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Videos

Video 1: Adult Spinal Deformity: Degenerative Kyphoscoliosis

Comron Saiji and Vincent Arlet

Demonstration of the planning, preoperative spinopelvic measurements, and the surgical correction of a 65-year-old woman with severe degenerative kyphoscoliosis. It is accomplished in two stages with an anterior antepsoas fusion followed by a second stage T4–pelvis posterior fusion with multiple, posterior, single-column osteotomies.

Video 2: Adult Idiopathic Lumbar Scoliosis Correction

Christopher J. DeWald

Demonstration of an adult with thoracolumbar scoliosis, posterior spinal correction from T11 to L3 with posterior spinal instrumentation, and posterior column osteotomies.

Video 3: Adult Degenerative Lumbar Scoliosis Correction

Christopher L. Hamill

After placing pedicle screws, pelvic screws, and performing posterior facetectomies/osteotomies, this video demonstrates the use of rod bending and reduction towers to complete the scoliosis correction in an adult patient. Preoperative and postoperative X-rays are shown.

Video 4: Vertebral Column Resection, T7

Christopher J. DeWald and Ricardo B. V. Fontes

Demonstration of a three-column osteotomy of a T7 vertebral column resection for a severe adolescent osteochondritis in a teenage boy with Rubenstein-Taybi syndrome. A large oblique interbody titanium cage was chosen versus an expandable cage as we were able to securely compress across this cage.

Video 5: Anterior Lumbar Interbody Fusion/Cage

Christopher J. DeWald

Demonstration of a horizontal incision for a single-level ALIF at L5–S1. This is a portion of a longer video under the revision spinal surgery video.

Video 6: Pedicle Subtraction Osteotomy of L5

Christopher J. DeWald

Demonstration of a pedicle subtraction osteotomy (PSO) across a L5 hemivertebrae status post a posterior spinal fusion using Harrington rod posterior fixation many years ago. The PSO included the hemivertebrae and half of the angled L4 vertebrae within the solid arthrodesis.

Video 7: Resection of Pedicle for PSO

Ricardo B. V. Fontes

Demonstration of the pedicle resection portion of a pedicle subtraction osteotomy using an osteotome. Placement of a temporary rod is also shown.

Video 8: Removal of Broken or Stripped Pedicle Screws

Christopher J. DeWald

Demonstration of different techniques of removing broken or stripped screws. There are a couple of tricks to remove these screws. Watch out for the HA-coated screws.

Video 9: Distal Revision of a Long Spinal Construct

Christopher J. DeWald

Demonstration of a distal junctional failure extension to the pelvis after an early distal failure with a distraction injury at L4–L5. Note the use of dual rod-to-rod connectors.

Video 10: S2AI (S2 Alar–Iliac) Screw Placement

Christopher J. DeWald

Demonstration of the placement with fluoroscopy images of a S2 alar–iliac screw pelvic fixation.

Video 11: Placement of an Iliac Screw

Ricardo B. V. Fontes

Demonstration of placement of an iliac screw with power tap and screw driver.

Video 12: Minimally Invasive Fixation of the Sacropelvic

Saman Shabani, Nishanth Krishnan, Anthony Lee, Nitin Agarwal, Dean Chou, and Praveen Mummaneni

Demonstration of a right sided iliac screw via a Minimally Invasive (MIS) technique using CT navigation for use in a longer spinal construct.

Video 13: Placement of Proximal Hooks and Thoracolumbar Hooks (Claw)

Christopher J. DeWald

Video showing proximal use of hooks to top off a scoliotic construct. The use of hooks is a forgotten technique but is useful as a damping effect at the cephalad aspect of a long spinal construct to help decrease risk of catastrophic junctional kyphosis as well as an important technique when pedicles are very small.

Video 14: Surgical Techniques for Posterior Iliac Crest Harvesting

Vardhaan S. Ambati, Saman Shabani, Anthony Lee, Nitin Agarwal, Jeremy Huang, Dean Chou, and Praveen Mummaneni

Demonstration of obtaining a tri-cortical autograft via an open approach from the right ilium is presented.

Video 15: Technique of a Posterior Interbody Fusion via a Minimally Invasive Technique

Ricardo B. V. Fontes

Using a microscope in an MIS TLIF technique.

Video 16: Open Interbody Fusion for a Severe Foraminal Stenosis in a Grade 2 Spondylolisthesis/Gill Laminectomy

Christopher J. DeWald

An open decompression with Gill laminectomy of a high-grade 2 lytic spondylolisthesis of L5–S1. The foramen is sequentially opened from one side to the other and then compressed to improve lordosis and compress the interbody cages.

Video 17: Surgical Treatment of Isthmic Spondylolisthesis

Philip K. Louie and Howard S. An

Video and discussion of the surgical technique of a Gill laminectomy of a L5–S1 isthmic spondylolisthesis.

Video 18: Spondylolysis Repair—Minimally Invasive Technique

Patrick J. Cahill

Demonstration of the use of an MIS technique in the repair of a spondylolysis.

Video 19: Dome Osteotomy of a High-Grade Spondylolisthesis

Ricardo B. V. Fontes and Frank Phillips

Demonstration of the decompression, distraction across the lumbosacral kyphosis, partial translation/reduction, and final compression of a high-grade spondylolisthesis. Key points are presented at the conclusion of the video.

