

MD 2nd Part

Rheumatology and Immunology

✓ **Course Aims:**

The broad aims of the course are as follows:

- 1- To enable the candidates to specialize in the area of Rheumatology and Clinical immunology and to provide fellows with the skills required to perform as well-trained, productive independent clinical investigators, independent rheumatology consultants and specialized health care providers for patients with inflammatory, autoimmune rheumatic and degenerative musculoskeletal disorders. These goals are optimally met in a three-year program
- 2- To provide a rigorous, exciting, and productive training experience for those individuals interested in developing careers as independent physician-scientists. This requires at least a three year commitment to the study of molecular and cellular mechanisms of arthritis, autoimmune, and musculoskeletal diseases
- 3- The clinical training component of our course is designed to provide a strong foundation for those individuals interested in the practice of rheumatology and for those interested in a research career. There is a heavy emphasis on outpatient clinical experience with exposure to a broad spectrum of rheumatic diseases. The fellow is an active member of a health care team and is responsible for longitudinal patient management with primary decision-making responsibilities under faculty supervision.

✓ **Course content:**

Module 1 (3 credit hours) (45 teaching hours)	
Subjects	Lectures

	(3 credit hrs/15 wks) (3 teaching hours/week)
Structure, function of joints, C.T and muscles.	2 hrs
Immune & Inflammatory response.	3 hrs
Neuro-endocrinal aspects of the immune system & inflammation.	2 hrs
The role of free radicals, endothelium, adhesion molecules in the etipathogenesis of rheumatic diseases.	2 hrs
cytokines and apoptosis in rheumatic diseases	2hrs
History taking, clinical examination and patient evaluation	4 hrs
Rheumatoid arthritis	3 hrs
Sjogren's syndrome	1 hr
Palindromic rheumatism	1 hr
Systemic lupus Erythematosus	3 hrs
Systemic sclerosis	3 hrs
Inflammatory diseases of muscles and other myopathies.	3 hrs
Dermatopolymyositis	3 hrs
Large and medium-sized vessel vasculitic syndromes	2 hrs
Small vessel vasculitic syndromes	2 hrs
Behcet disease	2 hrs
Spondyloarthropathies.	3 hrs
Rheumatic diseases of childhood.	4 hrs
Module 2 (3credit hours) (45 teaching hours)	

Subjects	Lectures (3 credit hrs/15 wks) (3 teaching hours/week)
Crystal deposition arthropathies: gout and pseudo gout.	3 hrs
Osteoarthritis.	3 hrs
Osteoporosis.	3 hrs
Osteomalacia	2 hrs
Paget's disease of bone	2 hrs
Osteonecrosis	1 hr
Amyloidosis,	1 hr
Sarcoidosis	1 hr
Haematological associated arthropathies	2 hrs
Endocrine associated arthropathies	2 hrs
Malignant associated arthropathies	2 hrs
Syndromes of impaired immune function; HIV, complement deficiency	2 hrs
Infection & arthritis	3 hrs
Diagnostic tests, procedures & lab markers (Hematological, biochemical & immunological) in rheumatic diseases.	4 hrs
Aspiration analysis and injection of joints & soft tissues.	3 hrs
Imaging of musculoskeletal system	4 hrs

Differential diagnosis of different types of arthritis	3 hrs
Fibromyalgia syndrome	2hrs
Psychogenic rheumatism	2 hrs
Module 3 (3credit hours) (45 teaching hours)	
Subjects	Lectures (3 credit hrs/15 wks) (3 teaching hours/week)
Reflex sympathetic dystrophy	2 hrs
Renal bone diseases (osteodystrophy)	2 hrs
Regional and soft tissue pain	6 hrs
Pregnancy & lactation with rheumatic diseases.	3 hrs
Non steroidal anti-inflammatory drugs.	3 hrs
Glucocorticoids	3 hrs
Disease modifying ant-rheumatic drugs.	4 hrs
Immunoregulatory agents	2 hrs
Anti-hyperuricemic drugs.	3 hrs
Biologic agents in treatment of rheumatic diseases.	6 hrs
Bone strengthening agents.	2 hrs
Rehabilitation of patients with rheumatic diseases.	4 hrs
Intra-articular therapy.	2 hrs
Indications of surgery in rheumatic diseases.	3 hrs

