

## SUBJECT TEACHING GUIDE

G141 - Medical Pathology V

Degree in Medicine

Academic year 2015-2016

1. IDENTIFYING DATA			
Degree	Degree in Medicine	Type and Year	Compulsory. Year 5
Faculty	Faculty of Medicine		
Discipline	Human Clinical Training Subject Area: Human Pathology		
Course unit title and code	G141 - Medical Pathology V		
Number of ECTS credits allocated	6	Term	Semester based (1)
Web			
Language of instruction	Spanish	Mode of delivery	Face-to-face

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### 3.1 LEARNING OUTCOMES

- To know how to get a proper medical history, collecting the family and personal history and symptoms of greater diagnostic value.
- To identify by clinical examination the most important data for diagnosis.
- To establish a diagnosis approach based on the data of history and exploration.
- To know what laboratory and imaging tests should be ordered to assess previously established diagnostic possibilities.
- To know how to interpret the results of laboratory tests and imaging requested.
- To know potential patient discomfort and side effects of diagnostic tests requested.
- To know how to establish a diagnostic approach based on the results obtained and propose a therapeutic approach.
- To know the economic cost of diagnostic tests and treatments.
- To know how to proceed correctly in terms of evaluation, exploration and initial treatment of the most common syndromes in Infectious Diseases and Rheumatology.

#### 4. OBJECTIVES

## INFECTIOUS DISEASES LEARNING OBJECTIVES

- To know the clinically relevant biological characteristics of microbial agents causing major Infections Diseases.
- To know how to identify the main signs and symptoms of infectious diseases presenting in both normal and immunocompromised host.
- To understand the pathogenesis and natural history of major bacterial, viral, fungal and parasitic infections.
- To understand the epidemiological importance of the various community Infections.
- To determine the frequency and types of infection complicating the evolution of patients hospitalized for other disease processes and their impact.
- To understand the sensitivity and specificity of the major diagnostic tests, especially at the level of imaging techniques and microbiological analysis, and the opportunity of a request.
- To understand the sensitivity of microorganisms to different antimicrobial agents and their mechanisms of resistance.
- To know the bases of antimicrobial, antifungal and antiviral therapy.
- To know the main therapeutic strategies used in community infections.
- To know the strategies of treatment of nosocomial infections.
- To know the strategies of prevention of Transmitted diseases, including behavioral, prophylaxis and vaccinations.
- To know the prognosis of major infectious diseases, without proper treatment.

## ABILITIES

- To know how to obtain an adequate medical history, collecting personal and epidemiological history and clinical data of interest for the diagnosis of infection.
- To identify, by physical examination, the most important data for the diagnosis of possible infection (meningeal syndrome, pulmonary condensation, hepato-splenomegaly, lymphadenopathy, heart murmur, rash, etc.)
- To interpret the hematological and biochemical laboratory abnormalities of interest for the diagnosis and monitoring of an infectious process and when to be ordered.
- To know how to ask the appropriate microbiological tests for the diagnosis of each type of infection (stains, cultures, serology, etc.) and interpret.
- To know how to interpret the basic data of the simple radiological investigations in relation to infectious processes and when to request more sophisticated scans.
- To know to proceed properly, in terms of management and succession of scans, compared to the main syndromes and clinical situations of infectious diseases: acute febrile syndrome, septic shock, prolonged febrile syndrome, meningeal syndrome, pathology of drug addict patient, diarrheal syndrome, pulmonary condensation, severe soft tissue infection, etc.

