

**COURSE DATA****Data Subject**

Code	34461
Name	Diagnostic and surgical therapy procedures
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1204 - Degree in Medicine	Faculty of Medicine and Odontology	3	First term

Subject-matter

Degree	Subject-matter	Character
1204 - Degree in Medicine	11 - Diagnostic and therapeutic procedures	Obligatory

Coordination

Name	Department
BADENES QUILES, RAFAEL	40 - Surgery
SABATER ORTI, LUIS	40 - Surgery

SUMMARY

The subject of diagnostic and therapeutic procedures involves knowledge of physiopathology and clinical practice fundamentally, of the most current and essential topics in the general treatment of the surgical patient and common injuries, anesthesia and reanimation, essential principles of maxillofacial surgery and reconstructive and cosmetic plastic surgery.

The subject tries to offer a general view of the aforementioned specialties, adapting the knowledge to the necessary level for the future practice of the daily medicine, without intending to deepen in complex discussion issues of any of the specialties that appear in the syllabus.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

It is convenient that the student has strong knowledge of Human Anatomy, Human Physiology, Pharmacology and General Pathology in order to facilitate the incorporation of knowledge, which will be generated within this subject.

OUTCOMES

1204 - Degree in Medicine

- Understand the foundations of action, indications and efficacy of therapeutic interventions, based on available scientific evidence.
- Have the capacity to make an initial diagnosis and establish a reasonable strategy of diagnosis.
- Establish the diagnosis, prognosis and treatment, applying principles based on the best information available and on conditions of clinical safety.
- Acquire proper clinical experience in hospitals, health care centres and other health institutions, under supervision, as well as basic knowledge of clinical management focused on the patient and the correct use of tests, medicines and other resources available in the health care system.
- Know how to use the sources of clinical and biomedical information available, and value them critically in order to obtain, organise, interpret and communicate scientific and sanitary information.
- Know how to use IT in clinical, therapeutic and preventive activities, and those of research.
- Keep and use medical records which contain information about the patient for later analysis, preserving the confidentiality of personal data.
- In the professional practise, take a point of view which is critical, creative, constructive and research-oriented.
- Understand the importance and the limitations of scientific thinking in the study, prevention and management of diseases.
- Be able to formulate hypothesis, gather information and evaluate it critically in order to solve problems by following the scientific method.
- Establish a good interpersonal communication which may allow professionals show empathy and talk to the patients efficiently, as well as to their relatives, the media and other professionals.
- Proper organisation and planning of the workload and timing in professional activities.
- Team-working skills and engaging with other people in the same line of work or different.



- Criticism and self-criticism skills.
- Capacity for communicating with professional circles from other domains.
- Acknowledge diversity and multiculturality.
- Consideration of ethics as a fundamental value in the professional practise.
- Working capacity to function in an international context.
- Evaluate the risk-benefit balance of diagnostic and therapeutic procedures.
- Is aware of the indications in biochemical tests, as well as haematological, immunological, microbiological, anatomical and pathological, and image tests.
- Knows the foundations of radiation interaction with the human body.
- Knows how to use medicines properly. Analgesic, antineoplastic, antimicrobial and anti-inflammatory drugs.
- Knows the general principles of anaesthesia and resuscitation.
- Knows the main indications for electrophysiological techniques (ECG, EEG, EMG, and others).
- Knows of the physiopathology of wounds (including burns, frostbite and other types of wound). Wound healing.
- Understands the characteristics of surgical haemorrhage and thromboembolic prophylaxis.
- Is aware of the general surgical indications, preoperative risk and postoperative complications.
- Knows the foundations of transfusion and transplantation.
- Knows the bases of rehab, promotion of personal autonomy, functional adaptation of/within the environment, and of other physical procedures in morbidity, for enhancing the quality of life.
- Is able to interpret results of diagnostic tests in the laboratory.
- Knows how to manage disinfection and sterilisation techniques.
- Is able to interpret a radiological image through systematic reading.
- Knows how to perform and interpret an electrocardiogram and an electroencephalogram.
- Knows how to evaluate the nutritional status and plans diets according to specific circumstances.
- Knows how to apply elementary surgical procedures: cleaning, haemostasis and wound suture.

