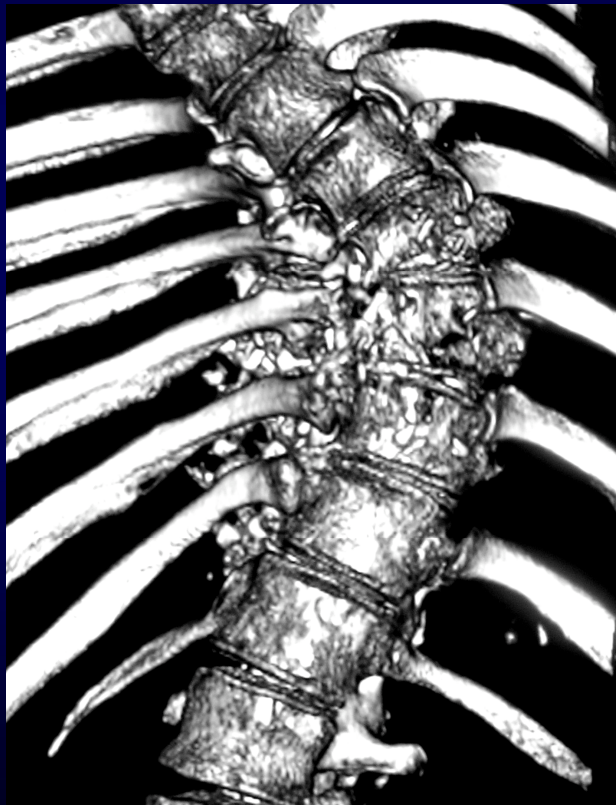
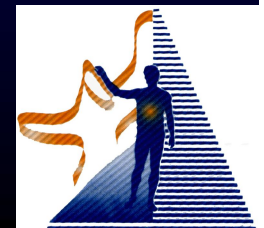


# **ANTERIOR SURGERY in IDIOPATHIC SCOLIOSIS**



**J M VITAL , C SODERLUND**

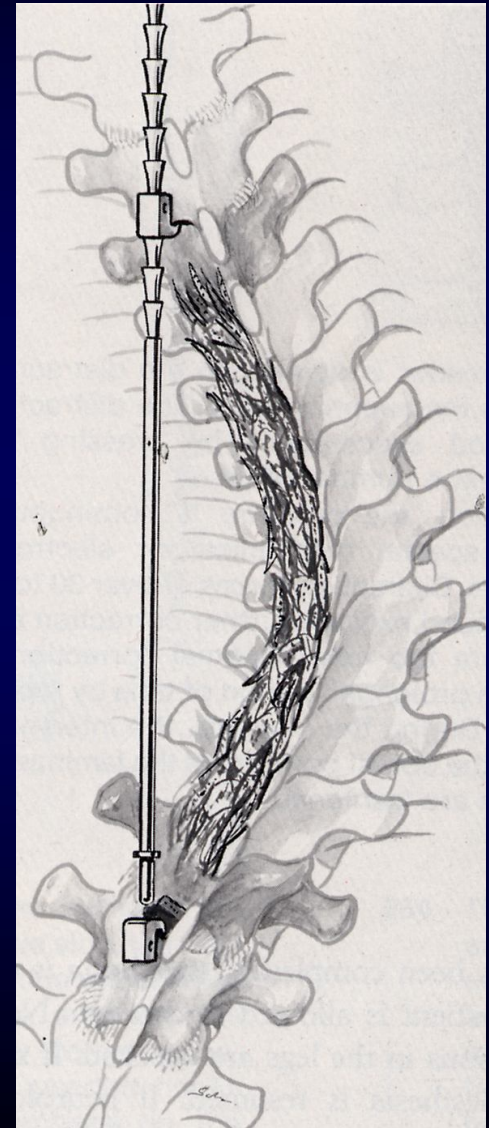
**Spinal Unit , Tripode , Bordeaux , FRANCE**



