DOES VCR HAVE A ROLE IN EOS PATIENTS?

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DISCLOSURES

Last 36 months

Royalties: Medtronic (substantial), Quality Medical Publishing (minor).

Consulting: Medtronic, Depuy-Synthes, K2M (Monies directed to a Charitable Foundation)

Grants: Axial Biotech, DePuy-Synthes Spine.

Board: Scoliosis Research Society.

Philanthropic /Society Research Funding: Fox Family (Prospective Pediatric Spinal Deformity study); AOSpine & SRS (Scoli-Risk 1 study).

Fellowship Funding: AOSpine North America (funds/fellow year).

Speakers' Bureau: DePuy-Synthes Spine, K2M (monies donated to private foundation)

Travel/Accommodations: AMCICO, AOSpine, BroadWater, COA, DePuy-Synthes, Dubai Spine Society, Medtronic, SOSORT, SRS, SSF, The Spinal Research Foundation.

Editorial: Associate Editorial Board of Spine, Editorial Board of the Journal of Spinal Disorders & Techniques and Scoliosis, Professional Advisory Board of Backtalk and the Scoliosis Association, Associate Board of the Journal of Neurosurgery: Spine, The Spine Journal, Associate Editor for iscoliosis.com and spineuniverse.com, Deputy Editor of Spine Deformity.

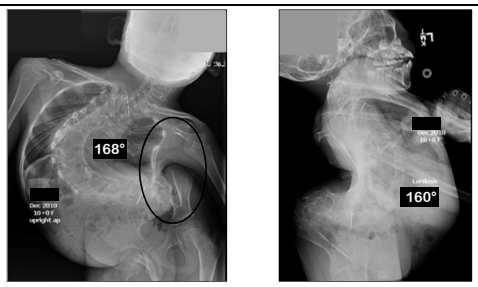
Post VCR: 247 CASES/ 52 < AGE 10

1. Posterior vertebral column resection for severe pediatric deformity. Minimum 2-year follow-up of thirty-five consecutive patients. ***Spine*** **2009;34:2213-21**
2. Vertebral column resection for the treatment of severe spinal deformity. ***CORR*** **2010;468:687-99**
3. Posterior vertebral column resection (VCR). ***SRS e-Text Spinal Deformity*****. www.srs.org, May 2011**
4. Vertebral column resection in children with neuromuscular spine deformity. ***Spine*** **2012;37:E655-1**
5. Antifibrinolytic agents reduce blood loss during pediatric vertebral column resection procedures. ***Spine*** **2012;37:E1459-63**
6. Posterior vertebral column resection for the treatment of dystrophic kyphosis and dislocation associated with type-1 neurofibromatosis: a case report and review of the literature. ***Spine*** **2012;37:E1659-64**
7. Complications following 147 consecutive vertebral column resections for severe pediatric spinal deformity: A multicenter analysis. ***Spine*** **2013;38:119-32**
8. Predicting kyphosis correction during posterior-only vertebral column resection by the amount of spinal column shortening. ***Spine Deform J (2015)***
9. Is there a Difference in Single Stage vs Staged VCR's regarding Clincal and Radiographic Correction and Complications? ***Spine (Submitted Spine Deformity 2015)***

VCR *Indications*

- **Severe/Rigid Spinal Deformity**
- 4 Groups: Severe Scoliosis (SS), Global Kyphosis (GK), Angular Kyphosis (AK) & **KyphoScoliosis (KS)**
- Any region from C7-sacrum
- Pediatric/adult; Primary/Revision
- **"Procedure of Last Resort!"** When nothing else more "simple" will suffice

