



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Endocrinologia

1819-2-H4601D007-H4601D024M

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#### Aims

The students will learn the organ pathophysiology and the fallout of the endocrine and metabolic diseases at the systemic level and to learn how to recognize endocrine and metabolic diseases applying the clinical reasoning and the diagnostic procedures as well as screening protocols. Identification of classical and emerging risk factors following recommendations from the Evidenced Based Medicine (EBM) with acquisition of a robust self-consciousness of the strong existing relationship between metabolic disease and diabetes with periodontal disease, in terms of clinical relationships and reciprocal prevention.

In addition, the field of the endocrine and metabolic diseases is a paradigmatic example of an area in which the theoretical principles and the methodological issues of the modern medicine may be applied to the Evidenced Based Medicine EBM, presenting and discussing randomized clinical trials, pragmatic trials, and observational studies generating Real World Evidence (RWD) to teach the students the significance of the levels of scientific evidence and strength of a clinical recommendation in the Guidelines in pursuing a diagnostic or screening procedure in agreement with the balance between pro and cons of the procedures. These efforts to let the students learn the difference between the efficacy of the medical intervention and efficiency of the health care system in medicine

#### Contents

There are 2 major aims related to the delivered content. First, to provide the knowledge about pathophysiology of endocrine and metabolic diseases emphasizing their consequences at the systemic level with multi-organ

involvement, and the mechanistic association with parodontopathy and other systemic diseases, especially the most frequent degenerative chronic diseases within the general population (cardiovascular disease, cancer, chronic kidney failure, liver diseases, bone diseases). Second, to provide the knowledge about the diagnosis (clinical, static and dynamic lab tests, imaging) or and screening procedures for these endocrine and metabolic diseases learning signs and symptoms or acquiring validated procedures for primary prevention, secondary prevention (if applicable) and tertiary prevention. These aims are to be pursued keeping in mind that this contents may be eventually applicable during a routine practice within a dental surgery office

## Detailed program

### - National System

for preparation of the Guidelines in EBM: methodological aspects, hierarchy of the scientific evidence (RCT, meta-analysis, observational studies, pragmatic studies, retrospective studies), level of evidence, strength of recommendations

### - Diabetes Mellitus:

pathogenesis of type 1 and type 2 diabetes, primary prevention (education, empowerment and life style), micro-vascular (retinopathy, nephropathy, neuropathy) and macro-vascular complications (insulin resistance syndrome e estimates of global cardiovascular risk), erectile dysfunction, diabetic foot.

### - Hypoglycemia and

iatrogenic hypoglycemia (diagnosis, self-diagnosis, prevention and handling of episodes), gout.

### - Relationships

between diabetes and parodontopathy: topics will be risk of infection, low-grade inflammation (local and systemic effects)

### - Obesity: pathophysiology,

complications with emphasis on NAFLD/NASH e behavioral handling

### - Anorexia nervosa

### - Hypothalamic and pituitary diseases (with

gender-related differences): Pituitary Physiology and Diagnostic Evaluation, Pituitary Masses and Tumors: non secreting and secreting (prolactin, GH, TSH, ACTH, FSH/LH), pituitary adenomas, hypopituitarism (panhypopituitarism and selective hormone deficiencies), neuropituitary diseases (diabetes insipidus, Syndrome of Inappropriate Antidiuretic Hormone Secretion) ,

### - Thyroid diseases

(with gender-related differences): Hyperthyroidism (Graves-Basedow, Plummer, multinodular goiter, iatrogenic diseases), hypothyroidism (primary secondary and iatrogenic diseases) and systemic consequences (metabolic, cardiovascular and immunological issues) of hyper and hypo-thyroidism, thyroiditis (acute, subacute-De Quervain, auto-immune chronic-Hashimoto, Riedel), simple goiter, thyroid nodule (cytologic implications), thyroid cancer

### - Disorders of

calcium and phosphorus metabolism and parathyroid diseases (with gender-related differences):

Hyperparathyroidism,  
Hypoparathyroidism, pseudohypoparathyroidism, Paget diseases, Osteoporosis

- Adrenal diseases

Cushing syndrome , Addison's Disease, hyperaldosteronism,  
pheochromocytoma/paraganglioma and endocrine hypertension,

Reproduction and  
altered sexual differentiation related diseases: Physiology and Pathology of  
the Female Reproductive Axis, PCOS, genetic syndromes, adrenogenital diseases,  
Hormonal Contraception, Testicular Disorders, Sexual Dysfunction in Men and  
Women

- Multiple endocrine neoplasia: neuroendocrine  
tumors, - - Surgical aspects in endocrinology

## **Prerequisites**

Propedeutic skills

## **Teaching form**

The classical lesson  
during which the peculiarity of each single disease will be discussed

## **Textbook and teaching resource**

Endocrinologia e malattie del  
metabolismo. Giugliano D, Colao A, Riccardi G, Belfiore N, Consoli A, edizione  
2017 Editore Idelson Gnocchi

"Malattie del Sistema Endocrino e del Metabolismo" Faglia G, Beck-Peccoz  
P, IV edizione 2016, Editore da McGraw-Hill

## **Semester**

Once a year; second semester

## **Assessment method**

An oral examination will be employed to test students'  
knowledge, and hypothetical clinical case may be used to test the skills  
related to the procedures of screening and diagnosis

## **Office hours**

Monday-Friday by appointment