# HISTORY:PENDULUM



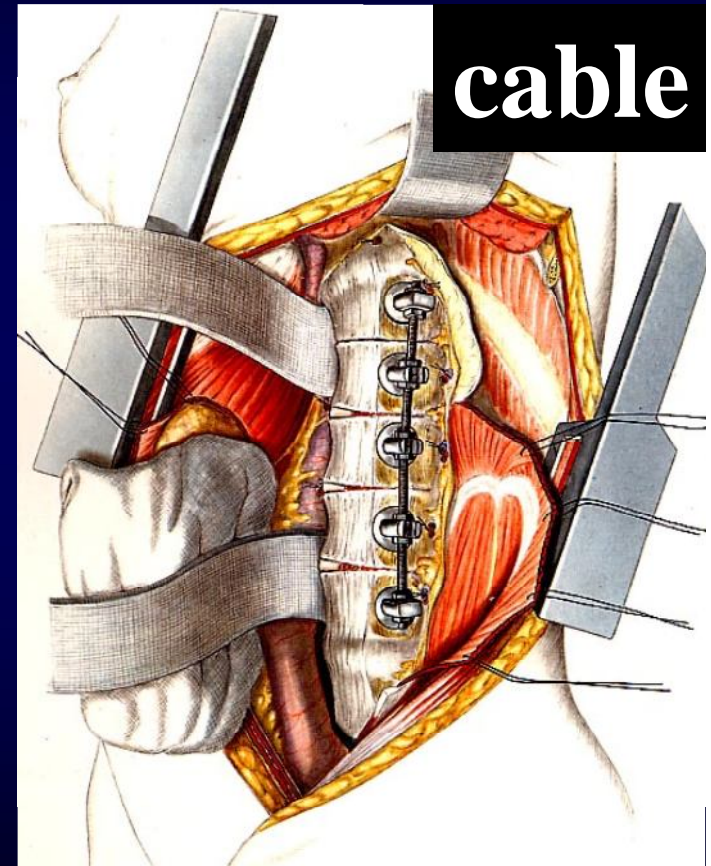
Harrington , 1952



# HISTORY:PENDULUM

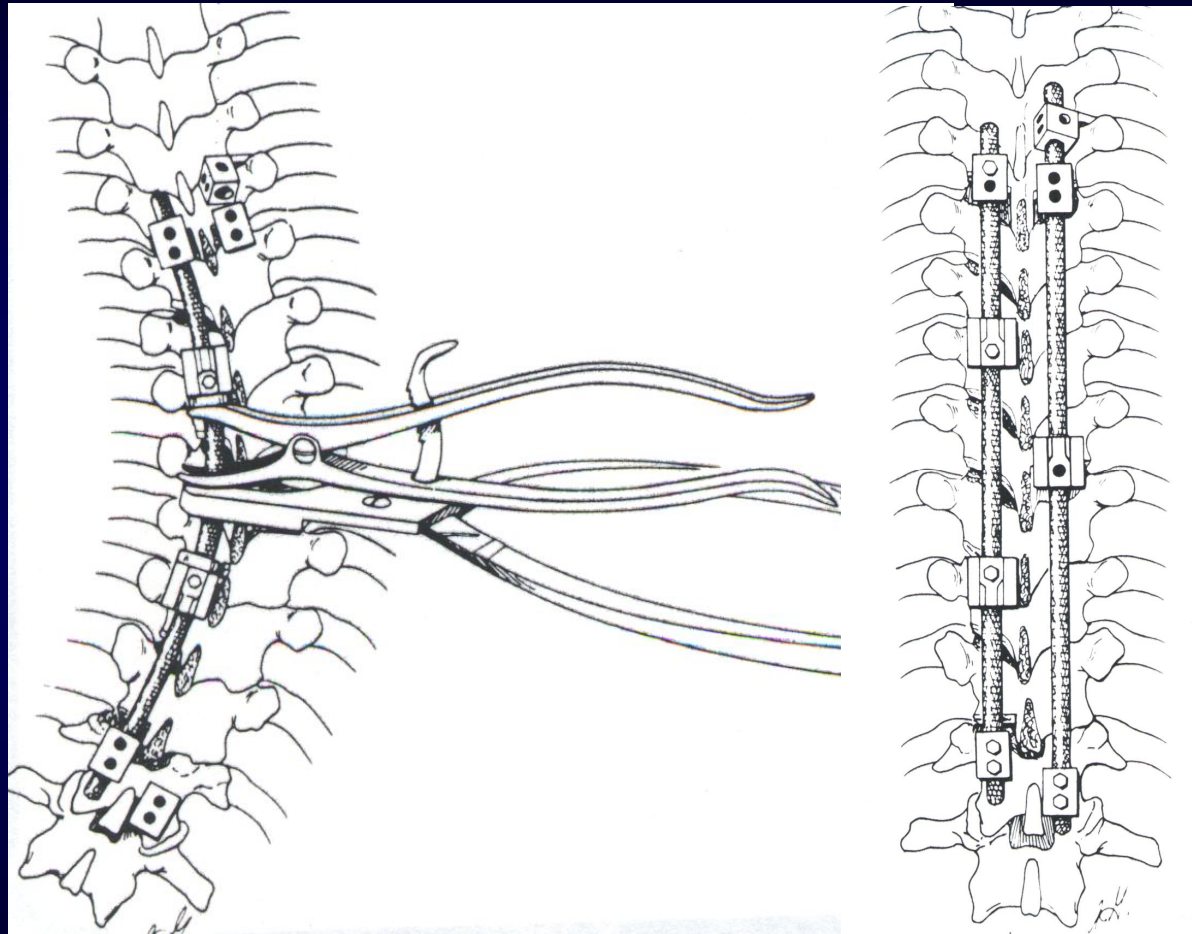


