

Clinical Endocrinology and Metabolism

Course Department, Number & Title: Clinical Endocrinology and Metabolism, MED 805

Course credit or length: Two to four weeks

Course director and contact information (office phone and e-mail):

Henry K. Driscoll, M.D. 304-691-1095, driscoll@marshall.edu

MUSOM course coordinator and contact information (office phone and e-mail):

Brittani Ruiz; 304-691-1739, ruizb@marshall.edu

Course location: Inpatient activities at Cabell Huntington Hospital, St. Mary's Medical Center or Huntington VA Medical Center. Outpatient activities at the practice offices of the Department of Medicine at the Marshall University Byrd Clinical Center.

Brief Course Description: This elective in Huntington provides an opportunity for medical students to develop their clinical skills and expertise in diabetes, thyroid disease and other endocrine diseases. The student will participate as a member of the team consisting of full-time faculty endocrinologists, the fellow in Endocrinology, the resident assigned on the Endocrinology Service, and the medical student on the elective. The medical student works closely with the faculty endocrinologist who will make patient rounds daily. The student attends outpatient endocrinology clinics two half-days a week for training in the management of endocrinology problems in ambulatory patients. A variety of educational conferences are scheduled including endocrinology clinical case conference, endocrinology lectures, and other meetings to which the student is invited. About forty percent of the student's time will be spent directly or indirectly in ambulatory care.

INSTITUTIONAL OBJECTIVE

Patient Care: Students must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Course Objective:

The student must be able to:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Use information technology to support patient care decisions and patient education.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

Outcome Measure:

The student will orally present to the faculty member at least three patient encounters from the following list (one patient encounter will be randomly selected by the faculty member). The student must also orally demonstrate a basic understanding of the initial diagnosis and management of the patient, and to formulate a working differential diagnoses, and an efficient investigation plan, with appropriate, cost-effective use of laboratory studies.

- Adrenal disorders (including Cushing's syndrome, Addison's disease, pheochromocytomas)
- Dyslipidemias
- Gonadal disorders (including hirsutism, hypogonadism, menopause, polycystic syndrome and other forms of infertility)

- Hypoglycemia
- Hypothalamic, anterior and posterior pituitary disorders (including tumors, diabetes insipidus, and other forms of pituitary dysfunction)
- Metabolic bone, calcium, and other mineral disorders
- Obesity
- Thyroid disorders (including Graves' disease, Hashimoto's thyroiditis, and thyroid carcinoma)
- Type 1 and type 2 diabetes mellitus

INSTITUTIONAL OBJECTIVE

Medical Knowledge: *Students must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.*

Course Objective:

The student must be able to demonstrate:

Diabetes and Hypoglycemia

1. Ability to assess metabolic syndrome and control of diabetes and its complications based on the standards of care of the ADA.
2. Ability to assess complications of diabetes.
3. Knowledge of effects of insulin in metabolism.
4. Ability to identify causes of hypoglycemia and how diet, exercise and insulin dosing can cause hypoglycemia.
5. Knowledge of the different types of insulins.

Thyroid Disease

1. Clinical knowledge and skills to diagnose hyperthyroidism and hypothyroidism and be aware of atypical presentations.
2. Knowledge of different approaches to the treatment of hyperthyroidism.
3. Knowledge of the pituitary-thyroid axis and management (fine-tuning) of thyroid patients with thyroxine using serum free T4 and TSH values.
4. Knowledge of the causes, diagnostic approach to, and management of thyroid nodules and risk factors for cancer.
5. Knowledge of non thyroidal illness and interpretation of tests.

Pituitary Disease

1. Knowledge of causes of secondary target organ failure due to pituitary disease including tumors, functional and nonfunctional and their clinical presentations and first step of evaluation.

Adrenal Disease

1. Knowledge of causes and first step in the diagnosis of Cushing's Syndrome and primary adrenal insufficiency.
2. Familiarity with emergency management of acute adrenal insufficiency with hydrocortisone.
3. Awareness of complications of steroid treatment.

Parathyroid and metabolic bone disease

1. Understanding of disorders of calcium metabolism and parathyroid hormone secretion, including hyperparathyroidism, osteoporosis, and osteomalacia.

Hirsutism/Ovary

1. Knowledge of the causes of and source of androgen excess and hirsutism, including the adrenal, ovary, and peripheral production.
2. Knowledge of the causes of primary amenorrhea and the first step in the evaluation.
3. Recognize the manifestations of PCO disease.

Hypogonadism and Impotence

1. Knowledge of the causes of impotence including hypogonadism, neuropathy, vascular insufficiency, and other causes and first step in the evaluation.

Lipid Metabolism

1. Knowledge of the patterns and common causes of hyperlipidemia and risk of development of subsequent pathology.
2. Knowledge of NCEP guidelines and general approaches to therapy of common lipid disorders.

