

## **Paediatric Surgery**

Code: 103606  
 ECTS Credits: 3

Degree	Type	Year	Semester
2502442 Medicine	OT	5	0
2502442 Medicine	OT	6	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

### **Contact**

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### **Use of Languages**

Principal working language: catalan (cat)

Some groups entirely in English: No

Some groups entirely in Catalan: Yes

Some groups entirely in Spanish: No

### **Prerequisites**

5th year students.

The student will undertake the commitment of preserving the confidentiality and professional secrecy of the communities that will have access to the apprenticeships of the departments.

### **Objectives and Contextualisation**

- Explain the most common surgical pathology in pediatric age, its epidemiology, embryology, diagnostic criteria a
  - Introduce the specialty of pediatric surgery, which preferably treats con
  - Incorporate students in the practice of pediatric surgical care in the diffe

Pediatric Surgery is officially defined in Spain by RD 2015/78 of 15 July v  
 With the appearance of the mentioned Decree all the National Commissi  
 Pediatric Surgery is defined as: "Medical-surgical specialty of the period i  
 Following this definition, Pediatric Surgery includes the surgical condition  
 The obligation to teach a certain subject to motivate the training of the sp

### **Competences**

Medicine

- Be able to work in an international context.

- Communicate clearly and effectively, orally and in writing, with patients, family-members and accompanying persons, to facilitate decision-making, informed consent and compliance with instructions.
- Convey knowledge and techniques to professionals working in other fields.
- Critically assess and use clinical and biomedical information sources to obtain, organise, interpret and present information on science and health.
- Demonstrate an understanding of the fundamentals of action, indications, efficacy and benefit-risk ratio of therapeutic interventions based on the available scientific evidence.
- Demonstrate basic research skills.
- Demonstrate sufficient supervised clinical experience in hospitals or other healthcare centres, and familiarity with patient-centred care management and the correct use of tests, medicines and other resources of the healthcare system.
- Demonstrate understanding of the causal agents and the risk factors that determine states of health and the progression of illnesses.
- Demonstrate understanding of the importance and the limitations of scientific thought to the study, prevention and management of diseases.
- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Design and manage programmes and projects in the field of health.
- Engage in professional practice with respect for patients' autonomy, beliefs and culture, and for other healthcare professionals, showing an aptitude for teamwork.
- Establish a diagnostic approach and a well thought-out strategy for action, taking account of the results of the anamnesis and the physical examination, and the results of the appropriate complementary tests carried out subsequently.
- Establish the diagnosis, prognosis and treatment, basing decisions on the best possible evidence and a multidisciplinary approach focusing on the patient's needs and involving all members of the healthcare team, as well as the family and social environment.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Indicate the most suitable treatment for the most prevalent acute and chronic processes, and for the terminally ill.
- Listen carefully, obtain and synthesise relevant information on patients' problems, and understand this information.
- Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
- Maintain and use patient records for further study, ensuring the confidentiality of the data.
- Obtain and prepare a patient record that contains all important information and is structured and patient-centred, taking into account all age and gender groups and cultural, social and ethnic factors.
- Perform a general and a system-by-system physical examination appropriate to the patient's age and sex, in complete and systematic way, and a mental evaluation.
- Put forward suitable preventive measures for each clinical situation.
- Recognise and take action in life-threatening situations and others that require an immediate response.
- Recognise the role of complexity, uncertainty and probability in decision-making in medical practice.
- Recognize one's role in multi-professional teams, assuming leadership where appropriate, both for healthcare provision and for promoting health.
- Use information and communication technologies in professional practice.
- Write patient records and other medical documents that can be understood by third parties.

## **Learning Outcomes**

1. Acknowledge the importance of research to medical progress.
2. Adapt the therapy procedure and the surgical technique, if appropriate, in accordance with the available data.
3. Anticipate and compare information for good decision-making.
4. Apply basic surgical manoeuvres in practice with simulated models.
5. Approach the physical examination not only from the diagnostic perspective, but also the therapeutic perspective, with special emphasis on surgical procedures.

