



UNIVERSITAT DE BARCELONA



Facultat de Medicina

Plan Docent de la Assignatura 6: "Rare anaemias due to iron and vitamins metabolic disorders"

Màster en Competències Mèdiques Avançades - Anemias Raras i síndromes relacionados

## GENERAL DATA

### Subject 6: RARE ANAEMIAS DUE TO IRON AND VITAMINS METABOLIC DISORDERS

**Code:**

**Type:** Optional

**Schedule:** To be defined

**Departments involved:** Medicine

**Coordinator:**

Joan-LLuis Vives Corrons (Departament de Medicina, Universitat de Barcelona, Unidad de Patología Eritrocitaria)

**Academia:**

1. Martina Muckenthaler
2. Domenico Girelli
3. Mayka Sanchez
4. Sule Unal
5. Angel Remacha

**Subject Coordinator:** Domenica Capellini

**Credits ECTS:** 3

**Subject total teaching time (in hours):**75

- **Presential (teacher):** 50
- **Autonomous (student):** 25

## Requirements for subject learning

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## Skills to be developed

### TRANSVERSAL SKILLS

- Being able to interact with other medical specialists to advise them
- Ability to work in interdisciplinary teams and collaborate with other researchers together, act independently and use initiative
- Ability to teach and disseminate knowledge in the social environment in both expert and non-expert audiences, clearly and in different languages
- Ability to integrate knowledge and ways to deal with the complexity and formulate judgments based on limited information, but so thoughtful, considering social and ethical repercussions of the trials
- To keep up to date knowledge exposed in the field of the international scientific community, that is, to seek, obtain and interpret information obtained in biomedical databases and other sources
- Being able to know the principles of bioethics and medico-legal research and professional activities in the field of biomedicine

### SPECIFIC SKILLS

- Knowing the epidemiological, pathogenic, clinical and therapeutic advances of major iron and vitamins metabolism disorders.
- Know the most advanced and complementary clinical diagnostic examinations of major iron and vitamins disorders.
- Be able to recognize, interpret and diagnose properly laboratory abnormalities due to non-nutritional iron deficiency, iron overload associated with anaemia and cobalamin and folic acid metabolic defects.
- To develop, implement and evaluate clinical practice guidelines for patients iron and vitamins abnormalities.

## Subject Learning Objectives

### A. General Objectives

The main objective of the course is to help training clinicians and researchers in the field of major disorders of iron and vitamins not due to nutritional mechanisms in a very well defined unit of patient's care and of excellence for translational research. Non nutritional iron and vitamins disorders as well as rare iron deficiency anaemias due to congenital iron metabolism defects represent a systemic problem with increasing incidence and high associated morbidity.

### B. Specific Objectives

To know in depth the erythropoiesis and its defects, their etiological mechanism/s and their main clinical manifestations and research possibilities. Furthermore, to assess the results of clinical trials in the international development of new biological treatments cost-effectiveness studies.

## Teaching programme

### Subject 6: Rare anaemias due to iron and vitamins metabolic disorders

Date	Topic	Chapter	Professor	Language
	6.1 Sideroblastic anemias (10h)	6.1.1 Pathophysiological and molecular basis (2h)	Martina Muckenthaler	English
		6.1.2 Clinical diagnosis (2h)	Domenico Girelli	English
		6.1.3 Laboratory diagnosis. Peripheral blood and bone marrow	Domenico Girelli	English
		6.1.4 Investigations. Imaging techniques (2h)	Domenico Girelli	English
		6.1.5 Treatment and clinical follow (2h)	Domenico Girelli	English
	6.2 Iron deficiency anemia refractory to treatment with iron (IRIDA) (10h)	6.2.1 Pathophysiological and molecular bases (2h)	Mayka Sanchez	English
		6.2.2 Clinical diagnosis (2h)	Martina Muckenthaler	English
		6.2.3 Laboratory diagnosis. Peripheral blood and bone marrow (2h)	Martina Muckenthaler	English
		6.2.4 Investigations. Imaging techniques (2h)	Domenico Girelli	English
		6.2.5 Treatment and clinical follow (2h)	Domenico Girelli	English
	6.3 DMTI Deficiency (10h)	6.3.1 Pathophysiological and molecular bases (2h)	Mayka Sanchez	
		6.3.2 Clinical diagnosis (2h)	Martina Muckenthaler	English
		6.3.3 Laboratory diagnosis. Peripheral blood and bone marrow (2h)	Martina Muckenthaler	English
		6.3.4 Investigations. Imaging techniques (2h)	Domenico Girelli	English
		6.3.5 Treatment and clinical follow (2h)	Domenico Girelli	English
	6.4 Transcobalamin II deficiency (hereditary megaloblastic anemia) (10h)	6.4.1 Pathophysiological and molecular bases (2h)	Sule Unal	English
		6.4.2 Clinical diagnosis (2h)	Sule Unal	
		6.4.3 Laboratory diagnosis. Peripheral blood and bone marrow (2h)	Sule Unal	English
		6.4.4 Investigations. Imaging techniques (2h)	Sule Unal	English
		6.4.5 Treatment and clinical follow-up (2h)	Sule Unal	English

6.5. Immerslund syndrome and related syndromes (10h)	6.5.1 Pathophysiological and molecular bases (2h)	Angel Remacha	English
	6.5.2 Clinical diagnosis (2h)	Angel Remacha	English
	6.5.3 Laboratory diagnosis. Peripheral blood and bone marrow (2h)	Angel Remacha	English
	6.5.4 Investigations. Imaging techniques (2h)	Angel Remacha	English
	6.5.5 Treatment and clinical follow (2h)	Angel Remacha	English

### Methodology and General Organisation

- A. **Main Lectures:** They will have a duration of 60 minutes; The first 40 minutes will be devoted to the exhibition of the teaching topic by the teacher and the remaining 20 minutes will be devoted to the interaction between students and teacher on the key issues of teaching topic theme (18 lectures= 18 hours).
- B. **Interactive Seminars:** Will last 60 minutes and they will present case studies that the approach to analyze diagnostic and therapeutic evolution of patients with major erythropoietic defects (5 seminars = 5 hours).
- C. **Student supervised task:** Students will prepare for approximately 1 hour each of the teaching classes / seminars and, for this, the teacher will provide a minimum of 2 articles in PDF format on the topic of the corresponding subject (class or seminar) ( 25 x 1 hour classes / seminars = 25 hours).
- D. **Self Assessment :** At the end of the course (maximum two weeks after the last lecture), students must submit a portfolio summarizing skills acquired in this course (Independent task = 25 hours).

Attendance and degree of participation in lectures and interactive seminars (40%)  
Realization of autonomous work, presentation and discussion with the teacher (60%)

### Essential information resources

#### RELEVANT BIBLIOGRAPHY