



# Levothyroxine Dosing Following Bariatric Surgery.

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### Abstract

**BACKGROUND:** Based on the mechanisms of drug absorption, increased levothyroxine requirements are expected after bariatric surgery. However, there are conflicting data on this topic. This review evaluates the effects of bariatric surgery on levothyroxine dosing.

**METHODS:** Data were obtained from PubMed, Scopus, and review of published bibliographies.

**RESULTS:** Six of 10 studies demonstrated decreased postoperative requirements. Most demonstrated correlations between weight loss and dose. Only 3 case reports and 1 case series demonstrated increased levothyroxine requirements, attributed to malabsorption.

**CONCLUSIONS:** The loss of both fat and lean body mass may counteract malabsorptive effects from surgery, resulting in decreased postoperative levothyroxine requirements. In addition, the reversal of impaired levothyroxine pharmacokinetics and an altered set point of thyroid hormone homeostasis may also contribute to postoperative levothyroxine reductions.

**KEYWORDS:** Bariatric surgery; Biliopancreatic diversion; Drug absorption; Gastric banding; Jejunoileal bypass; Levothyroxine; Pharmacokinetics; Roux-en-Y gastric bypass; Sleeve gastrectomy; Thyroid hormone

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