Description of Rotation or Educational Experience

This is an elective rotation that will provide the Family Medicine resident with experience caring for patients with endocrine disease. The resident will work directly with a board-certified Endocrinologist in the outpatient and possibly inpatient setting to help familiarize the resident with the presentation, diagnosis and treatment of common endocrine problems.

OBJECTIVES
During this rotation, residents should be able to:
- Develop a working knowledge of common endocrine problems
- Enhance skills in taking a thorough endocrine-related history
- Learn to identify endocrine emergencies
- Learn how to initiate proper management and/or consultation
- Learn the appropriate indications for special procedures and tests used in endocrinology and enhance the knowledge of pharmaceutical agents used in the treatment of endocrine diseases

Patient Care

Goal
The resident must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of endocrine-related health problems and the promotion of health.

Competencies
The resident is expected to:
- Diagnose and manage uncomplicated diabetes and thyroid disorders.
- Understand the indications for surgery in the management of endocrine disorders.
- Recognize those patients who should be managed in a hospital setting.
- Manage patients in both the hospital setting as well as the outpatient setting.
- Manage hospitalized patients after discharge.
- Seek specialty consultation when deemed appropriate and maintain direct responsibility for the management of the patient.
- Understand and utilize appropriate pharmacologic interventions.

Objectives
At the conclusion of the rotation, the Family Medicine resident will be able to:
1. Perform complete history, physical examination, differential diagnosis, assessment and management plan on patients presenting for evaluation to the Endocrinologist, including:
A patient history which includes pertinent information related to chief complaint(s); thorough review of systems; pertinent patient, family and social history; a complete physical examination including vital signs; appropriate differential diagnosis and thorough assessment and management plan including appropriate diagnostic test(s) and any needed consultations.

2. Present a complete history and physical along with full assessment and management plan to the attending physician for review, discussion and approval

3. Demonstrate utilization of appropriate EBM research findings to develop management plans.

4. Demonstrate the proper technique for radiological interpretation, including but not limited to, chest radiographs, CT scans, MRI, and ultrasounds.

5. Demonstrate the ability to interpret laboratory results and incorporate these into the management of the patients.

6. Discuss and initiate the proper medical and/or surgical intervention for common endocrine problems including obtaining an Endocrinology consult when indicated.

Medical Knowledge

Goal
The resident 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.

Objectives
At the end of the rotation, residents will be able to demonstrate an understanding of the pathophysiology, presentation, initial evaluation, management and prevention of the following medical conditions (including but not limited to):

- Thyroid disease
  - Hypothyroidism
  - Hyperthyroidism
  - Thyroid nodules
- Diabetes mellitus, including medication with insulin and various oral agents
- Diabetic ketoacidosis
- Hyperosmolar syndrome
- Hypoglycemia
- Hyperlipidemia
- Pheochromocytoma
- Addison’s disease
- Cushing’s disease
- Disorders of the pituitary gland
- Disorders of aldosterone secretion
- Calcium metabolism
- Hyperparathyroid
  - Primary
  - Secondary
- Osteoporosis
- Diabetes insipidus
- Ectopic hormone syndromes
  - SIADH

**Practice- Based Learning and Improvement**

**Goal**
Residents 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.

**Competencies**
Residents are expected to develop skills and habits to be able to:
- Identify and perform appropriate endocrinology activities
- Incorporate formative evaluation feedback into daily practice.
- Locate, appraise and assimilate evidence endocrinology literature and journal clubs related to patients’ health situation and daily practice.
- Use information technology to optimize learning.