## Rheumatology.

### LEARNING OBJECTIVES

- To know the socioeconomic importance of rheumatic diseases and systemic autoimmune diseases.
- To know the structure and function of the joint.
- To know the diagnostic value and clinical utility of laboratory tests used in rheumatology.
- To know the diagnostic value and clinical utility of imaging tests used in rheumatology.
- To understand the most important therapeutic agents used in Rheumatology, their mechanism of action, efficacy, effectiveness, side effects, contraindications and drug interactions.
- To understand the epidemiology, pathogenesis, clinical, analytical, imaging findings, diagnosis, differential diagnosis, prognosis and treatment of rheumatic diseases and systemic autoimmune diseases.
- To understand, in diseases where available, the current international criteria proposed for classification.
- To understand, in diseases where available, the therapeutic regimens proposed by scientific societies of rheumatology excellence. Classification.
- To understand, in diseases where available, the therapeutic regimens proposed by Scientific Societies of Rheumatology.

## ABILITIES

- To know how to obtain adequate medical history, collecting the personal, familial and symptoms of greater diagnostic value.
- To know how to identified by clinical examination the most relevant data for diagnosis.
- To establish a diagnostic approach based on the data of history and exploration.

- To know what laboratory tests and imaging should be ordered to assess previously established diagnostic possibilities.
- To know how to interpret the results of laboratory tests and imaging requested.
- To know the potential patient discomfort and side effects of diagnostic tests requested.
- To know how to establish a diagnostic approach based on the results obtained and propose a therapeutic approach.
- To know, the economic cost of diagnostic tests and treatments.
- To know how to proceed correctly in terms of evaluation, exploration and initial treatment of the most common syndromes in rheumatology.

6. COURSE ORGANIZATION

CONTENTS

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## MODULE OF INFECTIOUS DISEASES. THEORY

### PART I: INTRODUCTION TO INFECTIOUS DISEASES.

Unit 1. Concept Infectious Disease. Changes in the Epidemiology of Infectious Diseases. Mechanisms of response against infections. Approach to a patient with suspected infection. Febrile syndrome. Fever of unknown origin.

Unit 2. The antibiotic, antifungal and antiviral therapy in infectious diseases

Unit 3. Bacteremia, sepsis and septic shock. Concept and definition criteria. Etiology. Pathophysiology. Clinical manifestations. Diagnosis. Treatment

### PART II. DISEASES CAUSED BY GRAM-POSITIVE ORGANISMS.

Unit 4. Diseases caused by Gram-positive cocci Streptococcus group A and B. Epidemiology, diagnosis and clinical manifestations and treatment.

Unit 5. Diseases caused by Streptococcus group C and G, viridans streptococci, pneumococci, enterococci. Epidemiology, clinical manifestations, diagnosis, and treatment

Unit 6. Diseases caused by gram-positive cocci: staphylococcal (Staphylococcus coagulase-negative Staphylococcus aureus.). Epidemiology, clinical manifestations, diagnosis, and treatment.

Unit 7. Diseases caused by gram-positive bacilli Listeria, Corynebacterium, Rhodococcus, Bacillus anthracis and Erysipelothrix. Epidemiology, clinical manifestations, diagnosis, and treatment.

### PART III. DISEASES CAUSED BY GRAM-NEGATIVE ORGANISMS

Unit 8. Diseases caused by gram-negative cocci: Neisseria meningitidis, Moraxella catarrhalis and other Gram-negative cocci. Epidemiology, clinical manifestations, diagnosis, and treatment.

Unit 9. Diseases caused by Haemophilus, HACEK bacteria, Legionella, Bordetella. Epidemiology, clinical manifestations, diagnosis, and treatment.

Unit 10 Diseases caused by enteric gram-negative bacilli: Escherichia coli, Klebsiella, Proteus, Enterobacter, Serratia, Citrobacter, Morganella, Providencia. Diseases caused by pathogenic enterobacteria primary: Salmonella, Shigella, Yersinia, Campylobacter and Helicobacter. Diseases caused by Vibrio: Vibrio cholerae. Epidemiology, clinical manifestations, diagnosis, and treatment.

Unit 11. Diseases caused by Pseudomonas and other Gram-negative bacilli related: Stenotrophomonas maltophilia and Burkholderia cepacia. Diseases caused by Acinetobacter and Alcaligenes. Epidemiology, clinical manifestations, diagnosis, and treatment.

