Subcutaneous And Sublingual Immunotherapy In A Mouse Model

Allergens and Allergen Immunotherapy

Allergy and Allergen Immunotherapy: New Mechanisms and Strategies is a valuable and comprehensive book that covers allergy and causative allergens and provides diagnostic and therapeutic aspects as well. With chapters from internationally recognized experts in the field, the book provides a balanced approach to enumerating pollen allergens as well as allergy diagnosis and therapeutic management and safety assessment of genetically engineered food allergens. The book features a special section on allergic diseases and allergens from tropical countries, including such countries as India, Sri Lanka, Iran, and South Korea, giving the book a global appeal. The book is broken in the following sections: Epidemiology, Pathophysiology, and Diagnosis of Allergy Aerobiology and Allergic Diseases Pollen Allergy in the Tropics and Temperate Regions Allergy in Children Food Allergy Evaluation Allergen Immunotherapy and Anti IgE The book deals not only on basics of allergy and allergen immunotherapy but also discusses indoor environments and safety considerations of genetically modified food allergens. The first of its kind volume from the Indian subcontinent that caters to the needs of clinicians, aerobiologists, environmentalists, and regulatory agencies as well, the volume will be of immense interest for clinicians and patients of allergy as well as diagnostic and therapeutic management of allergy in tropics.

Cancer and IgE

This massive reference thoroughly analyzes the mechanisms implicated in the pathophysiology of asthma, such as T helper lymphocyte subsets, and the consequences of various extrinsic and intrinsic factors, and IgE receptor expression-reviewing current concepts in immunotherapeutic approaches for the treatment of this and other allergic diseases. Investigates the only category of treatment showing the potential to affect the natural course of allergic diseases and prevent the onset of asthma. Written by more than 80 internationally renowned pulmonary experts, allergic disease specialists, and basic researchers, Immunotherapy in Asthma discusses the efficacy of new medications examines the role of metachromatic cells, lymphocytes, macrophages, and other cell types present in bronchial biopsies presents basic topics such as the functional and phenotypic properties of Th1 and Th2 cells and their role in allergic disease and the regulation of IgE-mediated inflammatory responses addresses the deleterious effects of smoking and passive exposure to cigarette smoke in children and adults assesses differences and similarities between intrinsic and antigen-induced asthma describes the effects of immunogenic peptides on the cytokine production profile of allergen-specific CD4+ T cells explains the different clinical aspects of allergic responses, such as bronchial hyperreactivity and eosinophilic inflammation of the airways reviews the genetic basis of allergy, as well as risk factors for asthma explores oral, sublingual, local nasal, and local bronchial routes for noninjective immunotherapies evaluates various agents with modulatory effects on normal and pathogenic immune responses focuses on strategies for the prevention of childhood asthma and more! Containing over 3000 references, drawings, and tables, Immunotherapy in Asthma is an indispensable resource for pulmonologists, immunologists, allergists, and medical school students in these disciplines.

Allergens and Allergen Immunotherapy

The quintessential how-to guide on treating allergies for day-to-day practice While encyclopedic tomes on the treatment of allergies have a place on the library shelves of otolaryngologists,
Handbook of Otolaryngic Allergy provides a user-friendly office resource clinicians can consult on a daily basis. Written by Christine Franzese, Cecelia Damask, Sarah Wise, and Matthew Ryan, the book encompasses the basic science of allergies, essential knowledge, and how to perform each procedure. Part one starts with basic immunology and allergic rhinitis definition and classifications, followed by discussion of sensitivities vs. clinical allergies, the unified airway concept, and different classes of inhalant allergens. Parts two and three detail all aspects of diagnosis and diverse skin testing methods such as Specific IgE testing. Subsequent parts discuss current treatment methods, allergy emergencies such as anaphylaxis, atopic disorders, and professional issues clinicians must tackle to successfully incorporate allergy treatment into practice. Key Highlights The use of diverse types of pharmacotherapy including decongestants, anticholinergics, and antihistamines, as well as biologics, alternative medicines, and monosensitization vs. polysensitization Discussion of immunotherapy approaches including subcutaneous, sublingual, sublingual tablets, and oral mucosal Managing associated atopic disorders such as penicillin allergy, asthma, food allergies, eosinophilic esophagitis, and atopic dermatitis

Middleton's Allergy Essentials E-Book

Immunotherapy is an innovative, leading and valuable approach to the treatment and control of many diseases. It can solve many problems of public health worldwide. Many people in numerous countries are suffering from a wide range of diseases (communicable and non-communicable) that can be cured or controlled by the immune system and immunotherapy. Some immunological diseases (i.e. allergic reactions and asthma, autoimmune disease, immunodeficiency disease, hypersensitivity reactions, etc.) have immune response pathophysiology and by controlling immune system mechanisms, these diseases can be controlled and cured. Immunoregulatory Aspects of Immunotherapy focuses on immune system mechanism, diagnosis, treatment and other related problems. The chapters have applicable and scientific data in immunotherapeutic approaches based on medical sciences, and would be of benefit to all researchers in immunology, allergy and asthma fields. The book discusses the prevention, diagnosis, treatment and follow-up of patients who have dangerous diseases. We hope this book will be a new approach to the immunotherapy of diseases and will improve public health and wellbeing.

