This discussion has two somewhat disparate objectives: a consideration of the role of operative videos in resident education, and some extension of the authors’ perspectives on neck dissection. Radical neck dissection, the en bloc resection, dependent on definition, of the major lymph node–bearing areas of the neck, has been the cornerstone of extirpative head and neck cancer. Whether performed in isolation or in conjunction with resection of a primary tumor within the upper aerodigestive tract, the performance of a neck dissection should be an elegant demonstration of the combination of an intimate knowledge of neck anatomy and technical proficiency. The classical radical neck dissection was described by Crile 1906 but was eclipsed to some degree by the advent of therapeutic irradiation or radiotherapy. Dissatisfied with radiotherapy as the primary treatment modality for head and neck cancer, Grant Ward in Baltimore and Hayes Martin in New York in separate publications returned to an operative focus in descriptions of the radical neck dissection. The radical neck dissection as described by Ward and Martin consisted of the dissection and removal of all of the lymphatic drainage of the neck, the jugulodigastric and anterior cervical chain, and the submandibular and posterior cervical triangles, with retention of the principal nerves (i.e., vagus, hypoglossal, lingual, and phrenic) and the underlying muscular floor.

Modification of the standard or full neck dissection awaited the description by Bocca and Pignataro of preservation of the sternocleidomastoid muscle for cosmetic outcomes, the spinal accessory nerve to avoid the often disabling effect of a denervated trapezius, and the internal jugular vein to minimize the occurrence of cerebral edema. A selective neck dissection limits the scope of the dissection based on the assumption of the lymphatic drainage of the primary tumor such as the lower lip or anterior dissection for a thyroid cancer.

The authors elected to use a hockey-stick incision, a vertical component just posterior to the anterior border of the trapezius and a transverse portion from posterior to anterior on the anterior chest wall several centimeters below the clavicle. Although the authors have not encountered scar contracture, straight-line vertical incisions on the neck are prone to hypertrophy. In addition, the dissection was limited to levels II, III, and IV and not the submandibular triangle, a zone of lymph nodes at risk for involvement in instances of an oropharyngeal primary tumor. Alternate designs include modification of the Y incisions (Fig. 1) or, if the neck has been previously irradiated, parallel transverse incisions, the McFee design (Fig. 2).

Dr. Aryian and co-authors Drs. Patel and Clune have produced a video of a selective neck dissection drawn from a library of operative videos compiled, maintained, and available electronically from the Yale Department of Surgery. As the world of graduate surgical education labors under the multiple imposed burdens of the Accreditation Council for Graduate Medical Education–mandated work hours limitations, there is a growing recognition of the necessity to transition from a model of acquisition of mastery of operative procedures through countless hours of participation in operations to that of the use of adjunctive technology. That technology includes adoption of surgical simulation, a teaching format still in the embryonic stage, and the use of operative videos. Well-produced videos enable the learner—the resident—to view a procedure repeatedly, replacing to at least a substantial degree the initial one or two or more (dependent on complexity) services in the role as operating room assistant of said operation. Perhaps the future holds the opportunity of a sequential approach of video study, practice simulation with fresh tissue dissection, culminating in operating...
room participation in the operation under discussion. If this model is to come to fruition, substantial stumbling blocks embodied in the availability and cost of fresh cadaveric tissue will have to be overcome. In addition, videos of live operations or procedures performed on fresh cadavers will need to fulfill several criteria, some of which are technical and some of which are conceptual: high fidelity and resolution, a continuous unobstructed view, appropriate lighting (i.e., not washed out by operating room lights or headlights), a narrative that is clearly audible, and succinct editing. Conceptually, the narration should consider the educational objectives of the full continuum of resident hierarchy from junior to senior. This approach is substantially different from the narration directed toward a continuing medical education format or a more experienced observer. In this vein, a GoPro device (GoPro, Inc., San Mateo, Calif.) strapped to the surgeon’s head with intermittent overillumination by the headlight, captured in low resolution and attended by poor audio and long periods of silence, probably falls far short of ideal.

In summary, kudos to Dr. Ariyan and coauthors for creation of a video of an operation not frequently performed in many plastic surgery residency programs, the radical neck dissection. Nevertheless, the principles and techniques elucidated are easily translated and incorporated into a legion of procedures performed in the neck by practicing surgeons.

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PATIENT CONSENT

The patient provided written consent for the use of his images.

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