosimilars to preserve the quality of the treatments.
- Some sublingual immunotherapy (SLIT) preparations include adjuvants with the aim of amplifying the therapeutic effect by modulating the immune response or/and further improving the safety profile.
- Validity of single products should be reported in publications in order to avoid generalized and misleading judgments about AIT and to help regulatory authorities in evaluating specific products and clinicians in choosing scientifically supported immunotherapy products in their practices.

# Raising Public Awareness about Sublingual Immunotherapy

---

Allergen immunotherapy (AIT) is effective in alleviating allergy symptoms to a similar or even greater extent than pharmacological treatments for both asthma and allergic rhinitis; nonetheless, awareness about AIT is still poor.

Efforts by patient organizations, general practitioners, non-allergist health care professionals, and pharmacists will be needed to increase the awareness of AIT among allergic patients. Campaigns should be targeted to patients as well as to policy makers.

The following can contribute to increasing awareness of AIT:

- Patient associations should partner with medical associations to help in disseminating knowledge and awareness of allergy diagnosis.
- Collaboration between primary care physicians and allergists is essential. Proper documentation and instructions from the prescribing allergist's office as well as forms designed for complete and accurate documentation of therapy are vital components of safe administration.
- Proper educational programs should be designed to increase knowledge about AIT within the community.
- Although allergic diseases and AIT are under consideration by regulatory authorities in many countries, they are still under-recognized or not recognized at all in many other countries with increasing numbers of allergic patients.
- For better, uniform practice and introduction of immunotherapy, harmonization among the regulations of different countries is needed. Scientific societies should partner, at any level, to provide advice and promote this process.
- Advocacy and education of government policy makers will be crucial to secure more resources for research on immunotherapy and similar preventive strategies.







**WORLD ALLERGY ORGANIZATION**

A World Federation of Allergy, Asthma  
& Clinical Immunology Societies

Dissemination and implementation of the  
Sublingual Immunotherapy Pocket Guide has been made possible by:

