

SUBJECT	GENERAL SIGNS AND AN INTRODUCTION TO CLINICAL PATHOLOGY					
CREDITS	Total	22	Theory	6	Practical	16
TEACHING STAFF						

GENERAL AIM

The course entitled 'General signs and an introduction to clinical pathology' covers the basic scientific knowledge needed to begin applying the methods and techniques used in diagnosing illness. Its broad aim is the study of the patient and it therefore provides students with knowledge of the general and basic aspects of disease and illness. It constitutes students' first contact with clinical pathology and offers them an overall and systematic view of the patient.

The medical training acquired by students through assimilation of the course's theoretical knowledge and the successful acquisition of the required practical skills will enable them to identify and recognize, without external guidance, both the main symptoms reported by the patient during history taking and the signs which appear upon physical examination, the aim being that they are able to diagnose the disorder based on all the information provided by the history, physical examination and basic complementary tests.

The knowledge gained about basic clinical pathology and general signs and physiopathology will enable students to tackle the clinical study required by the second cycle of the degree as they will by now be familiar with the nature of the patient, the doctor-patient relationship, methods for obtaining subjective information about the problem, and methods for obtaining objective information from the physical examination and basic complementary tests. The ultimate aim is that they are able to group together the basic signs and symptoms, leaving aside any superfluous information, and thus describe the most important disorders of internal medicine.

SYLLABUS

Part I: BASIC CONCEPTS

Topic 1. The patient and the illness

Concept and general characteristics of disease, its mechanisms of diffusion and dynamic structure, the concepts of *organic functional disorder* and the personal and constitutional aspects of becoming ill. This will form the basis on which the content and general aims of the subject are developed.

Topic 2. Concept of aetiology, pathogeny, evolution of pathology, physiopathology, signs and techniques for identifying them, and nosology

Causes of and mechanisms through which illness develops, its evolution and the changes which may occur, physiological alterations during illness, its subjective and objective manifestations, techniques of evaluation, grouping illnesses into syndromes, the classification of disease and the criteria used for this purpose.

Topic 3. Clinical judgement: diagnosis and prognosis of illness

General theory of disease recognition, diagnostic methods and types of diagnosis, predicting the evolution of disease, its scope and types.

Topic 4. Inherited diseases

General theory of types of hereditary transmission, its phenotypic expression in terms of morphology or biochemistry, the distinction with respect to the concept of *congenital disease*, and current possibilities of early diagnosis.

Topic 5. Immunity I: Basic types of immunological reaction

General theory of immune reactions, their types and mechanisms of production.

Topic 6. Immunity II: autoimmunity and immunodeficiency

Concept of *autoimmune disease* and the concept and classification of *immunodeficiency*.

Topic 7. Fever: physiopathological mechanisms and types of signs. Fever of unknown origin

Concept, general aetiopathogeny, physiopathology and signs of the fever syndrome. Understanding the concept and general aetiopathogeny of fever of unknown origin.

Part II: INTRODUCTION TO CLINICAL PATHOLOGY

Topic 8. The clinical history

Concept of clinical pathology and definition of the clinical history, its importance, types and parts, as well as its value with respect to teaching, audit and medico-legal issues.

Topic 9. The case history: the current illness and its background

General theory of the clinical interview, methods and approaches to information gathering, the reason for the visit, prodromes, the real onset of symptomatology and its evolution over time, current problems, family history, personal physiological history, toxic habits and pathological history of the patient.

Topic 10. The case history: case history by systems

Concept and approach to taking the history by systems.

Topic 11. The patient's history of pain

Asking questions about spontaneous pain in order to establish when and where it occurs or has occurred, its qualitative and quantitative aspects, the accompanying circumstances which modify it and the associated symptoms.

Topic 12. The physical examination

General theory of the medical examination based on the senses, its importance with respect to correct diagnosis and the advantages and disadvantages of the topographical and systematic exploratory techniques.

Topic 13. General inspection I: general information

Concept of general inspection, methods and technique and approaches to gathering general information, temperature, height, weight, musculoskeletal development and constitutional type.

Topic 14. General inspection II: static and dynamic aspects

The meaning of both static information, such as changes in colour and basic skin lesions, and dynamic information, such as spontaneous position, general state and state of awareness.

Topic 15. Palpation, percussion and auscultation

General theory, the method and techniques of superficial and deep palpation, as well as the concepts of *fluctuation*, *resistance*, *thrill* and *painful points*. Understanding the general theory, method and techniques of percussion, the theoretical sounds and their meaning. Understanding the general theory, method and techniques of auscultation.

