Universidad Zaragoza

Academic Year/course: 2022/23

26776 - Locomotion Apparatus and Nefrourology

Syllabus Information

Academic Year: 2022/23
Subject: 26776 - Locomotion Apparatus and Nefrourology
Faculty / School: 104 - Facultad de Medicina
Degree: 304 - Degree in Medicine
ECTS: 9.0
Year: 4
Semester: Second semester
Subject Type: Compulsory
Module:

1. General information

1.1. Aims of the course

The methodology followed in this course is oriented towards the achievement of the learning objectives. It favors the acquisition of knowledge related to health services. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, assignments, and autonomous work. Students are expected to participate actively in the class throughout the semester. Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum. Further information regarding the course will be provided on the first day of class.

The subject and its expected results respond to the following approaches and objectives:

BLOCK 1. Locomotor Apparatus

A.- Orthopedic Surgery and Traumatology

Context and meaning of the subject in the degree. The teaching of Traumatology and Orthopedic Surgery should favor the acquisition of professional values, and adequate behaviors that allow him to face the problems posed by the pathologies of the Locomotor System, of any etiology and that occur at any time of life even in elderly patients. Because these characteristics, an important part of this pathology is diagnosed and treated by general practitioners.

The general objectives of the subject are:

- Know the characteristic and most significant aspects of the pathology of the Locomotor Apparatus, in its slopes medical and surgical, and in its different etiological causes: traumatic, degenerative, inflammatory, tumor and infectious

- Apply and refine the knowledge and skills previously acquired to be able to suspect and recognize in a patient the existence of a pathology of the Locomotor Apparatus

- Know the denomination and fundamental applications of the most used and specific complementary tests for the diagnosis of pathologies of the Locomotor Apparatus

- Be able to integrate the clinical data and the results of the complementary tests applicable in each case, to formulate diagnoses of the most frequent locomotor system pathologies

- Propose the usual treatment measures for the pathologies of the Locomotor System that most often attend, in various phases of their evolution, in the field of primary care.

- Properly communicate the results of their professional activity with the usual methodology

and resources and taking into account ethical principles

B.- Rheumatology

The learning of Rheumatology show, from various human pathologies studied in these contents that the strict field of the locomotor apparatus is often exceeded and behave like diseases systemic. The connection with some learnings about Immunopathology show us that they participate in the development of the symptomatology and highlights the continuity in our knowledge and the importance of teamwork between the immunologists specialists with the clinical experts for the identification of these pathologies. On the other hand, choice based on clinical evidence of different treatments can improve the evolution and prognosis of patients and shows us the value of the competence components developed in this field of clinical work The objectives set in Rheumatology are

- Identify, diagnose and guide the clinical management of patients with the most frequent medical illnesses that affect the joints, bones and systemic autoimmune.

- Improvement in clinical work strategies such as history and clinical exploration related to these diseases.

- Facilitate the knowledge as well as the evaluation of the different complementary tests used in Rheumatology

- That the student develops his skills in the tasks of information, monitoring and treatment of patients with rheumatological diseases.

- Properly communicate the results of their professional activity with the usual methodology and resources and taking into account ethical principles.

BLOCK 2. NephroUrology

C.- Nephrology

It is essential to know the renal diseases and their therapeutic options as well as the ways to perform the measurement of renal function. The role that the kidney plays in the proper functioning of others is also crucial organs and diseases of other systems that affect proper kidney function. It is important to know the management of drugs when the patient suffers from a deterioration in renal function, given the high prevalence of hidden kidney disease. Based on the knowledge previously obtained, with this subject, the expected results are that the student achieve the following objectives:

- Know how to make a complete anamnesis, focused on the patient and oriented to the Nephrological scope, interpreting their meaning

- Know how to assess the modifications of the different clinical parameters at different ages

- Interpret correctly the analytical parameters that correspond to the functioning of the renal system and know the methodology of measurement of renal function

- Know and guide the diagnosis, differential diagnosis, prognosis and treatment of the main pathologies nephrological

- Propose a treatment according to the therapeutic possibilities of the environment

- Know the guidelines for referral to the Nephrology specialist by the Primary Care Physician

D.- Urology

Within the Nephro-Urology section, urology teaching is focus on student concepts acquisition, attitudes and professional values when facing urological pathology, which due to the aging of the population, more frequently is assumed by the general practitioner

The main objectives of this subject are focused on the following aspects:

- The anomalies of the male urinary and genital system due to the clinical repercussions that they entail, together with the uropathy obstructive of both the upper and lower urinary tract

- Vascular diseases of the kidney, techniques of organ extraction for transplantation and transplantation itself renal

- The study of parenchymal urinary tract infections and pathways, as well as the morphofunctional alterations of the specific and parasitic infections

- The study of Urolithiasis, its diagnosis and the variety of medical treatments, endourological, by shock waves extracorporeal and surgical

- Other pathologies of great interest for their clinical frequency are the tumors of the urinary system: Prostate, Bladder, kidney and of the male genital tract

- Within the vesicoesfinterianas dysfunctions, we will study the cystopathies, urinary incontinence and bladders neurogenic

- In Andrology male infertility will be studied, as well as the alterations of the erection and of the ejaculation

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (https://www.un.org/sustainabledevelopment/es/), in such a way that the acquisition of the results of Subject learning provides training and competence to contribute to some extent to its achievement.

Objective 3: Health and well-being.

Objective 4: Quality education

1.2. Context and importance of this course in the degree

A.- The Orthopedic Surgery and Traumatology is integrated into the Medical-Surgical Specialties Matter. Within they represent one of the subjects with more prevalent pathological processes in medical-surgical practice habitual, both of the adult, as of the child. From the point of care, the identification and orientation of these pathologies, for their treatment, as well as the early diagnosis of many of them, which improves the treatment possibilities and their prediction

B.- Rheumatology. The learning that is promoted from the rheumatology try to increase the development of the clinical competence as a very important objective for the doctor in training. From the point of view of attention to the population, the training obtained in this field of pathology can facilitate the early identification of some pathologies that can condition a better prognosis.

C.- Nephrology. Chronic kidney disease, due to its prevalence and its involvement in other diseases. Cardiovascular diseases are of fundamental management for any medical specialty or General Medicine. The correction of the dose of drugs, the handling of indiscriminate drugs such as diuretics, anti-inflammatories, indication of imaging tests with iodinated contrast media, etc. That is, frequent actions in practice daily clinical practice require a vision in which the nephrological point of view has a determining weight

D.- Urology. Within the Nephro-Urology section, urology teaching is focus on student concepts acquisition, attitudes and professional values when facing urological pathology, which due to the aging of the population, more frequently is assumed by the general practitioner.

1.3. Recommendations to take this course

Given the clinical nature of the subject, it is necessary to have completed and passed the subjects corresponding to the first 4 semesters of the Degree of Medicine and there is incompatibility (collected in the Degree Report of this Faculty) with the subject Semiology and Fundamentals of Pathophysiology, by what must have been overcome before to enroll in it. It would be ideal for the student to have completed the previous semesters in full.

Is strongly suggested to the review the anatomical and physiological concepts related with the nephro-urinary system.

It is suggested to the students to review the propaedeutic concepts related with the nephro-urinary system.

2. Learning goals

2.1. Competences

BASICS:

CB1 - Students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects which imply knowledge coming from the forefront of their field of study

CB2 - Students know how to apply their knowledge to their work or vocation in a professional manner and have the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

CB3 - Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant issues of social, scientific or ethical nature

CB4 - Students can transmit information, ideas, problems and solutions to a specialized and non-specialized public

CB5 - Students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

SPECIFIC:

CE45 - Recognize, diagnose and guide the management of the main nephrourinary pathologies

CE46 - Recognize, diagnose and guide the management of the main pathologies of the locomotor system

CE51 - Recognize, diagnose and guide the management of the main infectious pathologies in the different organs and devices

TRANSVERSALS:

INSTRUMENTAL

1. Capacity for organization and planning

2. Ability to manage information

3. Problem solving

4. Decision making

PERSONAL

5. Team work

6. Work in an interdisciplinary face team

7. Skills in interpersonal relationships

8. Recognition of diversity and multiculturalism

9. Critical thinking

10. Ethical commitment

SYSTEMS

11. Autonomous learning

12. Adaptation to new situations

13. Leadership

14. Motivation for quality

15. Sensitivity to environmental issues

2.2. Learning goals

The student, to pass this subject, must demonstrate the following results.

