1. Preoperative preparation of the patient should include oral and nasal cultures. Preoperative antiseptic gargles and tetracycline, which were used in the past, are not needed. No special antibiotic coverage is used for normal oral flora. Standard prophylactic antibiotics are used.

2. After intubation and anesthesia, perform a tracheostomy. Insert the short cuff tube. Position the patient supine with the head slightly flexed on occipital pads. A more upright position can be used with certain precautions.

3. Insert the Boyle-Davis or McIver ENT retractor to allow depression of the tongue and self-retaining retraction of the mouth. Be certain there is adequate padding for the lips and teeth (Fig. 2A). Place a collagen sponge into the nasopharynx to control drainage. For adequate visualization of the posterior pharynx, usually the soft palate must be retracted first. Retract the soft palate with soft rubber tubes placed through the nasal cavity and out the oral cavity and tie with adequate padding on the lips (Fig. 2B).

4. If adequate soft palate retraction is not obtained, the soft palate is incised in a curvilinear incision around the uvula and the cut edges are retracted with stay sutures to the lateral walls of the oropharynx.

5. Prep the oropharynx with Betadine solution and reculture.

6. Inject the posterior pharyngeal tissue with a solution of lidocaine and epinephrine, which aids hemostasis.

7. After palpation and X-ray confirmation of the ring of C1, make a vertical incision from approximately 1 cm cephalad to the tip of the odontoid to 2 cm distal to the anterior tubercle of the ring of C1. Incise the four layers (posterior pharyngeal mucosa, superior constrictor muscle of the pharynx, the prevertebral fascia, and the anterior longitudinal ligaments) directly to bone (Fig. 2C).

8. Bluntly dissect the soft tissue off the body of C2 below the odontoid and off the anterior tubercle of C1 (Fig. 2D).

Caution: Venous bleeding may arise from the recesses just lateral to the base of the odontoid. The longus colli muscle inserts on the anterior tubercle of C1, and sharp dissection may be needed to remove it.

9. When needed, bluntly dissect the bone both transversely and vertically to expose the lateral masses of C1–2 (Fig. 2E). Retract the cut edges of the wound
Fig. 2A: The Boyle-Davis or McIver ENT retractor inserted to allow adequate retraction of the tongue. The soft palate may be incised to allow stay suture retraction or retracted with naso-oral soft rubber tubes. The posterior pharynx is opened longitudinally and bluntly dissected transversely to reveal the anterior tubercle of Cl.

Fig. 2B: The operative field showing the packing in the hypopharynx and the exposed posterior pharyngeal wall.