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## THE MANAGEMENT OF HYPERTHYROIDISM IN CHILDREN AND ADOLESCENTS

**Abstract:** Most pediatric patients with hyperthyroidism have autoimmune thyroid disease. Around 95% of patients have Graves's disease in which case excess thyroid hormone is the result of thyrotropin (TSH) receptor stimulation by autoantibodies. Long-term, spontaneous remission of Graves' disease occurs in less than 30% of children. Antithyroid medications, surgery, and radioactive iodine have been used for more than five decades for treatment of hyperthyroidism due to Graves' disease in children, adolescents, and adults. Despite the widespread use of these different approaches, controversy still exists relative to the merits of each treatment, especially regarding the use of radioactive iodine. There is little evidence that use of antithyroid medications beyond 1 or 2 years increases the likelihood of spontaneous, long-term remission. Although the use of antithyroid medications is standard practice, the use of antithyroid medications involves definitive risks. Thus, the majority of children with Graves' disease will need definitive, curative therapy. Thyroidectomy achieves high rates of remission. Complications such as long-term hypoparathyroidism and vocal cord palsy are uncommon when the operation is conducted in specialised centre by an experienced surgeon. When used at sufficient doses, radioactive iodine is an effective cure for Graves' disease and is associated with few acute side effects. Potential long-term adverse effects, including thyroid cancer and genetic damage, have yet to be observed in individuals treated as children or adolescents with  $^{131}\text{I}$ . Because of increased risk of thyroid cancer associated with low-dose thyroid irradiation in children, larger than smaller, doses of  $^{131}\text{I}$  should be given.

**Key words:** hyperthyroidism, children, adolescents, management