Handbook of Otolaryngic Allergy

Immunoregulatory Aspects of Immunotherapy

Get a quick, expert overview of the use of current and novel immunotherapies for use in the management and treatment of allergic reactions and diseases. This concise resource by Dr. Linda Cox covers the full range of allergic disease, including aeroallergens, asthma, food allergies, atopic dermatitis, and stinging insects. With essential coverage of allergen immunotherapies in addition to key topics on emerging allergen-associated immunomodulators, this succinct, comprehensive reference consolidates today’s available information on this timely topic into a single convenient resource. Discusses timely topics such as food tolerance, allergy, and allergen unresponsiveness; biologics for COPD and pediatric asthma; and adherence and pharmacoeconomics. Summarizes practical guidelines and recommendations for use of immunotherapies in clinical practice. Provides insight into the background and history of immunotherapies as a treatment for allergic disease. Includes developments on the horizon, including alternative immunotherapy routes and modified allergens.

A Critical Evaluation of Vitamin D

Mast Cells and Basophils will be essential reading for immunologists, biochemists and medical researchers. Detailed chapters cover all aspects of mast cell and basophil research, from cell development, proteases, histamine, cysteinyl leukotrienes, physiology and pathology to the role of these cells in health and disease. Chapters also discuss the clinical implications of histamine receptor antagonists.

Local Immunotherapy in Allergy

Subcutaneous and Sublingual Allergen Specific Immunotherapy in Experimental Models for Allergic Asthma
A Systematic Review and Economic Evaluation of Subcutaneous and Sublingual Allergen Immunotherapy in Adults and Children with Seasonal Allergic Rhinitis

For decades, health care practitioners have relied on Middleton’s Allergy as their go-to reference for comprehensive information on allergic disorders. Now Middleton’s Allergy Essentials, by Drs. Robyn E. O’Hehir, Stephen T. Holgate, and Aziz Sheikh, offers a concise resource that’s both easily accessible and highly authoritative. Perfect for clinicians in primary and secondary care settings, this practical volume covers what is most useful in your daily practice, with a strong emphasis on disease diagnosis and management. A practical approach to evaluation, differential diagnosis, and treatment of allergic disorders, focused specifically on what the non-specialist needs to know for everyday practice. Each chapter begins with a handy summary of key concepts to help you quickly identify important information. Coverage of today’s hot topics includes asthma, drug allergies, food allergies and gastrointestinal disorders, anaphylaxis, atopic dermatitis, and allergic contact dermatitis. Concise sections on mechanisms are included where relevant, keeping you up to date with this rapidly evolving field. Authored by the same internationally recognized experts that produce Middleton’s Allergy, the definitive text in the field. Ideal for physicians, residents, general and family practitioners, nurse practitioners, primary care doctors, hospitalists, general internists – anyone who is called upon to make effective diagnostic and treatment decisions regarding allergic disorders.

Middleton's Allergy E-Book

The current state of knowledge on this increasingly important subject is beautifully described in this, the first truly comprehensive text of allergic diseases affecting the major veterinary species. It will be an invaluable guide to students, clinicians and researchers alike. From the Foreword by Professor Richard Halliwell, MS, PhD, VetMB, MRCVS, Dip ACVD Veterinary Allergy is the first comprehensive, high-quality reference dealing with all aspects of veterinary allergy in all species and all body systems involved with allergy. Providing solid breadth and excellent depth of coverage, it deals with immunopathology of the various allergic conditions as well as with clinical presentation, diagnosis and treatment of veterinary allergic diseases. Key features: Broad species coverage, organized by sections on dogs, cats, horses, and other domestic species including large animals, birds and small mammals Provides details on diseases affecting the skin, respiratory tract and gut Contains practical information for clinicians on management of allergic diseases Includes fully-referenced high level detail suitable for specialists and researchers Focused on evidence-based medicine and science The editors have extensive experience and are respected world-wide experts in the field Every chapter is written by an expert in that particular topic Anyone seeking information and references on any aspect of allergic conditions in any species should find this book helpful. The book will be of interest to clinicians in first opinion practice, specialists in veterinary dermatology, gastroenterology, internal medicine, and immunology as well as specialists-in-training in those fields and veterinary students. The focus on underlying principles and practical clinical aspects is admirable. Immediately useful for practical utilization by practicing clinicians. Dr. Andrew Mackin BSc BVMS MVS DVSc FACVSc DSAM, Diplomate, American College of Veterinary Internal Medicine, Professor and Service Chief, Small Animal Internal Medicine, Dr. Hugh G. Ward Endowed Chair of Small Animal Veterinary Medicine, College of Veterinary Medicine, Mississippi State University, USA

