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Anterior Cervical Osteotomy and Corpectomy for Rigid Kyphosis: A Surgical Video

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Kyphotic cervical deformities are rare and can lead to an inability to maintain neutral gaze, pain, and neurological dysfunction. Surgery can restore normal alignment, leading to decreased pain and neurological improvement. Anterior osteotomies, involving complete resection of the uncovertebral joints in combination with corpectomy and expandable cage placement, are a powerful strategy for treating these pathologies. In the present article, we demonstrate indications and surgical techniques for an anterior cervical osteotomy through a surgical video. .

The Supplemental Video shows a patient undergoing anterior cervical osteotomy and corpectomy to treat focal kyphosis at C4/C5. An 18-year-old male patient presented with increasing spasticity of the upper and lower extremities. On imaging, he was found to have

20° of focal kyphosis at C4 to C5 with cord draping. The patient underwent discectomies at C4 to C5 and C5 to C6 with an uncinete resection at C4 to C5 and C5 corpectomy. An expandable interbody cage was placed, which helped realign the spine after the anterior release has been completed. We achieved almost complete correction of kyphosis and undrapping of the spinal cord, and the patient's spasticity subjectively improved quickly.

Anterior over posterior cervical surgery has the advantage of significantly less postoperative pain and lower infection rates, which seemed appealing in this patient with pre-existing chronic pain. The key in reducing the kyphosis was sufficient anterior release by means of uncinectomy and intraoperative traction in extension. Furthermore, an expandable corpectomy

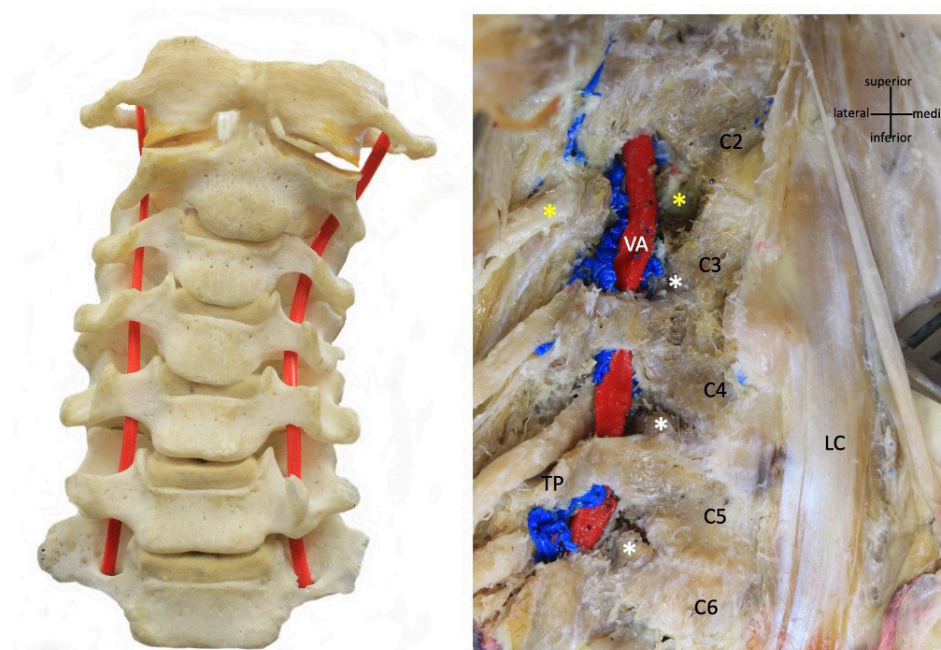


Figure. Cervical spine cadaveric specimen. LC, longus colli muscle; TP, transverse process; VA, vertebral artery. The yellow asterisk indicates the C2 nerve root.

cage has an additional advantage of further increasing segmental lordosis by cage expansion. Posterior longitudinal ligament release is optional.

A combination of anterior cervical osteotomy, corpectomy, and placement of an expandable cage can provide substantial segmental sagittal plane correction, provided the posterior elements are mobile. The intimate relationship of the uncinat process with the vertebral artery, perivertebral venous plexus, and nerve root is outlined in Figure.

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