A.- ORTHOPEDIC SURGERY and TRAUMATOLOGY, RHEUMATOLOGY AND SYSTEMIC DISEASES

1.-To know, explain and analyze the pathogenic mechanisms that intervene in the development of the main pathologies of the locomotive apparatus related to bones and joints as well as in relation to diseases systemic autoimmune. Special emphasis on bone injuries of a traumatological nature and medical maneuvers and surgical techniques for its treatment.

2.-Develop aspects of the clinical competence that allow to recognize the human pathologies related to the disorders of the locomotor system and autoimmune diseases.

3.-Carry out the diagnostic orientation of the patients by means of the adequate evaluation of the complementary tests usual: diagnosis by imaging and laboratory.

4.-Plan the most appropriate treatment to the clinical problem of patients.

B.- NEPHROLOGY and UROLOGY

1.-Be able to establish the causes, the diagnosis (laboratory, imaging techniques, pathological anatomy), prognosisand medical or surgical treatment of the main diseases of the renal and excretory apparatus as well as genitourinary male in a sequential manner since its knowledge is integrated into the medical and surgical aspects.

The matter is subdivided into two plots, the Medical (Nephrology) and the Medical-Surgical (Urology)

LEARNING RESULTS IN UROLOGY:

Treatment option knowledge for the main genitourinary pathology.

Description of the clinical and research environment in urology

To diagnose main genitourinary pathology

To recognize main genitourinary pathology

To propose and adequate treatment option

2.3. Importance of learning goals

A.- The Orthopedic Surgery and Traumatology is integrated into the Medical-Surgical Specialties Matter. Within they represent one of the subjects with more prevalent pathological processes in medical-surgical practice habitual, both of the adult, as of the child. From the point of care, the identification and orientation ofthese pathologies, for their treatment, as well as the early diagnosis of many of them, which improves the treatment possibilities and their prediction

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such as diuretics, anti-inflammatories, indication of imaging tests with iodinated contrast media, etc. That is, frequent actions in practice daily clinical practice require a vision in which the nephrological point of view has a determining weight

D.- Urology. The growth of the average life of the people has determined an important increase in the pathology urological. Prostatic pathology is one of the greatest demands of both medical and surgical treatment in the current health. Prostate cancer of very high prevalence and pathologies such as urinary infection or renal colic, as a representative of one of the obstructive uropathies, they are of such an important frequency that they require initial knowledge of its management by any doctor.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

Type of tests, evaluation criteria and levels of demand

The student must demonstrate that he has achieved the expected learning results through the following evaluation activities.

LOCOMOTOR APPARATUS

In order to pass the subject, the student must take a written evaluation test about the contents developed in the different activities and that will consist of 85 multiple-choice questions, of which 60 questions will correspond to Traumatology and Orthopedics and 25 questions to Rheumatology. The Traumatology and Orthopedics and Rheumatology exam will include questions on subjects taught in small group activities, seminars and workshops. Each question has 5 possible options with only one correct. No discount will be applied for incorrect answers. To pass this evaluation, you must adequately answer 70% or more of the questions corresponding to Traumatology, and 60% or more of those of Rheumatology, without the possibility of compensation. The value of this test is 80% of the final mark of Block I.

The qualification of the OBLIGATORY activities (workshops, seminars and practices) both of Traumatology and Rheumatology, will suppose 20% of the final qualification. The maximum score that can be obtained in the seminars will be 2 points from the final grade, provided that passed the written exam. The sum of both grades may reach a maximum of 10 points.

The workshops, seminars and internships in Traumatology must be carried out in the same academic year so that their qualification is taken into account. Those made in the previous course will not be taken into account. The student who has not passed the group activities and practices must also take a complementary test in the final exam. In the Traumatology section, the absence of two or more seminars or workshops means that you must pass this complementary evaluation test. This complementary test will consist of solving 3 clinical cases for Musculoskeletal Surgery and 1 clinical case for Rheumatology.

NEPHROUROLOGY

The realization of the practices and works or requirements raised in the activities of small groups will be obligatory and essential to overcome the evaluation.

The theoretical exam will consist of:

- Urology Exam: 25 questions with 5 possible answers per question. just one will be correct, the wrong answers will not substract points. It´s neccesary a 60% correct answers to pass.

- Nephrology Exam: 25 questions with 5 possible answers per question.

Just one will be correct, the wrong answers will not substract points.

It´s neccesary a 60% correct answers to pass. The final grade of the subject will be the average of both blocks, that is, 50% of the grade will correspond to each Block given that both blocks have 4.5 ECTS each.