Topic 16. Complementary examinations

Concept and diagnostic value of instrument-based and laboratory techniques which complement the history-taking and physical examination.

Topic 17. Topographical examination I: cranium, facies and cheeks

Applying the physical examination techniques to each part of the body and understanding the meaning of the findings in terms of signs.

Topic 18. Topographical examination II: eyes and ears

Applying the physical examination techniques to the eyes and ears and understanding the meaning of the findings in terms of signs.

Topic 19. Topographical examination III: nose and mouth

Applying the physical examination techniques to the nose and mouth and understanding the meaning of the findings in terms of signs.

Topic 20. Topographical examination IV: neck, upper limbs and lower limbs

Applying the physical examination techniques to the neck and extremities and understanding the meaning of the findings in terms of signs.

Topic 21. Topographical examination V: thorax and abdomen

Applying the physical examination techniques to the thorax and abdomen and understanding the meaning of the findings in terms of signs.

Part III: GENERAL SIGNS AND PHYSIOPATHOLOGY OF APPARATUS AND SYSTEMS

RESPIRATORY APPARATUS

Topic 22. Reasons for the visit I: dyspnoea and chest pain

Concept and signs of dyspnoea. Understanding the signs of tracheobronchial, vascular pulmonary and pleural pain.

Topic 23. Reasons for the visit II: cyanosis and acropachy

Concept, pathogenetic classification and signs of cyanosis. Understanding the general aetiopathogeny and the signs of acropachy.

Topic 24. Reasons for the visit III: coughing, expectoration and haemoptisis

General aetiopathogeny of coughing and its meaning in terms of signs. Understanding the macroscopic and microscopic characteristics of sputum and their meaning in terms of signs.

Topic 25. Physical examination of the respiratory apparatus I: inspection and palpation

Understanding in terms of signs the static arrangement of the thorax and its modifications as a result of respiratory movements. Understanding the aims and method of thoracic palpation as well as the meaning of thrills in terms of signs.

Topic 26. Physical examination of the respiratory apparatus II: percussion and auscultation

Method of percussion and auscultation of the respiratory apparatus and understanding the findings in terms of signs.

Topic 27. Complementary examinations in respiratory pathology I: radiology, bronchoscopy and isotopic analysis

The most widely-used complementary examination techniques: chest x-ray, bronchoscopy and isotopic analysis.

Topic 28. Complementary examinations in respiratory pathology II: functional respiratory tests

Exploratory techniques for ventilation, perfusion and lung gas exchange, and understanding the meaning of the findings in terms of signs.

Topic 29. Airway obstruction disorders I: acute obstruction disorders

Classification of obstructive airway diseases, physiopathology and signs of acute obstruction disorders.

Topic 30. Airway obstruction disorders II: chronic obstruction disorders

Concept, physiopathology and signs of chronic airway obstruction disorders.

Topic 31. Condensation disorders, atelectasis and pulmonary cavitation

General aetiopathogeny, physiopathology and signs.

Topic 32. Pulmonary hypertension syndrome

General aetiopathogeny, physiopathology, clinical forms and signs.

Topic 33. Pulmonary interstitial syndromes

General aetiopathogeny, physiopathology and signs.

Topic 34. Pleural disorders I: pleural haemorrhage

General aetiopathogeny, physiopathology and signs of dry pleuritis and pleural haemorrhage.

Topic 35. Pleural disorders II: fibrothorax and pneumothorax

General aetiopathogeny, physiopathology and signs.

Topic 36. Mediastinitis

General aetiopathogeny, physiopathology and signs.

Topic 37. Respiratory insufficiency

Concept, pathogeny, evolution of pathology, pathogenetic classification, physiopathology and signs of the different clinical forms.

CARDIOVASCULAR APPARATUS

Topic 38. Reasons for the visit I: pain in cardiocirculatory pathology

Mechanism of production and signs of pain in *angina pectoris*, myocardial infarct and pericarditis, with special reference to the characteristics which differentiate them from other kinds of chest pain. Understanding the signs of peripheral vascular, arterial and venous pain.

Topic 39. Reasons for the visit II: dyspnoea, syncope, lipothymia and palpitations

Concept, general aetiopathogeny and the meaning of these manifestations in terms of signs.

Topic 40. Reasons for the visit III: oedemas

Concept and types, mediated and immediate oedematogenic factors and their meaning in terms of signs.

Topic 41. Physical examination of the cardiocirculatory apparatus I: inspection and palpation

Techniques for obtaining and the meaning of findings in the inspection and palpation of the precordial region and neck.