**Objectives**
At the end of the rotation, the PGY-3 residents will be able to demonstrate the following knowledge and skills:
- Recognize common hospital-based practice patterns and critically assess the patterns to identify areas for improvement;
- Outline the role of multidisciplinary teams in providing and improving inpatient care;
- Incorporate evidence-based medicine into patient care practice patterns;
- Assess medical information to support self-directed learning;
- Critically appraise and apply the reports of new medical evidence when making clinical management plans and treatment decisions;
- Use health information systems efficiently to manage and improve care at the patient and system levels;
- Transfer information learned from hospital setting to outpatient setting

**Systems Based Practice**

**Goal**
Residents 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.
**Competencies**
Residents are expected to:

- Work effectively in various health care delivery settings and systems relevant to endocrinology care
- Coordinate patient care within the health care system relevant to endocrinology care
- Incorporate considerations of cost awareness and risk-benefit analysis in patient care
- Advocate for quality patient care and optimal patient care systems
- Work in inter-professional teams to enhance patient safety and improve patient care quality
- Participate in identifying systems errors and in implementing potential systems solutions

**Objectives**
By the conclusion of this rotation, the PGY-3 residents will be able to:

- Demonstrate proficiency at the level of a beginning Family Medicine physician in the interaction of endocrinology within the health care system.
- Partner with health care managers to assess, coordinate and improve inpatient care.
- Demonstrate an in-depth understanding of community systems and agencies that enter into endocrinology.
- Utilize community resources effectively to assist in the management of patients.
- Identify the role of the endocrinologist as a consultant, and appropriate times for consultation.

**Professionalism**

**Goal**
Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

**Competencies**
Residents are expected to demonstrate:

- Compassion, integrity, and respect for others
- Respect for patient privacy and autonomy
- Accountability to patients, society, and the profession
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

**Objectives**
During this rotation, the PGY-3 residents will demonstrate:

- Respect, compassion and integrity
- Sensitivity to patients’ culture, gender and disabilities.
By the end of the rotation, the residents will be able to:

- Demonstrate clear understanding of the importance of recognizing cultural diversity among the patient population
- Demonstrate ethical principles in providing or withholding care, confidentiality of patient information, and informed consent.
- Recognize families with high risks for interactions among family members.

### Interpersonal and Communication Skills

**Goal**
Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.

**Competencies**
Residents are expected to:

- Communicate effectively across a broad range of socioeconomic and cultural backgrounds
- Communicate effectively with physicians, other health professionals, and health related agencies
- Maintain comprehensive, timely, and legible medical records using the electronic medical record.
- Communicate effectively with patients and other medical professionals regarding emergency care issues.

**Objectives**
By the conclusion of this rotation, the PGY-3 resident will demonstrate the proficiency in the following areas at the level of a beginning practicing Family Medicine physician:

- Explain issues of pathophysiology, treatment options and prognosis using language understandable to the patients, family members and other care providers;
- Listen without interruption to the questions and concerns of patients, family members and other care providers and promptly address any issues;
- Effectively utilize a translator when communicating with patients and families who speak a different language or who are hearing and/or speech impaired;
- Write clear history and physical assessments, progress notes, consultative assessments and discharge summaries;
- Perform effective and timely patient hand-offs (sign-out) which must include administrative details, updated clinical status, tasks to be completed and relative priority, severity of illness assessment, code status and contingency planning; and
- Perform as an active member of a health care team
Teaching Methods

A one-month elective rotation during the PGY-3 year of residency. Continuity experiences in the Family Medicine center and in the Endocrinologist’s office will be the sites for ambulatory Endocrinology training.

Assessment Method (Residents)

1. At the end of the Endocrinology rotation, the supervising endocrinologist will provide an evaluation of the resident’s performance, using the evaluation form developed by the Family Medicine Residency program.

2. At the end of this rotation, the residents will complete a self-evaluation, using the goals and objectives in this document, to assess competency and to determine areas which still need further training and/or exposure.

3. The yearly Family Medicine in-training examination will assess the cognitive aspects of Endocrinology.

Assessment Method (Program Evaluation)

1. The resident will evaluate the teaching faculty and/or the attending physicians supervising the Endocrinology rotation upon its completion.

2. Both residents and faculty will complete a standard annual program evaluation towards the end of the academic year.

Level of Supervision

Supervision of residents is carried out by both direct and indirect observation by the attending Endocrinologist.

