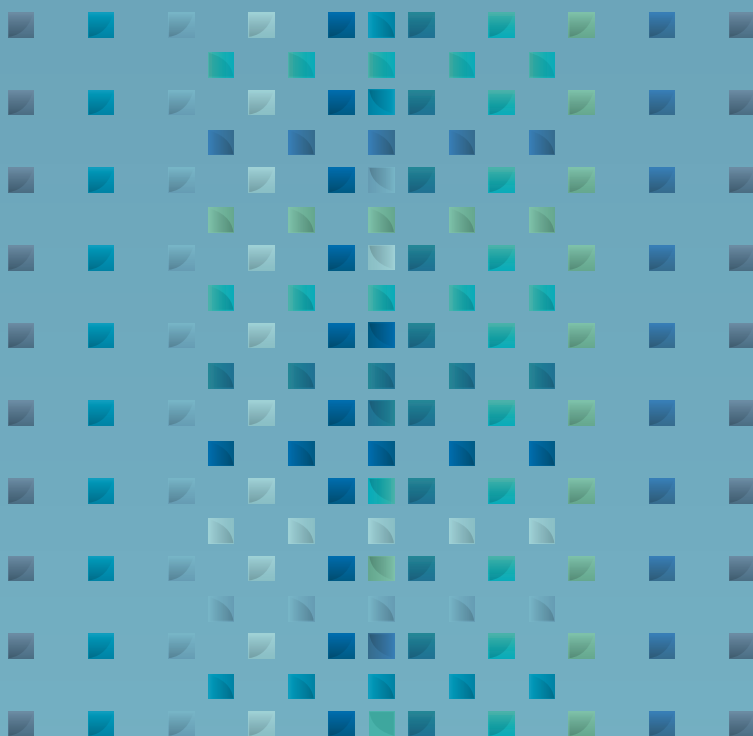
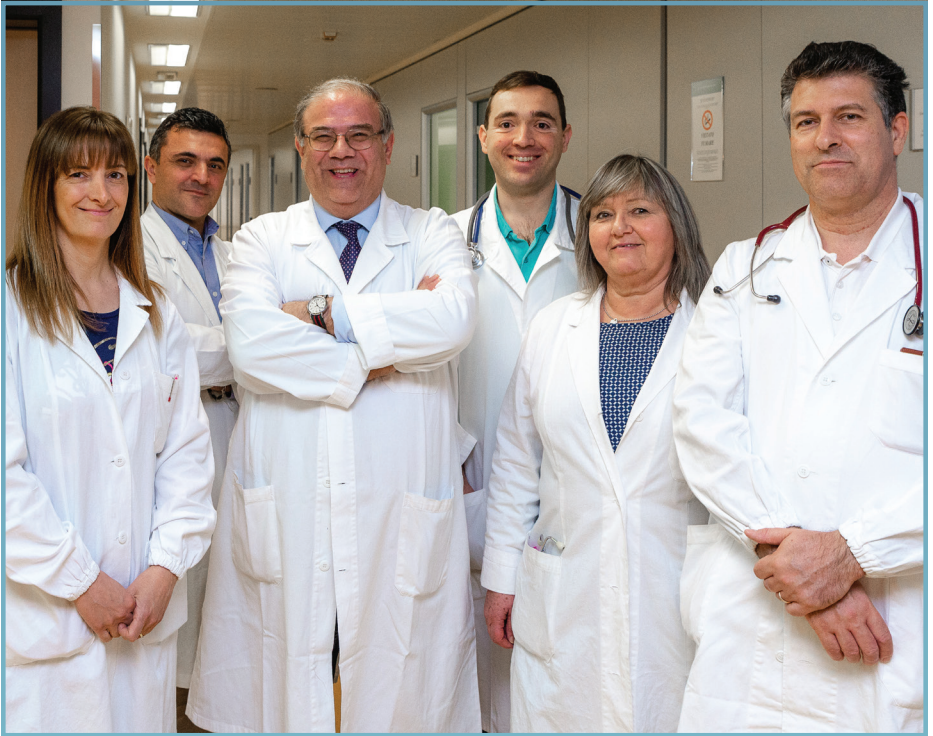


ISTITUTO AUXOLOGICO ITALIANO

# MASTER OBESITY





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# Master

## Endocrinology and Metabolic Diseases

### **Istituto Auxologico Italiano**

Private Foundation not for profit by Decreto Presidente Repubblica, 6 December 1963, number 1883