SEVERE CONGENTIAL LORDOSCOLIOSIS

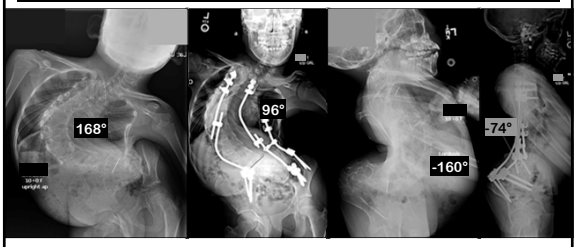


"ILIAC-AXIALLARY" DEFORMITY

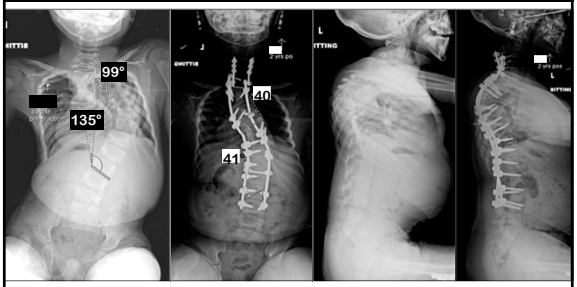
6 MONTHS HALO-GRAVITY TX

6 MONTHS HALO-GRAVITY TX

S/P GRI & GRL x3



PSF C5-L4/PCO's



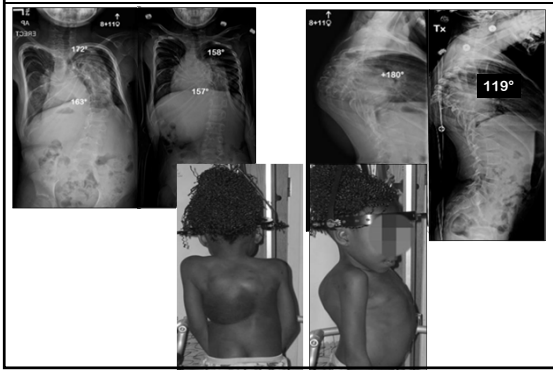
NO VCR PERFORMED!

PRE & POST CLINICAL PHOTOS

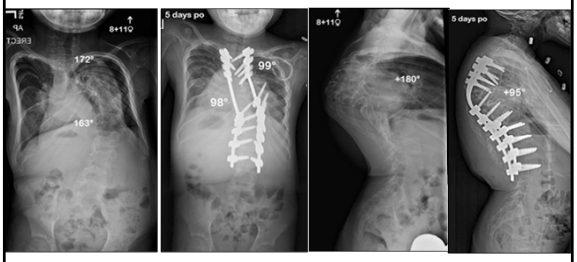
NEUROFIBROMATOSIS

THORACIC MYELOPATHY

6 WEEKS- HG-Tx



PSF T2-L3/T6-7 PEDICLE EXCISON

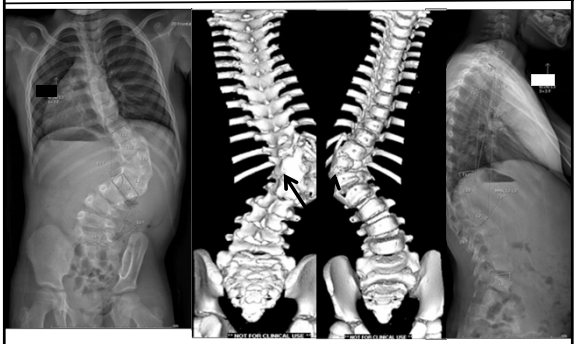


No VCR: Less Correction…. but Immed. Postop Complete Neuro Recovery!

VCR IN EOS- INDICATIONS

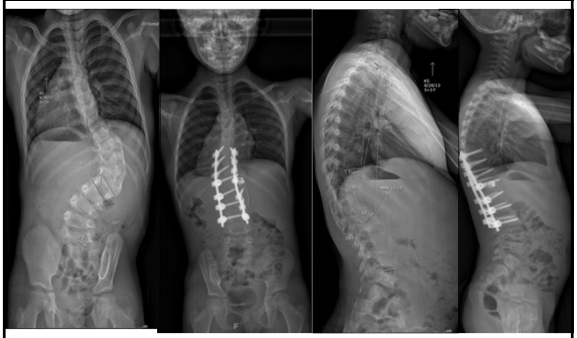
- 1. Fused Deformity with Progression/Imbalance
- 2. Angular Deformity with or without Myelopathy/Neuro Abnormalities
- 3. Severe, Stiff, Rigid, Progressive Deformity where Apical Resection appears to be Optimal Treatment
- 4. Salvage from Other Procedures