Unit 12. Diseases caused by Brucella, Francisella tularensis, Pasteurella, Bartonella. Epidemiology, clinical manifestations, diagnosis, and treatment.

### PART IV. OTHER BACTERIAL INFECTIONS

Unit 13 Diseases caused by Nocardia and Actinomyces. Pathogenesis, clinical manifestations and diagnosis and treatment

Unit 14. Diseases caused by anaerobic organisms. Epidemiology, clinical manifestations, diagnosis, and treatment.

### PART V. Disease caused by spirochetes

Unit 15. Diseases caused by Treponema, Leptospira and Borrelia. Epidemiology, pathogenesis, clinical manifestations, diagnosis and treatment.

### PART VI. FUNGAL DISEASES

Unit 16. Deep Mycosis: Candida, Aspergillus, Mucor, Cryptococcus and Pneumocystis jirovecii. Endemic mycosis

### PART VII. DISEASES CAUSED BY RICKETTSIA, MYCOPLASMA AND CHLAMYDIA

Unit 17. Diseases caused by Rickettsia typhus group. Boutonneuse Mediterranean fever. Diseases caused by Coxiella burnetii, Ehrlichia spp.

Unit 18. Diseases caused by Chlamydia pneumoniae. Chlamydia psittaci. Mycoplasma pneumoniae infections. Etiology, pathogenesis, clinical manifestations and treatment

### PART VII. DISEASES CAUSED BY MYCOBACTERIA

Unit 19. Diseases caused by Mycobacterium tuberculosis, non-tuberculous mycobacteria, Mycobacterium leprae.

Epidemiology, pathogenesis, clinical manifestations and treatment.

#### PART VIII. DISEASES CAUSED BY PROTOZOA AND HELMINTHS

Unit 20. Enfermedades caused by Plasmodium, and Toxoplasma gondii. Pathogenesis, clinical manifestations, complications, diagnosis and treatment.

Unit 21. Diseases caused by Entamoeba histolytica, Giardia lamblia, Trypanosoma spp, Cryptosporidium, and Leishmania. Pathogenesis, clinical manifestations, complications, diagnosis and treatment.

Unit 22. Diseases caused by Trichuris trichiura, Ascaris lumbricoides, Strongyloides stercoralis, Trichinella spiralis, Fasciola, Taenia saginata, Taenia solium, Echinococcus and Larva migrans. Pathogenesis, clinical manifestations, complications, diagnosis and treatment.

#### PART IX. DISEASES CAUSED BY VIRUSES

Unit 23. HIV infection. Opportunistic main processes.

Unit 24. Diseases caused by herpes virus I, II, Cytomegalovirus (CMV), herpes virus VI, VII and Epstein-Barr virus.

Unit 25. Diseases caused by influenza and other respiratory viruses.

Unit 26. Diseases caused by Parvovirus and Human Papillomavirus (HPV).

Unit 27. Infecciones transmitted by insects and animals.

#### PART X. INFECTIOUS DISEASES: CLINICAL MANIFESTATIONALS SYNDROMES.

Unit 28. Infecciones in immunocompromised patients

Unit 29. Diseases associated with major Infectious diseases

Unit 30. Intravascular catheter-related infections. Suppurative thrombophlebitis.

Unit 31. Infectious Diseases related to healthcare. Infectious Diseases of the traveler.

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MODULE OF RHEUMATOLOGY . THEORY

UNIT 1. Concept of Rheumatology. Joint structure and function

Synovial fluid. Arthrocentesis indications and signs of synovial fluid.

UNIT 2. Systemic autoimmune diseases: Concept and Classification. Rheumatoid Arthritis. Concept.

Epidemiology. Pathological anatomy. Pathogenesis. Clinical manifestations. Laboratory. Extra-articular manifestations radiological findings. Comorbidities. Classification criteria. Diagnosis and differential diagnosis. Evolution and prognostic factors. Treatment.