Mast Cells and Basophils

The incidence of allergies is increasing worldwide. Beside the well-established symptomatic treatments and subcutaneous immunotherapies, formerly known as de- or hyposensitization, a new form of treatment, local immunotherapy, has been developed in recent years. Local immunotherapy, though still controversially discussed, promises to be a curative, noninvasive, and easily applicable treatment for allergies. This volume summarizes the most current information on local immunotherapy compiled by internationally renowned specialists. In the methodology section, general aspects of local immunotherapy are presented including its history, allergen resorption and biodistribution, mechanisms of oral tolerance and practical experiences. The second section devoted to efficacy and safety presents findings from international placebo-controlled studies on nasal and sublingual immunotherapies with different allergens and for different allergic conditions including asthma and eczema. Possible side effects are also discussed. The concluding chapter critically evaluates the future prospects of this new method, pointing out still unresolved issues such as the exact immunological mechanisms, its long-term effects, or the standardization of dose and application intervals/duration. This state-of-the-art account will be of particular interest to scientists working in the field of allergy, clinical allergologists, pharmacists, and representatives from the pharmaceutical industry.

Treatment of Asthma in Older Adults

Unmet Needs in Understanding Sublingual Immunotherapy to Grass Pollen
Get a quick, expert overview of the many key facets of today’s otolaryngology practice with this concise, practical resource. Dr. Luke Rudmik and a leading team of experts in the field address high-interest clinical topics in this fast-changing field. Presents an evidence-based, clinical approach to leading topics in otolaryngology. Covers key topics such as management of vertigo; management of adult sensorineural hearing loss; reflux in sinusitis; balloon catheter dilation in rhinology; epistaxis; functional rhinoplasty; sublingual immunotherapy for allergic rhinitis; pediatric obstructive sleep apnea; pediatric tonsillectomy; evaluation and management of unilateral vocal fold paralysis; management of hoarseness; endoscopic skull base resection for malignancy; management of glottic cancer; management of well-differentiated thyroid cancer; and management of the clinical node-negative neck in early stage oral cavity squamous cell carcinoma. Consolidates today’s available information and experience in this challenging area into one convenient resource.

**Molecular Allergy Diagnostics**

Presenting current information on the diagnosis, management, and treatment of allergies occurring in children, this handbook contains 60 contributions by doctors, psychiatrists, pathologists, geneticists, and other scientists. After discussing the causes and impact of allergic diseases, the book covers immunological diseases, immune-directed therapies, upper airway disease, asthma, food allergies, allergic skin and eye diseases, and drug allergy and anaphylaxis.

**Allergen Immunotherapy**

This issue of Immunology and Allergy Clinics, guest edited by Drs. Linda S. Cox and Anna Nowak-Wegrzyn, is devoted to Immunotherapy for Aeroallergens, Foods, and Venoms. Articles in this issue include: Mechanism of Immunotherapy: Focus SCIT and SLIT; Subcutaneous Immunotherapy Safety: Incidence per surveys and risk factors; Sublingual Immunotherapy for Other Indications: Venom large local, latex, atopic dermatitis and food; Questions and Controversies regarding venom immunotherapy; Socioeconomics or Comparative Effectiveness of Immunotherapy; Risk Reduction in Peanut Immunotherapy; Food OIT with Adjuvants; Peanut OIT: State of the art; Evolution of Immune Responses in Food Immunotherapy; Safety of Food Oral Immunotherapy: What we know and what we need to learn; Novel Vaccines for Food Allergy; IgG and IgE in Food Allergy - What's the connection?; and Sublingual and Patch Immunotherapy for Food Allergy.

**Allergy, Immunity and Tolerance in Early Childhood**

Enlarged to describe more than a decade of advances in the immunotherapy of allergic diseases and asthma, this Third Edition contains the most recent studies on the mechanisms, manufacture, and standardization of various allergen groups and their utilization in the treatment of allergic diseases-containing 8 new chapters detailing various pharmacoeconomic, regulatory, manufacturing, administration, and safety issues concerning new and emerging immunotherapy techniques.

**Immunotherapy**

This is another attempt of InTechOpen to continue the dissemination of international knowledge and experience in the field of immunology. The present book includes a number of modern concepts of specialists and experts in the field of immunotherapy, covering the major topics and analyzing the history, current stage, and future ideas of application of modern immunomodulation. It is always a benefit, but also a compliment, to gather a team of internationally distinguished authors and to motivate them to reveal their expertise for the benefit of medical science and health practice. On behalf of all readers, immunologists, immunogeneticists, biologists, oncologists, microbiologists, virologists, hematologists, chemotherapists, health-care experts, as well as students and medical specialists, also on my personal behalf, I would like to extend my gratitude and highest appreciation to InTechOpen for giving me the unique chance to be the editor of this exclusive book.