Video 20: Dual Differential Correction of an Adolescent Idiopathic Scoliosis

Christopher J. DeWald

Demonstration of the DDC technique of adolescent scoliosis surgical correction. The idea of DDC is to use a softer metal (titanium) on the convex portion of a thoracic curve and a stiffer hyper-bent rod (cobalt chrome) on the concave curve. The convex rod acts as the AXIS of derotation while the stiffer concave rod allows the curve to distract while derotating. This slow segmental process ideally allows derotation without the need for DVR towers and improved thoracic kyphotic posture.

Video 21: Thoracoplasty/Rib Resection in Severe Scoliosis

Christopher J. DeWald

Demonstration of a technique of thoracoplasty of a 100-degree scoliosis case. After exposing the rib prominence adjacent to the spine, the medial rib is exposed, and a rib stripper is used to completely separate the adjacent tissue off the rib. Care is taken to strip the inferior aspect of the rib to protect the neurovascular bundle. Approximately 1 to 1.5 cm of rib is removed medial to the rib angle to the lateral aspect of the spine. The rib is cut just medial to the angle of the rib, so the cut surface is not protruding posteriorly against the muscle or skin.

Video 22: Vertebral Body Tethering*Patrick J. Cahill*

An intraoperative endoscopic video demonstrating the placement of a vertebral tethering in an adolescent patient with thoracic scoliosis.

Video 23: Scheuermann's Kyphosis Surgical Correction*Christopher J. DeWald*

Demonstration of multiple posterior osteotomies (Ponte osteotomies) for the correction of a thoracic Scheuermann's deformity. A combination of cantilever forces combined with compressive forces provide for a segmental correction of the kyphotic deformity.

Video 24: Rod Bending Techniques—One and Two Surgeon Methods*Christopher J. DeWald and Christopher L. Hamill*

Not all rods are pre-bent. This video demonstrates two intraoperative rod bending methods. It is an art.

Video 25: Ponte Osteotomies*Christopher J. DeWald*

Posterior single-column osteotomies—Ponte osteotomies are demonstrated in the correction of a thoracolumbar scoliosis.

Video 26: Sublaminar Wires*Gregory Benes and Paul Sponsellor*

An instructional video demonstrating the placement of sublaminar wires in the thoracic spine in a juvenile patient. Key points of the technique are discussed.

Video 27: Facetectomies for Scoliosis Correction*Christopher J. DeWald*

The Chicago method for performing facetectomies in an idiopathic thoracic scoliosis is demonstrated. Special care is taken to identify the laminar facet junction to safely remove the inferior facet while always beware of protecting the spinal cord. Both 0.5-inch osteotome and an ultrasonic scalpel are used.

Video 28: Direct Vertebral Rotation for Idiopathic Scoliosis*Christopher J. DeWald*

The use of DVR towers to derotate the spine in an idiopathic scoliosis is demonstrated. Interconnecting towers are used to derotate segmentally versus using an en-bloc technique. Each vertebra is slowly derotated by tightening the concave towers while holding the convex towers with a clockwise rotation force. Each set of tower connection is visited over and over to continue the derotation until the final correction.

Video 29: Anterior Cervical Discectomy and Fusion*Howard S. An and Philip K. Louie*

A microscopic demonstration of an ACDF technique.

Video 30: Anterior Cervical Osteotomies for Cervical Kyphosis*Ricardo B. V. Fontes*

Demonstration of an anterior cervical osteotomy for a multilevel release and fusion to improve cervical lordosis.

Video 31: C7 Opening Wedge Osteotomy in an Ankylosing Spondylitis Patient*Christopher J. DeWald and Ricardo B. V. Fontes*

A severe ankylosing spondylitis case that had a chin on chest deformity that required a C7 opening wedge osteotomy in a sitting position as an initial stage. A second stage of a lumbar PSO followed by a T11 VCR as the third stage were required to complete the spinal re-alignment.

Video 32: Proximal Hook Placement—Topping Off Long Spinal Constructs*Christopher J. DeWald*

Discussion and demonstration of the placement of a single claw at T4 using a Supra-laminar (intra-canal) hook combined with a T4 pedicle hook in a cephalad extension of a T10-pelvis spinal construct.

Video 33: Transpedicular Transforaminal Interbody Fusion at L1–L2 for Junctional Kyphosis with Stenosis

Christopher J. DeWald

A transforaminal interbody fusion and cage placement for thoracolumbar PJK above an L2–sacrum fusion. This approach allows entrance into the disk space from the upper instrumented vertebral pedicle screw hole through the lateral edge of the superior vertebral endplate. With this approach an interbody cage and bone graft can be placed without manipulation of the dura or sacrificing the exiting nerve root. This is a useful technique for PJK issues at the thoracolumbar junction.

Video 34: Kickstand Rod for Coronal Malalignment

Christopher J. DeWald

Demonstration of placement of a kickstand rod with an iliac screw placed more vertical in the ilium and then distracted against to improve coronal alignment. Radiographs show the placement of the kickstand iliac screw and a coronal maligned case corrected using a kickstand rod.

Video 35: Durotomy, Exposure, and Repair

Christopher J. DeWald

Decompression of a severe stenosis in a flatback syndrome s/p Harrington rod instrumentation for idiopathic scoliosis with the development of an incidental durotomy. The video proceeds with the exposure of the durotomy and closure using a muscle plug to complete the repair.

Video 36: T2 Pedicle Subtraction Osteotomy for Cervical–Thoracic Kyphosis

Ricardo B. V. Fontes

A T2 pedicle subtraction is demonstrated in this video. It starts with the exposure of the second rib with resection of the medial aspect to expose the lateral pedicle and vertebral body bilaterally. It proceeds with laminectomies of T2 and adjacent laminae and then onto the pedicle subtraction osteotomy utilizing osteotomes and curettes.