Topic 42. Physical examination of the cardiocirculatory apparatus II: arterial and venous examination

Techniques for obtaining and the meaning of findings in the peripheral vessels, with special reference to signs associated with the arterial and venous pulse.

Topic 43. Physical examination of the cardiocirculatory apparatus III: auscultation

Focus of cardiac auscultation, the meaning of abnormal noises, reinforcements, splitting, opening snaps and clicks.

Topic 44. Physical examination of the cardiocirculatory apparatus IV: auscultation

Physiopathology, types and meaning of murmurs in terms of signs.

Topic 45. Complementary examinations in cardiocirculatory pathology

Exploratory techniques currently in use: biological tests, radiology, angiography, electrocardiography, isotopic analysis, oscillometry, Doppler, echocardiography and cardiac catheterization.

Topic 46. Arrhythmias I: stimulus formation disorders

Classification and electrocardiographic signs of normal and active and passive heterotopic arrhythmias.

Topic 47. Arrhythmias II: stimulus conduction disorders

Classification and electrocardiographic signs of blockages.

Topic 48. Cardiac valve disorders

Physiopathology and signs of stenosis and cardiac valve insufficiency.

Topic 49. Chest pain disorders I: coronary insufficiency

General aetiopathogeny, physiopathology, clinical forms and signs.

Topic 50. Chest pain disorders II: pericardial disorder

General aetiopathogeny, physiopathology, clinical forms and signs.

Topic 51. Cardiac insufficiency I: aetiopathogeny and physiopathology

Concept, general aetiopathogeny, pathogenetic classification and physiopathology.

Topic 52. Cardiac insufficiency II: signs

Signs of right, left and bilateral ventricular failure. Understanding other non-cardiogenic forms of pulmonary oedema.

Topic 53. Arterial hypertension I: concept and classification

Concept, techniques for determining arterial pressure, aetiological classification, physiopathology and signs.

Topic 54. Arterial hypertension II: aetiopathogeny of essential arterial hypertension. Genetic and environmental factors involved in the onset of this disorder

Topic 55. Arterial hypertension and shock

Concept, general aetiopathogeny, physiopathology and signs of acute circulatory insufficiency. Understanding the technique for and importance of determining central venous pressure.

Topic 56. Arterial and venous disorders

Signs of acute and chronic arterial ischemia disorders, acute venous obstruction and chronic venous insufficiency.

HAEMATIC SYSTEM

Topic 57. Reasons for the visit: pale skin and mucosa, haemorrhages and adenopathy

Concept, mechanisms of production and the meaning of signs.

Topic 58. Physical examination of the haematological patient

Findings in the skin and mucosa, head, neck, ganglion areas, thorax, abdomen and extremities and their meaning in terms of signs.

Topic 59. Complementary examinations of the haematopoietic organs

Importance of complementary exploratory techniques in use today: haematometry, iron metabolism, vitamin B12 and folic acid, haemolysis tests, conventional radiology, isotopic analysis, ultrasonography, computerized axial tomography, examination of the bone marrow and lymphatic ganglions.

Topic 60. Anaemia

Concepts of *anaemia* and *anaemic disorder*, their pathogenetic classification, physiopathology and signs.

Topic 61. Polyglobulia

Concept, classification, physiopathology and signs.

Topic 62. Leukopenia and leukocytosis

Pathogenetic classification of leukocytosis and leukopenia, their signs, the concepts of leukemoid reaction, leukoerythroblastosis and leukosis, morphological and functional anomalies of granulocytes.

Topic 63. Adenopathy

Concept of adenopathy, its general aetiopathogeny and the differential signs of inflammatory and neoplastic adenopathy.

Topic 64. Splenomegaly

Aetiological classification of splenomegaly. Understanding the signs of hypersplenism.

Topic 65. Haemorrhagic diathesis

Concept, pathogenetic classification and signs. Understanding the laboratory tests used for its differential diagnosis.

Topic 66. Dysglobulinemia

Concept, pathogenetic classification and signs of immunoglobulin alterations and complementary tests used for diagnosis.

DIGESTIVE APPARATUS

Topic 67. Reasons for the visit I: abdominal pain

Mechanisms of production, clinical types, differential characteristics and meaning in terms of signs.

Topic 68. Reasons for the visit II: ptyalism, asialia, dysphagia

Concept, mechanisms of production, classification and meaning in terms of signs.

Topic 69. Reasons for the visit III: nausea and vomiting

Concept, mechanisms of production, clinical types and meaning in terms of signs.

Topic 70. Reasons for the visit IV: diarrhoea and constipation

Concept, conditions, mechanisms of production, pathogenetic classification and meaning in terms of signs.