**Primary Care in Practice**

This is the second and updated version of the Textbook of Allergy for the Clinician. It is a unique book in the field of allergy. The uniqueness lies in the international character of the book with contributors representing both the East and West. This book represents the diversity of issues affecting patients in the specialty of allergy, asthma & immunology. There is some discussion of the basic mechanisms involved and extensive elaboration for the clinicians. This book will appeal to medical students, residents and fellows undergoing training as well as consultants in academic and clinical practice settings. The color plates, especially in the section on Aerobiology, will help in the interaction between the patient and consultant in identifying the plant or flora...
Allergy Frontiers: Therapy and Prevention

This highly practical, easy-to-read, fully updated and expanded resource offers a wide range of targeted guidelines and insights in allergy medicine. Written by a leading allergy clinician along with a renowned group of nationally recognized expert contributors in allergy and immunology, pulmonary, and infectious diseases -- this title is a proven resource for front-line general practitioners, especially primary care physicians. The most clinically relevant information is provided on the pathophysiology, diagnosis, treatment, and prevention of all major allergic disorders. Each chapter has a section on “Evidence-Based Medicine” that introduces one to two recent research publications on the subject, and several chapters have been written by new authors. Covering the entire scope of adult and pediatric allergy and asthma and organized by specific organ which guides the reader to diagnostic and therapeutic solutions quickly and easily, the book offers a wealth of outstanding illustrations, key concepts, management protocols, and updated references. An invaluable contribution to the field, Allergy and Asthma: Practical Diagnosis and Management, 2nd Edition will be of immense value not only to primary care physicians, but also to fellows in training, residents, nurses, nurse practitioners, and medical and allied health students.

Allergens and Allergen Immunotherapy

This volume presents a broad selection of cutting-edge methods and tools that will enable the reader to investigate the multi-faceted manifestations of inflammation. Inflammation: Methods and Protocols is divided into four sections: the first three sections describe protocols investigating immune-mediated inflammatory disease models affecting barrier organs to the environment; the skin, the lung, and the intestinal and oral mucosa. The fourth section illustrates inflammatory disease models of the brain, joints, and vasculature. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and practical, Inflammation: Methods and Protocols aims to inspire the experienced investigator and the young experimenter alike to disentangle the fascinating process of inflammation.

Sublingual and Injectable Customized Allergy Immunotherapy

Allergic rhinitis is a widespread clinical problem, estimated to affect 20 to 40 percent of the population in the U.S. Inhalant allergens, such as plant pollens, characteristically cause seasonal rhinoconjunctivitis and/or asthma; whereas, cat dander, cockroaches, or dust mite allergens may induce symptoms year-round, and are associated with perennial rhinitis and/or asthma. The prevalence of asthma in the U.S. is approximately 9 percent, and approximately 62 percent of individuals with asthma show evidence of also having atopy (i.e., one or more positive-specific IgE levels). The medical management of patients with allergic rhinitis and asthma includes allergen avoidance, pharmacotherapy, and immunotherapy. Allergen-specific immunotherapy (SIT) is typically recommended for patients whose allergic rhinoconjunctivitis and asthma symptoms cannot be controlled by medication and environmental controls, for patients who cannot tolerate medications, or for patients who do not comply with chronic medication regimens. Currently, two forms of specific immunotherapy are used clinically in the U.S. The U.S. Food and Drug Administration (FDA) has approved the use of allergen extracts for subcutaneous administration (subcutaneous immunotherapy) for the treatment of seasonal and perennial allergic rhinitis and allergic asthma. In the U.S., a patient with allergies receives subcutaneous injections of an allergen-containing extract, comprised of the relevant allergens to which the patient is sensitive, in increasing doses, in an attempt to suppress or eliminate allergic symptomatology. Considerable interest has also evolved in using sublingual immunotherapy as an alternative to subcutaneous injection immunotherapy. Sublingual immunotherapy involves placement of the allergen under the tongue for local absorption to desensitize the allergic individual over a period of months to years and diminish allergic symptoms. In 1996, an Immunotherapy Task Force, assembled by the World Allergy Organization, cited the emerging clinical data on sublingual immunotherapy, recognized its potential as a viable alternative to subcutaneous therapy, and encouraged continued clinical investigation to characterize optimal techniques. Over the past two decades, sublingual forms of immunotherapy have gained favor in Europe; sublingual tablet immunotherapy has been approved by the European regulatory authorities. In the U.S., there are currently no FDA-approved sublingual forms of immunotherapy. In the absence of FDA-approved sublingual forms of immunotherapy, some researchers and physicians in the U.S. are exploring the off-label use of subcutaneous aqueous allergens for sublingual desensitization. An increasing number of U.S. physicians are employing this alternate desensitization approach in the treatment of allergic respiratory conditions based on European and U.S. studies, and on the European Medicines Agency’s approval of certain oral products; however, due to differing standardization of potency in Europe and the United States, doses have been hard to translate between countries. The primary objective of this comparative effectiveness review is to evaluate the efficacy, effectiveness, and safety of SIT (including both subcutaneous and sublingual immunotherapy) that are presently available for use by clinicians and patients in the U.S. We addressed the following Key Questions (KQs): KQ1. What is the evidence for the efficacy and effectiveness of SIT in the treatment of allergic rhinoconjunctivitis and/or asthma? KQ2. What is the evidence for safety of SIT in patients with allergic rhinoconjunctivitis and/or asthma? KQ3. Is the safety and effectiveness of SIT different in distinct subpopulations with allergic
**Allergy and Asthma**