UNIT 3. Systemic Lupus Erythematosus. Concept. Epidemiology. Pathological anatomy. Pathogenesis. Clinical manifestations. Laboratory. Classification criteria. Diagnosis and differential diagnosis. Evolution and prognostic factors. Therapeutic behavior. Lupus and pregnancy. Neonatal lupus. Drug-induced lupus.

UNIT 4. Antiphospholipid Syndrome. Antiphospholipid antibodies. Concept of antiphospholipid syndrome. Primary and secondary antiphospholipid syndrome. Pathogenesis. Main clinical manifestations. Classification criteria. Primary and secondary prophylaxis. Treatment

UNIT 5. Systemic Sclerosis (Scleroderma). Concept. Epidemiology. Pathological anatomy. Pathogenic mechanisms. Clinical manifestations forms. Laboratory. Radiology. Diagnostic criteria. Prognostic factors. Therapeutic measures. Sclerodermiform syndromes.

UNIT 6. Idiopathic Inflammatory Myopathies. Concept and classification. Polymyositis. Dermatomyositis child and adult inclusion body myopathy. Pathological anatomy. Pathogenesis. Clinical manifestations. Laboratory. Electromyographic findings. Diagnosis. Differential diagnosis. Treatment.

UNIT 7. Sjogren syndrome. Concept. Classification. Primary Sjögren's syndrome: Epidemiology and pathogenesis. Clinical manifestations. Laboratory. Diagnosis. Therapeutic measures. Secondary Sjögren's syndrome.

UNIT 8. Syndromes "Crosslinking" undifferentiated connective, mixed and connective. Concepts and therapeutic approach. Relapsing polychondritis.

UNIT 9. Vasculitis. - Concept and classification. Great vessel arteritis. Giant cell arteritis. PMR. Relations between giant cell arteritis and polymyalgia rheumatica. Clinical manifestations. Laboratory. Imaging tests. Diagnosis. Treatment.

UNIT 10. Medium Vessel Arteritis. Takayasu arteritis. Classic polyarteritis nodosa. Kawasaki disease.

UNIT 11. Systemic Vasculitis ANCA-associated necrotizing. Granulomatosis with polyangiitis (Wegener). Microscopic polyarteritis nodosa. Churg-Strauss syndrome.

UNIT 12. Cutaneous vasculitis. Concept and classification. Hypersensitivity vasculitis. Henoch-Schönlein purpura.

UNIT 13. Other related vasculitis and syndromes. Cryoglobulinemias. Behcet's disease. Erythema nodosum embolism by cholesterol. IgG4-related diseases

UNIT 14. Seronegative spondyloarthropathies. I. Concept and classification. Pathogenic mechanisms of seronegative spondyloarthropathies. Ankylosing Spondylitis. Epidemiology. Clinical manifestations, analytical findings on imaging tests. Classification criteria for axial spondyloarthropathies. Diagnosis and differential diagnosis. Evolution and prognosis

UNIT 15. Reactive Arthritis. Etiology and epidemiology. Clinical manifestations spectrum. Analytical and imaging tests. Diagnosis. Evolution and prognosis. Prophylaxis.

UNIT 16. Other spondyloarthropathies. Psoriatic arthropathy. Arthropathy associated with inflammatory bowel disease. Treatment of seronegative spondyloarthropathies. Arthropathy in Whipple's disease. Arthritis associated with intestinal shorts.

UNIT 17. Juvenile Idiopathic Arthritis. Concept. Forms of beginning and clinical manifestations. Radiological findings. Diagnostic criteria and differential diagnosis. Evolution and prognosis. Treatment.

UNIT 18. Other Arthropathies. Palindromic rheumatism syndrome RS3-PE adult Still's disease. Multicentric Reticulohistiocytosis. Rheumatic manifestations of malignancies arthropathy of sarcoidosis. Musculoskeletal manifestations of amyloidosis by hemodialysis.

