The Posterior Midline Approach to a Cervical Disc

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A cervical intervertebral disc may be approached by the anterior, lateral, oblique, posterior paramedian, or posterior midline procedures. This is a description of the posterior midline approach, which is suitable for removal of disc extrusions and ridges on the facet of Luschka. For lesions of the main vertebral body joint, an anterior approach is preferable.

**Procedure**

The procedure is carried out under general anesthesia using a nonkinking cuffed endotracheal tube. The operation may be done with the patient in the prone, sitting, or lateral position. Skull fixation is desirable to maintain proper alignments. In the prone position, the patient is placed on chest rolls with shoulders well over the end of the table. The neck is then moderately flexed, and lifted straight up (posteriorly) and fixed in this position; this has the effect of relaxing the posterior neck muscles. The head of the table is then raised so that the cervical area is superior. In the lateral position, the head may be dropped and flexed slightly to open the interspace. In the sitting position, which has the advantage of decreased bleeding, precautions must be taken against air embolism. These include the placement of a right atrial catheter and a regular or ultrasonic stethoscope, plus preparations for the elevation of blood pressure by pharmacological means. Positioning and draping should permit a quick change to the left lateral decubitus position should this become necessary.

**Surgical Technique**

The first large spine (usually C-6) is identified by palpation and reference to the lateral x-ray film. For a C5-6 exposure, the midline skin incision is centered on C-5 and extended over two spines in each direction. When the deep fascia (fusion of external cervical fascia and ligamentum nuchae) is exposed, the spines of C-2 through C-7 are palpated through the wound and compared with the lateral film for definitive interspace location. The fact that C-6 is usually the last bifid cervical spine helps orientation. The fascia is incised unilaterally over the C-5 and C-6 spines. The subperiosteal dissection of muscles from the C-5 and C-6 laminae should always progress from below upward, since the oblique attachment of muscles to spines and laminae follows this pattern. Muscle tendons and ligaments attaching to laminae should be cut, not torn.

A small portion of the inferior lateral lamina of C-5 and superior lateral laminae of C-6 is removed with the Leksell rongeur; this excision is extended laterally with the flat-bladed Kerrison punch to include a portion of the facet (Fig. 1 upper). The ligamentum flavum is now removed, revealing the lateral dural edge and proximal nerve root sheath. It is necessary to remove the medial aspect of the facet, recalling that
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Fig. 1. Drawings to show the extent and purpose of bone removal. In the upper view the finely stippled line indicates the superior margin of C-6, and the heavy dash line the amount of lamina and facet removed. Lateral oblique view (lower), shows the relation of the nerve root to the vertebral artery.