This comprehensive book presents an evidence-based approach to treating asthma in adults aged 65 and older, a vulnerable subset of patients who are more likely to experience higher morbidity and mortality rates, and often enduring higher financial burdens related to treatment. Treatment of Asthma in Older Adults: A Comprehensive, Evidence-Based Guide is a unique resource, providing an up-to-date review of medication strategies, how asthma phenotypes and treatment decisions interact, and how controlling asthma triggers impacts long-term asthma outcomes in older patients. Additionally, the book incorporates recent advances in alternative therapies that improve the patient’s quality of life. Opening discussions address the unique challenges of the differential diagnosis of asthma in older adults, as well as an examination of the significant medical comorbidities that co-exist with asthma. Subsequent chapters provide strategies to optimizing asthma management in this specific population, including information on case management that will assist allied health providers. Finally, the book closes with an analysis of several novel targets for therapy to treat severe asthma including biologics, macrolides and bronchial thermoplasty. Written by experts in the field, Treatment of Asthma in Older Adults: A Comprehensive, Evidence-Based Guide is an indispensable resource for allergists, pulmonologists, family physicians, physician assistants, nurse practitioners and all other allied clinicians.

**Immunotherapy in Asthma**

One hundred years have elapsed since specific allergen immunotherapy (SIT) was first employed and found to be effective in the treatment of allergic respiratory diseases. This cutting-edge issue of Immunology and Allergy Clinics offers a comprehensive review of this disease modifying treatment, exploring its history, status, and potential future. Topics covered include the mechanisms of subcutaneous allergen immunotherapy; the mechanisms of sublingual immunotherapy; optimizing efficacy of subcutaneous immunotherapy; preparation of allergen immunotherapy extraxcts; risk factors and subcutaneous immunotherapy safety; accelerated schedules and reducing risk with premedication (antihistamines, omalizumab, leucotriene antagonist); safety and efficacy of sublingual immunotherapy for allergic respiratory disease and other indications; monitoring clinical outcomes of specific immunotherapy; monitoring immunotherapy response with immunological parameters; socioeconomic and comparative effectiveness of immunotherapy; oral desensitization for food hypersensitivity; peptide and recombinant immunotherapy; intralymphatic and epicutaneous allergen-specific immunotherapy; peptide and recombinant immunotherapy; adjuvants and vector systems for allergy faccines; and future forms of immunotherapy.

**Allergic Rhinitis and Asthma**

Erika Jensen-Jarolim and Manuel L. Penichet 1. 1 Background Infectious diseases, being the major burden in the history of mankind worldwide th until the beginning of the 20 century, were important triggers in the understanding of immunological mechanisms. In contrast to infectious diseases, reports of all- gies and cancers were less common, but increased tremendously within the last century. Based on the US mortality data of the National Center for Health Statistics, Centers for Disease Control and Prevention 2009, a recent report from the American Cancer Society indicated that the number of cancer deaths increased approximately from 100,000 to 550,000 per year between 1930 and 2006, paralleling the increase of the total population during this period. Leading causes of death from cancer are lung and bronchus cancer, in men prostate cancer, and in women breast c- cer [1, 2]. Normalization to population size shows that the cancer death rate for most malignancies has been generally stable, although the mortality rate of certain malignancies, such as lung and bronchus cancer, has increased over the last 50 years [1-3]. In allergy, the situation is less clear, because for the time period around the turn of th the 19 century, only imprecise information is available. However, within the last 30 years the incidences of allergies has doubled not only in industrial countries, but in developing countries as well [4].

