Cervical Osteotomy Technique  
for Fixed Cervical Kyphotic Deformity

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I. Introduction
   a. Case Presentation and surgical planning
   b. Room Setup and Preparation
   c. Exposure and Placement of Instrumentation C4 to T3, or longer
   d. Perform Posterior Osteotomy @ C7
   e. Reduction Maneuver
   f. Fixation, Fusion, Closure

II. Case Presentation
   a. 63 year old male with Ankylosing Spondylitis
   b. Fixed Chin-on-Chest Deformity
   c. Unable to see horizon
   d. Ambulates by peering sideways
   e. Radiographs – 55° Chin-Brow Angle
   f. C7 PSO of 25° to attain horizontal gaze

III. Room Setup
   a. Bed rotated in room - Anesthesia to the left of the patient
   b. Patient seated – fused spine dictates position, extremities padded
   c. Mayfield sitting frame attached to bed and Mayfield 3-point head holder positioned to allow for neck extension later in the case
   d. C-arm is positioned upside-down, above patient to attain a perfect lateral view of the cervical spine and also hold the shower-curtain sterile drape.
   e. Prep base of skull to mid-thoracic spine
   f. Check Spinal Cord Monitoring – SSEP, tcMEP, frEMG
IV. Surgical Technique
   a. Expose from C4 to T3, out to lateral masses/TPs
   b. Place instrumentation for later fixation form C4 to T3
   c. Perform Laminectomy/Foraminotomies at C6-7 and C7-T1
   d. Remove C7 lateral masses and pedicles bilaterally
   e. Remove a wedge of C7 Vertebral Body, under flouro guidance
   f. REDUCTION MANEUVER – loosen and rotate head with Mayfield 3-Point Head Holder. Loosen only what is necessary to reduce spine. Scrubbed surgeon can control the motion during the reduction
   g. Check exiting C7 and C8 nerve roots to be sure reduction did not compress them. Further decompress as required.
   h. Place rods in screws from C4 to T3, decorticate and pack bone graft for the fusion. Wound closure.

V. References1-5


The FDA has not cleared the following pharmaceuticals and / or medical devices for the use described in this presentation. Lateral Mass Screws in the cervical spine - no specific manufacturer.