Topic 71. Reasons for the visit V: digestive haemorrhage

Topographical classification, general aetiopathogeny, physiopathology and signs.

Topic 72. Reasons for the visit VI: ascites

Concept, general aetiopathogeny, physiopathology and signs.

Topic 73. Reasons for the visit VII: jaundice

Concept, mechanism of production, pathogenetic classification, clinical types and meaning in terms of signs.

Topic 74. Physical examination of the digestive apparatus I: inspection

Meaning in terms of signs of cutaneous manifestations of digestive pathology and of the different forms of the abdomen.

Topic 75. Physical examination of the digestive apparatus II: palpation, percussion and auscultation

Techniques and manoeuvres of abdominal palpation, percussion and auscultation, and the meaning of the findings in terms of signs.

Topic 76. Complementary examinations in digestive pathology I: digestive tract

Examination techniques in use today: laboratory tests, faeces analysis, endoscopy, radiology, oesophageal manometry and intestinal biopsy.

Topic 77. Complementary examinations in digestive pathology II: liver, biliary pathways and pancreas

Complementary examination techniques in use today: laboratory tests, tests of hepatic function, endoscopy, radiology, isotopic analysis, ultrasonography, computerized axial tomography, laparoscopy and biopsy.

Topic 78. Examination of the faeces

Meaning in terms of signs of the findings from macroscopic, microscopic and chemical analysis of faeces. Establishing the differential characteristics of findings from faeces analysis in the different digestive disorders.

Topic 79. Pyloric insufficiency and stenosis

General aetiopathogeny, physiopathology and meaning in terms of signs of disorders of gastric tone, motility and evacuation.

Topic 80. Malabsorption disorders

General aetiopathogeny, physiopathology and signs.

Topic 81. Exocrine pancreatic insufficiency disorder

General aetiopathogeny, physiopathology and signs.

Topic 82. Acute abdomen I: mechanical ileus and adynamic ileus

Concept of acute abdomen, its pathogenetic classification with special reference to mechanical ileus and adynamic ileus, its general clinical expression and its differential characteristics.

Topic 83. Acute abdomen II: peritoneal irritation

General aetiopathogeny and signs of peritonitis.

Topic 84. Portal hypertension

Concept, haemodynamic classification, general aetiopathogeny, physiopathology and signs.

Topic 85. Hepatocellular insufficiency. Hepatic encephalopathy

Concept, general aetiopathogeny, physiopathology and signs. Understanding the concept, clinical classification and manifestations of hepatic encephalopathy.

URINARY APPARATUS

Topic 86. Reasons for the visit I: pain

Mechanisms of pain production, its types, differential characteristics and meaning in terms of signs.

Topic 87. Reasons for the visit II: polyuria, oliguria, anuria and urinary retention

Concept, general aetiopathogeny and meaning in terms of signs of qualitative urine anomalies.

Topic 88. Reasons for the visit III: hematuria

General aetiopathogeny, topographical classification, differential characteristics and meaning in terms of signs.

Topic 89. Reasons for the visit IV: proteinuria and cylindruria

Concept, general aetiopathogeny, classification and meaning in terms of signs.

Topic 90. Physical examination of the kidneys and urinary tracts

General findings, their meaning in terms of signs, and techniques and manoeuvres of physical examination.

Topic 91. Complementary examinations in renal and urinary tract pathology

Complementary examination techniques in use today: laboratory tests, tests of renal function, isotopic analysis, cystoscopy, ultrasonography, computerized axial tomography and selective renal catheterization.

Topic 92. Glomerular disorders: nephritic syndrome and nephrotic syndrome

General aetiopathogeny and signs.

Topic 93. Tubular and vascular disorders

General aetiopathogeny, signs and differential characteristics of organic and functional renal insufficiency.

Topic 94. Acute renal insufficiency

Physiopathology, signs and differential characteristics of organic and functional renal insufficiency.

Topic 95. Chronic renal insufficiency: uremic disorder

Physiopathology and signs, concept and specific features of the signs of uremic disorder.

ENDOCRINE SYSTEM AND METABOLISM

Topic 96. Reasons for the visit

Most common symptoms of endocrine pathology such as abnormalities of sexual and psychomotor development, of height, weight, skin disorders, polyphagia, polydipsia and polyuria.

Topic 97. Physical examination of the endocrine system

Signs and exploratory findings in skin, mucosa, head, neck, chest, abdomen, genitals and extremities.

Topic 98. Complementary examinations of endocrine function

Method for examining endocrine function, with special reference to hypothalamic-pituitary, thyroid, parathyroid, suprarenal, gonadal and endocrine pancreas function.

