

### **Post-thyroidectomy Hypocalcemia – Risk Factors and Management**

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#### **Abstract**

The complications of thyroidectomy vary from hypocalcemia and recurrent laryngeal nerve lesions to injury of vocal folds, local hematoma, cysts, granuloma. Post-operative hypocalcemia has an incidence of 1.2-40%. Permanent hypoparathyroidism is registered in 3% of cases. This is a brief narrative review focusing on the levels of calcium after performing a thyroidectomy and the need of calcium supplements under these circumstances. This complication, even it seems rather harmless at first, in fact it represents an important contributor to hospitalization delay and, especially for severe forms, to poor quality of life, including the risk of life threatening episodes. Devascularisation of parathyroid glands in addition to injury or dissection causes hypoparathyroidism. Hypocalcemia risk differs with sex (females have a higher risk), lymph node dissection (it increases the risk), it differs with type of thyroidectomy (larger dissections have a higher risk; also the intervention for recurrent goitre and second intervention for post-operative bleeding increase the risk of hypocalcemia; while Basedow disease is probably at higher risk than multinodular goitre among benign conditions) and the duration of procedure. Pre-operative low calcium, parathormon (PTH), 25-hydroxivitamin D increases the risk. The calcium drop rate matters as well: a decrease of 1 mg/dL calcium over 12 hours after surgery is independently correlated with the risk of symptomatic hypocalcemia. Early post-operative PTH and calcium are best predictors for the need of oral calcium supplements. Routine post-operative calcium and vitamin D supplementation statistically significant decreases the risk of developing transitory hypocalcemia and acute complications compare to calcium alone supplements or no supplements. In cases of hypoparathyroidism calcitriol is preferred.

**Key words:** thyroidectomy, calcium value, calcium supliments