LEARNING OUTCOMES

Regarding the part of **anaesthesia**, the student had to know the foundations of the clinical anaesthesia with the goal of understanding the selective incorporation of knowledge, materials and techniques for the optimization of the clinical result:

- Knowing what the General Anaesthesia is, its structural elements, possibilities and decision elements.



- Knowing what the Local and Regional Anesthesia is, their foundations, resources, classification, possibilities and clinical interest.
- Knowing and interpret the data obtained through the monitoring in anesthetic clinic, its basic resources, foundations, objectives and applicability.
- Knowing the possible complications in General Anesthesia and Local and regional Anesthesia, how to prevent them, how to diagnose them and how can they be treated according to the problem produced.
- Knowing the concepts of Reanimation. Knowing how to prioritize the patient's attendance in serious condition, defining objectives, necessary resources and execution of basic techniques about the optimization of fundamental functions in the maintenance of life.
- Knowing and executing properly the manoeuvres of basic and advanced vital support; using resources from the greater to the lesser complexity. Knowing what the "Post-resuscitation syndrome" is, its possible clinical expression and attending management.
- Knowing the importance of identifying the clinical symptoms of the "Pain". Knowing how to differentiate the kinds of pain by their clinical characteristics, knowing how several cases can be prevented and how to treat them effectively using protocols perfectly defined.

Regarding the content of the **general surgery**, the student must know fundamentally the types of injuries, their evolution and the proper treatment.

- The student must know the most frequent suture, ligatures and bandages basic techniques.

Regarding the content of the **maxillofacial surgery**, the student must know:

Head and face area: knowing the exploratory mediums of head and face. Knowing how to perform properly an exploration of head and face to discover disorders and asymmetries. Exploring the functions of the cranial nerves.

Mouth Area: knowing the exploratory mediums of the oral cavity. Knowing how to perform properly an exploration of the mouth, knowing and exploring the functions that the mucosa, tongue and teeth do on it.

Neck area: knowing the exploratory mediums of the neck. Knowing how to perform properly an exploration of the neck knowing the main tumors and swellings that can be placed on it.

- Traumatology area: general and particular management of the traumatism. Seriousness and case emergency management.

- The student will acquire skills for the prevention of pathologies in the maxillofacial area.

Regarding the **plastic surgery**:



To know the historical and conceptual framework of this surgical specialty, emphasizing the tools, instruments and techniques involved in the proper handling of tissues.

Carry out an examination in a pathological patient in the field of healing, either due to excess (hypertrophic and keloid scars) or defect (loss of substance). In each of these cases, be able to make an initial diagnostic judgment, differentiating in particular non-surgical indications from surgical ones.

Know the rudiments of surgical techniques in each case, as well as their most frequent clinical applications.

Know the surgical diagnostic and therapeutic procedures applicable to burn patients.

Develop their own opinion on the two aspects of plastic surgery, namely, the reconstructive and the aesthetic.

DESCRIPTION OF CONTENTS

1. THEORETICAL TEMATIC UNITS

1. Fundamentals of clinical anaesthesia. Preanesthetic evaluation.
2. General anaesthesia: concept. Structural elements and possibilities.
3. Locoregional anaesthesia. Concept, classification and possibilities.
4. Monitoring during anaesthesia. Aim and possibilities.
5. Complications in anaesthesia. Diagnosis and care management.
6. Basics of Resuscitation. Care objectives in the management of a patient in a critical condition.
7. Basic and advanced life support measures.
8. Pain. Concept. Classification and management in specific clinical situations.
9. Acute abdomen.
10. Trauma and Polytraumatisms.
11. Treatment of wounds. Healing.
12. Biological response to surgical aggression. Multimodal Rehabilitation (ERAS).
13. Locoregional infections.
14. Preoperative assessment and preparation and postoperative monitoring.
15. Organ transplants.
16. Oncology Surgery basics.
17. Plastic surgery. Definition and history. Common mistakes. Atraumatic technique. Pathological scarring. Hypertrophic and keloid scars: diagnosis and treatment.
18. Burned
19. Coverages I. Loss of substance: closure by secondary intention. Skin grafts. Other grafts
20. Coverage II. Flaps and free flaps. Microsurgery.
21. Foundations in oral and maxillofacial surgery. Embryology, anatomy, physiology and histology and their relationship with pathologies.
22. Maxillofacial traumatology. Jaw fractures. Management of the polytrauma patient. General concepts of diagnosis and treatment of fractures. Jaw fracture: diagnosis and treatment.
23. Lesions and benign tumours in the oral cavity. Diagnosis according to semiology and treatment.
24. Oral pre-Cancer and Cancer. Pre-malignant and malignant lesions in the oral cavity.



