



Rheumatological Disorders

Rheumatology

Overview

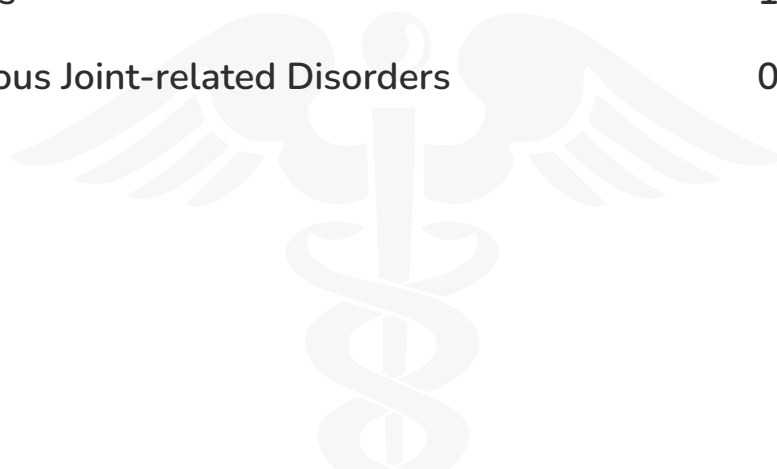
Rheumatology is the branch of medicine that focuses on the study of rheumatic diseases, which are immune-mediated conditions affecting the joints, ligaments, and muscles. Rheumatic diseases are characterized by soft-tissue inflammation and include immune-mediated and non-immune-mediated arthritis, seronegative spondyloarthropathies, systemic diseases with rheumatic manifestations such as lupus and vasculitides, and muscular pathologies such as Duchenne muscular dystrophy and myasthenia gravis.

Although not as prevalent as other diseases, rheumatic disorders are frequently encountered in clinical practice and are considered important clinical entities given that affected individuals require very specialized care and follow-up. Pharmacological treatments constitute an active research area in this field.

For optimal comprehension, the student should have a thorough understanding of the physiology of the immune system, particularly the mechanisms of humoral and cell-mediated immune responses. Basic knowledge of the histological classification of tissues is desirable as well.

Topics

General Approach to Arthritis and Joint Pain	10 Videos
Connective Tissue Diseases	17 Videos
Spondyloarthritides	08 Videos
Non-Autoimmune Arthritis	13 Videos
Vasculitides	12 Videos
Miscellaneous Joint-related Disorders	07 Videos



General Approach to Arthritis and Joint Pain

- Rheuma Case: 68-year-old Woman with Knee Pain
- Rheuma Case: 73-year-old Woman with Shoulder Pain
- Rheuma Case: 33-year-old Man with Posterior Heel Pain
- Approach to Arthritis: Review
- Rheuma Case: 54-year-old Man with Shoulder Pain
- Review: Shoulder Pathology and Anatomy
- Rotator Cuff Anatomy and Disease
- Adhesive Capsulitis (Frozen Shoulder)
- Rheuma Case: 54-year-old Woman with Acute Right Shoulder Pain
- Rheuma Case: 63-year-old Woman with Increasing Right Shoulder Pain

Connective Tissue Diseases

- Rheuma Case: 59-year-old Man with Bilateral Wrist Pain and Swelling
- Rheumatoid Arthritis: Diagnosis, Pathogenesis, and Treatment
- Quick Review: Rheumatoid Arthritis
- Rheuma Case: 24-year-old Woman with Pleuritic Chest Pain and Dyspnea
- Systemic Lupus Erythematosus (SLE) Diagnostic Criteria (4-Skin-RASH-NIA)
- Differential Diagnosis for Systemic Lupus Erythematosus (SLE)
- Systemic Lupus Erythematosus (SLE): Complications and Management
- Quick Review: Drug-induced Lupus and Systemic Lupus Erythematosus (SLE)
- Rheuma Case: 57-year-old Man with Muscle Weakness
- Inflammatory Myopathies: Types, Diagnosis, Manifestations, Treatment
- Quick Review: Inflammatory Myopathies

- Rheuma Case: 37-year-old Woman with Reflux and Facial Rash
- Systemic Sclerosis (CREST Syndrome): Complications and Management
- Quick Review: Systemic Sclerosis
- Rheuma Case: 54-year-old Woman with Seasonal Allergies
- Sjögren's Syndrome: Key Features and Management
- Quick Review: Sjögren's Syndrome

Spondyloarthritides

- Spondyloarthritides
- Rheuma Case: 26-year-old Woman with Persistent Low Back Pain
- Ankylosing Spondylitis: Complications and Treatment
- Rheuma Case: 37-year-old Woman with Joint Pain
- Reactive Arthritis: Diagnosis and Management
- Rheuma Case: 46-year-old Man with Increasing Pain/Swelling in Fingers
- Psoriatic Arthritis: Diagnosis and Management
- Quick Review: Spondyloarthritides