Dwyer , 1964



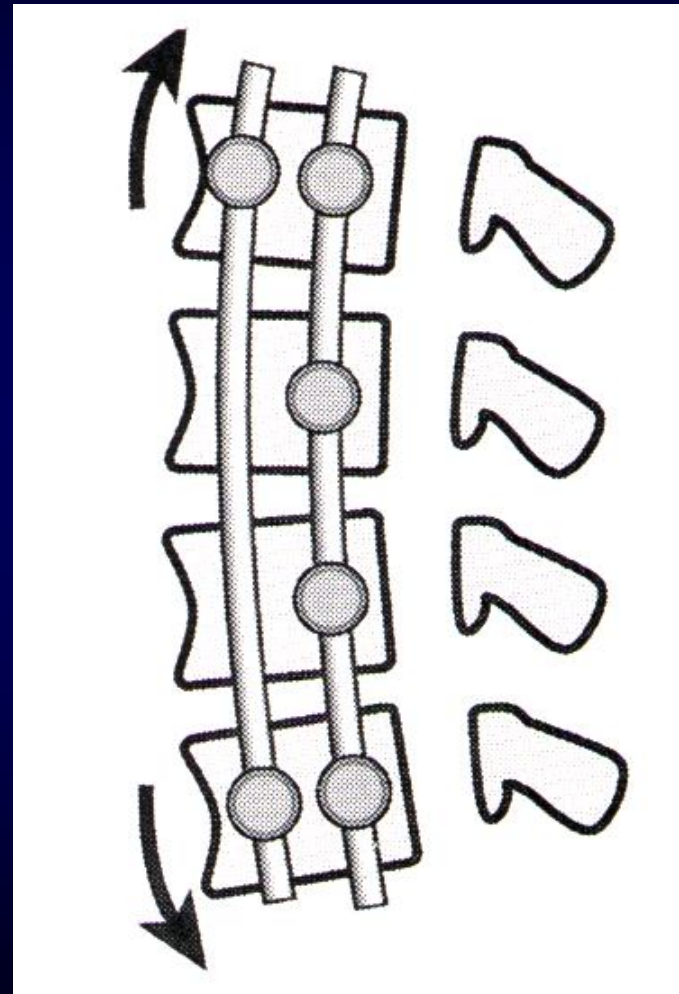
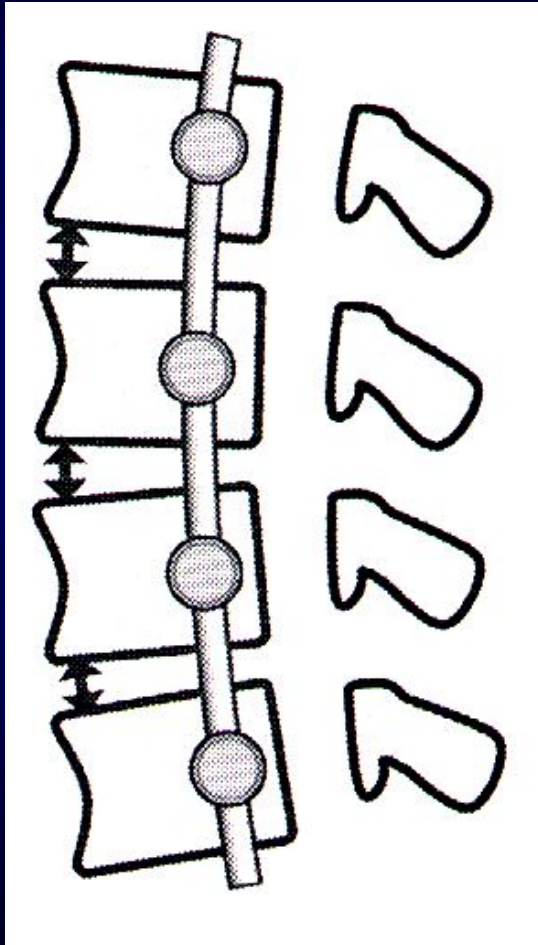
Zielke , 1975 (V.D.S.)