CONG. TL SCOLIOSIS: S/P ASF/PSF



SHORT APICAL FUSION WITH PROGRESSION

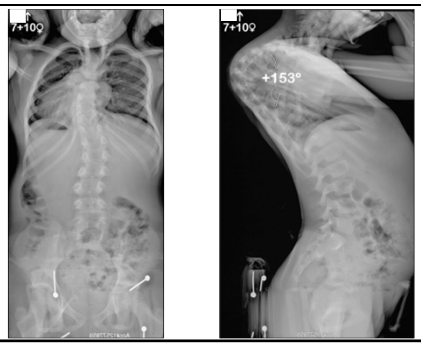
REVSION PSF/T12 VCR



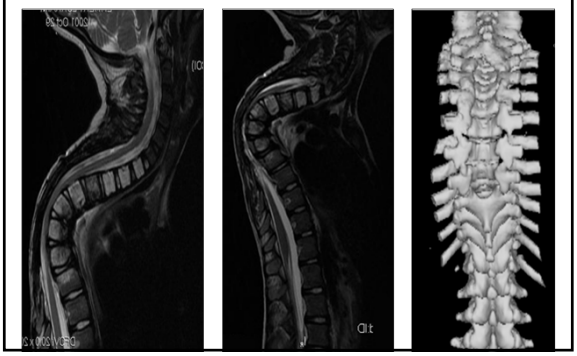
1 YEAR POSTOP AGE 7

PREOP AND POSTOP PHOTOS

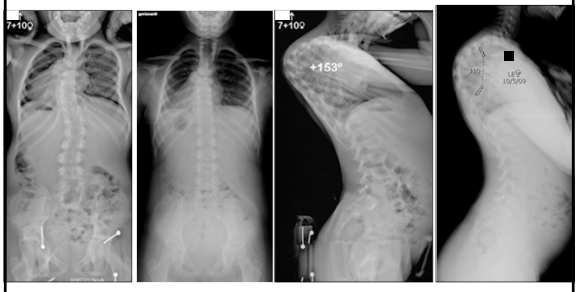
POST LAMINECTOMY KYPHOSIS/MYELOPATHY



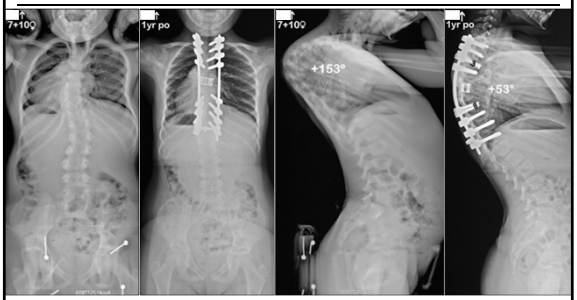
PREOP MRI/CT



16 LBS OF HALO-GRAVITY TRACTION

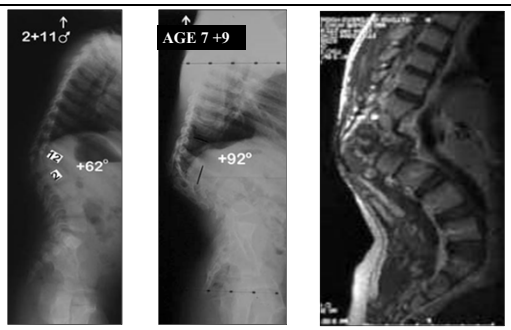


PSF T1-T11/2-LEVEL VCR



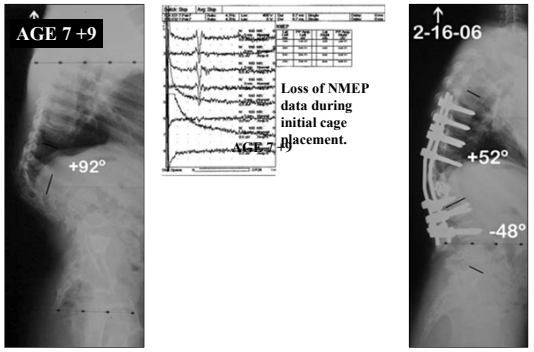
No SCM possible….Multiple WUT's Performed during Surgery