Topic 99. Hypothalamic-pituitary disorders

Different disorders of hypothalamic-pituitary hyperfunction and hypofunction, their physiopathology and signs.

Topic 100. Thyroid disorders

Physiopathology and signs.

Topic 101. Parathyroid disorders

Classification of the different hyperfunction and hypofunction disorders, their physiopathology and signs.

Topic 102. Suprarenal disorders

Different hyperfunction and hypofunction disorders, their physiopathology and signs.

Topic 103. Endocrine pancreas disorders

Physiopathology and signs of diabetes.

Topic 104. Lipid metabolism disorders

Method for examining lipid metabolism, the classification of dyslipemias and lipoidosis, physiopathology and signs.

Topic 105. Hydromineral metabolism disorders

Method for examining the water balance, general aetiopathogeny, physiopathology and signs of hyperhydration and dehydration.

Topic 106. Acid/base equilibrium disorders

Method for examining the acid/base equilibrium, as well as general aetiopathogeny, compensation systems, physiopathology and signs of the different acidosis and alkalosis disorders.

LOCOMOTOR APPARATUS

Topic 107. Reasons for the visit: pain, articular swelling and functional impotence

Mechanisms of pain production, clinical types, differential characteristics and meaning in terms of signs, different signs and symptoms of articular swelling and functional impotence.

Topic 108. Physical examination of the locomotor apparatus

Method and techniques for examining joints, bone and muscles.

Topic 109. Complementary examinations for locomotor pathology

Complementary examination techniques in use today: laboratory tests, radiology, isotopic analysis, computerized axial tomography, nuclear magnetic resonance, arthroscopy and biopsy.

Topic 110. Joint disorders

Classification, physiopathology and signs.

NERVOUS SYSTEM

Topic 111. Reasons for the visit I: headaches and convulsions

General aetiopathogeny, classification and meaning of signs.

Topic 112. Reasons for the visit II: pain, vertigo and nystagmus

General aetiopathogeny, classification and meaning of signs.

Topic 113. Reasons for the visit III: delusions, confusion and dementia

Concept of *dementia*, general aetiopathogeny and meaning of signs, and its differential characteristics with respect to personality disorders.

Topic 114. Reasons for the visit IV: altered consciousness. Coma

General aetiopathogeny of states of lowered consciousness, their classification and meaning of signs.

Topic 115. Examination of sensation

Method and techniques for examining the different components of superficial and deep sensation, and the meaning of findings in terms of signs.

Topic 116. Examination of voluntary motility and muscle tone

Manoeuvres and techniques for examining voluntary motility and muscle tone, and the meaning of findings in terms of signs.

Topic 117. Examination of motor coordination and gait

Regulation of sensorimotor coordination, exploratory manoeuvres and techniques, types of gait, the meaning of findings in terms of signs and the classification of ataxias.

Topic 118. Examination of reflexes

Deep periosteal and osteotendinous reflexes, superficial reflexes of skin and mucosa, examination techniques and the meaning of findings in terms of signs.

Topic 119. Examination of the cranial nerves

Manoeuvres and techniques for examining the cranial nerves and the meaning of findings in terms of signs.

Topic 120. Complementary examinations in neurological pathology

Diagnostic value of complementary examination techniques in use today: examination of cerebrospinal fluid, electrophysiology, computerized axial tomography, nuclear magnetic resonance, isotopic analysis and biopsies.

Topic 121. Disorders of the autonomic nervous system

Clinical disorders and assessment techniques of the autonomic nervous system.

Topic 122. Sleep disorders

Normal rhythm of physiological sleep and its possible alterations.

Topic 123. Sensory disorders

Differential signs of sensory deficits and disturbances at different topographical levels: sensory fibre lesion, peripheral truncal lesion, posterior radicular lesion, medullary lesion, bulbar, protuberential, thalamic and cortical lesions.

Topic 124. Loss of muscle strength

Signs of this disorder and its clinical forms, with special reference to pyramidal disorder.

Topic 125. Syndromes that may accompany movement disorders. Extrapyramidal disorders

Signs of the main extrapyramidal disorders, with special reference to Parkinson's disease and choreas, and the signs of tremors, myoclonia, spasms and tics.

Topic 126. Syndromes that may accompany gait disorders. Cerebellar disorder

Classification, physiopathology and signs of different gait disorders, with special reference to cerebellar disorder.

Topic 127. Cortical disorders. Focal cerebral disorders and language disorders

Signs of anomalies in higher cortical functions, with special reference to language disorders, aphasia, agnosia and apraxia.