2. SKILLS WORKSHOP (LABORATORY PRACTICES)

1. Model training in airway management and ventilation. Part I.
2. Model training in airway management and ventilation. Part II
3. Basic and advanced CPR on a model.
4. Anatomical Bases and clinical Application oriented to the surgery of the Techniques of Regional Anesthesia.
5. Anamnesis and exploration oriented to surgical problems. Diagnostic trial.
6. Initial assistance to the polytraumatized patient.
7. Surgical ligatures.
- 8 Surgical sutures.

3. SEMINARS AND CLINICAL CASES.

1. The chain of survival. Critical analysis of each link.
2. Possibilities of airway management. Critical analysis.
3. Critical analysis of care for the multi-trauma patient.
4. Postoperative pain. Management possibilities. Critical analysis and fundamentals of decision making.
5. Clinical cases of pain.
6. Treatment of a wound.
7. Treatment of a post-surgical infection.
8. Complications in the immediate postoperative period.
9. Protocols in cancer surgery.
10. Therapeutic attitude towards post-traumatic syndrome. Clinical protocols.
11. Clinical cases of reconstructive plastic surgery.
12. Clinical cases of aesthetic plastic surgery. Plastic surgery vs cosmetic surgery.
13. Diagnostic and therapeutic principles in Maxillofacial Surgery. Preparation of a clinical history. Explorations. Diagnosis and Treatment Overview.
14. Infections of dental cause. Location and routes of propagation. Degrees of severity and phases of treatment. Prevention.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Seminars	30,00	100
Theory classes	26,00	100
Laboratory practices	19,00	100
Development of group work	4,00	0
Development of individual work	4,00	0
Study and independent work	40,00	0
Readings supplementary material	10,00	0
Preparation of evaluation activities	5,00	0
Preparing lectures	5,00	0
Preparation of practical classes and problem	5,00	0
Resolution of case studies	2,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

The course consists of four thematic modules corresponding to:

Anesthesiology, Reanimation and Pain Treatment.

General Surgery.

Oral and Maxillofacial Surgery.

Plastic and Reconstructive Surgery.

The teaching methodology will be adjusted to the thematic characteristics of each module.

-The activities to be developed will be face-to-face and non-face-to-face. The content of the subject includes: Thematic units of theory, Practical thematic units in the Skills Workshop and Seminars or specific clinical situations (clinical cases).

-The Thematic Units of Theory will consist of the exposition in the classroom, with a duration of 50 minutes, of each of the topics. Next, 10 minutes will be spent to clarify doubts. The documentary support of each thematic unit will be made available to students in the Virtual Classroom at the discretion of each teacher in charge of the subject. Tutorials will be used, whenever this is considered, to clarify doubts or request more information in this regard.

-The Practical Thematic Units will aim to acquire "critical knowledge and skills" to deal with the clinical problems that require its use. They will be closely related to the thematic units of theory. For this, the Skills Classroom will be used and the handling of the "ad hoc" material. Each Teaching Unit will resort to the appropriate protocols, materials and techniques to face the achievement of knowledge and skills that are necessary to address the possible specific clinical problem.



-Seminaries or clinical cases will require addressing clinical problems in their possible contexts. It will represent the putting into practice of the knowledge and skills acquired in the previous Thematic Units (of Theory and Classroom of Skills). The student will be trained in the approach to the problem, priorities, necessary material, techniques to be used and their reasoned justification, possible difficulties, possible complications and their evaluation over time.