**Subcutaneous Immunotherapy for the Treatment of Allergies**

The sixth edition of Lockey and Ledford's Allergens and Allergen Immunotherapy continues to provide comprehensive coverage of all types of allergens and allergen vaccines, providing clinicians the essential information they need to accurately diagnose and manage all allergic conditions. With new and updated chapters, the sixth edition is the most up-to-date, single resource on allergy and immunotherapy. Key Features Completely revised and updated Detailed single source reference on allergy and immunotherapy Reorganized to provide clinicians with essential information to make diagnoses and offer the best treatments

**Allergy and Immunology**
Written by well-known, widely published experts, this volume is a comprehensive text on otolaryngic allergy and all of its manifestations. The contributors thoroughly review relevant basic science, describe the diagnostic workup, and discuss patient management approaches, including environmental management, pharmacotherapy, immunotherapy, nutrition, and alternative and complementary therapies. A major portion of the book focuses on specific allergic disorders of the ear and respiratory system and related conditions such as ocular allergy, latex hypersensitivity, chemical sensitivities, autoimmune diseases, chronic fatigue syndrome, and fibromyalgia. Each of these chapters discusses treatment strategies in detail, using case studies to illustrate key principles of treatment.

**Systematic Review and Economic Evaluation of Subcutaneous and Sublingual Allergen Immunotherapy in Adults and Children with Seasonal Allergic Rhinitis**

Respiratory allergic diseases (also known as allergies), such as rhinitis, asthma, and conjunctivitis, affect more than 400 million people globally and are on the rise in industrialized countries. Allergies result from hypersensitivity to various allergens, such as airborne particles, food, and venom. Mild forms of allergies can be treated with pharmacotherapy (in the form of antihistamines or corticosteroids), but moderate-to-severe allergic reactions require specific allergen immunotherapy (SIT). SIT involves administering gradually increasing doses of extracts of the causative allergen to which a patient is hypersensitive. The aim of treatment is to reduce the clinical reactions of allergic patients. Alternative forms of SIT for respiratory allergies include intralymphatic immunotherapy (ILIT), oral immunotherapy (OIT), local nasal immunotherapy (LNIT), and sublingual immunotherapy (SLIT). The purpose of this Rapid Response report is to review the evidence of comparative clinical effectiveness and cost-effectiveness of subcutaneous (or injectable) immunotherapy (SCIT), sublingual immunotherapy (SLIT), and oral antihistamines in patients with allergies, and to identify published, evidence-based guidelines on the use of SCIT or SLIT for allergies.

**Allergen-specific Immunotherapy for the Treatment of Allergic Rhinoconjunctivitis And/or Asthma**

Allergy, Immunity and Tolerance in Early Childhood: The First Steps of the Atopic March provides valuable insights on the atopic diseases, including asthma, allergic rhinitis, atopic dermatitis, and food allergies, which have developed into major health problems in most parts of the world. As the natural history of these chronic diseases has been extensively studied, including their major genetic, environmental, and lifestyle determinants and potential protective factors, the book presents tactics on how pediatric allergists can provide early intervention. In addition, the book unites key, global experts in the field who summarize their collective, and current, knowledge of the early stage of the "Atopic March", along with novel ideas for potential options of prevention. Summarizes the current knowledge of the epidemiological, genetic, and cellular basis of allergic diseases Ideal reference for the study of allergies in young children, atopic dermatitis, allergic rhinitis, childhood asthma, and food allergies Provides landmark findings in the field of immunology and allergy development Fulfills the need for a book that focuses on primary and secondary allergy prevention, especially during the first years of life Unites key, global experts in the field who summarize their collective, and current, knowledge, along with novel ideas for potential options of prevention

**Allergy and Allergen Immunotherapy**

The lack of medication for allergy symptoms at the end of the last millennium has been the promoter of the idea of treating allergies as if you were treating an infectious disease, by vaccination prophylaxis. Two forms of AIT 1) subcutaneous immunotherapy (SCIT) and 2) sublingual immunotherapy (SLIT) are used in the world. Considerable interest has emerged in SLIT both scientifically and especially financially. SLIT is not a new treatment modality. First description dates back to 1900 when H. Curtis. It was relatively widely used until the late 1970's mainly in US by homeopathic therapists.

**Allergen-Specific Immunotherapy for the Treatment of Allergic Rhinoconjunctivitis And/or Asthma: Comparative Effectiveness Review**

