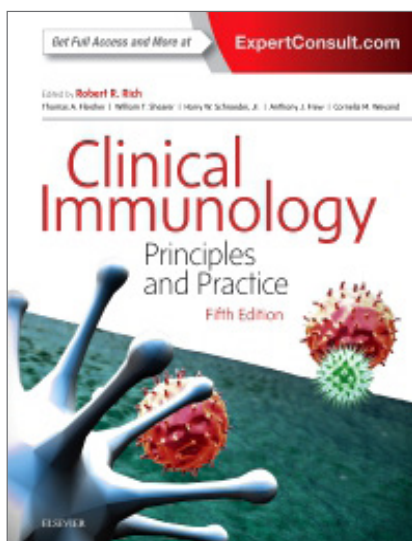


# Clinical Immunology, the Fifth Edition

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The latest edition of Clinical Immunology is addressed to practitioners, internists, pediatricians, family physicians, researchers, and undergraduate and graduate students of medicine. The textbook covers basic immunology, immunopathology, and clinical immunology, novel immunotherapies, and immunological methods. It begins with the basic principles of immune response and continues with the complex nature of immunological networks during diseases including immunologic deficiency, allergic disorders, organ-specific inflammatory disease, cancer immunity, diagnostic immunology, and immunotherapy.

The updated version is exciting and has made it easier to understand the complexities of the immune system. The textbook contains a series of clear explanations of the immune system and the many excellent evidence-based illustrations.

The book divided into twelve parts and included two appendices. In Part One, the human immune response is discussed with the basic principles of immunology and highlights the importance of the microbiota to healthy immune system development and the pathogenesis of immunologic and inflammatory diseases. It includes 12 chapters covering the human immune response, the organization of the immune system, innate immunity, antigen receptor genes, gene products, and co-receptors, and the major histocompatibility complex. These chapters also cover T cell recognition of pathogens, B cell development and differentiation, T cell development, cytokines and cytokine receptors, chemokines and chemokine receptors, lymphocyte adhesion and trafficking, T cell activation and tolerance, regulated necrosis and its immunogenicity and the microbiota in immunity and inflammation.

Part Two opens with a discussion on host defense mechanism followed by dissection of the innate immune system. This part of the book covers host defense mechanisms and inflammation and includes the chapters on immunoglobulin function, helper T cell subsets and control of the inflammatory response, cytotoxic T lymphocytes and natural killer cells. It also describes the role of regulatory immune cells, host defenses in skin, host defenses at mucosal surfaces, the human complement system, phagocyte deficiencies, mast cells,

basophils, and mastocytosis, and eosinophils and eosinophilia.

Part Three focuses in detail on the role of the immune system in defenses against infectious organisms and the involvement of adaptive immune systems in inflammatory processes and its role against infectious agents. It covers host defenses to viruses, host defenses to intracellular bacteria, host defenses to extracellular bacteria host defenses to spirochetes, host defenses to fungal pathogens, host defenses to protozoa and immune responses to helminth infection.

Part Four explains immune deficiencies that are caused by anti-cytokine auto-antibodies. There are chapters on how to approach the evaluation of the patient with suspected immunodeficiency, human genomics in immunology, primary antibody deficiencies, primary T cell immunodeficiencies, immunodeficiencies at the interface of innate and adaptive immunity, and infections in the immunocompromised host. This part concludes with immune deficiencies at the extremes of age, human immunodeficiency virus infection and acquired immunodeficiency syndrome, and autoantibody-mediated phenocopies of primary immunodeficiency diseases.

In Part Five, the authors focus on allergy and allergic diseases and provide up-to-date information relating to IgE mediated and non-IgE mediated allergic diseases. It covers the topics of immunological mechanisms of airway diseases and pathways to therapy, urticaria, angioedema, and anaphylaxis, allergic reactions to stinging and biting insects, atopic and contact dermatitis, food allergy, eosinophil-associated gastrointestinal disorders, allergic disorders of the eye, drug hypersensitivity and occupational respiratory allergies.

In Part Six, discusses the pathogenesis of common systemic immune diseases along with their clinical descriptions, diagnostic approaches, and therapeutic options. It examines the mechanisms of autoimmunity, systemic lupus erythematosus, rheumatoid arthritis, juvenile idiopathic arthritis, Sjogren syndrome, scleroderma-systemic sclerosis, inflammatory muscle diseases, spondyloarthritis, small- and medium-vessel primary vasculitis, large-vessel vasculitides, systemic autoinflammatory syndromes, and antiphospholipid syndrome.

Part Seven is about the pathogenesis of common organ-specific inflammatory diseases along with clinical descriptions, diagnostic approaches, and therapeutic options. Here the authors discuss autoimmunity with a virtual explosion in novel therapeutics including check-point inhibitors and

other recently developed immunomodulators. Topics covered include immunohematological disorders, bullous diseases of the skin and mucous membranes, immunology of psoriasis, myasthenia gravis, multiple sclerosis, autoimmune peripheral neuropathies, immunological renal disorders, inflammation and atherothrombosis, autoimmune thyroid diseases, type I diabetes, immunological lung diseases, sarcoidosis, immunological ocular diseases, immunological diseases of gastrointestinal tract and inflammatory hepatobiliary diseases.

In Part Eight, the authors highlight the detailed definition of cell signaling pathways and the structure of cell-surface molecules that have contributed enormously to the treatment of cancer with a virtual explosion in novel therapeutics including check-point inhibitors and immunomodulators. It contains chapters on immunotherapy of cancer, lymphoid leukemias, lymphomas, and monoclonal gammopathies.

Part Nine is devoted to the issue of transplantation and management of transplantation rejection. It covers the concepts and challenges in organ transplantation rejection, immunosuppression, and tolerance, immune reconstitution therapy for immunodeficiency and hematopoietic stem cell transplantation for malignant diseases.

The novel therapeutics including check-point inhibitors and other recently developed immunomodulators and the availability of many new humanized and human monoclonal antibodies along with the development of novel therapeutic approaches such as chimeric-antigen-receptor T cells are discussed in Part Ten. It covers immunoglobulin therapy, gene therapy for primary immune deficiency diseases, glucocorticoids, immunomodulating pharmaceuticals, protein kinase antagonists in the treatment of immunological and inflammatory diseases, biological modifiers of inflammatory diseases, vaccines, and immunotherapy of allergic disease.

The extensive use of T cell excision circle receptor (TREC) assay to diagnose severe immune deficiencies of the newborn and exploration of in vivo therapeutic editing of pathological mutations are covered in Part Eleven. With these new tools, the practice of clinical immunology has become more exciting yet more complex, while offering important improvements in patient care. Flow cytometry, assessment of functional immune responses in lymphocytes, neutrophil function evaluation, assessment of human allergic diseases, molecular methods are discussed.

In addition to covering of the above topics, the book has two appendices. Appendix I contains selected CD molecules, and their characteristics include a concise list of CD antigens, cytokines, chemokines, and their receptors. Appendix II has laboratory reference values along with some references for humoral and cellular immunity.

Altogether, the textbook provides readers with a complete update with the newest understanding of clinical immunology, which involves diseases of virtually all organ systems.

As a bonus, students and medical professionals will find very educational sets of multiple-choice questions with answers throughout. A question bank is provided with each chapter, reinforcing the essential material for the reader. About one hundred new figures are included in the updated textbook. Each chapter contains reference lists for further detailed reading.

Immunology is a tough science, but this textbook is beautiful and applicable. Enjoy it!