Non-Autoimmune Arthritis

- Rheuma Case: 52-year-old Man with Chronic Right Knee Pain
- Osteoarthritis: Risk Factors and Radiography
- Rheuma Case: 49-year-old Woman with R Proximal Thumb Pain
- Osteoarthritis: Treatment
- Quick Review: Osteoarthritis
- Rheuma Case: 51-year-old Man with R Knee and L Ankle Pain
- Gout: History, Pathophysiology
- Gout: Diagnosis and Treatment
- Pseudogout (CPPD)
- Quick Review: Gout and Pseudogout

- Rheuma Case: 48-year-old Man with Fevers, R Knee Pain and Swelling
- Non-gonococcal Septic Arthritis: Initial Treatment and Management
- Quick Review: Septic Arthritis

Vasculitides

- Rheuma Case: 37-year-old Woman with Dyspnea and Abdominal Pain
- Vasculitis: Overview
- Polyarteritis Nodosa
- Anti-GBM Disease (Goodpasture's)
- ANCA-associated Vasculitis
- Eosinophilic Granulomatosis with Polyangiitis: Diagnosis and Management
- Rheuma Case: 14-year-old Girl with Abdominal Pain and Rash
- Kawasaki Disease: Features and Manifestations
- Large Vessel Vasculitides: Takayasu's and Giant Cell Arteritis
- Cryoglobulinemic Vasculitis
- IgA Vasculitis (Henoch-Schönlein)
- Quick Review: Vasculitis

Miscellaneous Joint-related Disorders

- Rheuma Case: 27-year-old Man with Cough and Dyspnea
- Rheuma Case: 62-year-old Woman with Sore Legs and Dyspnea
- Sarcoidosis: Complications and Management
- Quick Review: Sarcoidosis
- Rheuma Case: 31-year-old Woman with Body Aches
- Fibromyalgia: Diagnosis and Management
- Quick Review: Fibromyalgia

Immune System

Immune System: Overview and Cells	08 Videos
Innate Immune System	08 Videos
Adaptive Immune System	31 Videos
Humoral Immunity and Cell-Mediated Immunity	13 Videos
Immunodeficiency and Immune Deficiency Diseases	16 Videos
Hypersensitivity and Autoimmune Disease	21 Videos
Transplantation Immunology	06 Videos
Tumor Immunology	07 Videos
Vaccine Immunology	06 Videos
Immunodiagnostics	08 Videos



Immune System: Overview & Cells

- Introduction: Pathogens and the Immune System
- Immune Response
- Strategies to Eliminate Pathogens
- Organization of the Immune System
- Cells of the Innate Immune Response
- Phagocytic Cells
- Dendritic Cells, Eosinophils, Basophils, Mast Cells and Innate Lymphoid Cells
- Cells of the Adaptive Immune System

Innate Immune System

- Introduction: The Innate Immune Response
- Pattern Recognition Receptors (PRRs)
- Inflammatory Signaling and Inflammasomes
- Acute Phase Response
- Acute Inflammation
- Chronic Inflammation
- Complement System
- Acute inflammatory, Type I interferon and NK cell responses

Adaptive Immune System

- Recognition of Antigens – Lymphocyte Development
- B-Cell Development in the Bone Marrow – Lymphocyte Development

- Immunoglobulin Genes and Recombination – Lymphocyte Development
- Mediation of Antigen Receptor Genetic Recombination – Lymphocyte Development
- Antibody Variable Region Diversity – Lymphocyte Development
- Junctional Diversity, N-Nucleotide Addition and Somatic Hypermutation – Lymphocyte Development
- Class Switch Recombination, Co-Expression and B-Cell Development – Lymphocyte Development
- T-Cell Development – Lymphocyte Development
- T-Cell Development in Thymus and Genetic Recombination of TCR – Lymphocyte Development
- Natural Killer T-Cells (NKT-Cells) – Lymphocyte Development
- Overview of Lymphoid Tissues – Lymphocyte Activation
- Secondary Lymphoid Tissues – Lymphocyte Activation
- Germinal Center – Lymphocyte Activation
- B- and T-Cell Activation – Lymphocyte Activation
- B-Cell Differentiation – Lymphocyte Activation
- Migration and Maturation of Interdigitating Dendritic Cells and T-Cell Differentiation – Lymphocyte Activation
- Costimulation – Lymphocyte Activation
- Introduction to Lymphocyte Recirculation – Lymphocyte Recirculation and Homing
- Blood/Lymphatic Circulation and High Endothelial Venules – Lymphocyte Recirculation and Homing
- Chemokines – Lymphocyte Recirculation and Homing
- Migration of Central Memory and Effector Memory T-Cells – Lymphocyte Recirculation and Homing
- Cell Adhesion Molecules (CAMs) – Lymphocyte Recirculation and Homing
- Trafficking and Homing – Lymphocyte Recirculation and Homing