Registered with number 194, at the Legal Bodies Register care of Milano Prefecture

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Founded in 1958, Research Foundation since 1963. It is a research hospital, recognized as a “Scientific Institute for Hospitalization and Care” (IRCCS) by the Italian Ministry of Health in 1972. Non-profit organization for biomedical research and high specialization hospital treatment. Istituto Auxologico Italiano has three main research hospitals (two located in Milano and one in Piancavallo-Verbania). Such hospitals have globally 612 beds. Furthermore Auxologico has 7 outpatient clinics, all fully equipped with advanced platforms for diagnostics and imaging: X-ray, CT-scan, MRI, mammography, ultrasound.

### **Main activity**

Research, prevention, diagnosis, treatment, and rehabilitation of cardiovascular, neurological, endocrine, metabolic and immunological diseases. Surgery, minimally invasive surgery and robotic surgery. Genetics of cardiovascular, neurological and endocrine diseases. Prenatal and postnatal diagnosis of rare genetic diseases and chromosomal alterations.

### **Integration between scientific research and caring for the patient**

Today, the patient’s care cannot be separated from the constant research on the causes of illnesses and the most effective methods of diagnosis and therapy. This is even more true the more pathologies are complex and dependent

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on genetic, environmental, and behavioural factors. For more than 50 years, Istituto Auxologico Italiano has made of the study of illness complexity its point of election and is now included in the small network of Biomedical Institutes (IRCCS) of excellence organized by the Ministry of Health - there are only 49 such Institutes in Italy.

## Research areas

Istituto Auxologico Italiano is focused on research, prevention, treatment and rehabilitation of Endocrine Metabolic, Cardiovascular and Neurological Diseases. The approach is multidisciplinary and integrated, since the Institute can rely on contributions from basic and applied experimental research laboratories. There are 27 research laboratories with a strong expertise in genetics, molecular and cellular research and sophisticated biomedical equipment for prevention and diagnostics, as well as modern hospital facilities to treat the patient in the acute and rehabilitation phases.

- Cardiovascular diseases:  
Heart attack, Stroke, Arrhythmias, Hypertension, Atherosclerosis, Peripheral arterial diseases.
- Neurological diseases:  
Amyotrophic Lateral Sclerosis, Parkinson, Alzheimer, Multiple Sclerosis, Vascular Dementia.
- Endocrine and metabolic diseases:  
Diabetes, Severe Obesity, Pituitary and Adrenal disorders, Diseases of the Thyroid, Osteoporosis, Growth Disorders, Anorexia, Bulimia.
- Autoimmune Diseases:  
Lupus, Rheumatoid Arthritis, Phospholipid Antibody syndromes, Systemic Sclerosis.
- Genetic Diseases:  
Mental Retardation, Down syndrome, Prader-Willi Syndrome, Cornelia de Lange syndrome, Genetic Cardiac arrhythmias.
- Ageing Diseases:  
Atherothrombotic, neurodegenerative, immunological, respiratory, urological, osteoarticular, diabetes and its complications, frailty syndrome in the elderly.
- Rehabilitation therapies in the neurological, cardiovascular, orthopaedic, nutritional and respiratory fields.

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## **Master Description:**

A four-week course aimed at improving the participants' knowledge in the following fields: initial evaluation of the obese patient, assessment of complications and comorbidities, selection of the appropriate rehabilitation programme, knowledge of research tools in the field of obesity.

The programme will be structured in a four-week attendance at wards, facilities and laboratories of the San Giuseppe Hospital of Piancavallo, Verbania: thus, the participant will have the opportunity to know the different steps of the diagnostic-therapeutic-rehabilitative evaluation carried out in the obese patient in our Institute. Different areas of study will be considered, such as: anthropometric measurements, determination of body composition and resting energy expenditure; endocrine-metabolic laboratory evaluation; clinical and instrumental aspects of cardiovascular, respiratory, osteoarticular and psychiatric complications; rehabilitation techniques in cardiovascular, respiratory, metabolic, nutritional, motor, physiokinesitherapeutic areas; psychological-motivational support to the rehabilitation programme; study of the key technologies (HPLC, proteomics, cell cultures, molecular biology, genetics) used in obesity research in the Hospital research laboratories.