-At the teacher's discretion, the clinical cases and some related bibliographic references will be placed in the Virtual Classroom at least one week in advance so that the student can prepare them and encourage their active participation in the case sessions.

The gender perspective and the Sustainable Development Goals (SDGs) will be incorporated into the development goals (SDGs) into teaching, whenever possible.

EVALUATION

Theoretical evaluation: It will be carried out by means of a written test that will deal with the contents of the theoretical program and will have the objective of evaluating the acquisition of knowledge. It will consist of 50 multiple choice test questions with 4 options and a single valid answer. Each correct question adds 1 point and the failed ones subtract 0.33 points. Blank questions do not add or subtract.

Practical evaluation: 40 multiple choice test questions with 4 options and a single valid answer, adding 1 point for each correct question and subtracting 0.33 points for each failed question. Blank questions do not add or subtract. The content of these questions corresponds to the skills workshops and seminars or clinical cases.

Therefore, the evaluation of the theoretical-practical contents will be carried out by means of a written test of 90 multiple-choice questions (50 questions of theoretical evaluation and 40 of practical evaluation).

The maximum mark for

Evaluation of Skills Workshops and Clinical Case Seminars: Attendance and participation in both the skills classroom workshops and the clinical case seminars will be valued out of a maximum of 1 point out of the 10 possible totals for the subject. 0.045 points will be distributed for each practical workshop carried out or clinical case seminar attended. Each professor responsible for the workshop or seminar on clinical cases will have the obligation to control attendance and will also assess the participation of each student in order to score the practical note.

The final grade for the subject will be obtained by adding the grade from the theoretical-practical test exam (maximum 9 out of 10) and that obtained by attendance and participation in skills workshops (maximum 1 out of 10). The pass is established in 5 points out of 10, taking into account the following considerations:



- In order for both grades to be added for the final grade, at least 4.5 points out of 9 must be obtained in the theoretical-practical multiple choice test. Otherwise, the grade in the minutes will correspond to the grade in the theoretical/practical exam multiple choice WITHOUT adding the practical note.

- Attendance to the practices IN THE SKILLS WORKSHOP AND CLINICAL CASE SEMINARS will be **MANDATORY** and you cannot change the group to which the student belongs or the day of the practice. In case of not being able to attend, the corresponding official receipt must be presented (medical certificate or similar that justifies the non-attendance) and in such case it can be exchanged with another student on the day of the practice or seminar. In case of non-attendance (even if justified) and if the date has not been changed with another student (that is, the practice or attendance at the seminar remains undone, even if justified) the practice will be recorded as NOT done.

The **REPEATING STUDENTS** of the subject will have the option of repeating the practices and seminars in the academic year and it is what is considered most recommendable. However, if you did the skills workshops in the immediately previous academic year (2022-2023), you will be able to keep the practical note from the skills workshops from the previous year as long as you have completed at least 80% of them. Otherwise you should repeat them again in their entirety. As for the seminars, since this year they are made compulsory and there is no record that they were carried out the previous course, **THEY SHOULD BE CARRIED OUT** and attend at least 80% of the clinical case seminars.

In summary, for the subject to be approved, the student must:

- 1. Obtain a minimum of 4.5 points out of 9 in the theoretical knowledge test and practical.**
- 2. Attend and participate in at least 80% of clinical case seminars and practices (6 of the 8 skills workshop practices and 11 clinical case seminars).**

The content of the theoretical-practical exam will be the same for all the groups of the subject.

In the event that a student does not carry out the minimum number of practices (6 of the 8 practices of the skills workshop and 11 of the clinical case seminars) THEY WILL NOT BE ABLE TO PRESENT THE SUBJECT EXAM IN ANY OF THE CALLS AND MUST REPEAT THE SUBJECT TO THE NEXT YEAR.

this joint theory and practice exam will be 9 points out of 10.

Students are reminded of the importance of carrying out evaluation surveys on all the teaching staff of the degree subjects.

**REFERENCES****Basic**

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- McGregor A, McGregor A, McGregor I. Fundamental Techniques of Plastic Surgery. 10th ed. Churchill Livingstone; 2000.
- **GENERAL**
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