Module 4 (3 credit hours) (45 teaching hours)	
Subjects	Lectures (3 credit hrs/15 wks) (3 teaching hours/week)
Genetic and gene therapy of rheumatic diseases.	6 hrs
Entrapment neuropathy	8 hrs
Low back pain	6 hrs
Bone and joint dysplasia.	2 hrs
Polychondritis	2 hrs
Epidemiology, incidence, mortality & morbidity in rheumatic diseases	3 hrs
Systemic manifestations of rheumatic diseases.	6 hrs
Tumors involving joints, muscles and related structures.	6 hrs
Infiltrative disorder associated with rheumatic diseases.	3 hrs
Nutritional aspects of rheumatic diseases.	3 hrs

✓ **Clinical training for MD students (240 teaching hours) for one year**

Clinical skill	Teaching hours
Module I (60 clinical hours)	
History taking, clinical examination and patient evaluation	8 hrs

How to examine, evaluate, diagnose , differentiate from other diseases and treat rheumatoid arthritis patient	6 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Sjogren 's syndrome	2 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Palindromic rheumatism	2 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Systemic lupus Erythematosus	6 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Systemic sclerosis	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Inflammatory diseases of muscles and other myopathies.	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Dermatopolymyositis	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Large and medium-sized vessel vasculitic syndromes	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Small vessel vasculitic syndromes	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Behcet disease	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Spondyloarthropathies.	6 hrs

How to examine, evaluate, diagnose , differentiate from other diseases and treat children with pediatric Rheumatic diseases.	6 hrs
Module II (60 clinical hours)	
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Crystal deposition arthropathies: gout and pseudo gout.	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Osteoarthritis.	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Osteoporosis.	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Osteomalacia	2 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Paget's disease of bone	1 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Osteonecrosis	1 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Amyloidosis,	1 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Sarcoidosis	1 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Haematological associated arthropathies	2 hrs

How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Endocrine associated arthropathies	3 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Malignant associated arthropathies	3 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Syndromes of impaired immune function; HIV, complement deficiency	1 hr
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Infection & arthritis	3 hrs
How to perform, indicate and interpret Diagnostic tests, procedures & lab markers (Hematological, biochemical & immunological) in rheumatic diseases.	6 hrs
How to perform aspiration analysis and injection of different joints & soft tissues.	10 hrs
Read, evaluate and interpret Imaging of musculoskeletal system	6 hrs
How to Differentiate diagnosis of different types of arthritis	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Fibromyalgia syndrome	2 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients of Psychogenic rheumatism	2 hrs
Module III (60 clinical hours)	

How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Reflex sympathetic dystrophy	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with Renal bone diseases (osteodystrophy)	4 hrs
How to examine, evaluate, diagnose , differentiate from other diseases and treat patients with different Regional and soft tissue pain	24 hrs
How to examine, evaluate, and treat patients with rheumatic diseases during Pregnancy & lactation.	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Non steroidal anti-inflammatory drugs.	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Glucocorticoids	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Disease modifying ant-rheumatic drugs.	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Immunoregulatory agents	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Anti-hyperuricemic drugs.	2 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Biologic agents in treatment of rheumatic diseases.	4 hrs
Indicate, prescribe, avoid contraindication and manage side effects of Bone strengthening agents.	2 hrs
How to design and prescribe rehabilitation of patients with rheumatic diseases.	10 hrs
Module VI (60 clinical hours)	

Examine, evaluate, diagnose and treat patients with Entrapment neuropathy	16 hrs
Examine, evaluate, diagnose and treat patients with Low back pain	14 hrs
Examine, evaluate, diagnose and treat patients with Bone and joint dysplasia.	2 hrs
Examine, evaluate, diagnose and treat patients with Polychondritis	2 hrs
Evaluate, diagnose and treat Systemic manifestations of rheumatic diseases.	20 hrs
Examine, evaluate, and diagnose Tumors involving joints, muscles and related structures.	4 hrs
Examine, evaluate, diagnose and treat Infiltrative disorder associated with rheumatic diseases.	2 hrs