The participant will be assisted in every single step of the training by qualified experts in the different activities carried out through the master period. The programme here below will show all the subjects that will be scrutinized during the period. The Master will be scheduled across the four weeks, from Monday to Friday, the week end is free of duty. The participant will have the daily routine mostly organized as follow:

- > Mornings: attendance at the different wards, services or laboratories according to the programme
- > Afternoons: assessment of clinical cases and techniques of diagnosis, rehabilitation and research

During this master of 4 weeks, the participant will be involved in the preparation of a paper to be published in a scientific journal.

<b>Specific topic</b>	Obesity and Metabolic Rehabilitation.
<b>Rationale</b>	<p>Obesity is associated with the development of a number of comorbidities, many of which contribute to the higher mortality rate observed in this population. In particular, increased visceral adiposity is a significant determinant of risk for type 2 diabetes mellitus and cardiovascular disease. Cardio- and cerebrovascular comorbidities are represented by hypertension, dyslipidemia, coronary artery disease, congestive heart failure and stroke. Obstructive sleep apnea is also an important complication because of the sequelae of hypoxia, i.e. hypertension, myocardial infarction and cardiac arrhythmias. Furthermore, body fatness is associated with increased risk of a number of neoplasms, such as esophageal adenocarcinoma and cancers of the pancreas, colorectum, post-menopausal breast, endometrium and kidney. Considering that close to 30% of the world population is overweight or obese, obesity is estimated to be responsible for around 5% of all global deaths (in Italy one death every ten minutes). Because of osteoarticular complications, obesity is also a disabling disease: indeed, many patients lose the ability to accomplish the activities of daily living. Thus, the global economic impact from obesity (costs of drugs and/or hospitalization for the treatment of complications, loss of productivity) is estimated to be 2.8% of global gross domestic product, roughly equivalent to the global impact of smoking or armed violence, war and terrorism. This master class is aimed at improving the learner's skills in the following fields: initial evaluation of the obese patient; assessment of comorbidities and complications; choice of the appropriate rehabilitation programme; knowledge of research tools in this area.</p>
<b>Target</b>	Medical Doctors: Endocrinologists.
<b>Location</b>	<p>Istituto Auxologico Italiano - IRCCS Unit of Metabolic Rehabilitation San Giuseppe Hospital - Strada Cadorna 90 - Piancavallo, Verbania ITALY</p> <p>San Giuseppe Hospital is one of the three research Hospitals of Istituto Auxologico Italiano, well known nationwide not only as a point of reference but also as a Centre of excellence in the management of severe obesity. It is highly specialised in research, cure and rehabilitation of metabolic diseases such as obesity, eating disorders, growth related disorders and neurological diseases.</p>

	<p>These conditions are treated with cutting edge diagnostic and therapeutic technologies (molecular genetic tests, computerised burning calories analysis, electric microscopes, walking analysis, virtual reality, etc.), together with the possibility of rehabilitation programmes of an integrated multidisciplinary nature.</p> <p>Qualified teams of specialists guarantee treatment and rehabilitation of cardiovascular, respiratory, osteoarticular, neurological, gastroenterological, psychological and auxological diseases. Children and adolescents are admitted to a dedicated ward, in a unique child friendly site which includes diagnostic and therapeutic structures, leisure areas, gym and the School in Hospital.</p> <p>The San Giuseppe Hospital is Academic and Research Centre of the University of Torino, of the University of Piemonte Orientale, and of the University of Milano.</p>
<b>Logistics</b>	<p>Since the course will take place at San Giuseppe Hospital, situated in Piancavallo about 25 km (40 min drive) from the centre of the town of Verbania, where the accommodation is (either Hotel or apartment solution of your choice), a shuttle service will be provided, both mornings and evenings.</p> <p>We will be happy to suggest different options for accommodation.</p>
<b>Chairman</b>	<p><b>Dr. Massimo Scacchi</b></p> <p>Biography</p> <p>Dr. Massimo Scacchi is currently Assistant Professor of Endocrinology in the Department of Clinical Sciences and Community Health of the University of Milan and Head of the Division of Endocrinology and Metabolic Diseases of Scientific Institute San Giuseppe Hospital, Foundation Istituto Auxologico Italiano, Oggebbio-Piancavallo (Verbania), Italy.</p> <p>Born in Milan, Italy, in 1960, he graduated in 1986 at the School of Medicine of the same city, discussing a thesis regarding the effects of endogenous opiates on ACTH secretion in normal subjects and Cushing's patients. In 1990 he obtained a subspecialty in Endocrinology at the University of Pavia, with a thesis regarding ovarian function in women with thalassemia major.</p> <p>Since 1990 to 2012 he was Assistente Ospedaliero (Dirigente Medico I Livello) in the Division of Endocrinology and Metabolic Diseases of Scientific Institute San Giuseppe Hospital, Oggebbio, Piancavallo (Verbania) and subsequently in the Division of Endocrinology and Metabolic Diseases of Scientific Institute San Luca Hospital in Milan, both institutes being part of the Foundation Istituto Auxologico Italiano.</p>