Educational Resources

RESOURCES/READING LIST

Williams Textbook of Endocrinology, 12th Ed., 2011
Rakel: Textbook of Family Medicine, 8th Ed., Ch. 35, 2011
Goldman’s: Cecil Medicine, 24th Ed., Ch. 229, 2011
American Family Physician Topic Module “Diabetes Type 2”:

Screening and Diagnosis
- Diabetes Mellitus: Diagnosis and Screening (04/01/2010)
- Screening for Type 2 Diabetes Mellitus in Adults [Putting Prevention into Practice] (11/15/2009)
- A1C Testing in the Diagnosis of Diabetes Mellitus [FPIN's Clinical Inquiries] (07/01/2006)
- Screening for Gestational Diabetes Mellitus [Putting Prevention into Practice] (07/15/2009)

Prevention
- ACS/ADA/AHA Issue Core Recommendations for Preventing Cancer, Cardiovascular Disease, and Diabetes [Practice Guidelines] (02/15/2005)
- Metformin Therapy and Diabetes Prevention in Adolescents Who Are Obese [FPIN's Clinical Inquiries] (11/01/2007)
- Alpha-glucosidase Inhibitors May Reduce the Risk of Type 2 Diabetes [Cochrane for Clinicians] (08/01/2007)

Treatment
- Insulin Management of Type 2 Diabetes Mellitus (07/15/2011)
- Treating Diabetic Peripheral Neuropathic Pain (07/15/2010)
- ADA Releases Updated Recommendations on Standards of Medical Care in Diabetes [Practice Guidelines] (07/15/2010)
- Glucose Control in Hospitalized Patients (05/01/2010)
- Glycemic Control in Hospitalized Patients Not in Intensive Care: Beyond Sliding-Scale Insulin (05/01/2010)
- Management of Blood Glucose in Type 2 Diabetes Mellitus (01/01/2009)
- Choosing First-Line Therapy for Management of Type 2 Diabetes [AFP Journal Club] (01/01/2008)
- Pharmacologic Management of Hypertension in Patients with Diabetes (12/01/2008)
- ACP Releases Guideline on Lipid Control in Patients with Type 2 Diabetes Mellitus [Practice Guidelines] (08/15/2004)
- Management of Type 2 Diabetes in Youth: An Update (09/01/2007)
- Home Monitoring of Glucose and Blood Pressure (07/15/2007)
- Glycemic Control in Patients with Type 2 Diabetes [FPIN's Clinical Inquiries] (04/01/2007)
- Low Glycemic Index Diets for the Management of Diabetes [Cochrane for Clinicians] (11/01/2009)
- The Role of Exercise in Patients with Type 2 Diabetes [Cochrane for Clinicians] (02/01/2007)
- Facilitating Treatment Adherence With Lifestyle Changes in Diabetes (01/15/2004)

SPECIFIC THERAPIES
- Updated Recommendations on Daily Aspirin Use in Patients with Diabetes [Practice Guidelines] (12/15/2010)
Does Metformin Increase the Risk of Fatal or Nonfatal Lactic Acidosis? [Cochrane for Clinicians] (11/01/2010)

Saxagliptin (Onglyza) for Type 2 Diabetes Mellitus [STEPS] (06/15/2010)

Dipeptidyl-peptidase-4 Inhibitors for Treatment of Type 2 Diabetes [Cochrane for Clinicians] (03/01/2009)

Sitagliptin (Januvia) for the Treatment of Patients with Type 2 Diabetes [STEPS] (09/15/2007)

Statin Therapy in Patients with Type 2 Diabetes [FPIN's Clinical Inquiries] (09/01/2005)

Are Long-acting Insulin Analogues Better Than Isophane Insulin? [Cochrane for Clinicians] (02/15/2008)

Does Pioglitazone Benefit Patients With Type 2 Diabetes? [Cochrane for Clinicians] (10/01/2007)

Therapies for Diabetes: Pramlintide and Exenatide (06/15/2007)

Insulin Inhalation Powder (Exubera) for Diabetes Mellitus [STEPS] (05/15/2007)

Pregabalin (Lyrica) for the Management of Pain Associated with Diabetic Neuropathy [STEPS] (12/15/2006)

Insulin Detemir (Levmir) for Diabetes Mellitus [STEPS] (07/15/2006)

Exenatide Injection (Byetta): Adjunctive Therapy for Glycemic Control [STEPS] (06/15/2006)

