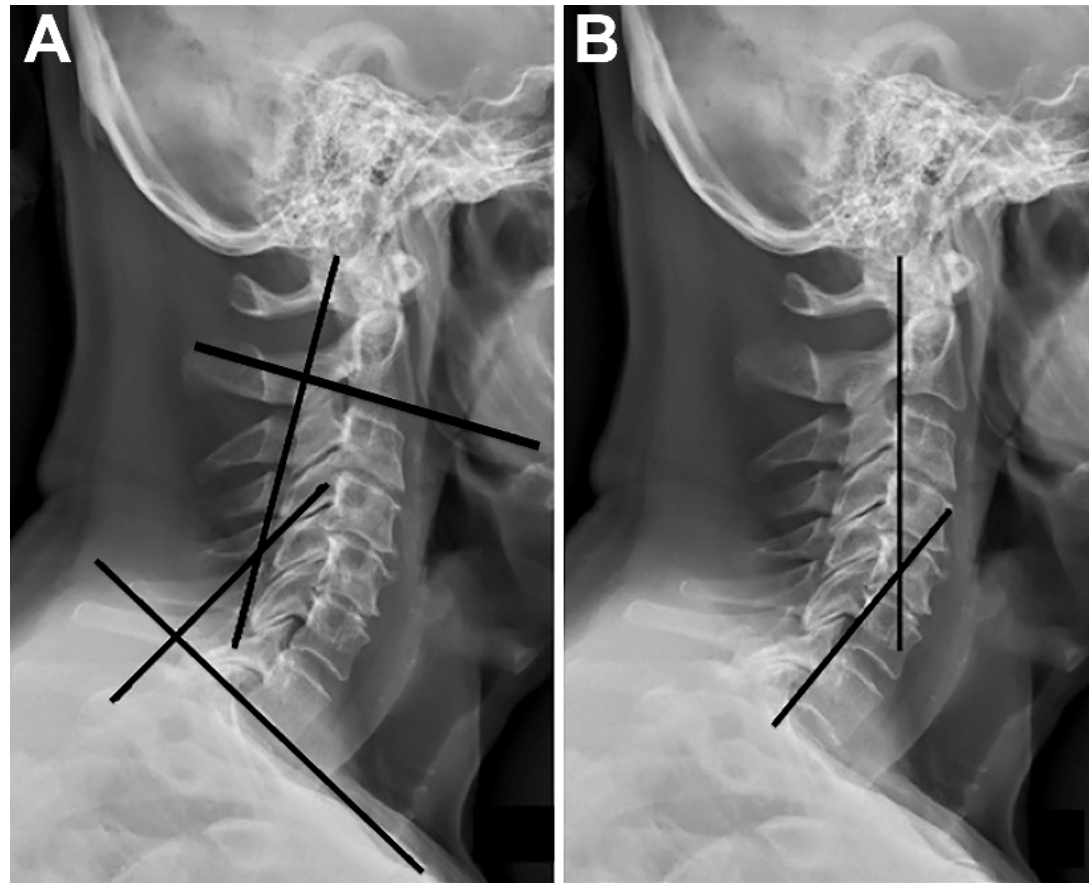


Complications of Anterior and Posterior Cervical Spine Surgery

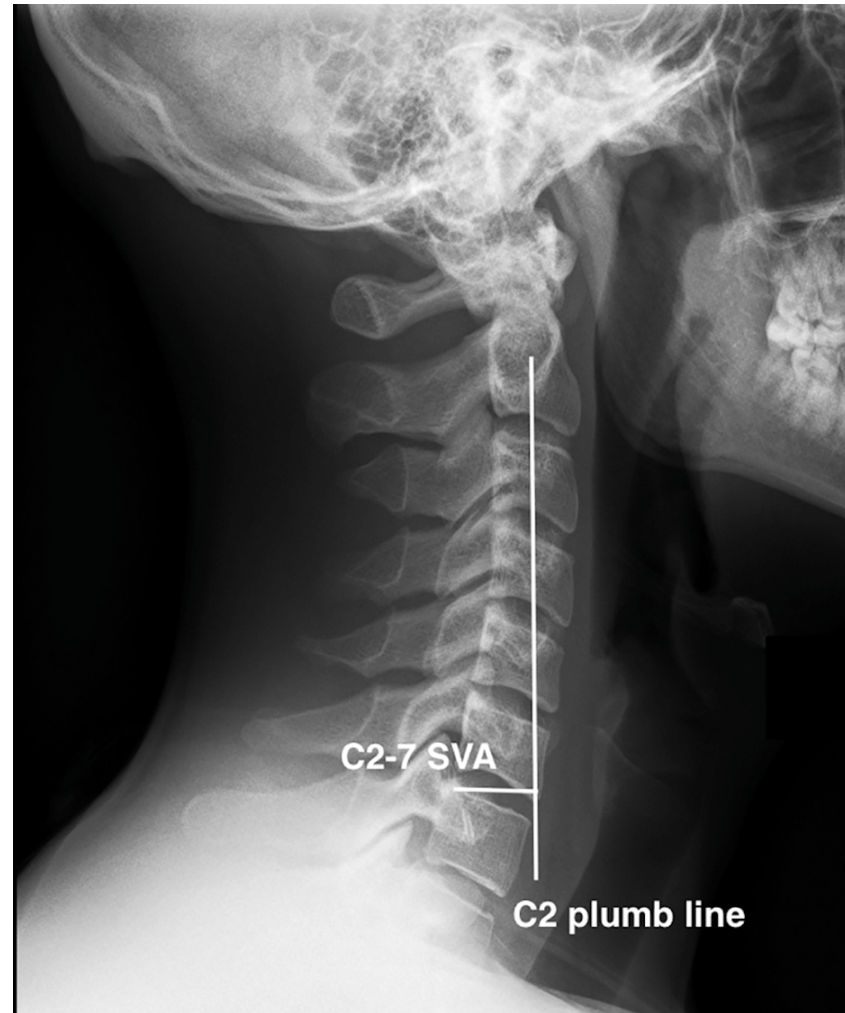
Ali Kemal Ozturk, MD
Assistant Professor of Neurosurgery
Pennsylvania Hospital
University of Pennsylvania Dept. of Neurosurgery