6. Back decision-making with the best scientific evidence.
7. Be able to work in an international context.
8. Build diagnostic and therapeutic algorithms based on the best scientific evidence, taking into account the facilities available.
9. Calculate the surgical risk indices, both general and by apparatus, and adjust the indications accordingly.
10. Categorise emergency situations in accordance with the available indices of seriousness.
11. Choose a therapy option in accordance with available information and patient preference.
12. Choose content in accordance with the rules of evidence-based medicine.
13. Choose the best possible research design to respond to the hypothesis put forward.
14. Convey knowledge and techniques to professionals working in other fields.
15. Critique original or review scientific papers.
16. Define the statistical methodological bases.
17. Demonstrate basic research skills.
18. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
19. Describe biomedical bibliographic databases and ways to filter the information provided.
20. Describe the mechanisms of action of physical and chemical agents on the organism.
21. Distinguish the bases of the different surgical specialisations to integrate and lead the treatment in acute and chronic patients with multiple conditions.
22. Distinguish the implications of different interventions regarding functional and morphological changes.
23. Encourage the search for answers to the questions that arise during surgery.
24. Enumerate the alarm signs that require urgent attention to the patient.
25. Establish a working hypothesis and its objectives.
26. Establish rapport as the first important step in all medical procedures, both in elective and emergent situations and leave a written record of the information transmitted and the wishes of the patient.
27. Estimate the risks and benefits of the various therapy options.
28. Evaluate the appropriate scientific methodology for a biomedical paper.
29. Formulate and discuss the results obtained.
30. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
31. Further investigate the risk factors of morbidity and mortality in operations.
32. Gather information and select the most important facts about the patient, both in normal visits and emergencies.
33. Identify all prophylactic measures to reduce indices of morbidity and mortality to the minimum.
34. Identify emergency situations and establish an order of priorities.
35. Identify funding sources and set up a budget.
36. Identify the ethical bases for decision-making in the field of surgery.
37. Identify the legal bases for creating, maintaining and using databases that contain medical information.
38. Integrate all pre-operative information for decision-making.
39. Justify decisions taken based on the information obtained.
40. Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
41. Make a critical analysis of the objectives to be achieved with surgery, contrasting this with the adverse effects that may be involved.
42. Manage the information available and set levels of discussion in multidisciplinary groups.
43. Obtain the most important data, both on the illness being treated and on factors influencing morbidity and mortality.
44. Participate in the whole process of patient-care, from diagnosis to aftercare.
45. Perform the initial assessment automatically and acknowledge the actions that require an immediate response.
46. Present results orally or in writing.
47. Provide clear, comprehensible information on the therapy options to patients and their families.
48. Provide the bases for preparing clinical guides and constructing diagnostic and therapeutic algorithms.
49. Recognise when a patient is in the terminal phase and avoid therapeutic obstination.
50. Transmit information clearly and accurately, leaving no room for possible misunderstandings.
51. Transmit the information on the surgical procedure to be performed and draw up a document of informed consent.
52. Use information and communication technologies in professional practice.

53. Use the scales that assess the general (physical and mental) state of the patient.
54. Use the specific bibliographic sources that will help to develop further one's knowledge.

## Content

*This subject is structured into the following sections*

### Lesson 1. Presentation

- a. General aspects of Pediatric Surgery b. Trauma in the pediatric age
- Lesson 2. Head and Neck Pathology
- a. Cleft palate/lip b. Cysts and congenital sinus c. Thyroglossal duct cyst
- Lesson 3. Thoracic pathology I
- a. Embryogenesis b. Oesophageal atresia c. Congenital diaphragmatic hernia
- Lesson 4. Thoracic pathology II
- a. Pulmonary malformation. b. Congenital lobar emphysema c. Pectus excavatum
- Lesson 5. Gastro-Oesophagogastric pathology
- a. Gastro-oesophageal reflux and hiatus hernia b. Achalasia c. Hypertrophic pyloric stenosis
- Lesson 6. Gastrointestinal pathology I
- a. Atresias b. Malrotation. Intestinal volvulus c. Gastrointestinal duplications
- Lesson 7. Gastrointestinal pathology II

- a. Meconium ileus b. Hirschsprung's disease.

