

## Professional Responsibilities of Students on the Endocrine Surgery Service

### Please Read PRIOR To Your Start on the Service

Welcome to the Endocrine Surgery Service!

#### **Weekly Schedule:**

	<b>De Jong</b>	<b>Kabaker</b>
<b>Monday</b>	OR	Clinic 8AM–2PM LOC
<b>Tuesday</b>	OR	VA/OR
<b>Wednesday</b>	Clinic 8:30AM – 5PM LOC	OR
<b>Thursday</b>	OR	VA/Desk
<b>Friday</b>	Clinic 8AM – 1PM LOC	Clinic 9-10 AM CC Clinic 12-1 PM LOC

Team Endocrine	Admin Asst
De Jong	7-2375
Kabaker	7-2375
Nadine Rinella	

#### **Conferences:**

<b>What</b>	<b>When</b>	<b>Where</b>
<b>Morbidity and Mortality Conference</b>	Every Monday	5 – 6 PM SSOM 460
<b>Didactic teaching session</b>	Every Friday	7 – 8 AM 3 EMS, conference room
<b>Teaching Rounds</b>	Every Friday	8 – 9 AM Wards

#### **Preparing for your one month rotation:**

The students will be expected to participate in all aspects of the endocrine surgery service. The goal of the rotation is familiarize you with the diagnosis, work up and management of diseases of the adrenal, thyroid and parathyroid glands. This will be accomplished through seeing and evaluating new and return patients in clinic as well as participating in their care in the operating room. A collection of articles has been compiled to supplement the surgical texts and is available on the Endocrine Surgery Google Drive.

The drive can be accessed using the following log on: [loyolaendosurg@gmail.com](mailto:loyolaendosurg@gmail.com) (please ask resident for password).

These and other topics will be discussed during the weekly educational conference on Friday mornings.

#### **Expectations:**

Students are expected to participate in daily rounds with the surgical team. The student will follow any patient whose surgery they participated in and see their assigned patients prior to morning rounds each day. Any overnight events should be obtained and a focused physical examination should be accomplished. The student should review any new lab findings and present their patient to the team with an assessment and plan.

Students are expected to attend clinic if they are not assigned to the operating room for the day. There is typically more than adequate surgical volume for the four week rotation so ideally the student will remain in one location for the duration of the day in order to avoid disruption of the clinic or operating room. The students will evaluate new and return patients with a focused history and physical examination and then present their findings to the faculty with an assessment and plan. The students are not required to document the encounter in the EMR. The students should be dressed professionally for clinic and avoid wearing scrubs.

Students are expected to participate in the operating room when assigned. The students are expected to become familiar with the surgical case prior to scrubbing into the procedure including the history, operative indications and any preoperative work up which was completed. The students are expected to have a baseline understanding of the anatomy of the neck or suprarenal fossa as well as the pathophysiology of the thyroid, parathyroid and adrenal glands. The

students may be asked to tie or perform simple suturing in the operating room and should be prepared to accomplish these tasks. The student may also be asked to place a foley catheter for select cases and should review the steps prior to entering the operating room.

Students will participate in the weekly teaching rounds which occur each Friday morning. The first hour will be a discussion of topics in the endocrine surgery and the faculty or residents will inform the students of the topic at the beginning of each week. The students should arrive prepared to discuss these topics and complete any assigned reading ahead of the conference. This is also an opportunity for the students to complete their required history, physical, monograph and presentation exercise. The second hour of the conference will focus on bedside teaching and the students should be prepared to present their assigned post-operative patients to the entire team with an understanding of the patient's work up as well as their hospital course.

Students are expected to inform the team if they have a scheduled leave of absence or need an urgent or emergent leave of absence.

The general expectation of the surgery clerkship also apply to this rotation as well and are outlined on the home page in LUMEN for the students to review.

***80 Hour Workweek Compliance:***

**All students will comply with 80 hour workweek requirements.**

***Communication:***

This is paramount to a successful and safe surgical service. The students should report any concerns regarding patient care to their senior residents or to the attending directly if needed.

**Helpful information regarding care of the post-operative endocrine surgery patient:**

***Thyroid Hormone Replacement:***

Postoperative thyroid hormone medications should be discussed with the respective attending staff prior to discharge.

