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National University Hospital

Learn More about Minimally-Invasive Thyroid Surgery



Minimally-Invasive Thyroid Surgery



What is a thyroid gland?

It is a butterfly-shaped gland located in the neck and produces thyroid hormones which control the energy expenditure in many organs (e.g. brain, heart, muscles, etc.).

What are the common thyroid conditions that can benefit from surgery?

- A large thyroid lump causing difficulty in swallowing or breathing
- Suspicion of thyroid cancer
- Unsightly thyroid nodules or swelling
- An overactive thyroid (e.g. Graves' disease) that cannot be controlled with medication

What does surgery entail?

Either half the thyroid gland (hemithyroidectomy) or the entire thyroid gland (total thyroidectomy) may be removed, depending on the underlying condition. These operations are usually done under general anaesthesia (GA).

What are the types of surgery available?

- Conventional thyroid surgery: typically involves a horizontal incision about 4-6 cm at the lower neck hidden in the lines of the neck. A longer incision may be required for larger thyroid glands.
- Minimally-invasive thyroid surgery (MITS)
- Endoscopic thyroidectomy: 3 small 5-10 mm openings are made in the armpit and around the nipple. Keyhole instruments are used to remove the thyroid gland (Figure 1).
- Robot-assisted thyroidectomy: 4 small 5-10 mm openings are made in both armpits and around the nipple. Keyhole instruments are used to remove the thyroid gland (Figure 2).

Your surgeon will discuss and recommend a procedure suitable for you.

(Figure 1)

(Figure 2)



What are the risks of MITS?

- Change in voice this occurs temporarily in 5% and permanently in 1% of patients if the nerve controlling the voice box is affected.
- Low calcium levels for for patients who had complete removal of the thyroid gland. This occurs temporarily in 20% and permanently in 5% of patients, who will require calcium supplements.
- Lifelong medication thyroxine tablets are required for those who removed both thyroid lobes.
- Bleeding this rarely occurs after thyroid operation, with less than 1% of patients requiring re-operation for persistent bleeding or breathing difficulties.
- A breathing hole in the neck can occur if both nerves controlling the voice box are injured from Tracheostomy, an extremely rare procedure.

Conventional thyroid surgery vs MITS: Is there a difference?

(Figure 3)

• Scarring - unsightly scars and keloid formation may happen after surgery and are difficult to predict while MITS uses hidden access sites like the armpit and chest to access the thyroid (Figure 3).



• While MITS is a recent advancement in thyroid surgery, early studies demonstrate that it is equally safe in removing thyroid cancers.

What to expect for surgery?

- Most patients undergoing MITS are admitted on the day of the operation.
- Depending on the fitness of the patient, a visit to the anaesthetist may be required prior to surgery.
- The surgery may last 2-3 hours and the expected post-operative stay is 1 to 2 days.
- There may be slight discomfort and numbness in the neck/armpit/chest area where incisions were made to access the thyroid. This numbness is temporary and will disappear six weeks after the surgery.

Summary

- MITS prevents unsightly neck scars
- MITS is as safe as conventional thyroid surgery
- MITS has similar post-operative recovery as conventional thyroid surgery