### Lesson 8. Gastrointestinal pathology III

- a. Meckel's Diverticulum b. Appendicitis c. Intussusception.

### Lesson 9. Anorectal Anomalies

- a. Anorectal anomalies b. Cloacal extrophy

Lesson 10. Liver pathology

- a. Biliary atresia b. Choledochal cyst c. Cholecystectomy

Lesson 11. Abdominal wall

- a. Omphalocele/Gastroschisis b. Hernias c. Orchidopexy d. Acute scrotum

Lesson 12. Tumours

Lesson 13. Pediatric Urology I

- a. Pyeloplasty b. Ureteric duplication c. Obstructive megaureter d. Posterior Urethral valves.

Lesson 14. Pediatric urology II

- a. Vesicoureteral reflux b. Neurogenic bladder

Lesson 15. Pediatric urology III

a. Bladder exstrophy and Epispadias b. Hypospadias c. Disorders of sex development.

## **Methodology**

This Guide describes the framework, contents, methodology and general rules of the subject, in accordance with the current curriculum. The final organization of the subject in terms of the number and size of groups, distribution in the calendar and dates of exams, specific criteria for evaluation and review of exams, will be specified in each of the Hospital Teaching Units (HTU), who will explain this through their web pages and the first day of class of each subject, through the teachers responsible for the subject in the UDH. For the current academic year, the professors appointed by the Departments as responsible for the subject at Faculty and HTU level are:

Faculty Manager: Alejandro Manzanares Quintela (Alejandro.Manzanares@uab.cat)

SP HTU Manager	VH HTU Manager	GTIP HTU Manager	PT HTU Manager
NOT OFFERED	Manuel López Paredes manuel.lopez@vhebron.net	Alejandro Manzanares Quintela Alejandro.Manzanares@uab.cat	Bernardo Nuñez García bnunez@tauli.cat

General teaching methodology:

### DIRECTED TEACHING TYPES: (20% Theory)

Theory (TE typology). Scheduled sessions 15 (1 hour per session).

### SUPERVISED TEACHING TYPES (25% Supervised internships)

CARE PRACTICE WITHOUT GUIDELINES (PRASS)

Period of unregulated curricular internships corresponding to studies in the

### TUTORIALS

Tutorials will not be counted as contact hours, but can be scheduled and

### SELF-EMPLOYED WORK (50% total 37.5 hours).

Comprehensive reading of texts and articles, study and realization of sch

### EVALUATION (5% total 3.75 hours):

E

xceptionally and according to the criteria of the responsible teachers, the resources available and the health situ

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lessons	15	0.6	2, 9, 41, 53, 5, 38, 43, 32, 52
Type: Supervised			
Evaluation Assessment Activity	18.75	0.75	2, 9, 41, 53, 5, 38, 43, 32, 52
Type: Autonomous			
Theory lecture. Practical evaluations. Simulations. Mini-clinical evaluation exercise (mini-CEX)	37.5	1.5	2, 9, 41, 53, 5, 38, 43, 32, 52

## Assessment

Approval criteria.

Care requirements:

1. Assisted hours: 80%
2. Supervised hours attendance: 80%
3. Weight of assistance on the final grade: 50%

Evaluation requirements:

1. Perform objective test.
2. Weight of the objective test on the final qualification: 50%

Students who have not passed the subject through the assessment may  
The regulations on the permanence regime in the official undergraduate

