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Thyroid hormone and the gut.

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Abstract

The gastrointestinal tract interacts actively with the thyroid hormones, T4 and T3. Both T4 and T3 are absorbed well but incompletely from the gut, and many factors affect this absorption. The mechanism of absorption is unknown. It is decreased in most malabsorption conditions, but is increased in the postgastrojejunotomy syndrome. It may involve conjugation to the glucuronide forms (T4G and T3G) in the mucosal cell with subsequent deconjugation prior to appearance in the portal vein blood. Absorption appears to be reduced in the presence of excess T4, and increased in hypothyroidism. The liver takes up a large fraction of the T4 and T3 from its circulation and returns a portion of the portal hormone back to the gut via the bile. There is also direct T4 and T3 secretion into the gut from the mesenteric circulation. Recent studies suggest that the gut plays a major role as a reservoir for the thyroid hormones, especially for T3, and that it may also play a role in the regulation of hormone activity.

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