Robotic Facelift Thyroidectomy: A Novel Remote Access Thyroidectomy Technique
David J. Terris, MD, Michael C. Singer, MD, Melanie W. Seybt, MD
Department of Otolaryngology/Head and Neck Surgery

Objectives: Robotic thyroidectomy accomplished by an axillary route has been associated with a number of dramatic complications. We introduce an access method that is less dangerous, easier to perform, and more direct.

Methods: A facelift approach to the thyroid compartment is described.

Results: Advantages of the facelift approach over the axillary approach include: easier positioning (without the risk of brachial plexopathy), shorter distance to the thyroid bed, no chest wall numbness, clavicle is not obstructing, carotid sheath at much lower risk of injury.

Conclusions: We describe a safer and easier robotic technique that involves a facelift incision and therefore maintains the advantages of no neck incision, but without the increased risks associated with an axillary approach.

Introduction
A safe and effective remote access thyroidectomy technique would allow patients to completely avoid a cervical incision. Remote access techniques that have been described are challenging and have been associated with a number of significant complications. Robotic facelift thyroidectomy (RFT) is a novel approach which may be safer and easier to perform.

Methods/Materials
Inanimate and cadaveric pre-clinical studies were performed to confirm viability and optimal technique for RFT. (submitted for publication) A phase 1 trial is currently underway to assess safety and

Technical Details
Pocket Creation
• Facelift incision
• Stepwise identification/dissection of:
  • Auricular nerve
  • Anterior border of SCM muscle
  • Platysma muscle
  • Strap muscles above omohyoid muscle
• Retraction of flap & SCM muscle

Robot Deployment
Robotic resection
• Ligation of superior pole
• Mobilization of superior parathyroid gland
• Identification of recurrent laryngeal nerve
• Ligation of inferior pole
• Division of isthmus

Observed Benefits
• No special positioning required
• Natural approach for head and neck surgeons
• Shorter distance to thyroid
• No drain necessary
• No inpatient stay

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<thead>
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<th>Conventional</th>
<th>MIVAT</th>
<th>Axillary</th>
<th>Facelift</th>
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<tbody>
<tr>
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<td>Hidden incision</td>
<td>No</td>
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<td>Nerve stimulation possible</td>
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<td>Yes</td>
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<td>Easy positioning</td>
<td>Yes</td>
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<td>Drainless</td>
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<td>High BMI</td>
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<td>Size of nodules</td>
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Figure 1. Marking of facelift incision.
Figure 2. Robot docked contralateral to side of dissection.
Figure 3. View of superior laryngeal nerve after mobilization of superior pole.
Figure 4. View after transection of thyroid isthmus. Arrow indicates recurrent laryngeal nerve.
Figure 5 & 6. Post-operative results.