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance and active participation in healthcare practicum, Theory lecture. Practical evaluations. Simulations. Mini-clinical evaluation exercise	25%	0	0	2, 4, 31, 9, 10, 17, 18, 22, 41, 11, 53, 5, 14, 26, 27, 30, 42, 37, 36, 34, 33, 23, 38, 39, 40, 43, 47, 44, 46, 48, 45, 49, 32, 7, 50, 51, 52
Attendance and active participation in class and in	25%	0	0	2, 3, 6, 28, 9, 8, 15, 16, 20, 19,

seminars				21, 41, 53, 5, 24, 13, 25, 35, 38, 43, 29, 32, 12, 54, 52, 1
Written assessments: multiple choice tests/restricted questions	50%	3.75	0.15	2, 9, 41, 53, 5, 38, 43, 32, 52

## Bibliography

### 1. Pediatric Surgery

By: Scorpio, Ronald J; Coppola, Christopher P; Kennedy, Alfred P; Morton. Springer International Publishing. ISBN: 978-3-319-04339-5, 978-3-319-04340-1. Health & Medicine (General). Springer eBooks (Medicine 2014) 2014

### 2. Pediatric Surgery

By: Coventry, Brendon J; Morton. Springer Verlag London Ltd. ISBN: 978-1-4471-5438-9, 978-1-4471-5439-6, 978-1-306-69237-3, 978-1-4471-5439-6. Health & Medicine (General). Springer eBooks (Medicine 2014) 2014

### 3. Ashcraft's Pediatric Surgery

By: Holcomb; George Whitfield Holcomb III. W B Saunders Company. ISBN: 978-1-4160-6127-4. Health & Medicine (General). ScienceDirect eBooks (CSUC) 2013

### 4. An Illustrated Guide to Pediatric Surgery

By: Al-Salem, Ahmed H. Springer International Publishing. ISBN: 978-3-319-06664-6, 978-3-319-06666-0, 978-3-319-06665-3. Health & Medicine (General). Springer eBooks (Medicine 2014) 2014

### 5. Symptoms and Signs in Pediatric Surgery

By: Kaiser, Georges L; Lesny. Springer Berlin Heidelberg. ISBN: 978-3-642-31160-4, 978-1-283-93504-3, 978-3-642-31161-1. Health & Medicine (General). Springer eBooks (Medicine 2012) 2012

### 6. Diagnostic and Interventional Ultrasound in Pediatrics and Pediatric Surgery

By: Scholz, Stefan; Jarboe, Marcus D; Hruska. Springer. ISBN: 978-3-319-21698-0, 978-3-319-21699-7. Health & Medicine (General). Springer eBooks (Medicine 2016) 2016

### 7. Basic Techniques in Pediatric Surgery: An Operative Manual

By: Bradnock, Tim J; Carachi, Robert; Agarwala, Sandeep; Schroeder. Springer Berlin Heidelberg. ISBN: 978-3-642-20640-5, 978-3-642-20641-2. Health & Medicine (General). Springer eBooks (Medicine 2013) 2013

### 8. Fundamentals of Pediatric Surgery: Second Edition

By: Mattei, Peter; Muratore, Christopher S; Rollins, Michael D; Nichol, Peter F; Hruska. Springer. ISBN: 978-3-319-27441-6, 978-3-319-27443-0. Health & Medicine (General). Springer eBooks (Medicine 2017) 2017

### 9. Pediatric Thoracic Surgery

By: Lima, Mario; Rizza. Springer Milan. ISBN: 978-88-470-5201-7, 978-88-470-5202-4. Health & Medicine (General). Springer eBooks (Medicine 2013) 2013

### 10. Pediatric Digestive Surgery

By: Lima, Mario; Rizza. Springer. ISBN: 978-3-319-40523-0, 978-3-319-40525-4. Health & Medicine (General). Springer eBooks (Medicine 2017) 2017

### 11. Jones' Clinical Paediatric Surgery

By: Hutson; Chichester. John Wiley & Sons Incorporated. ISBN: 978-1-118-77731-2, 978-1-118-77728-2, 978-1-118-77729-9, 978-1-118-77730-5. Health & Medicine (General). Wiley Online Library Books EBS 2018 2015

## Software

There are no specific software needs to be able to develop the subject.