Topic 128. Endocranial hypertension and meningitis

General aetiopathogeny and signs, with special reference to the evaluation of rigidity and contractions in meningitis.

Topic 129. Cranial nerve disorder I: optic, olfactory, common oculomotor (COM), external oculomotor (EOM), trochlear, trigeminal and facial nerves

Physiopathology and signs of isolated disorders of the abovementioned cranial nerves.

Topic 130. Cranial nerve disorder II: vestibulocochlear, glossopharyngeal, vagus, spinal and hypoglossal

Physiopathology and signs of isolated disorders of the abovementioned cranial nerves. Understanding the signs of syndromes characterized by simultaneous disorders in different cranial nerves, such as those affecting the sphenoidal fissure, the cavernous sinus, the cerebellopontine angle, the jugular foramen and the posterior lacerated foramen.

CONTENT OF THE DIFFERENT TYPES OF TEACHING

1. CLINICAL TEACHING

The teaching of the skills required by students in order to identify and recognize the main symptoms reported by the patient during history taking, as well as the signs revealed by the physical examination, with the aim of making a diagnosis based on the complete set of information provided by the history, the physical examination and basic complementary tests will be offered in the form of 28 practical classes, to be scheduled daily on the ward during the seven-week period of clinical teaching.

1. The clinical history (Topic 8)
2. The case history: the current illness and its background (Topic 9)
3. The case history: case history by systems (Topic 10)
4. The case history of pain (Topic 11)
5. The physical examination (Topic 12)
6. The general inspection I: general information (Topic 13)
7. The general inspection II: static and dynamic aspects (Topic 14)
8. Palpation, percussion and auscultation (Topic 15)
9. Topographical examination I: cranium, facies and cheeks (Topic 17)
10. Topographical examination II: eyes and ears (Topic 18)
11. Topographical examination III: nose and mouth (Topic 19)
12. Topographical examination IV: neck, upper and lower limbs (Topic 20)
13. Topographical examination V: chest and abdomen (Topic 21)

14. Physical examination of the respiratory apparatus I: inspection and palpation (Topic 25)
15. Physical examination of the respiratory apparatus II: percussion and auscultation (Topic 26)
16. Physical examination of the cardiocirculatory apparatus I: inspection and palpation (Topic 41)
17. Physical examination of the cardiocirculatory apparatus II: examination of arteries and veins (Topic 42)
18. Physical examination of the cardiocirculatory apparatus III: auscultation (Topics 43-44)
19. Chest x-ray. Basic concepts of thoracic radiology (Topic 45)
20. Physical examination of the haematic system (Topics 57-58)
21. Physical examination of the digestive apparatus (Topic 75)
22. Physical examination of the kidneys and urinary tracts (Topic 90)
23. Physical examination of the endocrine system (Topics 96-97)
24. Physical examination of the locomotor apparatus (Topics 107-108)
25. Examination of sensation (Topic 115)
26. Examination of voluntary motility and muscle tone, of motor coordination and of gait (Topics 116-117)
27. Examination of the reflexes (Topic 118)
28. Examination of the cranial nerves (Topic 119)
29. Complementary examinations in neurological pathology (Topic 120)

2. PLANNED PRACTICAL TEACHING (SEMINARS)

The knowledge included in the *Subject guide* and which students must assimilate during this type of teaching comprises the following program topics:

Seminars 1, 2 and 3. The clinical history I, II, III: history of the current illness and its background

Objective: To deepen students' understanding of the general theory of the patient interview, its methods and approaches to gathering information, the reasons for the visit, prodromes, the real onset of symptomatology and its evolution over time, current problems, family history, personal physiological history, toxic habits and the patient's history of pathology (Topic 9).

Seminars 4, 5, and 6. The clinical history IV, V, VI: the case history by systems

Objective: To deepen students' understanding of approaches to gathering information via the case history by systems (Topic 10).

Seminars 7 and 8. The clinical history VII and VIII: case history of pain

Objective: To deepen students' understanding of how to interview patients about spontaneous pain in order to establish when and where it occurs, its qualitative and quantitative aspects, the accompanying circumstances that modify it and any associated symptoms (Topic 11).

Seminar 9. The general inspection: General information

Objective: To deepen students' understanding of methods and techniques of general inspection, as well as of approaches to gathering general information about temperature, height, weight, muscular and skeletal development and constitutional type (Topic 13).

Seminar 10. The general inspection: General information; static and dynamic aspects

Objective: To deepen students' understanding of the meaning in terms of signs of static information (such as changes in colour or basic skin lesions) and dynamic information (such as spontaneous posture, general state and state of awareness (Topic 14).

