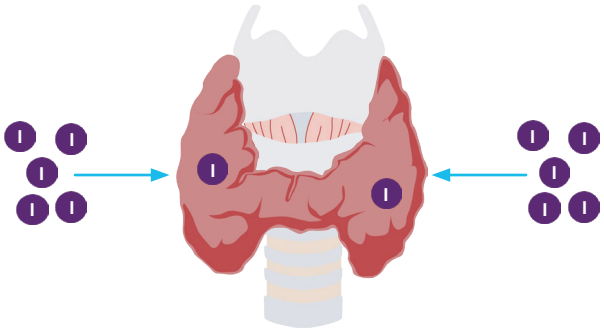
OTHER CAUSES OF ABNORMAL THYROID LAB VALUES

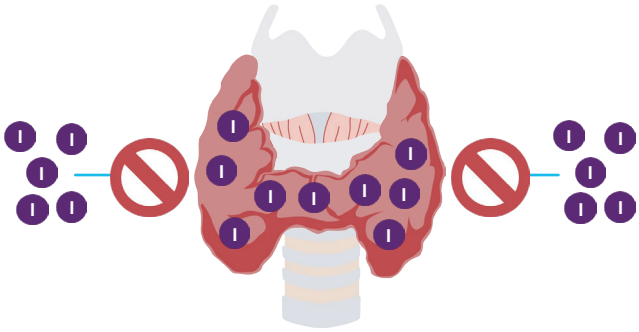
Grasping the importance of iodine

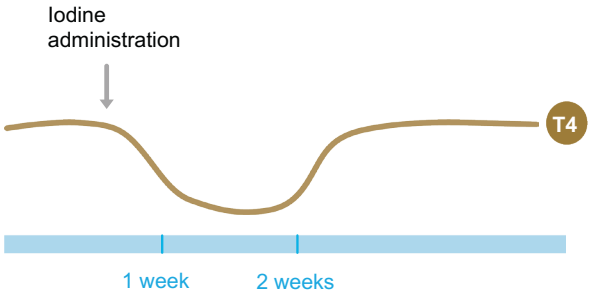
Increased iodine levels trigger the thyroid to limit iodine uptake and decrease thyroid hormone production. This protects against iodine-induced hyperthyroidism. This autoregulation is termed the Wolff-Chaikoff Effect.

Normal



High iodine

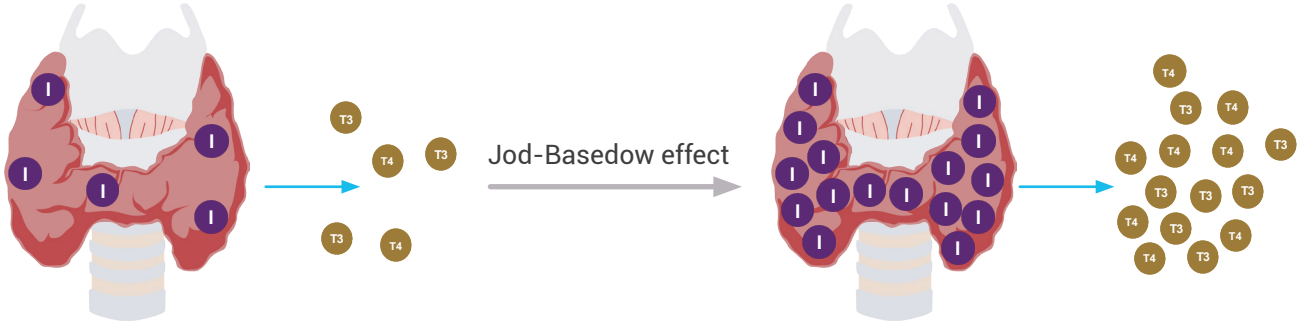




This suppression is usually temporary. The normal thyroid will "escape" from this auto-regulation. As intra-thyroidal iodine levels return to normal, iodine uptake and thyroid hormone production return to normal.

However, patients with underlying Hashimoto's thyroiditis are sometimes unable to escape, and develop permanent hypothyroidism following exposure to iodine (generally chronic exposure).

Patients with underlying autonomous nodules or Graves' disease can fail to inhibit thyroid hormone secretion with iodine exposure, and instead develop iodine induced hyperthyroidism, known as the Jod-Basedow effect. Thus consider iodine exposure in the diagnosis of hyperthyroidism.



Further reading

Roti E and Uberti ED. Idoine Excess and Hyperthyroidism. *Thyroid.* 2001. 11(5):493–500.