In general, Dr. De Jong will start patients on 50-100 mcg of **brand-only** synthroid with dosing based on patient-specific characteristics and provide a **two week supply only**.

Dr. Kabaker will start patients on their maintenance dose of generic levothyroxine, calculated as 1.7 times their weight in kilograms rounded down to the next available tablet strength (**provide three month supply**).

The drug comes in 75, 88, 100, 112, 125, 137, 150, 175 and 200 microgram tablets and should be taken first thing in the morning on an empty stomach. **Always clarify the specific plan with the attending of record on the day of the procedure to facilitate discharge.**

In general, patients with preoperative **HYPERTHYROIDISM** should stop their disease-specific beta blocker, anti-thyroid medication (methimazole, PTU) and SSKI postop. Occasionally, high doses of beta blockers need to be weaned off and in severe hyperthyroidism patient should **NOT** immediately stop their anti-thyroid medication unless otherwise specified by attending staff. If you discontinue these medications too soon postoperatively, the patient can end up thyrotoxic in the ER (due to the long half-life of T<sub>4</sub>). Discuss this and T<sub>4</sub> replacement with the attending staff.

***Pain control and narcotics:***

Tylenol is routinely prescribed for post op analgesia. The patients should not be given NSAIDs for at least 48 hours post operatively. Narcotics produce many side effects and are addictive. After cervical endocrine surgery we routinely do **NOT** prescribe any narcotics as an inpatient or for discharge. If a patient requires narcotics overnight, the patient must be examined by the resident on call and the chief resident must be contacted. Occasionally, a patient may require a prescription for Hycet elixir on discharge. Patients are specifically told preoperatively by the surgeon that with routine use of long-acting local anesthetic, they will find that plain old Tylenol will nicely take care of their pain. It almost always does. When a patient calls in with an unusual degree of pain, this is informative and could be hematoma, esophageal perforation from the temp probe, or any other of a host of problems and the situation usually requires ER evaluation.

**Calcium Repletion:**

In general, all thyroidectomy patients (totals and completions), along with all parathyroidectomy patients and some neck dissection patients, need to be on calcium repletion postoperatively, and will need a postop calcium/phosphorous level if in-house the morning after surgery. To prevent factitious hypocalcemia, most IV lines should be heplocked the evening of surgery and almost all patients started on a regular diet the afternoon or night of surgery, as tolerated.

**(EXCEPTION: Patients undergoing INITIAL thyroid lobectomy with Dr. Kabaker do not need postoperative calcium supplementation or a serum calcium level the morning after surgery)**

*Enteral calcium dosing:*

Dr. Kabaker: THE STANDARD INITIAL DOSE IS TUMS ULTRA (1000MG TABS) 2 TABS PO BID. START DAY OF PROCEDURE. PROVIDE SCRIPT UPON DISCHARGE.

Dr. De Jong: THE STANDARD INITIAL DOSE IS REGULAR TUMS (500MG TABS) 2 TABS PO TID. START MORNING AFTER PROCEDURE. NOTE DOSE ON D/C INSTRUCTIONS.

**Calcium will decrease the absorption of thyroid hormone, so all patients on thyroid hormone should be advised to take their calcium supplementation an hour after their thyroid hormone which itself should be taken on an empty stomach.**

Calcium supplements are routinely given for 2 weeks after cervical endocrine surgery to prevent paresthesias, and for 6 months after successful parathyroid exploration to restore bone health. Our patients almost uniformly have sore throats and some degree of odynophagia postop, and TUMS are easily chewed and generally well tolerated. Tums can cause constipation, nausea, and/or diarrhea.

**Mild symptoms** of hypocalcemia include new (i.e. not present preoperatively) paresthesias (circumoral, fingers) which can be described by patients as an electrical or buzzing sensation - this degree of symptomatology is not an emergency.

**Severe symptoms** of hypocalcemia include profound lethargy, laryngospasm, generalized seizures, prolonged QT interval (with narrow T wave), heart block and hypotension. Severe symptoms, and/or carpopedal spasms signify an emergency, so page the attending. We do not test for Trousseau's sign as it is cruel (the test is designed to induce painful arterial ischemia). All severely symptomatic patients and any need for IV calcium repletion MUST be discussed first with the attending staff by the residents.