- Introduction – Antigen Processing and Presentation
- Major Histocompatibility Complex (MHC) – Antigen Processing and Presentation
- Polymorphism and TCR Recognition of Major Histocompatibility Complex – Antigen Processing and Presentation
- Diversity of Major Histocompatibility Complex – Antigen Processing and Presentation
- Structure of Major Histocompatibility Complex – Antigen Processing and Presentation
- Main Pathways and Endogenous/Exogenous Antigens – Antigen Processing and Presentation
- Cross-Presentation – Antigen Processing and Presentation
- Presentation of Lipid Antigens by CD1 – Antigen Processing and Presentation

Humoral Immunity & Cell-mediated Immunity

- Humoral Immunity: Introduction
- Humoral Immunity: T-Dependent, T-Independent Antigens, and Class Switching
- Humoral Immunity: Structure of Antibodies and Immunoglobulin Domains
- Humoral Immunity: Antibody Polymers and Antibody Binding to Antigens
- Humoral Immunity: Function of Antibodies
- Cell-mediated Immunity: Introduction
- Cell-mediated Immunity: Gamma-Delta T-Cells, T-Cell Receptor, and Alpha-Beta T-Cells
- Cell-mediated Immunity: Th0, Th1, and Th2 Cells
- Cell-mediated Immunity: Regulatory T-Cells, Cytotoxic T-Cells, Macrophages, and Intraepithelial Lymphocytes

- Cell-mediated Immunity: Cytokines, Interferons, Interleukins, and Colony Stimulating Factors
- Cell-mediated Immunity: Chemokines, Tumor Necrosis Factors, and Transforming Growth Factors
- Cell-mediated Immunity: Functional Modes of Cytokines and Cytokine Receptor Signaling
- Cell-mediated Immunity: Therapeutic Blocking of Pathological Cytokines

Immunodeficiency and Immune Deficiency Diseases

Introduction – Primary Immunodeficiency

- Complement Deficiencies – Primary Immunodeficiency
- Phagocytic Cell Disorders – Primary Immunodeficiency
- Autoinflammatory Disorders – Primary Immunodeficiency
- Mutations Affecting T-cell Maturation
- B-Cell Immunodeficiencies: Common Variable Immunodeficiency, X-linked Agammaglobulinemia and Selective IgA Deficiency – Primary Immunodeficiency
- T-Cell Immunodeficiencies: Hyper IgM Syndrome, Wiskott-Aldrich Syndrome and MHC Class II Deficiency – Primary Immunodeficiency
- Primary Immunodeficiencies Associated with Autoimmune Disease
- Severe Combined Immunodeficiency (SCID) – Primary Immunodeficiency
- Diagnosis – Primary Immunodeficiency
- Treatment – Primary Immunodeficiency
- Introduction – Secondary Immunodeficiency
- Causes: Immaturity & Pregnancy – Secondary Immunodeficiency Diseases

- Causes: Aging & Infections – Secondary Immunodeficiency Diseases
- HIV Infection and HIV Life Cycle– Secondary Immunodeficiency Diseases
- HIV Disease: Clinical Course, Treatment & Prophylaxis – Secondary Immunodeficiency Diseases

Hypersensitivity and Autoimmune Disease

- Introduction to Hypersensitivity
- Hypersensitivity: Types
- Hypersensitivity: Type 1 – Causes
- Allergy: Genetics and IgE
- IgE, Mast Cells and Eosinophils
- Allergy: Diagnosis, Therapy and Treatment of Asthma
- Hypersensitivity: Type 2
- Hypersensitivity: Type 3
- Hypersensitivity: Type 4
- Introduction to Autoimmune Diseases
- Immune Tolerance and Autoimmune Regulator (AIRE)
- Genetic Susceptibility to Autoimmune Diseases and Mechanisms
- Autoimmune Diseases: Types
- Autoimmune Hemolytic Anemia
- Goodpasture's Syndrome, Hashimoto's Thyroiditis, Graves' Disease and Type I Diabetes
- Rheumatoid Arthritis (RA)
- Acute Rheumatic Fever
- Systemic Lupus Erythematosus (SLE)
- Multiple Sclerosis (MS) and Guillain-Barré Syndrome (GBS)
- Celiac Disease
- Autoimmune Diseases: Therapy

Transplantation Immunology

- Introduction to the Problems and Rules of Transplantation
- Allograft Rejection and Blood Transfusion
- Blood Transfusion
- Direct and Indirect Alloantigen Recognition
- Major Histocompatibility Complex (MHC) and MHC Disparity
- Tissue Typing, Immunosuppressive Drugs and GVHD