Are Alpha-glucosidase Inhibitors Effective for Control of Type 2 Diabetes? [Cochrane for Clinicians] (02/01/2006)

Complications and Special Situations

Diabetic Nephropathy: Preventing Progression [Clinical Evidence Handbook] (03/15/2011)

Treating Diabetic Peripheral Neuropathic Pain (07/15/2010)

Glucose Control in Hospitalized Patients (05/01/2010)

Diabetes: Foot Ulcers and Amputations [Clinical Evidence Handbook] (10/15/2009)

Diagnosis and Management of Gestational Diabetes Mellitus (07/01/2009)

Intensive Management of Gestational Diabetes [Cochrane for Clinicians] (07/01/2004)

Diabetic Foot Infection (07/01/2008)

Gastrointestinal Complications of Diabetes (06/15/2008)

Diabetic Nephropathy: Common Questions (07/01/2005)

Evaluation and Prevention of Diabetic Neuropathy (06/01/2005)

Angiotsensin Blockade in Patients with Diabetic Nephropathy [FPIN's Clinical Inquiries] (08/01/2007)

Antihypertensive Agents for Prevention of Diabetic Nephropathy [Cochrane for Clinicians] (07/01/2006)

Diabetic Ketoacidosis (05/01/2005)

Hyperosmolar Hyperglycemic State (05/01/2005)

Perioperative Management of Diabetes (01/01/2003)

AHA Examines Cardiovascular Problems in Diabetes [Practice Guidelines] (01/15/2000)

Editorials and Letters

Type 2 Diabetes: Separating Proven from Unproven Interventions [Editorials] (09/01/2009)

Strategies to Improve Diabetes Care [Editorials] (10/15/2003)

Improving Practice

- **A Lifestyle That Enables Me to Control My Type 2 Diabetes** [Close-ups] (10/01/2011)
- **Getting Motivated Is Difficult** [Close-ups] (02/01/2010)
- **Supporting Self-management in Patients with Chronic Illness** (10/15/2005)

FROM FAMILY PRACTICE MANAGEMENT

AAFP’s Journal of Practice Improvement

- **An Organized Approach to Chronic Disease Care** (05/01/2011)
- **Patient-Physician Partnering to Improve Chronic Disease Care** (05/01/2004)
- **Making Diabetes Checkups More Fruitful** (09/01/2000)

Other Resources from AAFP

- **METRIC. Diabetes: Improving Patient Care**
- **AAFP Hispanic Diabetes Resources**

*American Family Physician* Topic Module “Thyroid and Parathyroid Disorders”

Overview

- **Update on Subclinical Hyperthyroidism** (04/15/2011)
- **Thyroiditis** (05/15/2006)
- **Hyperthyroidism: Diagnosis and Treatment** (08/15/2005)
- **Hyperparathyroidism** (01/15/2004)

Screening and Diagnosis

- **Screening for Congenital Hypothyroidism: Reaffirmation Recommendation Statement** [U.S. Preventive Services Task Force] (11/15/2009)
- **Updated AAP Guidelines on Newborn Screening and Therapy for Congenital Hypothyroidism** [Practice Guidelines] (08/01/2007)
- **Screening for Thyroid Disease** [Putting Prevention into Practice] (04/01/2005)
- **Screening for Thyroid Disease: Recommendation Statement** [U.S. Preventive Services Task Force] (05/15/2004)
- **A Practical Approach to Hypercalcemia** (05/01/2003)
- **Thyroid Nodules** (02/01/2003)

Treatment

- **Subclinical Hypothyroidism** [Cochrane for Clinicians] (04/01/2008)
- **Hyperthyroidism** [Clinical Evidence Handbook] (10/01/2007)
- **Management of Subclinical Hypothyroidism** [FPIN’s Clinical Inquiries] (05/01/2005)
- **Treatment of Hypothyroidism** (11/15/2001)

Complications and Special Situations

- **Autoimmune Polyendocrine Syndrome, Type II** (03/01/2007)
- **ACOG Practice Bulletin on Thyroid Disease in Pregnancy** [Practice Guidelines] (05/15/2002)

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