**Why check a phosphorus?**

In general, the diagnosis of hypoparathyroidism requires an elevated PO<sub>4</sub> level, while a low calcium with a normal PO<sub>4</sub> means bone hunger. Patients who are at risk for either include:

- ❖ Primary hyperparathyroidism patients with osteoporosis and/or elevated preoperative alkaline phosphatase levels
- ❖ All secondary (and tertiary) hyperparathyroidism patients
- ❖ All re-operative patients
- ❖ Anyone who is vitamin D deficient (low vitamin D 25-OH level)

**What about ionized calcium?**

The total plasma calcium concentration consists of three fractions:

- 1) Approximately 15% is bound to organic and inorganic anions such as sulfate, phosphate, lactate, and citrate.
- 2) About 40% is bound to albumin in a ratio of 0.8 mg/dL(0.2 mmol/L or 0.4 meq/L) calcium/1.0 g/dL(10 g/L) albumin.
- 3) The remaining 45% circulates as physiologically active ionized (or free) calcium.

The ionized calcium concentration is tightly regulated by parathyroid hormone and vitamin D. The wide range in normal total plasma calcium concentration is due to variations in albumin level among normal healthy people and to variations in the state of hydration that can alter the albumin concentration. If there is any question as to the "true" calcium level, it is prudent to order a corresponding albumin level and/or an ionized Ca<sup>2+</sup>. However, interpretation of ionized calcium is more difficult than serum calcium in managing a symptomatic patient, so always make the ER draw both types of calcium level.

**Postoperative Thyroid/Parathyroid Airway Problems:**

Any calls about airway concern including stridor, hematoma, tracheal deviation, or increasing neck circumference will be evaluated immediately, and in person, by the third year resident. More subtle signs of neck hematoma or airway problems can include new onset dysphagia, vocal changes, anxiety, agitation, or tachypnea.

Do not write "hematoma" or "hoarse" in the chart unless you are certain they are present (many times this requires specific attending input).

For respiratory distress **WITH** hematoma:

- Keep the patient's head elevated
- Deliver high-flow O<sub>2</sub> via face mask
- Confirm that the nurse has the crash cart at the bedside
- Call the surgeon and also Anesthesia STAT
- Have the nurse page the attending staff and locate the cricothyroidotomy kit
- For **life-threatening severe respiratory distress** remove the Steri-strips and pour Betadine on the wound. With sterile gloves and sterile scissors, open the skin and platysma sutures transversely. Then open the strap muscles vertically. Manually evacuate the hematoma and hold gentle constant pressure. Reassure the patient and **DO NOT** leave the bedside

For respiratory distress **WITHOUT** evidence of hematoma:

- Keep the patient's head elevated
- Deliver high-flow O<sub>2</sub> via face mask
- Give racemic epinephrine nebulizer for suspected laryngospasm (0.5mL 2.25% racemic epinephrine solution in 4.5mL diluent) and observe the outcome
- Have the nurse page the attending staff stat
- Consider other causes in your differential (i.e., CHF, PE, pneumothorax, sleep apnea)

For hematoma **WITHOUT** respiratory distress:

- Keep the patient's head elevated
- Deliver high-flow O<sub>2</sub> via face mask
- Have the nurse page the attending staff and locate the cricothyroidotomy kit
- Reassure the patient and **DO NOT** leave the bedside.
- We never "observe" hematoma.

**Laparoscopic Adrenalectomy:**

Aldosteronoma patients need a potassium level checked on post-operative day # 1. **Spirolactone and eplerenone (Inspra) should be discontinued** following surgery. All other antihypertensive medication should be continued.

Pheochromocytoma patients should have their **phenoxybenzamine +/-  $\beta$  blockers discontinued** post-operatively.

Cushing's patients should have 100mg hydrocortisone IV q8 hours started intra-operatively and continued for at least the first 24 hours post-operatively. They will need a steroid taper upon discharge.

Any adrenalectomy patient needs serial hemoglobin levels overnight and electrolytes measured the following day. Left sided procedures should also have amylase drawn the following morning as well.