The exam will be performed in two parts, the first Medical contents (Rheumatology and Nephrology) and the second the Surgery contents (Traumatology and Urology).

50 multiple-choice questions with 5 possible answers per question, of which only 1 will be correct with a score maximum of 50 points (0-1 point / question). The final grade of the subject will be the average of both blocks, that is, 50% of the grade will correspond to each Block given that both blocks have 4.5 ECTS each. They will not compensate notes between each of the blocks, having to overcome both in order to pass the subject. We keep the note obtained in the pass subject for the next calls.

The examination will be carried out in such a way that the contents of the Locomotor System (Traumatology and Rheumatology) will be carried out on the one hand, and on the other hand the contents of Nephrology-Urology.

The final grade for the complete course will be the average of both blocks, that is, 50% of the grade will correspond to each Block since both blocks have 4.5 ECTS each (trauma-rheumatism and nephro-urology).

They will not compensate grades between each of the blocks, having to pass each part to pass the course. In case of not approving any of the parts, the note of the approved parts will be kept during the following calls.

In the Examination report it will appear UNFIT until the 4 parts are approved, then the corresponding note will appear.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as:

Locomotor System (Traumatology and Rheumatology) 4,5 ECTS

Urinary Sytem (Urology and Nephrology) 4,5 ECTS

Locomotor System (Traumatology and Rheumatology) 4,5 ECTS

Traumatology and Orthopaedic Pathology. 3 ECTS (75 hours)

45% corresponds to presential learning. 17 lectures for 16 items

Workshops: 16-20 students per group.

Every one of the students could dispose of around 2 hours for tutorial advice

Seminars and workshops planned in small groups, must be done in person, always respecting the instructions of the health and academic authorities. If the suspension of classroom teaching activities occurs, the changes that should be made will be introduced in the guidelines through a specific addendum, as was done in previous academics years.

Rheumatology 1,5 ECTS

17 hours are presential dedication. 9-10 lessons and the rest in Seminars and Workshops.

Urinary System (Urology and Nephrology) 4,5 ECTS

Nephrology (2 ECTS) 50 hours in total, being around 22,5 presential activities divided in 12 hours with Magistral Lessons for 8 items and the rest of the contents in small groups

Urology: Teaching in urology has 2.5 ECTS (62,5 hours) 45% in person (28,2H) and 55% not in person. 13h in big groups and 15h in small groups

Theoretical Sessions: 14h which will be Master Lessons and clinical cases of one hour length, their objective is to explain main basic and main concepts of the subject, as well as the consolodiation of the same.

Clinical Seminars and workshops: 15 hours which will be perform in small groups of 16-20 students. Its timetable and distribution will be hang out in the Moodle platform. Teachers will expose the content of the seminar, which will help consolidate the more important concepts

which a general practitioner must know about urology, in a very practical manner.

Workshops: An Imaging technique in urology and another simulation workshop, where the students will acquire in the phantoms, the required skills (digital rectal examination and bladder catheterization) and surgical simulation, where they will understand the different surgical approaches of the specialty.

Tutorships: 2 hours, timetibale will be provided. Not in person theaching through the Moodle platform

4.2. Learning tasks

All contents are divided into Magistral lessons and Workshops. In the workshops, the learning will be the most practical as possible using clinical Cases, virtual and visual tools

We must remind all students that if activities exercises include data related to the medical history or personal data of the patient strict confidentiality is required

4.3. Syllabus

UROLOGY:

Theoretical Lessons or in Big groups

1-Anomlies of the urinary tract and the male genital

2-Obstructive uropathology

3-Kidney extraction and transplant

4-Urinary and male genital trauma

5-Urinary tract and parenchymal infection

6-Urethral, periurethral and parasitic infections

7-Urolithiasis

8-Urothelial tumors

9-Kidney tumors

10-Male Genital tract tumors

11-Bening Prostatic Hyperplasia

12-Prostate adenocarcinoma

13-Vesico sphincter dysfunction and peno scrotal pathology

14-male infertility and erections and ejaculation disorders

Practical Content or in Small Groups Seminars

-Infections and stones

-PSA and Haematuria

-Urological Imaging techniques Workshop: Plain X-ray, Intravenous Urography, CT scan, and MR scan

-Simulation Workshop: Bladder catheterization and digital rectum examination. Surgery Simulation