Basic Science Correlation

1. Recognize various clinical manifestations of common endocrine disorders and be competent in their basic management - including type 1 and type 2 diabetes mellitus, hyper- and hypothyroidism and other thyroid disorders, adrenal disorders, and pituitary disorders.
2. Discuss the pathophysiology of common endocrine disorders and explain their clinical manifestations, including those listed under (1) and in addition, hyper- and hypocalcemia, hirsutism, amenorrhea, and hypogonadism.
3. Discuss the physiology as it relates to the organ or system involved in the disease process for common endocrine disorders.

Outcome Measure:

The student's medical knowledge would be assessed by faculty and fellows during the course of the rotation in outpatient and inpatient settings.

INSTITUTIONAL OBJECTIVE

Practice-based Learning and Improvement: *Students must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.*

Course Objective:

The student must be able to demonstrate:

1. Ability to analyze practice experience and perform practice-based improvement activities using a systematic methodology.
2. Ability to locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
3. Ability to obtain and use information about their own population of patients and the larger population from which their patients are drawn.
4. Ability to apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
5. Ability to use information technology to manage information, access on-line medical information; and support their own education.

Outcome Measure:

Throughout the rotation, the student will be directly observed by the faculty and fellows to assess whether he/she is able to meet these objectives.

INSTITUTIONAL OBJECTIVE

Interpersonal and Communication Skills: *Students must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.*

Course Objective:

The student must be able to create and sustain a therapeutic and ethically sound relationship with patients and

use effective listening skills and elicit and provide information using effective verbal and nonverbal skills

Outcome Measure:

Throughout the rotation, the student will be directly observed by the faculty and fellows to assess whether he/she is able to meet these objectives.

INSTITUTIONAL OBJECTIVE

Professionalism: *Students must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.*

Course Objective:

- Demonstrate respect, compassion, integrity and responsiveness to the needs of patients
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information and informed consent
- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

Outcome Measure:

Throughout their rotation students will be directly observed by the faculty and fellows to assess whether he/she is able to meet these objectives.

INSTITUTIONAL OBJECTIVE

Systems-based Practice: *Students must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.*

Course Objective:

- Work with the Staff of the Diabetes Center to provide education and care to diabetic patients
- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- Practice cost-effective health care and resource allocation that does not compromise quality of care

Outcome Measure:

Throughout the rotation, the student will be directly observed by the faculty and fellows to assess whether he/she is able to meet these objectives.

SELF-DIRECTED LEARNING RESPONSIBILITIES

Students are strongly encouraged to use the evenings and other free time to build knowledge of internal medicine and learn from patients. As such, students are expected to use any unassigned time (including evenings and weekends) to read about patients, research questions that arise during the day, prepare for case conferences, and prepare for student-Attending rounds. Attendings have been specifically asked to look for evidence that students have read articles and books between clinic sessions and their impressions will be reflected on the student evaluation.

RESPONSIBILITIES

Equipment Requirement

The students must also provide his/her own stethoscopes and to carry it with him/her the entire rotation.

ASSESSMENT METHODS

Mid Point Evaluation

In accordance with LCME standard ED-30, the Course Director will evaluate student performance at mid-point to review the student's professional, clinical and academic performance up to that point. The formative evaluation must be

reviewed with the student and the student will have an opportunity to discuss with the Course Director. The form must be signed by the student and returned to the Course Director. The Course Director shall then forward a copy of the form to the Office of Academic Affairs. The form will NOT however be included in the student's official academic record. Oral feedback will be provided at the end of the first week for two-week electives.

Student Assessment and Final Grade

Attending Evaluation- 100%

The Attending's final evaluation will count as 100% of final grade. The Attending's final evaluation will also reflect the evaluations of students submitted by Residents and other faculty members. A failing Attending evaluation will result in failure of the course, irrespective of other academic or clinical performances.

All of the above components must be passed in order to pass the course, irrespective of other academic or clinical performances.

Grading Mode: Honors/Pass/Fail

Disputes regarding course grades may be appealed to the Course Director. For more information regarding grade appeals, consult the Academic Standards policy at <http://musom.marshall.edu/students/policies/>

ATTENDANCE

If at any time the medical student is unable to meet their clinical responsibilities they must notify their Clinical Attending during working hours, Monday-Friday, 8:00 am – 4:00 pm. Depending on the situation, missed days may require make up sessions.

Requests for excused absences must be submitted in writing at least one week in advance via the Student Scheduler to the Course Coordinator. The request will be reviewed by the Course Director who will either grant or deny the request. ***Excused absences will not be retroactively granted.***

Attendance at Medical Grand Rounds Conference is mandatory.

REQUIRED RESOURCE: www.UpToDate.com