	<p>Since February 2013 he is Head of the Division of Endocrinology and Metabolic Diseases of Scientific Institute San Giuseppe Hospital, Oggebbio, Piancavallo (Verbania).</p> <p>In 2001 he became Researcher in Endocrinology at the University of Milan, and since 2004 he is Confirmed Researcher (currently Professor Assistant) in Endocrinology in the Department of Clinical Sciences and Community Health of the same University.</p> <p>Since 2001 he has been teaching endocrinology at the School of Medicine of the University of Milan, as well as at the Subspecialty Schools of Endocrinology and Metabolic Diseases, Hematology, Oncology and Gastroenterology of the same University. He is also secretary of the Subspecialty School of Endocrinology and Metabolic Diseases of the University of Milan, and teaches Endocrinology at the School of Nursing of the same University.</p> <p>He has been working in the field of Neuroendocrinology, carrying out several studies regarding the pathophysiology of the hypothalamic-pituitary axis. In particular, his work is focused on the following topics: a) clinical, diagnostic and therapeutical aspects of growth hormone deficiency; b) clinical, diagnostic and therapeutical aspects of acromegaly; c) pathophysiology of the GH - IGF-I axis in obesity and anorexia nervosa; d) endocrine complications of thalassemia; e) clinical and diagnostic aspects of hypercortisolism. He is author of about 50 papers and a number of presentations at national and international meetings.</p> <p>He has been reviewing works for the following journals: Nutrition Metabolism and Cardiovascular Diseases, European Journal of Internal Medicine, Journal of Endocrinological Investigation, Hormone and Metabolic Research, Endocrine. Furthermore, he is member of the following scientific societies: Endocrine Society (ES), European Society of Endocrinology (ESE), Associazione Medici Endocrinologi (AME), Società Italiana di Endocrinologia (SIE). From 2009 to 2011 he was president of the Lombardy section of Società Italiana di Endocrinologia.</p>
<p><b>Faculty</b></p>	<ul style="list-style-type: none"> <li>• Dr. Amelia Brunani, MD, Head of the Division of Rehabilitative Medicine</li> <li>• Dr. Paolo Capodaglio, MD, Head of the Division of Osteoarticular Rehabilitation and the Physio-kinesitherapy Service</li> <li>• Dr. Luca Gondoni, MD, Head of the Divisions of Cardiovascular Rehabilitation</li> <li>• Dr. Paolo Fanari, MD, Head of the Division of Respiratory Rehabilitation</li> <li>• Dr. Laila Cattani, MD, Head of the Division of Nutritional Rehabilitation and the Nutrition and Dietetics Service</li> <li>• Dr. Alessandro Sartorio, MD, Head of the Division of Metabolic Rehabilitation</li> </ul>