Seminar 11. Topographical examination I: cranium, facies, cheeks

Objective: To deepen students' understanding of how to apply physical examination techniques to the cranium, facies and cheeks, as well as of the meaning of findings in terms of signs (Topic 17).

Seminar 12. Topographical examination II: eyes and ears

Objective: To deepen students' understanding of how to apply physical examination techniques to the eyes and ears, as well as of the meaning of findings in terms of signs (Topic 18).

Seminar 13. Topographical examination III: nose and mouth

Objective: To deepen students' understanding of how to apply physical examination techniques to the nose and mouth, as well as of the meaning of findings in terms of signs (Topic 19).

Seminar 14. Topographical examination IV: neck

Objective: To deepen students' understanding of how to apply physical examination techniques to the neck, as well as of the meaning of findings in terms of signs (Topic 20).

Seminar 15. Topographical examination IV: upper and lower limbs

Objective: To deepen students' understanding of how to apply physical examination techniques to the upper and lower limbs, as well as of the meaning of findings in terms of signs (Topic 20).

Seminar 16. Topographical examination VI: chest and abdomen

Objective: To deepen students' understanding of how to apply physical examination techniques to the chest and abdomen, as well as of the meaning of findings in terms of signs (Topic 21).

Seminar 17. Palpation, percussion and auscultation

Objective: To deepen students' understanding of the general theory, method and techniques of superficial and deep palpation, as well as of the concepts of *fluctuation*, *resistance*, *thrill* and *painful points*. To explore general theory, method and techniques of percussion, the theoretical sounds and their meaning in terms of signs, as well as the general theory, method and techniques of auscultation (Topic 15).

Seminar 18. Complementary examinations of the respiratory apparatus: functional respiratory tests

Objective: To deepen students' understanding of functional exploratory techniques for the airways, as well as of the meaning of findings in terms of signs (Topic 28).

Seminars 19, 20, 21 and 22. Complementary examinations of the circulatory apparatus: electrocardiography I, II, III and IV

Objective: To deepen students' understanding of the diagnostic value of electrocardiography, with special reference to basic pathological features (Topics 45, 46 and 47).

Seminar 23. Complementary examinations for the circulatory apparatus:

Objective: To deepen students' understanding of the basic principles of complementary examination techniques, with special reference to stress tests, isotopic analysis, echocardiography and cardiac catheterization, their diagnostic value, their indications and limitations (Topic 45).

Seminar 24. Complementary tests for the haematic system: haemogram

Objective: To deepen students' understanding of the diagnostic value of information provided by Schilling's haemogram with respect to the red series (Topic 59).

Seminar 25. Complementary tests for the haematic system: myelogram

Objective: To introduce the basic principles of examination by aspiration of bone marrow, its indications and the meaning of findings (Topic 59).

Seminar 26. Complementary examinations for the digestive apparatus: digestive endoscopy, abdominal ultrasound, CAT, laparoscopy and biopsy

Objective: To deepen students' understanding of the diagnostic value of these complementary examinations, their indications and the meaning of findings (Topics 76 and 77).

Seminar 27. The role of the laboratory in diagnosing digestive disorders I: digestive tract

Objective: To deepen students' understanding of the signs revealed by different laboratory tests used in diagnosing digestive tract disorders (Topic 76).

Seminar 28. The role of the laboratory in diagnosing digestive disorders II: liver and pancreas

Objective: To deepen students' understanding of the signs revealed by different laboratory tests used in diagnosing liver and pancreatic disorders (Topic 77).

Seminar 29. Complementary tests in the diagnosis of urinary apparatus disorders

Objective: To deepen students' understanding of the signs revealed by complementary tests used in diagnosing kidney and urinary tract disorders (Topic 91).

Seminar 30. The role of the laboratory in diagnosing endocrine disorders

Objective: To deepen students' understanding of the signs revealed by different laboratory tests used in diagnosing endocrine disorders (Topic 98).

Seminar 31. Acid/base equilibrium disorders

Objective: To deepen students' understanding of the main disorders associated with the acid/base equilibrium (Topics 105 and 106).

Seminar 32: The role of the laboratory in diagnosing oncology disorders

Objective: To introduce the main laboratory tests used in diagnosing and monitoring solid malign tumours.

Seminar 33. The role of the laboratory in diagnosing locomotor disorders

Objective: To introduce the main laboratory tests used in diagnosing locomotor disorders (Topic 109).

Seminar 34. Complementary examinations for neurological disorders I: laboratory and neuroimaging tests such as CAT, NMR, PET and SPECT

Objective: To introduce the main laboratory tests used in diagnosing disorders of the nervous system, as well as neuroimaging tests, their diagnostic value, and their indications and limitations (Topic 120).

