



## Case Review:

### Complex Cervical Reconstruction of C2-C6

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# Patient History

- 62 year old male
- Status post anterior cervical diskectomy, C4-5
- Now with sub-adjacent disc herniation with spinal cord compression, cervical stenosis and neural foraminal stenosis.
- The patient also has massive posterior cervical degeneration at C2-3, C3-4, C4-5, and C5-6 causing increasing axial neck pain, arm pain.
- The patient has been taking an escalating amount of narcotics for 7 years.
- The patient has impending neurologic deficit with posterior cervical pain, shoulder pain indicative of mild myelopathy.

# Pre-op X-rays



# Indications for Surgery

- Status post anterior cervical diskectomy and fusion, C4-5.
- Now with sub-adjacent disc herniation and spinal cord compression, C5-6.
- The patient on CT scan had massive arthrosis at C2-3, specifically on the left-hand side. This is superjacent to a highly mobile segment. The significant subaxial degeneration had caused the patient to have dysfunctional pain.
- Severe posterior subaxial arthritis.
- Failure to thrive with increase narcotic usage.
- Motor-sensory deficit and neurologic sequela.
- Partial cervical kyphosis.

# Surgical Strategy

- The strategy would be removal of plate anteriorly, sub-adjacent anterior cervical discectomy and fusion. The posterior spinal fusion from C2 to C6 would cause necessarily significant sub-adjacent degeneration, spinal canal compression, especially with the cervical disc herniation.
- Radical discectomy, C5-6 under the microscope with spinal cord decompression.
- Subtotal vertebrectomy, C5 with removal of posterior uncovertebral osteophyte, anterior osteophyte constituting 1/3 of the vertebra and spinal canal decompression with bilateral neural foraminal decompression.
- Anterior interbody fusion, C5-6, 8-mm, with autogenous bone graft.
- Anterior cervical plate fixation, C5-6 with a 4-hole Atlantis Vision plate.
- Removal of retained hardware, Zephyr plate, C4-5.
- A Mayfield pin placement and positioning.
- Posterior cervical fusion, C2 to C6, using posterior cervical screw-rod construct.
- Posterior spinal fusion, C2 to C6, using locally harvested autogenous bone and putty
- Intraoperative SSEPs.
- Intraoperative fluoroscopy.

# Post-Op Films



# Pre-Op/Post-op Comparison



# Pre-Op/Post-op Comparison