NEPHROLOGY

- 1.- Acute Renal Failure
- 2.- Chronic Kidney Diseases. Main Causes and complications
- 3.- Sustitutive Renal Therapy. Hemodialysis and Peritoneal Dialysis.
- 4.- Renal Transplantation
- 5.- Glomerular Pathology. Acute, Subacute and Chronic Glomerulonephritis
- 6.- Vascular Renal Diseases

- 7.- Interstitial Renal Diseases. Chronic and Acute Pyelonephritis
- 8.- Quistic Renal Diseases. Autosomical Polycystic Kidney Disease

WORKSHOPS

- Learning to understand the normal values of renal function in blood and urine samples. Chronic and Acute renal dysfunction. Clinical Cases
- Follow-up of patients with End-Stage of Renal Disease. Peritoneal Dialysis
- Hemodialysis. Management of Acute Renal Failure with renal Replacement Techniques. Hypertension
- Renal Transplantation and Organ Transplant Coordination

TRAUMATOLOGY

- 1. Fractures. General principles. Clinical and diagnostic aspects. Treatment. Bone healing. Characteristics of fractures in childhood and adolescence.
- 2. Muscle injuries. Compartmental Syndrome. Ligament injuries.
- 3. Traumatic injuries of the tendon. Surgical conditions of bags and pods serous.
- 4. Neuromuscular disorders. Cerebral palsy. Peripheral nerve entrapment syndromes.
- 5. Bone infections.
- 6. Tumorlike lesions of bone. Benign bone tumors.
- 7. Malign bone tumors. Metastatic tumors.
- 8. Orthopedic cervical spine pathology and painful shoulder.
- 9. Orthopedic pathology of the wrist and hand. Infections located in the hand.
- 10. Orthopedic pathology of the pediatric hip. Developmental hip dysplasia, and dislocation, Legg-Calvé-Perthes Syndrome, and Slipped capital femoral epiphysis.
- 11. Orthopedic pathology of the mature hip.
- 12. Orthopedic pathology of the knee.
- 13. Traumatic ligament and meniscal injuries of the knee
- 14. Congenital and acquired deformities of the foot
- 15. The spine. Kyphosis, scoliosis, spondylolysis, and spondylolisthesis
- 16. Fractures and dislocations of the spine

Content of Seminars/ Workshops

- 1. Traumatic injuries of the shoulder. Fractures and dislocations.
- 2. Traumatic injuries of the arm and elbow. Fractures and dislocations.
- 3. Traumatic injuries of the forearm and wrist. Fractures and dislocations.
- 4. Traumatic injuries of the hand and fingers. Fractures and dislocations.
- 5. Traumatic injuries of the pelvic ring. Fractures and dislocations.
- 6. Fractures of the acetabulum.
- 7. Traumatic injuries of the hip. Fractures and dislocations.
- 8. Fractures of the femoral shaft and fractures of the distal femur
- 9. Fractures of the tibia and fibula.
- 10. Ankle fractures
- 11. Fractures and dislocations of the foot.
- 12. The multiply injured patient.

- 13. Workshop: splinting and bandaging.

RHEUMATOLOGY

1. Approach to the rheumatic patient
2. Acute Arthritis (Microcrystalline and septic)
3. Rheumatoid Arthritis
4. Spondyloarthropathies
5. Systemic Autoimmune Disease: Lupus erythematosus/Sjogren. Scleroderma/ Inflammatory Myositis
6. Vasculitis
7. Arthrosis, Soft Tissue Rheumatism, and Fibromyalgia
8. Metabolic Bone Disease (Paget Disease /Osteoporosis/Osteomalacia)

Workshops and Seminars:

1: Diagnostic hypothesis in Rheumatic Diseases
2: Treatment and follow-up in Rheumatic Pathology
3: Diagnosis and differential diagnosis in the context of Rheumatic Diseases
4: Physical Examination of the Rheumatic Patient
5: Complementary Explorations in Rheumatic Pathology

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Medicina? website and the Degree website

http://medicina.unizar.es

http://moodle2.unizar.es

https://medicina.unizar.es/cuarto-curso

DATES OF GLOBAL EVALUATIONS:

FIRST CALL: Nephrology and Urology: May-June; Traumatology and Rheumatology: May-June

SECOND CALL: June-July

4.5. Bibliography and recommended resources

Access through the web

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26776