# HISTORY:PENDULUM



Cotrel ,Dubousset , 1980

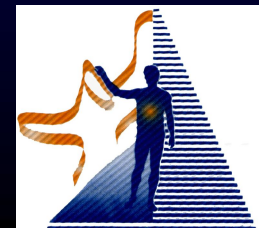
# HISTORY:PENDULUM



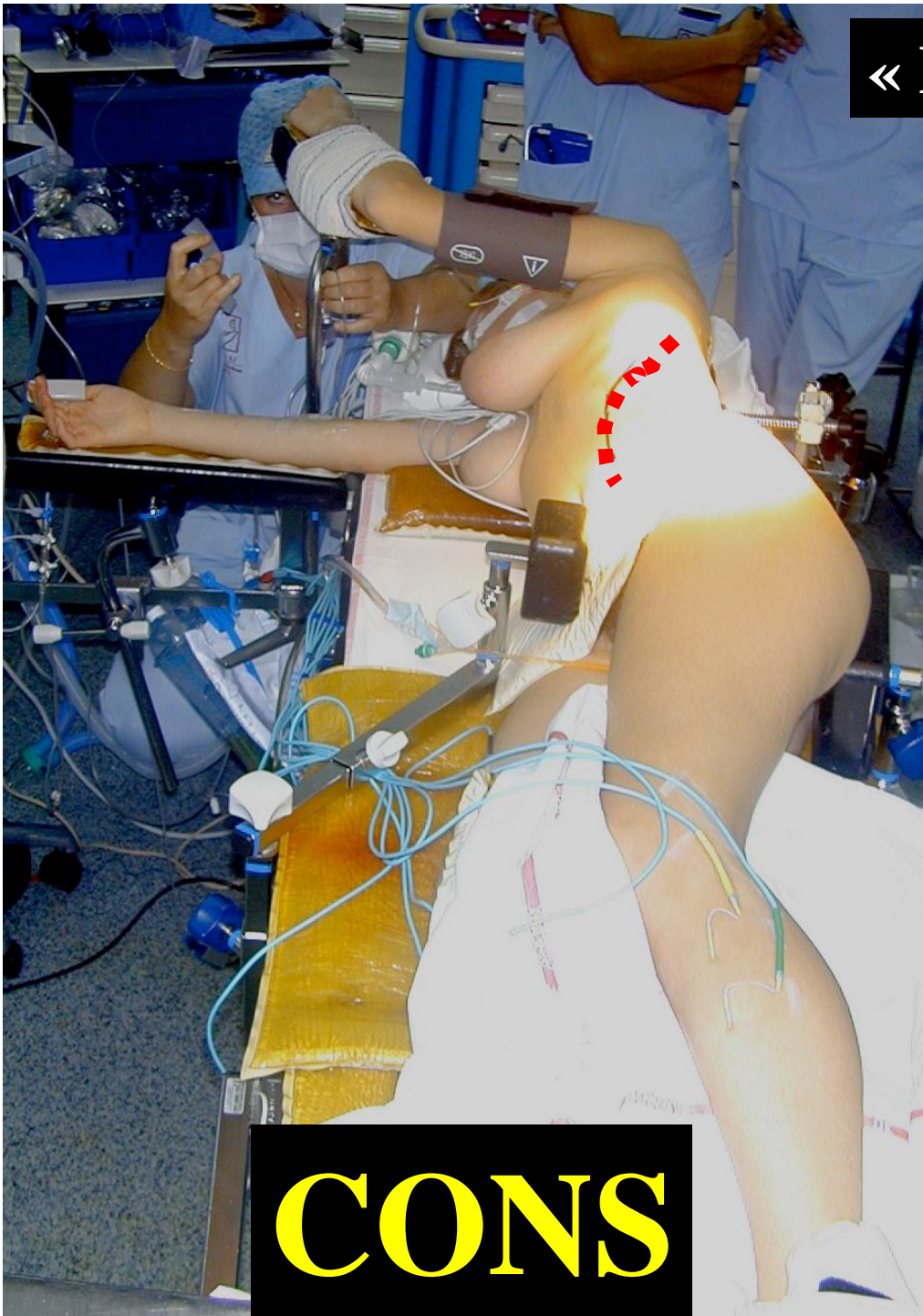
Kaneda

# PROS / CONS

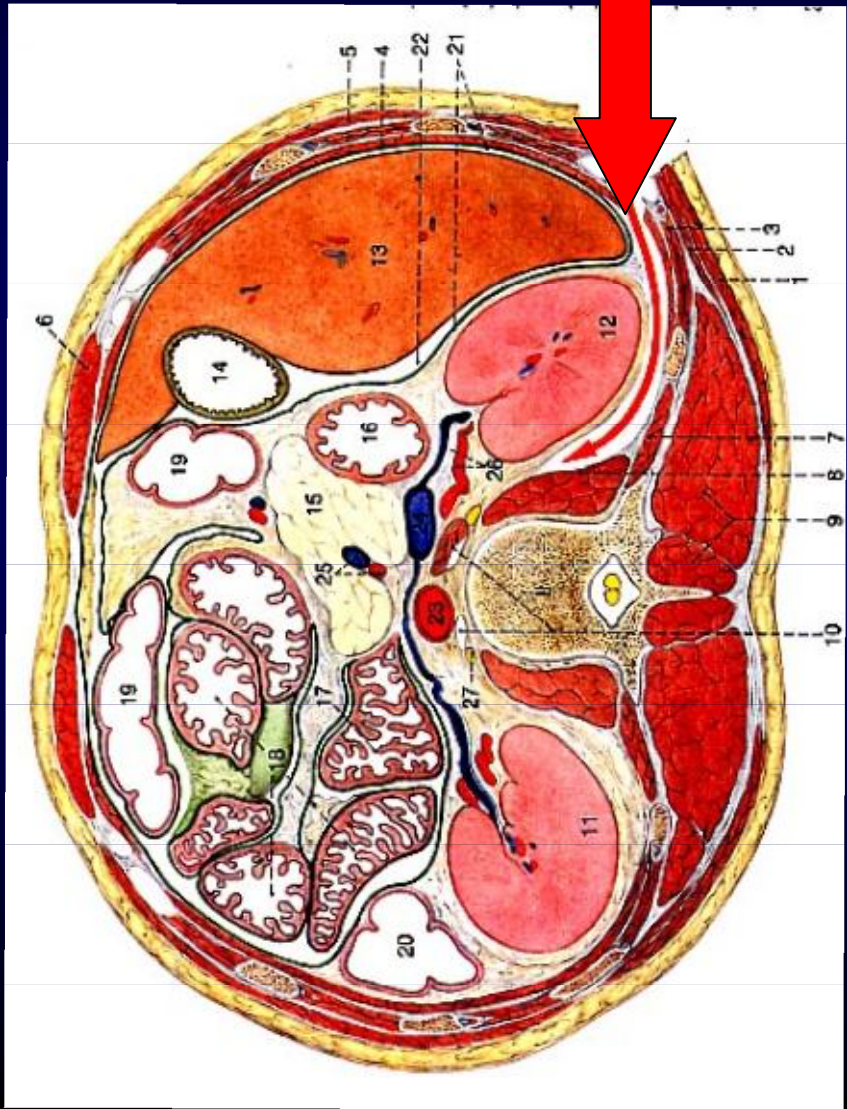
- LESS MUSCULAR DAMAGE
- LOW NEUROLOGIC RISK
- LESS BLEEDING
- RELEASE : DISSECTOMY
- « CENTRAL » CORRECTION
- INTERSOMATIC GRAFT
- DIFFICULT APPROACH
- KYPHOSING INSTR.
- DOUBLE APPROACH