CDS-CONGENITAL DISLOCATION OF SPINE

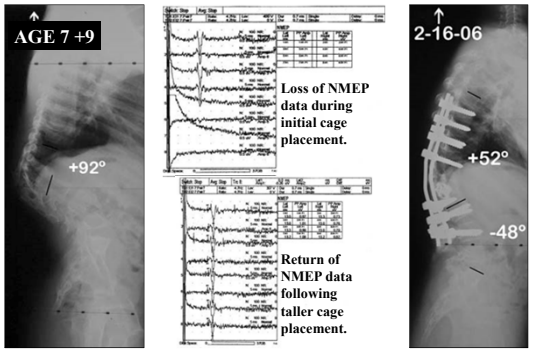


S/P ASF/PSF IN SITU

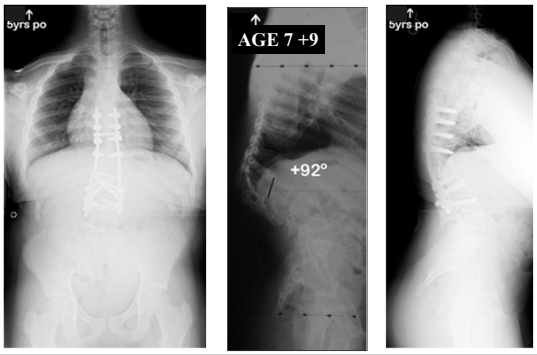
PSF WITH 2-LEVEL VCR



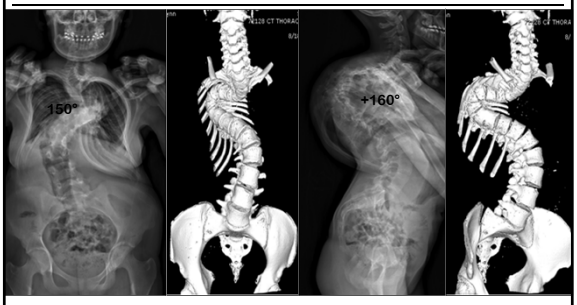
PSF WITH 2-LEVEL VCR



PSF w/2-LEVEL VCR

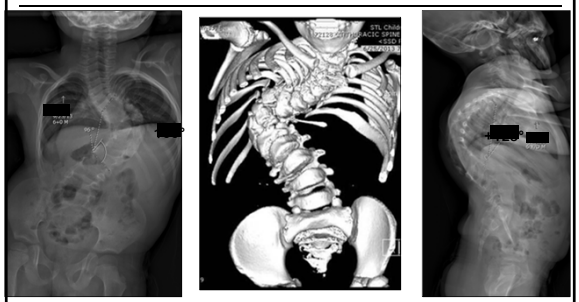


SEVERE KYPHOSCOLIOSIS



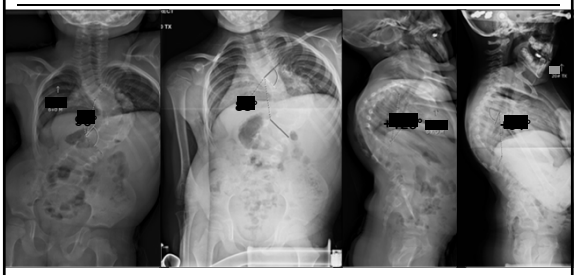
PIERRE-ROBIN SYNDROME

CONGENITAL KS AGE 6

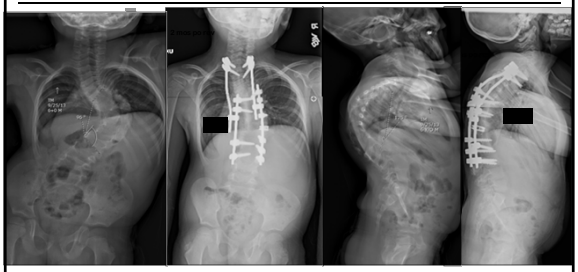


S/P TETHERED CORD RELEASE

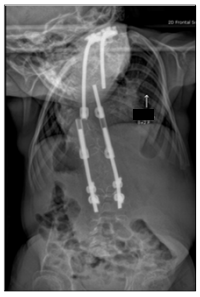
6 WKS HALO-GRAVITY Tx



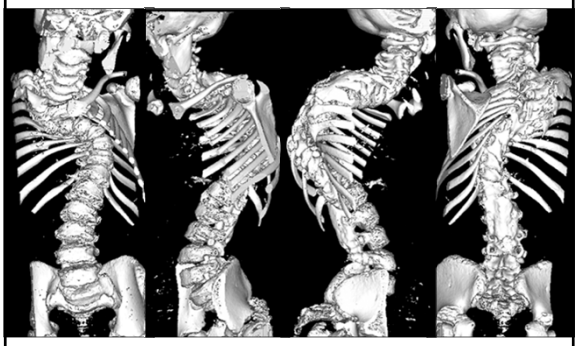
T12 VCR/GR T1-T8



AGE 8: SKELETAL DYSPLASIA ANGULAR C-T KYPHOSCOLIOSIS