UNIT 19. Autoinflammatory Syndromes. Concept. Familial Mediterranean fever. Criopirinopatías. TRAPS Syndrome. DIRA Syndrome.

D Hyperimmunoglobulinemia syndrome with periodic fever. PFAPA syndrome

UNIT 20. Rheumatic Fever. Concept. Etiology, epidemiology and pathogenesis. Clinical manifestations. Laboratory. Diagnostic criteria and differential diagnosis. Natural history and evolution. Treatment. And primary prophylaxis of recurrences. Jaccoud arthropathy.

UNIT 21. Infectious Agents arthritis. I. Concept. Classification. Bacterial arthritis. Etiology, predisposing factors and pathogenic mechanisms. General clinical manifestations. Laboratory. Imaging findings. Diagnosis. Treatment.

UNIT 22. Arthritis by infectious agents. II special clinical manifestations al forms: Nesisseria arthritis.



Osteoarticular tuberculosis. Bone infections: Acute osteomyelitis and spondylodiscitis.  
 UNIT 23. Arthritis by infectious agents. III. Fungal arthritis. Spirochetes arthritis: musculoskeletal manifestations of syphilis and Lyme disease. Viral arthritis. Rheumatological manifestations of AIDS.  
 UNIT 24. Arthritis by microcrystals I. Concept. Mechanisms of joint inflammation. Gout. Definition. Pathogenesis of hyperuricemia. Epidemiology of hyperuricemia and gout. Clinical manifestations and natural history. Diagnosis and treatment. Asymptomatic hyperuricemia.  
 UNIT 25. Arthritis by microcrystals II. Chondrocalcinosis Joint and pseudogout. Definition and etiologic classification. Prevalence. Pathogenic mechanisms. Clinical manifestations types. Radiological findings. Diagnosis. Treatment. Arthritis hydroxyapatite. Calcific bursitis.  
 UNIT 26. Osteoarthritis. I. Concept and classification. Epidemiology. Pathological anatomy. Pathogenic mechanisms. General clinical manifestations. Osteoarthritis of peripheral joints. Radiological findings. Diagnosis. Therapeutic behavior.  
 UNIT 27. Osteoarthritis. Spondyloarthritis II. LBP and sciatica. Spinal canal stenosis. Diffuse idiopathic skeletal hyperostosis.  
 UNIT 28. Extra-articular Rheumatism. Concept. Fibromyalgia. Definition. Prevalence. Pathogenic mechanisms. Clinical manifestations. Diagnosis. Therapeutic measures. Disease bags, synovial sheaths and tendons.  
 UNIT 29. Osteoporosis I. Metabolic Bone Diseases. Concept. Classification. Clinical manifestations. Most important forms of osteoporosis: postmenopausal and senile osteoporosis. Secondary osteoporosis. Diagnosis. Prevention and treatment.  
 UNIT 30.-Metabolic Bone Diseases II. Osteomalacia. Concept. Pathological anatomy. Classification. Pathogenic mechanisms. Clinical manifestations. Laboratory. Radiological findings. Major clinical forms. Diagnosis. Treatment.

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Written exam with short questions and type test questions (multiple choice questions)	Written exam	No	Yes	100,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
-The final qualification of Medical Pathology V will be the result of arithmetic mean of the score obtained in both modules. -If one module is approved in the ordinary exam , its rating will be saved until the September exam. -To approve the whole subject is therefore necessary to approve the two modules in a same academic year				
<b>Observations for part-time students</b>				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

**BASIC**

- Harrison Principios de Medicina Interna. 17 ed. en español. McGraw Hill
- Cecil. Principios de medicina interna. 23 edicion. en español. EdSaunders -Farreras. Medicina Interna. 17ed. en español.
- Mandell GL, Bennett JE, Dolin R. Principles and Practice of Infectious Diseases (PPID). Septima Edicion. V PA. Churchill Livingston: Elsevier