Tumor Immunology

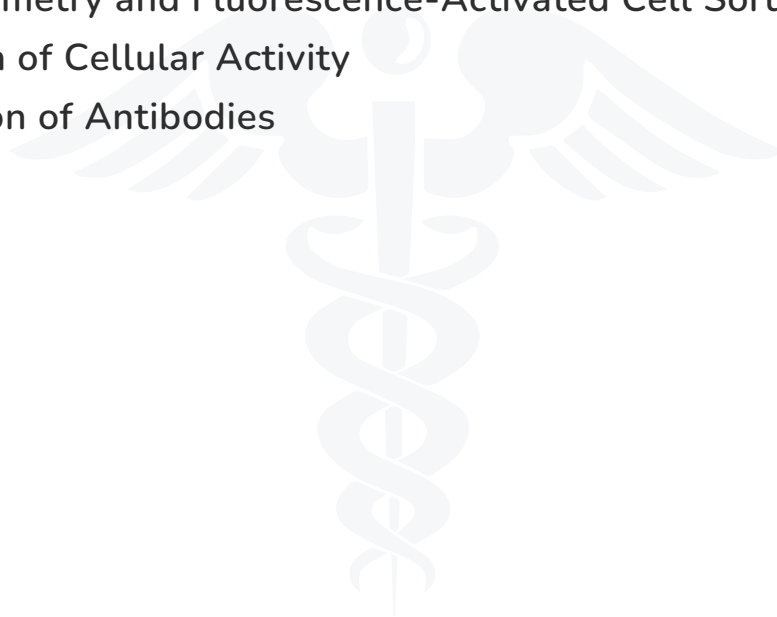
- Introduction to Tumor Immunology
- Leukemia, Lymphoma & Myeloma
- Immune Response to Tumors: Tumor Antigens and Antitumor Immunity
- Tumor-Infiltrating NK Cells
- Tumor Evasion of the Immune Response and Immune Checkpoint Blockade
- Monoclonal Antibodies and Nonspecific Immunotherapy
- Tumor Vaccines

Vaccine Immunology

- History of Vaccination
- Vaccine Components: Antigen, Carrier and Adjuvant
- Types of Vaccines (1): Live Attenuated Vaccines and Inactivated Vaccines
- Vaccination: Subunit Vaccines, Toxoid Vaccines, Conjugate Vaccines
- Future Needs for Vaccines: Influenza, COVID, Malaria, Tuberculosis, HIV

Immunodiagnosics

- Introduction to Immunodiagnosics
- Immunodiagnostic Methods: Agglutination, Nephelometry, Immunoprecipitation and Radial Immunodiffusion
- Electrophoresis and Western Blot
- Immunoassays: ELISA, RIA and Luminex™
- Immunofluorescence and Immunohistochemistry
- Flow Cytometry and Fluorescence-Activated Cell Sorter (FACS)
- Evaluation of Cellular Activity
- Preparation of Antibodies



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Why Mediversal?

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CPD hours/ Credit	✓ 110 hours/Credit	⚠ 3—50 hours/Credit
NMC Guideline	✓ Advantages in accordance with provision 1.4.2 of NMC regulations	⚠ Not all. (Very few)
Renowned International faculties	✓ Yes	⚠ Only for few subjects
Faculty to learner ratio	✓ 1:10	✓ 1:50 or 1:75
Case based learning	✓ Yes	✗ No
AI supported learning	✓ Yes	✗ No
Live Interaction Sessions	✓ Yes	✗ No
Clinical Attachments	✓ Yes (Case to Case basis)	✓ Yes
Associated with Hospitals for Clinical Training	✓ Yes	✓ Yes
Books	✓ Yes (Printable Pdf copy)	✗ No
Complementary e-Learning Module & Certification	✓ Yes	✗ No
Learner Support	✓ Yes	✗ No
Community of Doctors for peer support (Mediversal Alumni only)	✓ Yes	✗ No
Alumni Support	✓ Yes	⚠ Only a few
e-Certification	✓ Yes	✓ Yes
Physical Certification	✓ Yes	⚠ Only a few
Lifetime certificate validity	✓ Yes	✓ Yes
Digital Marketing and Business Support for your hospital/clinic	✓ Yes	✗ No
Admission process	✓ Smooth, Transparent & all details provided	⚠ Spamming through multiple channels.
Data and privacy protection	✓ Yes	✗ No
CME access	✓ Yes (Lifetime)	✗ No
Medico Legal Session	✓ Yes (Free. By renowned high court advocates)	✗ No
National Level Felicitation Award (for Mediversal Alumni)	✓ Yes	✗ No



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