Cervical Lordosis



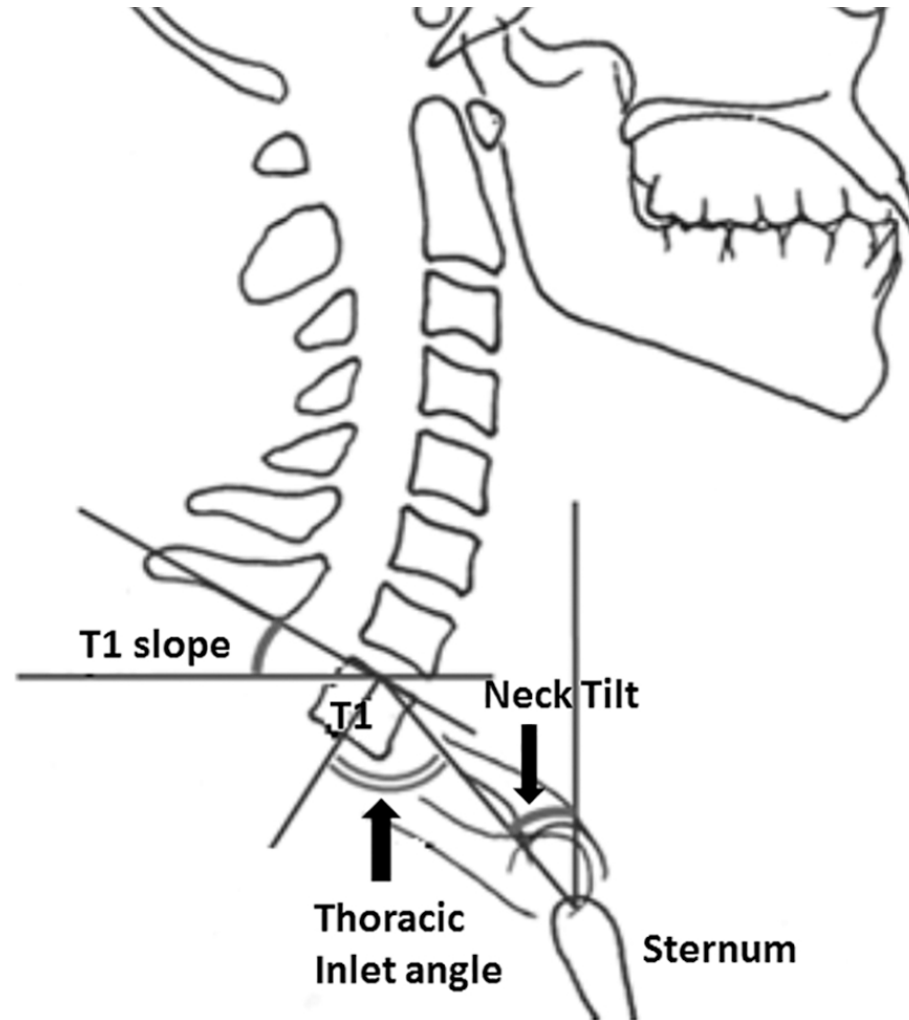
Cervical spine alignment, sagittal deformity, and clinical implications : A review Justin K. Scheer, B.S.,¹ Jessica A. Tang, B.S.,¹ Justin S. Smith, M.D., Ph.D.,² Frank L. Acosta Jr., M.D.,³ Themistocles S. Protopsaltis, M.D.,⁴ Benjamin Blondel, M.D.,⁵ Shay Bess, M.D.,⁶ Christopher I. Shaffrey, M.D.,² Vedat Deviren, M.D.,⁷ Virginie Lafage, Ph.D.,⁴ Frank Schwab, M.D.,⁴ Christopher P. Ames, M.D.,⁸ and the International Spine Study Group [J Neurosurg Spine](https://doi.org/10.3171/2013.4.SPINE12838). 2013 Aug;19(2):141-59. doi: 10.3171/2013.4.SPINE12838. Epub 2013 Jun 14.

