

SURGICAL TECHNIQUE

A simple home-made self-retaining retractor for thyroidectomy

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Surgical assistance is imperative for the smooth conduct of various types of surgery that require steady retraction throughout the procedure. However, prolonged surgery will cause fatigue among the assistant surgeons who might not be able to sustain the optimal retraction for the chief surgeon. To overcome this problem, different types of self-retaining devices have been developed for continuous exposure during surgery.¹⁻³

Thyroidectomy is a frequently performed operation requiring stable exposure to carry out the meticulous dissection and avoid inadvertent damage to the delicate structures around the thyroid gland. To our knowledge, no self-retaining retractor designed for thyroidectomy has been described in the literature. We describe a simple and cheap self-retaining retractor that is, from our experience, a very effective instrument for thyroid surgery.

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The retractor is made from K-wire available in the operating room. It is bent into the shape of a hook with a blunted tip, which will be placed at the spot where the tissue will be retracted. A small loop is formed at the end of the shaft of the steel wire to hold an ordinary rubber band. The tip of a pair of artery forceps then passes through the rubber band while the 2 rings of the forceps stretch the band (Fig. 1). Lastly, the tip of the artery forceps is closed and fixed to the immobile part of the surgical drape. The blunted hooks can be tailored to different sizes to improve the versatility of the retractor. Three to 4 such retractors are usually adequate for thyroidectomy.

The procedure commences with elevation of upper and lower skin flaps as usual. After the linea alba is divided and the thyroid lobe has been mobilized, the rest of the operation proceeds with the self-retaining retractor (Fig. 2), which can suspend the skin and strap muscles in both lateral and vertical axes.

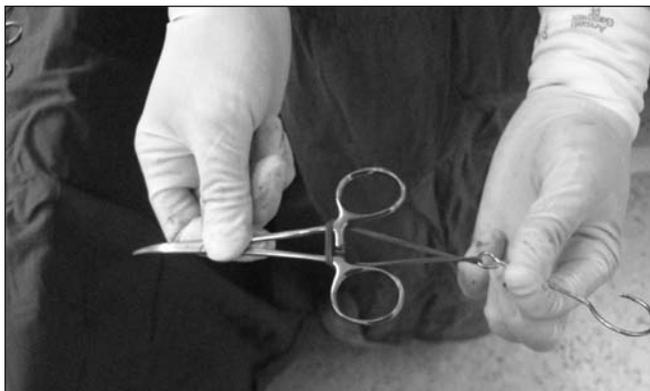


Fig. 1. The self-retaining retractor is mounted on a pair of forceps with a rubber band.



Fig. 2. Thyroidectomy proceeds with the self-retaining retractors deployed.

DISCUSSION

We have used this home-made self-retaining retractor for thyroidectomies in more than 100 patients. It has become one of the standard instruments for thyroid surgery in our institution. Its effectiveness and safety, in our experience, has stood the test of time.

This retractor is cheap, versatile, readily available, user-friendly, inexhaustible and easily replaced. The surgical assistants can participate more actively in the surgery. The absence of the metallic frame or blades present in other commercial instruments will not hinder the surgeon. Our retractor also enables single-surgeon procedures for patients with thyroid masses.

Complications related to the use of a self-retaining retractor have been described previously. Noldus and colleagues⁴ reported 4 instances of colon damage and 1 instance of femoral neuropathy out of 4000 applications of self-retaining retractors. Judicious placement of the blunted hook is important to prevent injury to the internal jugular

vein or the carotid artery, which are closely related to the thyroid lobes. Excessive traction should also be avoided to prevent bruising of the skin.

The home-made self-retaining retractor has the potential to be applied in other types of procedures. It is increasingly being used during axillary dissection for breast cancer and submandibular sialoadenectomy in our institution.

References

1. Moloney D, Arnstein P. An effective self-retaining retractor for limb surgery. *Br J Plast Surg* 2002;55:705-6.
2. Pearl CB, Augillon A, McLaughlin E, et al. Inexpensive self-retaining retractor for minor surgical procedures. *Ann Plast Surg* 2003;51:633-5.
3. Dominguez FJ, Black DM, Kawaguchi AL, et al. Elastic stay hooks and self-retaining retractor technique for mastectomy skin flaps. *Surgery* 2007;141:272-4.
4. Noldus J, Graefen M, Huland H. Major postoperative complications secondary to the use of the Bookwalter self-retaining retractor. *Urology* 2002;60:964-7.

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