

Curriculum Plan - Endocrinology, Metabolism and Diabetes CME

Overall Goal - The goal of our CME curriculum is to provide highly specialized practitioners with a comprehensive overview of the depth and breadth of clinical and scientific endocrinology over a 3 to 4 year period. We anticipate that the curriculum will be able to serve as the basis for subspecialty re-certification by the American Board of Internal Medicine.

Mechanisms - Several venues will be used in the curriculum. The primary teaching session is Endocrinology Grand Rounds. One week of each month the typical Endocrinology Grand Rounds will take the form of case presentations by the staff and fellows. In addition, to these conferences the curriculum will also include Endocrinology Journal Club. Finally, Endocrine Research Conference will complete the curriculum. Periodic feedback by survey and face-to-face meeting will determine the educational needs of the learners. Proper balance of and emphasis on specific topics, including prevention of redundancy, will be monitored by a committee consisting of Tim Lyons, Chief of the Section, Hal Scofield, Director of the Fellowship Program and Tan Pham, faculty member.

Educational Goals - The curriculum will emphasize biochemistry, physiology, including cell and molecular biology, as they relate to endocrinology. In addition, critical review of the medical literature with an eye towards evidence-based medicine will be emphasized. Clinical endocrinology, perhaps more so than other internal medicine subspecialties, includes very common entities such hypertension, type 2 diabetes and hyperlipidemia and also a long list of rare, and even very rare, diseases and syndromes. Naturally, the curriculum will emphasize the common conditions but will also cover more esoteric endocrine disorders. The curriculum will include, but is not necessarily limited to the following topics:

- S Endocrine, paracrine and autocrine dysfunction of endocrine tissues
- S Disorders of all endocrine glands, including the parathyroids, pituitary, thyroid, pancreas, adrenal and gonads and endocrine function of brain, kidney, skin and other "non-endocrine" tissues. Thyroid disorders including hyperthyroidism and hypothyroidism, nodular thyroid disease, thyroid cancer, goiter, all varieties of thyroiditis, including silent, subacute, autoimmune and chronic thyroiditis, use of thyroid ultrasound for diagnosis and follow-up of thyroid pathology and as a guide to more accurate FNA biopsy of nodular lesions
- S Hypothalamic and pituitary tumors including prolactinoma, alpha subunit secreting pituitary tumors, acromegaly, Cushing's disease, gonadotropin-secreting pituitary tumors, thyrotropin-producing pituitary tumors, non-functioning tumors, metabolically active lesions, craniopharyngioma
- S Type 1 and Type 2 diabetes mellitus, including patient monitoring and treatment objectives in children and adults, acute and chronic complications such as diabetic ketoacidosis, hyperosmolar coma, hypoglycemia, microvascular and macrovascular disease such as diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, diabetic dermopathy, coronary heart disease, peripheral vascular disease, cerebral vascular

disease, intensive insulin therapy including insulin pump candidate selection, initiation of pump therapy and adjustments for optimal control, use of continuous blood glucose monitoring devices, diagnosis and management of infections common in diabetic patients, diagnosis and management of diabetic foot disease, gestational diabetes mellitus and diabetes mellitus complicated by pregnancy, the surgical patient with diabetes, patient education, psychosocial issues, genetics and genetic counseling, hypoglycemic syndromes, dietary principles such as caloric restriction, therapeutic diets for dyslipidemia, carbohydrate counting for intensive insulin regimes and adjustments for periods of tube feedings or parenteral nutrition

- S Disorders of calcium and skeletal metabolism
- S Hyperparathyroidism and other causes of hypercalcemia
- S Hypoparathyroidism and other causes of hypocalcemia
- S Metabolic bone diseases
- S Evaluation and treatment of kidney stones
- S Disorders of fluid, electrolyte, and acid-base metabolism including hypernatremia and hyponatremia, hyperkalemia and hypokalemia, metabolic acidosis, metabolic alkalosis, disorders of magnesium metabolism, diabetes insipidus (central and nephrogenic)
- S Disorders of blood pressure
- S Neuroendocrinology and endocrine aspects of psychiatric diseases
- S Endocrine aspects of aging, including menopause
- S Endocrine emergencies, including hypercalcemia and hypocalcemia, thyroid storm, myxedema coma, adrenal insufficiency, pituitary apoplexy
- S Disorders of lipid, carbohydrate, and protein metabolism: evaluation and management
- S Nutritional disorders including obesity
- S Hormone-producing neoplasms
- S Appropriate use and interpretations of nuclear medicine studies for endocrine disease states
- S Management of thyroid neoplasms and the appropriate use of radioactive iodine to follow and treat these disorders
- S Endocrine adaptation and maladaptations to systemic diseases

- S Disorders of reproductive endocrinology and endocrinologic aspects of sexual dysfunction.
- S Genetic disorders of metabolism
- S Disorders of growth and development
- S Evaluation, diagnosis and management of ambiguous genitalia and other enzyme defects
- S Particulars of thyroid disorders and diabetes in children.

Conferences - Several conferences will be part of the curriculum. These include:

- S Endocrinology Grand Rounds - Presentation at this venue will rotate among the clinical faculty and endocrinology fellows. In general, this conference will conform to a format in which a patient is briefly presented, then the presenter will review in a critical way the pertinent medical literature that impacts on the particular problem being considered. The discussion will especially emphasize evidenced-based medicine. This session occurs weekly on Tuesday morning at 8:00 AM except for the last week of each month.
- S Endocrine Case Conference - Feedback from our learners has been consistently in favor of a conference in which difficult patients are presented to the entire group. Each presenter is expected to review a critical paper that guides diagnosis or management of the patient presented. Case Conference takes place once a month on the last Tuesday at 8:00 AM.
- S Endocrine Journal Club - The goal of journal club is to review the most important recent clinical and research articles. Each conference will consist of two presentations, usually one clinical and one research. Presenters are counseled strongly that the papers selected for review should be of broad, general interest to the entire group. In general the papers should be of high quality and have high impact on the field. For clinical articles, review will emphasize the principals proposed in a series of articles by David Sackett and his colleagues at McMasters University. Journal Club is held every other week at 8:00 AM on Thursday morning.
- S Research Conference - The goal of this conference is to present both clinical and basic research of the Endocrine Division as well as research performed by members of other sections and departments from OUHSC and outside speakers who are leaders in advancing the science of the field. This conference is scheduled every other week, alternating with Journal Club, on Thursday morning at 8:00 AM.