UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Advances in Metabolic Bone Diseases

2425-3-H4102D093

Aims

The objective of this course is to deepen the knowledge of osteoporosis and other common disorders of phospho-calcium metabolism, introduced in the basic endocrinology course. Students will acquire clinical tools to enhance their understanding of differential diagnoses and develop practical skills for effectively treating patients.

Contents

Osteoporosis
Overview of Other Metabolic Bone Diseases
Vitamin D Deficiency
Parathyroid Disorders

Detailed program

The elective course on "Advances in Metabolic Bone Diseases" is designed to provide an in-depth understanding of osteoporosis, its diagnosis, and the current therapeutic strategies. Throughout the course, we will explore the mechanisms behind osteoporosis, a condition that reduces bone density and increases the risk of fractures, as well as diagnostic methods, including bone densitometry.

A special focus will be placed on vitamin D, its essential role in bone metabolism, and the latest guidelines for the prevention of diseases related to its deficiency. We will also delve into the guidelines for the management of hyperparathyroidism.

Finally, the course will include the discussion of real clinical cases to promote the practical application of the

acquired knowledge, offering practical tips for the daily management of patients with bone diseases.

Prerequisites

Teaching form

- Frontal lecture
- Clinical cases and Problem Based Learning

All course activities will be held in English

Textbook and teaching resource

- Harrison’s Principles of Internal Medicine

- Camacho PL, et al. American Association of Clinical Endocrinologists/American College of Endocrinology clinical practice guidelines for the diagnosis and treatment of postmenopausal osteoporosis - 2020 update. Endocr Pract 2020, 26 (suppl 1): 1-46

- Eastell R, Rosen CJ, Black DM, Cheung AM, Murad MH, Shoback D. Pharmacological Management of Osteoporosis in Postmenopausal Women: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab 2019, 104: 1595-622

- Ralston SH, et al.
  Diagnosis and management of Paget’s disease of bone in adults: a clinical guideline.
  J Bone Min Res 2019: e3657

- Tanaka Y, et al. The 2023 guidelines for the management and treatment of glucocorticoid?induced osteoporosis. J Bone Min Metab 2024, 42: 143–54

- Demay MB, et al. Vitamin D for the prevention of disease: an Endocrine Society clinical practice guideline. J Clin Endocrinol Metab 2024, 109: 1907-47

- Bilezikian JP et al. International Workshop on Primary Hyperparathyroidism. Evaluation and Management of Primary Hyperparathyroidism: Summary Statement and Guidelines from the Fifth International Workshop. J Bone Miner Res. 2022, 37(11):2293-2314

Semester

March-April 2025

Assessment method

Oral examination covering the topics discussed in the lectures, with a focus on clinical problem-solving and critical thinking.

In-depth case analysis to apply theoretical knowledge to real-world clinical scenarios.

All assessments will be done in English language

Office hours

For appointments, contact the instructors via email:

Prof. Roberto Trevisan, e-mail roberto.trevisan@unimib.it

Dr. Silvia Ippolito, e-mail sippolto@asst-pg23.it

Dr. Sara Cassibba, e-mail scassibba@asst-pg23.it

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY