

Robotic Thyroid Surgery: Current Perspectives and Future Considerations

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Abstract

Robotic transaxillary thyroidectomy, pioneered in South Korea, is firmly established throughout the Far East but remains controversial in Western practice. This relates to important population differences (anthropometry and culture) compounded by the smaller mean size of thyroid nodules operated on in South Korea due to a national thyroid cancer screening programme. There is now level 2 evidence (including from Western World centres) to support the safety, feasibility, and equivalence of the robotic approach to its open counterpart in terms of recurrent laryngeal nerve injury, hypoparathyroidism, haemorrhage, and oncological outcomes for differentiated thyroid cancer. Moreover, robotic thyroidectomy has been shown to be superior to open surgery for certain patient-reported outcome measures, namely scar cosmesis and pain. Downsides include its high cost, longer operative time, and risk of complications not encountered in open thyroidectomy (brachial plexus neurapraxia). Careful patient selection is paramount as this procedure is not for every patient, surgeon, or hospital. It should only be undertaken by high-volume surgeons operating as part of a multidisciplinary robotic team in specialised centres. Novel robotic approaches utilising the retroauricular and transoral routes for thyroidectomy have recently been described but further studies are required to establish their respective role in modern thyroid surgery.

Keywords: Axillary approach; Cosmesis; Evidence; Facelift; Policy; Retroauricular approach; Robotic surgery; Safety; Thyroid; Transoral route.

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