UPDATED: July 2015

ROTATION: ENDOCRINE SURGERY

ROTATION DIRECTOR: Michael Yeh, MD

CHIEF OF ENDOCRINE SURGERY: Michael Yeh, MD

SITES: RRUMC, SM-UCLA

GOALS AND OBJECTIVES:

Gain exposure in the care and management of patients with benign and malignant thyroid disorders, parathyroid disorders, adrenal disorders, and familial endocrinopathies.

DESCRIPTION OF THE ROTATION:

The Endocrine Surgery for PGY4 is a 4 week rotation.

1. The surgery residents will provide inpatient care including routine admissions and critical care of the endocrine surgery patients under direct supervision by the faculty members.

2. Residents will participate and perform complex surgical operations needed on these patients under direct supervision by the surgical faculty in addition to actively participating in their preoperative and postoperative evaluation.

3. Residents will participate in all Department of Surgery educational conferences and didactic presentations.

4. Residents are expected to actively participate at the monthly Endocrine Pathology Conference and bimonthly Endocrine Tumor Board.

ASSESSMENT:

Monitoring of the accomplishment of the stated objectives will be performed using the following methods:

1. Global Rating: end of rotation evaluation of resident performance to assess the resident’s demonstration of Core Competencies with respect to the stated objectives by faculty, other team resident members, students, and nursing staff.

2. Case Logs: auditing of operative cases pertinent to the specialty in the Surgical Operative Log.

3. Written Examination: performance on the annual ABSITE examination, Endocrine (Patient Care Category) section.
4. Patient Survey: performance will be assessed by patient surveys administered through the rotation.

5. For additional information please refer to the Resident Milestones document on the UCLA Surgical Education website:

<table>
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<tr>
<th>ACGME Competency</th>
<th>Developmental Milestones Informing ACGME Competencies</th>
<th>Time Frame</th>
<th>Assessment Methods/Tools</th>
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| Patient Care           | 1. Perform a complete and thorough history and physical examination, with emphasis in elements unique to endocrine surgery patients.  
                         2. Initiate the laboratory evaluation and any other initial diagnostic studies with an understanding of the tests to be ordered.  
                         3. Become familiar with the preoperative preparation of the patients for Endocrine surgery and routine postoperative care.  
                         4. Understand the basic indications for common radiological and interventional studies used in the care of Endocrine surgery patients such as ultrasound, CT scans, and functional imaging (e.g. sestamibi, MIBG, and F-dopa scans).  
                         5. Demonstrate the ability to effectively set priorities and coordinate the care of Endocrine patients.  
                         6. Assist in the operating room and perform under the supervision of the attending physicians complex procedures and operations in Endocrine surgery patients.  
                         7. Perform and interpret head and neck ultrasonography.  
                         8. Become familiar with vocal cord assessment by either laryngoscopy or laryngeal ultrasound.                                                                                                                                | 4 weeks    | Global Rating  
                         Case Logs  
                         Written Examinations  
                         Patient Survey  
                         Feedback from faculty/attending physicians at rounds and OR |
| Medical Knowledge      | **Thyroid disorders:**  
                         1. Describe normal thyroid anatomy, embryogenesis, and anatomic variants.  
                         2. Outline the normal thyroid hormone synthetic pathway and the impact of specific medications that regulate thyroid hormone metabolism.  
                         3. Outline appropriate thyroid function testing for hyperthyroidism, hypothyroidism, thyroid nodule, and goiter.  
                         4. Develop an algorithm that includes pertinent history, examination findings, and diagnostic evaluation of a palpable thyroid nodule, non-palpable thyroid nodule discovered incidentally on imaging, and thyroid cancer.  
                         5. Outline algorithms for the evaluation and treatment of hyperthyroidism due to Graves’ disease, toxic nodule, medications, and pregnancy.  
                         6. Describe the clinical presentation and treatment of thyroid storm.  
                         7. Outline an algorithm for the evaluation and management of nontoxic multinodular goiter, including substernal goiter with and without airway involvement.  
                         8. Outline the pathophysiology of multinodular goiter, grave’s disease, and thyroid cancer.  
                         9. Describe operative approaches to thyroid pathology, including reoperative thyroid surgery and intraoperative recurrent nerve injury.  
                         10. Describe the recognition, evaluation, and management of the following early postoperative complications: hematoma, hypocalcemia.  
                         11. Describe the outpatient management of the following postoperative conditions: thyroid hormone replacement, hypocalcemia, voice changes.  
                         12. Outline the staging and prognosis on thyroid cancer  
                         **Parathyroid disorders:**  
                         1. Describe normal parathyroid anatomy, embryogenesis, and anatomic variants (including ectopic parathyroid glands).                                                                 | 4 weeks    | Global Rating  
                         Written Examinations  
                         Completion of rotation specific SCORE assignments  
                         Feedback from faculty/attending physicians at rounds and OR |
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<tr>
<td>2.</td>
<td>Outline the normal calcium metabolic pathway and the impact of specific medications that regulate calcium metabolism.</td>
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<td>3.</td>
<td>Outline the evaluation and treatment of life-threatening hypercalcemia.</td>
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<td>4.</td>
<td>Outline the appropriate evaluation and management for the following: primary, secondary, and tertiary hyperparathyroidism; hypercalcemia associated with malignancy; hypercalcemia associated with medications; parathyroid cancer.</td>
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<tr>
<td>5.</td>
<td>Develop an algorithm that includes pertinent history, examination findings, and initial diagnostic evaluation of asymptomatic and symptomatic primary hyperparathyroidism.</td>
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<td>7.</td>
<td>Outline indications for and interpretation of results of bone density testing.</td>
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<td>8.</td>
<td>Outline outpatient follow up after parathyroidectomy.</td>
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<td>10.</td>
<td>Describe in detail the different techniques of focused vs four-gland parathyroid exploration.</td>
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<td>11.</td>
<td>Outline an algorithm for intraoperative confirmation of successful parathyroidectomy during full neck exploration and minimally invasive parathyroidectomy.</td>
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<td>12.</td>
<td>Outline the prevention, recognition, and management of hungry bone syndrome after parathyroidectomy.</td>
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<td>14.</td>
<td>Describe the technique of cryopreservation and its role in the treatment of patients with multigland disease or during reoperative parathyroid surgery.</td>
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<td>15.</td>
<td>Outline the interpretation of intraoperative PTH monitoring.</td>
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<td>16.</td>
<td>Describe the recognition, evaluation, and management of the following postoperative complications: hematoma, hypocalcemia, and voice changes.</td>
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<td>17.</td>
<td>Outline the complete evaluation and management of recurrent or persistent hyperparathyroidism.</td>
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**Adrenal disorders:**

