PERIOPERATIVE CALCIUM MANAGEMENT PROTOCOL IN THYROID/PARATHYROID SURGERY UT-LEBONHEUR

LeBonheur Children’s Hospital/St. Jude Children’s Research Hospital

**PREOPERATIVE MANAGEMENT**

CMP preop (Includes Ca++)

Mg++

Vitamin D *- start supplementing VitD preop if low*

**INTRAOPERATIVE MANAGEMENT**

### PTH level after thyroid resection

**POSTOPERATIE MANAGEMENT**

All patients should be on telemetry overnight after surgery.

**\*infants and children dose expressed in elemental calcium: 45-56mg/kg/day Q 6 hours**

1. Low Risk patient: Completion Thyroidectomy, Total Thyroidectomy without central neck dissection

PTH level in PACU

Calcium 4 hrs postop, then Q8 hrs

If PTH < 10pg/ml, anticipate decrease in serum calcium level. See high risk protocol

If PTH > 10pg/ml and two Calcium levels are within normal limit > 8.8mg/dL – stop lab draws

If PTH > 10pg/ml, calcium < 8.8mg/dL – start PO calcium carbonate 1000mg TID

1. High Risk patient:   
   Patient with central neck dissection, re-operative cases and with parathyroid re-implantation, Grave’s Disease  
   - PTH, calcium level in PACU

* Calcium Q 4HR checks for two times, then q 6hr.

If PTH < 10pg/ml, anticipate decrease in serum calcium level. Start PO calcium carbonate 1000mg TID +Calcitriol 0.25mcg BID. Do Ca++ level Q4HR

If PTH > 10pg/ml and two Calcium levels are within normal limit > 8.8mg/dL – stop lab draws

If PTH > 10pg/ml, calcium < 8.8mg/dL – start PO calcium 1000mg TID

If calcium = 8 -8.8 mg/dL, not symptomatic – continue PO supplement

If calcium = 7.5-8 mg/dL, asymptomatic – increase PO calcium to 1000mg QID

If calcium < 7.5 mg/dL, asymptomatic – EKG, start IV calcium infusion; Calcium Gluconate 10% 2mg/ml mixed in 1L D51/2NS - infusing at 20ml/hr

Calcium check Q 4hrs

If calcium < 7.0 mg/dL or patient is symptomatic – Ca+ IV infusion and ENT resident to assess the patient at bedside and the need for patient to be transferred to the PICU for close monitoring – IV calcium cannot be administered on the floor without ICU monitoring.

Calcium check Q4 hrs

**GOALS FOR DISCHARGE**

Calcium level > 7.8 over 12 hr period (at least two consecutive values) while off IV calcium for 8 hours prior to discharge.

**RESIDENT EDUCATION:**

Signs and symptoms of mild to moderate hypocalcemia:

Paresthesia and numbness of the fingertips and perioral area

Muscle stiffness, myalgia and spasms

Chvostek's sign: Twitching of the ipsilateral facial musculature (perioral, nasal, and eye muscles) by tapping over cranial nerve VII at the ear. (seen in 10% to 25% of the normal population).

Trousseau's sign: carpal spasm provoked by ischemia, induced by inflation of the blood pressure measuring cuff around the arm.

Prolonged QT on EKG

Severe hypocalcemia:

Stridor and/or dyspnea induced by prolonged contraction of the respiratory and laryngeal muscles.

Anxiety or agitation, mental status change and seizures.

Arrythmia on EKG