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SURGICAL TECHNIQUE

Operative technique: Robotic transaxillary thyroid lobectomy

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Introduction

Conventional thyroid surgery is performed through a transverse cervical incision to adequately expose the thyroid area. Although this approach is safe and associated with low morbidity in experienced centers, some patients complain post-operatively of a significant visible scar. Many of these patients are young adults who are also concerned by the aesthetic aspect of their scar. As a result, some surgical teams have tried to minimize the length of the cervical incisions and/or to relocate the skin incisions to regions outside the neck [1]. Starting in the early 2000s, the initial extra-cervical approaches were endoscopic; the robotic platform was then introduced to improve the stability of the operative field, to obtain a three-dimensional view and to allow use of articulated instruments [1—4]. The transaxillary robotic pathway is only one of several non-cervical approaches to thyroid resection that are currently being evaluated around the world [1]. At the present time, this approach is used in only a minority of cases compared to the conventional cervical incision, even though Korean teams have reported their results on several thousand patients and some European teams have reported several hundred cases [5,6]. To illustrate this technique, we describe the example of a 27 mm nodule of the left thyroid lobe; needle aspiration cytology indicated a follicular neoplasm (grade 4 of the Bethesda classification).

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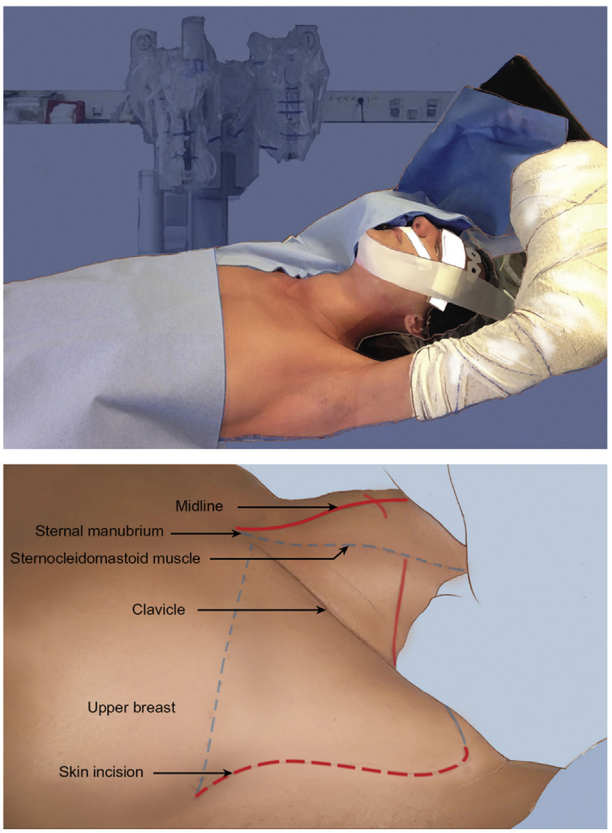
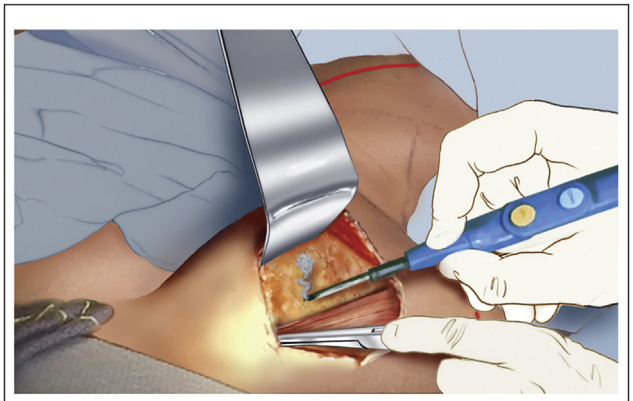
1 Patient position and set-up

The patient is positioned supine and anesthetic induction is performed. The neck is extended very slightly to improve the exposure of the cervical region (maintained by tape around the chin affixed to the operating table). Particular care is taken with upper limb positioning to avoid pressure points, especially when positioning the robotic cart. The ipsilateral arm (here on the left) is positioned in abduction and internal rotation with the hand at the level of the forehead. The contralateral arm (here on the right) is positioned alongside the body. The robotic carriage comes in from the contralateral side perpendicular to the axis of the body at the level of the cutaneous incision. After skin prep and draping, a 6–9 cm S-shaped incision is outlined along the lateral edge of the pectoralis major muscle. The dissection path of the subcutaneous tunnel is traced on the skin to the level of the midline. The landmarks of the clavicle and ipsilateral sternocleidomastoid muscle are also drawn. The surgeon, standing at the patient's side then incises the skin along the outlined marking (inset).



2 Incision and dissection of the subcutaneous tunnel

The outlined skin incision is made and dissection then proceeds along the anterior surface of the pectoralis major muscle. No dissection is performed in the axilla. The assistant, standing opposite the surgeon, provides exposure for the dissection by means of a long curved retractor, which is progressively advanced as the dissection deepens. A standard operating room light usually fails to provide adequate illumination for this stage of the procedure, but use of a headlamp greatly assists the dissection. The subcutaneous tunnel dissection is completed at the midline and it is then possible to dissect and define the anterior and posterior heads of the sternocleidomastoid muscle. The assistant continues to provide exposure with the retractor.



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