OBJECTIVES: Allergic rhinitis is highly prevalent in North America, affecting 20 to 40 percent of the population. Nearly 9 percent of Americans suffer from asthma, with more than half having evidence of atopy. This comparative effectiveness review describes the effectiveness and safety of subcutaneous immunotherapy and sublingual immunotherapy (off-label use of subcutaneous-aqueous allergens for sublingual desensitization) compared with other therapies for treatment of allergic rhinoconjunctivitis and asthma. DATA SOURCES: We searched the MEDLINE(r), Embase, LILACS, and CENTRAL databases from the beginning of each database through May 21, 2012. REVIEW METHODS: Two reviewers independently selected randomized controlled trials according to established study inclusion criteria. Disagreements were resolved by consensus. Paired reviewers assessed the risk of bias of each study and extracted details about the population, intervention(s), and outcomes of interest. The results were summarized by immunotherapy type (sublingual or subcutaneous), allergen, and outcomes.
Studies exclusively enrolling children were reviewed separately. The strength of the body of evidence was graded and summarized. RESULTS: We included 74 references that investigated the efficacy and safety of subcutaneous immunotherapy, 60 studies that investigated the efficacy and safety of sublingual immunotherapy, and 8 studies that compared the two modes of delivery. All 142 studies were randomized controlled studies. The majority of studies were at medium risk of bias due to design choices. The strength of evidence is high that subcutaneous immunotherapy reduces asthma symptoms, rhinitis symptoms, conjunctivitis symptoms, asthma medication use, asthma plus rhinoconjunctivitis medication use, and rhinoconjunctivitis-specific quality of life. The strength of evidence is moderate that subcutaneous immunotherapy reduces rhinoconjunctivitis symptoms, asthma medication use, asthma plus rhinoconjunctivitis medication use, and rhinoconjunctivitis-specific quality of life. The strength of evidence is low that subcutaneous immunotherapy reduces rhinitis symptoms, asthma plus rhinoconjunctivitis symptoms, combined symptom scores, conjunctivitis symptoms, and medication use relative to usual care, and improves allergy-specific quality of life. In studies comparing subcutaneous with sublingual immunotherapy, the strength of evidence supporting the superiority of subcutaneous immunotherapy for reducing allergic rhinitis and conjunctivitis symptoms, and the superiority of sublingual immunotherapy for reducing medication use, is low. We identified 13 pediatric studies of subcutaneous immunotherapy, 18 pediatric studies of sublingual immunotherapy, and 3 pediatric studies comparing subcutaneous and sublingual immunotherapy. The strength of evidence is moderate that subcutaneous immunotherapy reduces asthma symptoms and rhinitis symptoms in comparison to usual care. The strength of evidence is high that sublingual immunotherapy reduces rhinitis symptoms, medication scores, combined symptom-medication scores, or improves quality of life relative to usual care. The strength of evidence is high that sublingual immunotherapy reduces asthma symptoms, and moderate that it reduces rhinitis symptoms, combined asthma plus rhinitis symptoms, asthma plus rhinitis symptoms, conjunctivitis symptoms, and decreases medication use. While local reactions were frequent with both treatment regimens, there were rare reports of anaphylaxis in the subcutaneous immunotherapy studies, and no anaphylaxis reported in the sublingual immunotherapy studies. CONCLUSIONS: With some variation across outcomes, the overall body of evidence consistently provides moderate to high support for the effectiveness and safety of both subcutaneous and sublingual immunotherapy for the treatment of allergic rhinitis and asthma. The evidence to support the use of immunotherapy in children is somewhat weaker than the evidence supporting its use in adults. The superiority of one route of administration over the other is not known.

**Aeroallergen and Food Immunotherapy, An Issue of Immunology and Allergy Clinics of North America.**

**Update in Immunotherapy for Aeroallergens, Foods, and Venoms, An Issue of Immunology and Allergy Clinics of North America E-Book**

This fifth edition of the bestselling Allergens and Allergen Immunotherapy is now completely updated and revised to include subcutaneous, sublingual, and oral immunomodulator treatments of allergic disease. The redesigned book continues to provide comprehensive coverage of all types of allergens and allergen vaccines, giving clinicians the essential

**Veterinary Allergy**

The development of the Chronic Care Model (CCM) for the care of patients with chronic diseases has focused on the integration of taking charge of the patient and his family within primary care. The major critical issues in the implementation of the CCM principles are the non-application of the best practices, defined by EBM guidelines, the lack of care coordination and active follow-up of clinical outcomes, and by inadequately trained patients, who are unable to manage their illnesses. This book focuses on these points: the value of an integrated approach to some chronic conditions, the value of the care coordination across the continuum of the illness, the importance of an evidence-based management, and the enormous value of the patients' involvement in the struggle against their conditions, without forgetting the essential role of the caregivers and the community when the diseases become profoundly disabling.