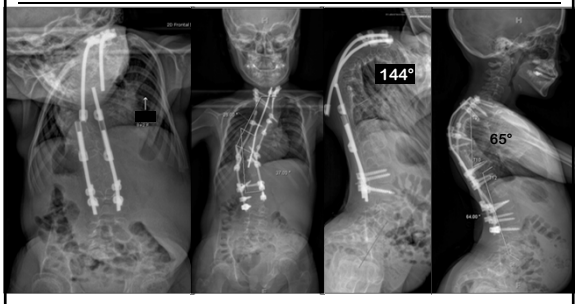


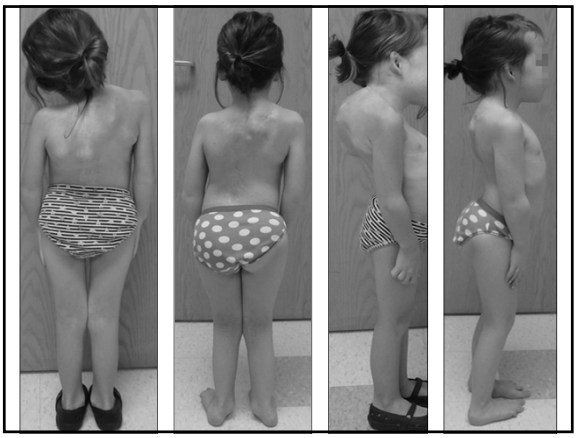
VEPTR & GRI/GRL, THORACOTOMY, Fx RODS



2.5 MOS HALO-GRAVITY Tx

PSF C7-L3/VCR T4





CONCLUSIONS

- VCR should only be used as a “Last Resort”
- Delay/Avoidance Tactics (ie HGTx) and Other Inst/Osteotomy Strategies should be Employed if Possible
- VCR is Excellent for Fixed/Fused Short and Angular Deformities, and also when associated with Neural Compromise/Myelopathy
- One Needs to be Comfortable with the Technique and Practice “Safe Surgery”!

THANK YOU!

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