1. Describe normal adrenal anatomy, embryogenesis, and anatomic variants.
2. Outline the biosynthesis and physiologic effects of glucocorticoids, mineralocorticoids, adrenal sex steroids, and catecholamines.
3. Identify the etiologies, common signs and symptoms, clinical presentations, and diagnostic evaluation of Cushing’s syndrome, and differentiate between ACTH dependent vs. ACTH independent Cushing’s syndrome.
4. Describe the protocol for perioperative steroid use in a patient taking exogenous steroids.
5. Outline the etiologies, clinical presentation, evaluation and management of adrenal insufficiency.
6. Identify complications of adrenalectomy, including adrenal insufficiency and the diagnosis, treatment, and causes.
7. Describe the signs, symptoms, and evaluation of primary hyperaldosteronism.
8. Describe the diagnostic algorithm and treatment for primary hyperaldosteronism and differentiate between primary and secondary hyperaldosteronism.
9. Describe the evaluation and treatment of adrenocortical carcinoma.
10. Describe the physiology, clinical presentation, treatment, and preoperative preparation of pheochromocytoma.
11. Perform a thorough physical examination and be familiar with signs of hormone excess. (hirsuitism, striae,
<table>
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<tr>
<th>Practice Based Learning</th>
<th>Professionalism</th>
<th>Interpersonal Relationships And Communication</th>
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<tr>
<td>1. Develop a personal program of self-study and professional growth with guidance from the teaching staff and fellow. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of endocrine disorders will allow for sound surgical judgment, which relies on knowledge, rational thinking and the surgical literature. 2. Utilize current literature resources to obtain up-to-date information in the care of endocrine patients and practice evidence-based medicine. 3. Participate in teaching and organization of the educational pathology and tumor board conferences. 4. Participate in activities of the Department of Surgery (including all teaching conferences) and assume responsibility for teaching and supervision of subordinate surgical house staff, and medical students. 5. Participate in the Department Morbidity &amp; Mortality conference and utilize information to further improve patient care. 6. Participate in daily teaching rounds and be able to present patients in an organized and complete fashion.</td>
<td>1. Practice compassionate patient care maintaining the highest moral and ethical values with a professional attitude. 2. Demonstrate understanding of the needs and feelings of others, including the patient’s family members, allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students. 3. Communicate and collaborate effectively in a team of health care providers. 4. Demonstrate respect, compassion and integrity in the care of endocrine surgery patients on a daily basis. 5. Demonstrate mature and educated approach to Ethical issues commonly encountered in an endocrine surgery care setting. 6. Show sensitivity to patients’ culture, age, gender, and disabilities. 7. Be self-aware and have knowledge of professional limits by practicing on-going medical education and self-improvement. 8. Be accountable to professional standards in their actions and decisions.</td>
<td>1. Create and sustain a therapeutic and ethically sound relationship with patients and patient families. 2. Work effectively with other members of the medical team including allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students. 3. Maintain professional interactions with other health care providers and hospital staff.</td>
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</tbody>
</table>
1. Understand how the health care organization affects surgical practice of endocrine surgery.
2. Demonstrate cost-effective health care.
3. Be able to coordinate multi-specialty and multidisciplinary endocrine surgery care including discharge planning, social service, rehabilitation, and long term care.
4. Follow established practices, procedures, and policies of the Department of Surgery and integrated and affiliated hospitals.
5. Maintain complete medical records, operative notes, staff sheets and notes, patient database cards and other patient care related documentation in a timely, accurate and succinct manner.

REFERENCES:

UCLA Section of Endocrine Surgery Reading Syllabus

**Thyroid Disorders**


study of total thyroidectomy and routine central lymph node dissection for cN0 papillary thyroid cancer. Surgery. 2011 Dec;150(6):1048-57.


11. Randolph GW, Duh QY, Heller KS, LiVolsi VA, Steward DL, Tufano RP, Tuttle RM; American Thyroid Association Surgical Affairs Committee’s Taskforce on Thyroid Cancer Nodal Surgery. The prognostic significance of nodal metastases from papillary thyroid carcinoma can be stratified based on the size and number of metastatic lymph nodes, as well as the presence of extranodal extension. Thyroid. 2012 Nov;22(11):1144-52.

**Parathyroid Disorders**


**Adrenal Disorders**


**Familial Endocrinopathies**


**General Endocrine Surgery**