**Inflammation**

Subcutaneous immunotherapy (SCIT) was introduced a century ago. It represents for the third most important mainstay offered to allergic patients and is currently the only means of altering the abnormal immune response that underlies allergic disease. SCIT involves the gradual administration of increasing amounts of allergen to induce protective immunologic responses over a period of three to five years. The beneficial effects are usually seen within the first year of treatment. The mechanisms of action of SCIT are multiple and complex. The allergens that are known to be effective for use in SCIT include several tree, grass, and weed pollens, cat and dog dander, dust mites, certain molds, and cockroaches. The allergen used could be single or mixture of multiple allergens. There is no standard approach for the specific allergens or dose schedule to guide clinical practice. Although SCIT is used worldwide, sublingual immunotherapy (SLIT) has been conducted with single allergen extracts more recently. SLIT is considered a viable alternative to SCIT and is used in many areas of Europe, Latin America, and Asia. SLIT has not been approved by the U.S. Food and Drug Administration for use in the United States. The purpose of this report to review the evidence of comparative clinical effectiveness and safety profile of SCIT compared with antihistamine, SLIT or placebo in patients with allergy diseases and identify the existing guidelines on SCIT in the treatment of allergy diseases.
Immunotherapies for Allergic Disease

This book, based on a recent German publication, offers an overview of basic data and recent developments in the groundbreaking field of molecular allergology. It comprehensively explores the origin and structure of single allergen molecules (“components”) and their utility in improving the management of type I, IgE-mediated allergic reactions and disorders like allergic respiratory diseases, food allergies, and anaphylaxis. Highly specific testing, called component-resolved diagnostics, aims to identify and utilize single molecules. Over 200 single allergens from plant or animal sources have been applied to single or multiplex laboratory testing for the presence of allergen-specific IgE. This leap in assay sensitivity and specificity has led to three major advances in patient management: discrimination between primary allergic sensitization and complex cross-reactivity, recognition of IgE profiles for certain allergens and identification of patients most likely to benefit from allergen-specific immunotherapy. The book discusses in detail the benefits and limitations of this 21st century technology, and offers suggestions for the use of molecular allergology in routine clinical practice. It is a “must read” for physicians treating allergic patients as well as scientists interested in natural allergic molecules and their interactions with the human immune system.

Evidence-Based Clinical Practice in Otolaryngology

This best-selling resource has a worldwide reputation as the leader in its field. Focusing on human immunology and biology, while also reporting on scientific experimentation and advancement, it provides comprehensive coverage of state-of-the-art basic science as well as authoritative guidance on the practical aspects of day-to-day diagnosis and management. This new edition includes 700 full-color illustrations and a new, more accessible format to make finding information a snap for the busy practitioner. Includes a glossary of allergy and immunology for quick and easy reference. Contains keypoints and clinical pearls highlighted to find important information quickly. Links to useful online resources both for you and for your patients. Offers contributions from hundreds of international authorities for world-class expertise in overcoming any clinical challenge. Contains 400 new illustrations, 700 in all, to better illustrate complex immunology. Covers the very latest in the field, including hot topics such as food allergy and immunotherapy. Includes the latest guidelines from The National Asthma Education and Prevention Program (NAEPP). Utilizes a new, more user-friendly full-color format for easier reference.

Food Allergy: Molecular Basis and Clinical Practice

When I entered the field of allergy in the early 1970s, the standard textbook was a few hundred pages, and the specialty was so compact that texts were often authored entirely by a single individual and were never larger than one volume. Compare this with Allergy Frontiers: Epigenetics, Allergens, and Risk Factors, the present six-volume text with well over 150 contributors from throughout the world. This book captures the explosive growth of our specialty since the single-author textbooks referred to above. The unprecedented format of this work lies in its meticulous attention to detail yet comprehensive scope. For example, great detail is seen in manuscripts dealing with topics such as “Exosomes, naturally occurring minimal antigen presenting units” and “Neuropeptide S receptor 1 (NPSR1), an asthma susceptibility gene.” The scope is exemplified by the unique approach to disease entities normally dealt with in a single chapter in most texts. For example, anaphylaxis, a topic usually confined to one chapter in most textbooks, is given five chapters in Allergy Frontiers. This approach allows the text to employ multiple contributors for a single topic, giving the reader the advantage of being introduced to more than one viewpoint regarding a single disease.

Textbook of Allergy for the Clinician

Pediatric Allergy

This issue of Immunology and Allergy Clinics, guest edited by Drs. Linda S. Cox and Anna H. Nowak-Wegrzyn, is devoted to Aeroallergen and Food Immunotherapy. Articles in this issue include History of AIT and the future direction of CRD/molecular allergy; Mechanisms of aeroallergen allergen immunotherapy: SCIT and SLIT; Mechanisms underlying induction of tolerance to foods; Biomarkers for allergen immunotherapy; SCIT and SLIT; Novel delivery routes for allergy immunotherapy; Oral immunotherapy for food allergy; SLIT and EPIT for food allergy; The use of adjuvants for enhancing allergen immunotherapy efficacy; Allergen immunotherapy vaccine modification; Allergen immunotherapy outcome assessment in clinical trials and real life; Component resolved diagnosis: can it make specific AIT more specific?; Baked milk and egg diets for milk and egg allergy management; and Allergen immunotherapy practical considerations: adherence and strategies to improve.