Seminar 35. Complementary examinations for neurological disorders II: electroencephalography, electromyography and biopsies

Objective: To introduce the basic principles of electroencephalography, electromyography and biopsies, their diagnostic value, and their indications and limitations (Topic 120).

3. THEORETICAL TEACHING

The knowledge included in the *Subject guide* given to students during this type of teaching comprises the following program topics:

Topic 1. The patient and the illness

Topics 2-3. Concept of aetiology, pathogeny, evolution of pathology over time, physiopathology, signs and techniques for identifying them, and nosology. Clinical judgement, diagnosis and prognosis of disease and illness

Topic 4. Inherited diseases

Topics 5-6. Immunity: basic types of immune reaction. Autoimmunity and immune deficiency

Topic 7. Fever: physiopathological mechanisms and the different signs. Fever of unknown origin

RESPIRATORY APPARATUS

Topics 22-23. Reasons for the visit: dyspnoea, chest pain, cyanosis and acropachy

Topic 24. Reasons for the visit: coughing, expectoration and haemoptysis

Topic 29. Airway obstruction disorders I: acute obstruction disorders

Topic 30. Airway obstruction disorders II: chronic obstruction syndromes

Topic 31. Condensation disorders, atelectasis and pulmonary cavitation

Topics 32-33. Pulmonary hypertension syndrome. Pulmonary interstitial syndromes

Topics 34-35. Pleural disorders: pleural haemorrhage, fibrothorax and pneumothorax

Topic 36. Mediastinitis

Topic 37. Respiratory insufficiency

CARDIOVASCULAR APPARATUS

Topic 38. Reasons for the visit: pain in cardiocirculatory pathology

Topic 39. Reasons for the visit: dyspnoea, syncope, lipothymia and palpitations

Topic 40. Reasons for the visit: oedemas

Topic 46. Arrhythmias

Topic 48. Cardiac valve disorders

Topics 49-50. Coronary insufficiency and pericardial disorder

Topics 51-52. Cardiac insufficiency

Topics 53-54. Arterial hypertension

Topic 55. Arterial hypotension and shock

Topic 56. Arterial and venous disorders

HAEMATIC SYSTEM

Topic 60. Anaemia

Topic 61. Polyglobulia

Topic 62. Leukocytosis and leukopenia

Topics 63-64. Adenopathy; splenomegaly

Topics 65-66. Disorders of coagulation and dysglobulinemia

DIGESTIVE APPARATUS

Topic 67. Reasons for the visit: abdominal pain

Topics 68-69. Reasons for the visit: ptyalism, asialia, dysphagia, nausea and vomiting

Topic 70. Reasons for the visit: diarrhoea and constipation

Topic 71. Digestive haemorrhage

Topic 72. Ascites

Topic 73. Jaundice

Topics 79-81. Malabsorption disorders

Topics 82-83. Acute abdomen

Topic 84. Portal hypertension syndrome

Topic 85. Hepatocellular insufficiency; hepatic encephalopathy

URINARY APPARATUS

Topics 86-87. Reasons for the visit: pain, polyuria, oliguria, anuria, urinary retention

Topics 88-89. Reasons for the visit: hematuria, proteinuria and cylindruria

Topic 92. Glomerular disorders: nephritic syndrome and nephritic syndrome

Topic 93. Urinary tract and vasculorenal disorders

Topics 94-95. Acute and chronic renal insufficiency; uremic disorder

ENDOCRINE SYSTEM AND METABOLISM

Topic 99. Hypothalamic and pituitary disorders

Topics 100-101. Thyroid and parathyroid disorders

Topic 102. Suprarenal disorders

Topic 103. Endocrine pancreas disorders

Topics 104-106. Metabolic disorders

LOCOMOTOR APPARATUS

Topic 110. Joint disorders

NERVOUS SYSTEM

Topics 111-112. Reasons for the visit: headaches, convulsions, pain, vertigo and nystagmus

Topics 113-114. Reasons for the visit: delusions, confusion, dementia and coma

Topics 121-122. Disorders of the autonomic nervous system; sleep disorders

Topic 123. Sensory disorders

Topic 124. Loss of muscle strength

Topic 125. Syndromes that may accompany movement disorders: Extrapyramidal disorders

Topic 126. Syndromes that may accompany gait disorders: Cerebellar disorder

Topic 127. Cortical disorders. Focal cerebral disorders and language disorders

Topic 128. Endocranial hypertension and meningitis

Topics 129-130. Cranial nerve disorders