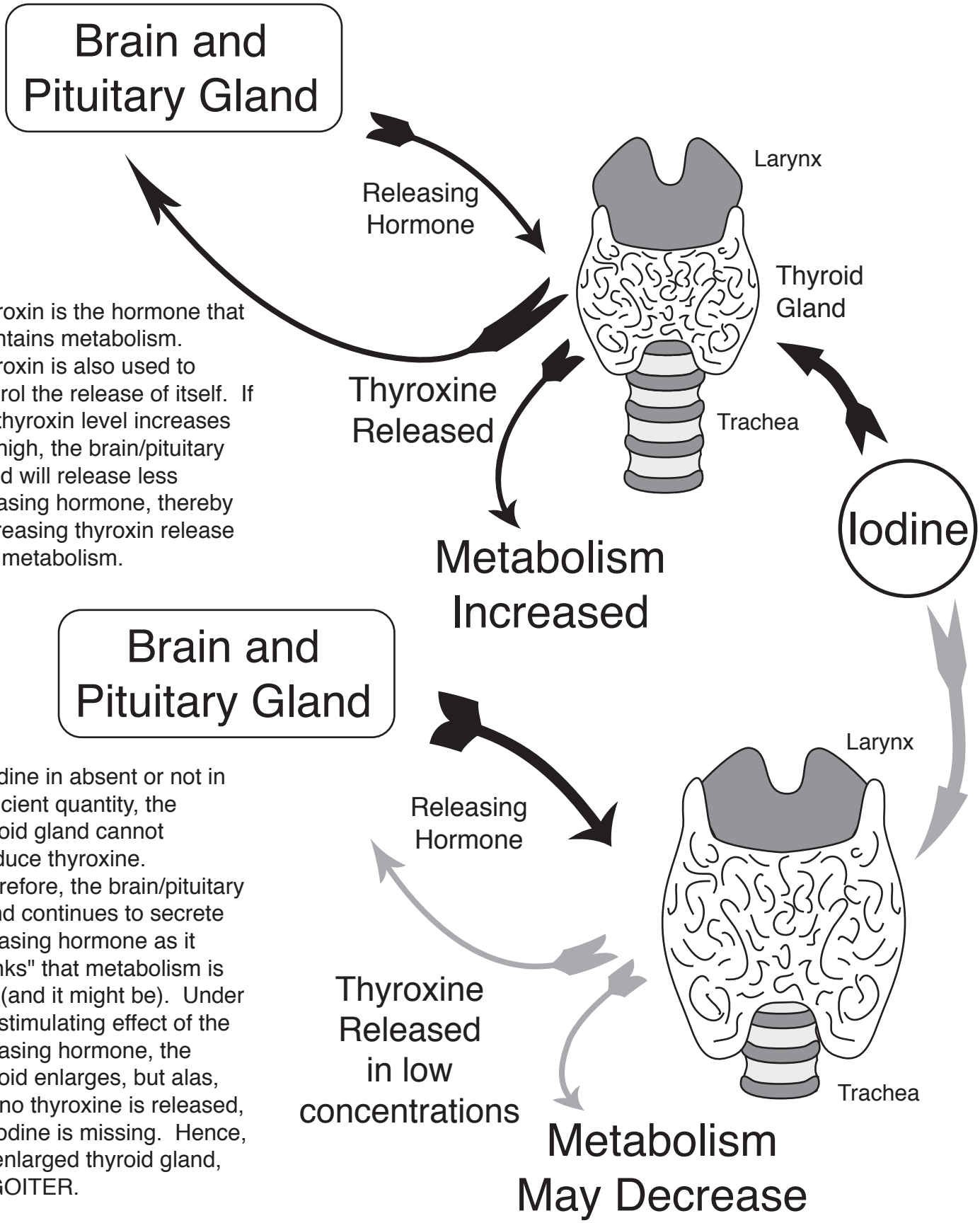
Iodine, Goiter, and Metabolic Control



Thyroxin is the hormone that maintains metabolism. Thyroxin is also used to control the release of itself. If the thyroxin level increases too high, the brain/pituitary gland will release less releasing hormone, thereby decreasing thyroxin release and metabolism.

If iodine in absent or not in sufficient quantity, the thyroid gland cannot produce thyroxine. Therefore, the brain/pituitary gland continues to secrete releasing hormone as it "thinks" that metabolism is low (and it might be). Under the stimulating effect of the releasing hormone, the thyroid enlarges, but alas, still no thyroxine is released, as iodine is missing. Hence, an enlarged thyroid gland, or GOITER.