C2-7 SVA



Cervical spine alignment, sagittal deformity, and clinical implications : A review Justin K. Scheer, B.S.,¹ Jessica A. Tang, B.S.,¹ Justin S. Smith, M.D., Ph.D.,² Frank L. Acosta Jr., M.D.,³ Themistocles S. Protopsaltis, M.D.,⁴ Benjamin Blondel, M.D.,⁵ Shay Bess, M.D.,⁶ Christopher I. Shaffrey, M.D.,² Vedat Deviren, M.D.,⁷ Virginie Lafage, Ph.D.,⁴ Frank Schwab, M.D.,⁴ Christopher P. Ames, M.D.,⁸ and the International Spine Study Group [J Neurosurg Spine](https://doi.org/10.3171/2013.4.SPINE12838). 2013 Aug;19(2):141-59. doi: 10.3171/2013.4.SPINE12838. Epub 2013 Jun 14.

Cervical Parameters



Pt 1



- ◆ **Healthy 71 year old**
- ◆ **Severe, long standing neck pain**
- ◆ **Severe shooting pain into her L thumb**
- ◆ **1 year history of hand numbness, gait difficulties**

Pt 1



Pt 1

◆ Pt underwent:

- ◆ Stage 1: C4-5, 5-6 ACDF with hyperlordotic standalone cage
- ◆ Stage 2: C3-7 laminectomies, C3-T2 fusion

Pt 1



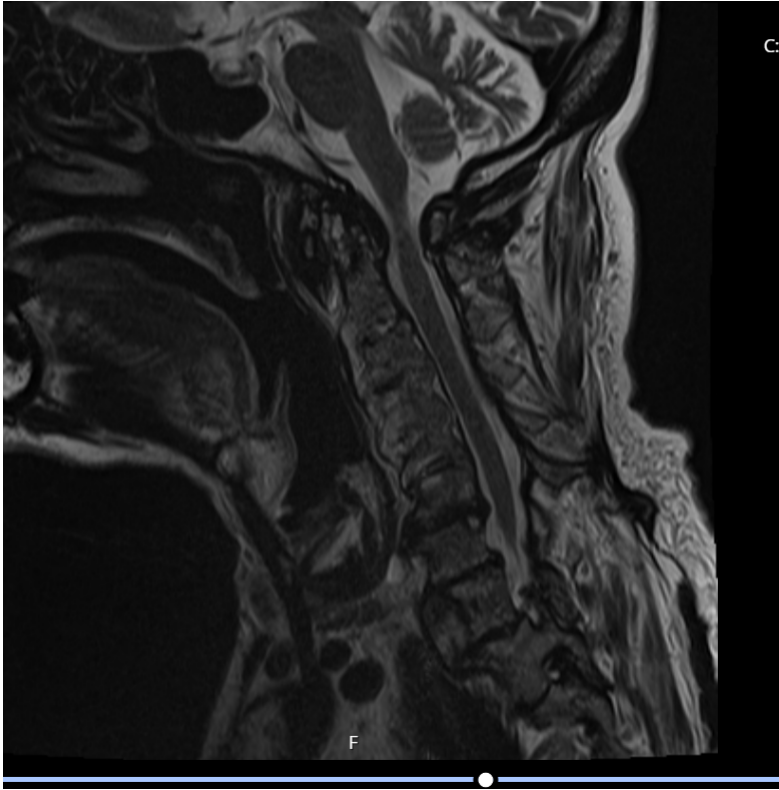
- ◆ **C2-7 Cobb angle : 9 deg**
kyphosis → 18 deg lordosis

Pt 2



- ◆ 65 year old with severe neck pain
- ◆ Prior thoracolumbar fusion
- ◆ No neurologic symptoms