	<ul style="list-style-type: none"> <li>• Prof. Enrico Molinari, Clinical Psychologist, Head of the Clinical Psychology Service</li> <li>• Dr. Monica Mencarelli, Biologist, Researcher at the Molecular Biology and Genetics Laboratories</li> </ul>
<b>Duration</b>	4 weeks, each week from Monday to Friday, each day 8 hours of study
<b>Official Language</b>	English or Italian (according to attendee's nationality)
<b>Programme Week 1</b>	<p>Attendance at the Division of General Medicine: medical history with particular attention to ponderal anamnesis, physical examination with particular attention to anthropometric measures (body mass index, waist circumference), endocrine laboratory evaluation, Epworth Sleepiness Scale (ESS) questionnaire, bio-impedance analysis for the assessment of body composition, indirect calorimetry for the assessment of resting energy expenditure, nutritional and psychological evaluation, genetic analysis in selected cases; assessment of the main comorbidities and complications (echocardiography, ergometric test, dynamic ECG, spirometry, polysomnography, physiatrical evaluation, plain radiography, computed tomography, magnetic resonance imaging, psychiatric evaluation);</p> <p>definition of the appropriate rehabilitation programme in agreement with the rehabilitation experts, with the following goals: reduction of BMI and waist circumference, reduction of cardiovascular risk factors, improvement of muscle function and exercise tolerance, improvement in the ability of carrying out the activities of daily living, reduction of pain, education to healthy lifestyles, improvement of the quality of life. (referent teachers: Dr. Massimo Scacchi and Dr. Amelia Brunani)</p>
<b>Programme Week 2</b>	<p>Attendance at the Divisions of Cardiovascular, Respiratory, Metabolic and Osteoarticular Rehabilitation and at the Physio-kinesiotherapy Service: acquisition of knowledge regarding rehabilitation strategies in obese patients with coronary artery disease, heart failure, valvular disease, arrhythmias, bronchial asthma, chronic obstructive lung disease, obstructive sleep apnea syndrome, with particular attention to the adaptation to non-invasive nocturnal ventilation; acquisition of knowledge regarding protocols of re-education to motor activity (outdoor and/or ergometer aerobic activity) and of physiotherapy; use of appropriate evaluation scales and indicators of clinical outcome in this field.</p> <p>(referent teachers: Dr. Luca Gondoni, Dr. Paolo Fanari, Dr. Alessandro Sartorio and Dr. Paolo Capodaglio)</p>

<p><b>Programme Week 3</b></p>	<p>Attendance at the Division of Nutritional Rehabilitation, at the Nutrition and Dietetics Service and at the Clinical Psychology Service: nutritional evaluation of the patient; principles of diet prescription; groups of nutritional training; individual nutritional counseling; correct meal preparation classes; evaluation of the obese patient with binge eating disorder and with psychological-psychiatric problems; pre-bariatric surgery psychological examination; interpretation of specific questionnaires; individual psychotherapy; motivational groups. (referent teachers: Dr. Laila Cattani and Prof. Enrico Molinari)</p>
<p><b>Programme Week 4</b></p>	<p>Attendance at the research laboratories for an essential knowledge of the techniques used in the field of obesity research: measurement by enzyme-linked immunosorbent assay (ELISA) of adipokines and myokines, proinflammatory cytokines, peptides involved in the control of food intake; measurement by high performance liquid chromatography (HPLC) of markers of oxidative stress and of several vitamins; proteomics (protein extraction, gel electrophoresis, Western blotting, protein immunoprecipitation, immunocytochemistry); cellular biology (cultures of adherent cell lines, in vitro pharmacological treatments, cell proliferation study, extraction of preadipocytes from subcutaneous and visceral adipose tissue of patients); molecular biology (DNA and RNA extraction, reverse transcriptase-PCR, real time PCR, separation of nucleic acid by gel electrophoresis); Next Generation Sequencing (NGS) of several genes involved in the development of obesity (MC4R, MC3R, POMC, leptin, leptin receptor, ghrelin, FTO) and of genes responsible for syndromic obesity (Bardet-Biedl, Alstrom syndrome, Cohen syndrome and others). (referent teacher: dr. Monica Mencarelli)</p>
<p><b>Price:</b></p>	<p>€ 4.000,00 (four thousand Euro) for each participant</p> <p>Including:</p> <ul style="list-style-type: none"> <li>• third party liability insurance</li> <li>• Daily lunch at Hospital canteen</li> </ul> <p>Excluding:</p> <ul style="list-style-type: none"> <li>• travel + VISA</li> <li>• Hotel and meals</li> <li>• any other board other than those above mentioned provided</li> <li>• health insurance</li> </ul>

<b>Date of the Master</b>	To be planned in the period from April to September
<b>Number of Participants</b>	Minimum 2 - maximum 3 Doctors for each master edition
<b>Certification</b>	<p>At the end of the course in Italy, Istituto Auxologico Italiano - IRCCS, will give an attendance certificate of 160 hours course.</p> <p>This course can be credited by:</p> <ul style="list-style-type: none"> <li>• UEMS-EACCME® (The European Accreditation Council for Continuing Medical Education) and/or</li> <li>• ECM Agenas (Italian Ministry of Health)</li> </ul>
<b>Contact</b>	<p>Istituto Auxologico Italiano          Continuing Medical Education Office          Ph +39 02 619112458 - +39 0323 514272          Fax +39 02 700509124          Email: iscrizioni@auxologico.it</p>