Pt 2



Pt 2

- ◆ **Pt underwent:**
 - ◆ C6-7 ACDF with HLC
 - ◆ Posterior C4-T2 fusion

Pt 2

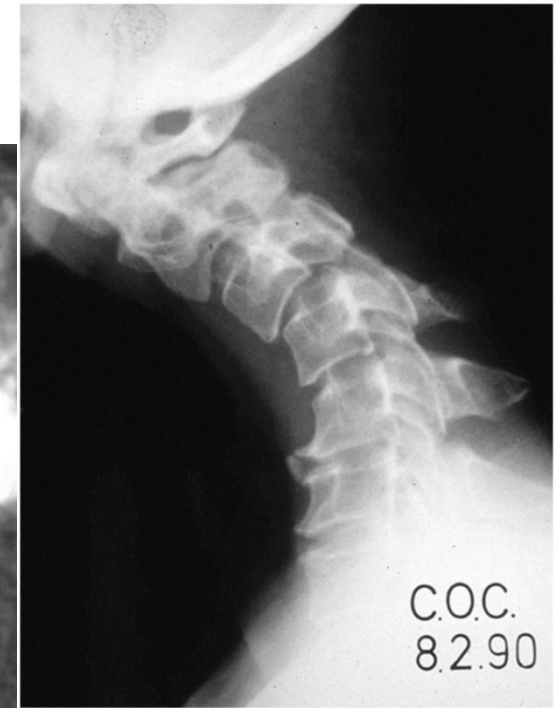
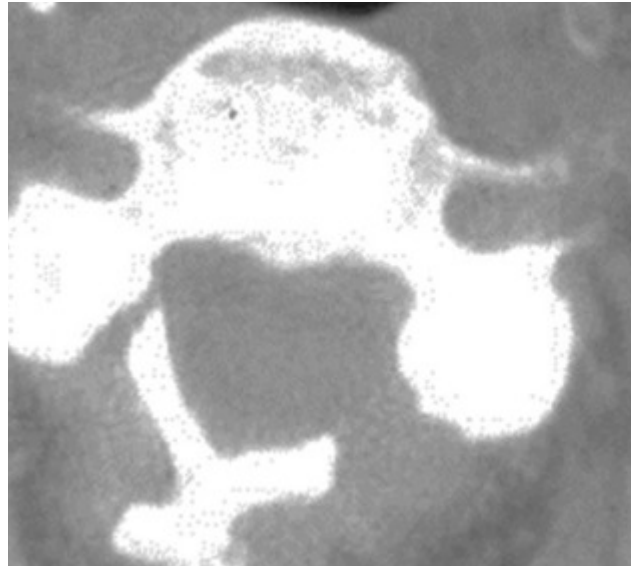
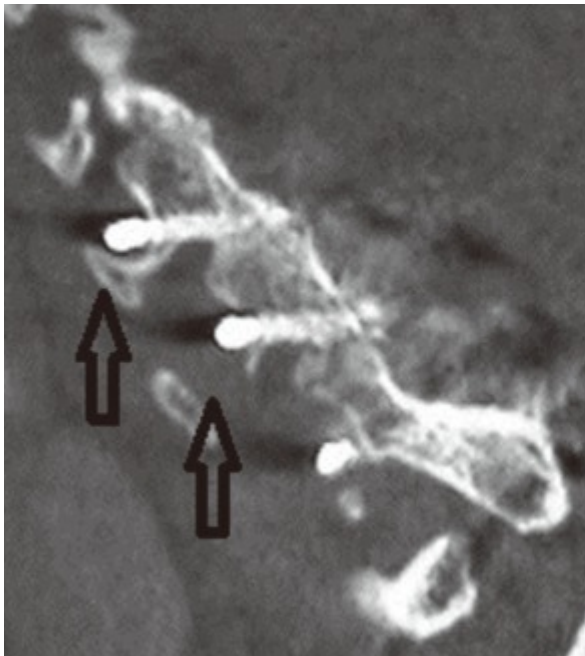


Complications of Anterior Cervical Spine Approaches

- Hemorrhage or formation of a wound hematoma
- Damage to the carotid or vertebral artery resulting in a stroke or excessive bleeding, even death
- Damage to the recurrent laryngeal nerve resulting in hoarseness
- Damage to the superior laryngeal nerve resulting in swallowing difficulty
- Damage to the esophagus or trachea resulting in infection
- Damage to the dura, resulting in a cerebrospinal fluid leak
- Mechanical complications of the graft and plate (including graft migration, breakage of the plate, screw pullout, etc.)
- Wound infection
- Development of painful pseudarthrosis
- Damage to the spinal cord or nerve root(s) resulting in pain, weakness, paralysis, loss of sensation, loss of bowel or bladder function, impaired sexual function, etc

Complications of Posterior Cervical Spine Approaches

- Injury to the spinal cord or nerve roots
- Hardware misplacement
- C5 palsy
- Post operative infection or compressive hematoma
- CSF leak/pseudomeningocele
- Spring back closure of laminoplasty
- Post laminectomy kyphosis



Thank you