« DIFFICULT » APPROACH



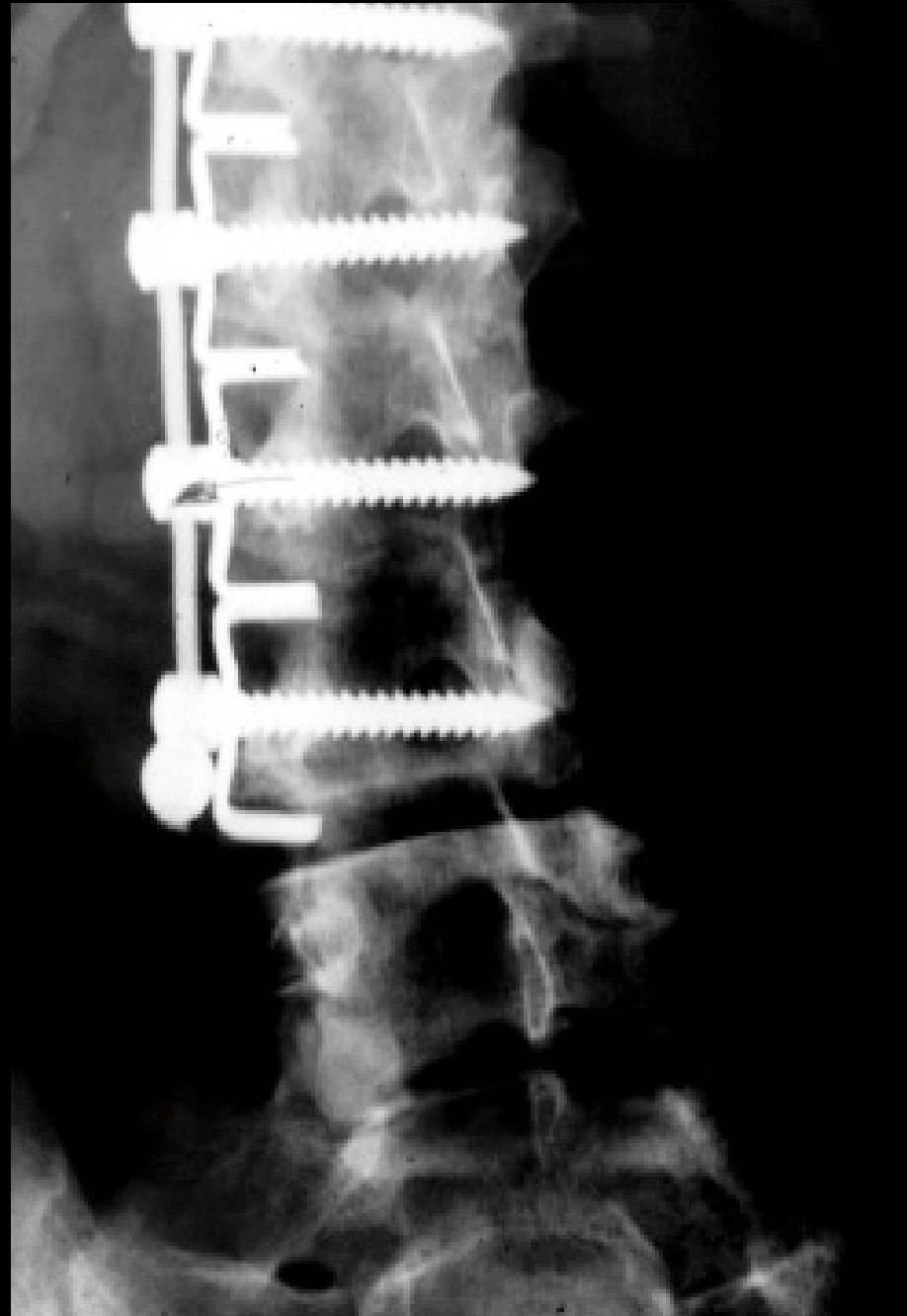
**CONS**



# KYPHOSING INSTRUMENTATION



**DWYER CABLE**



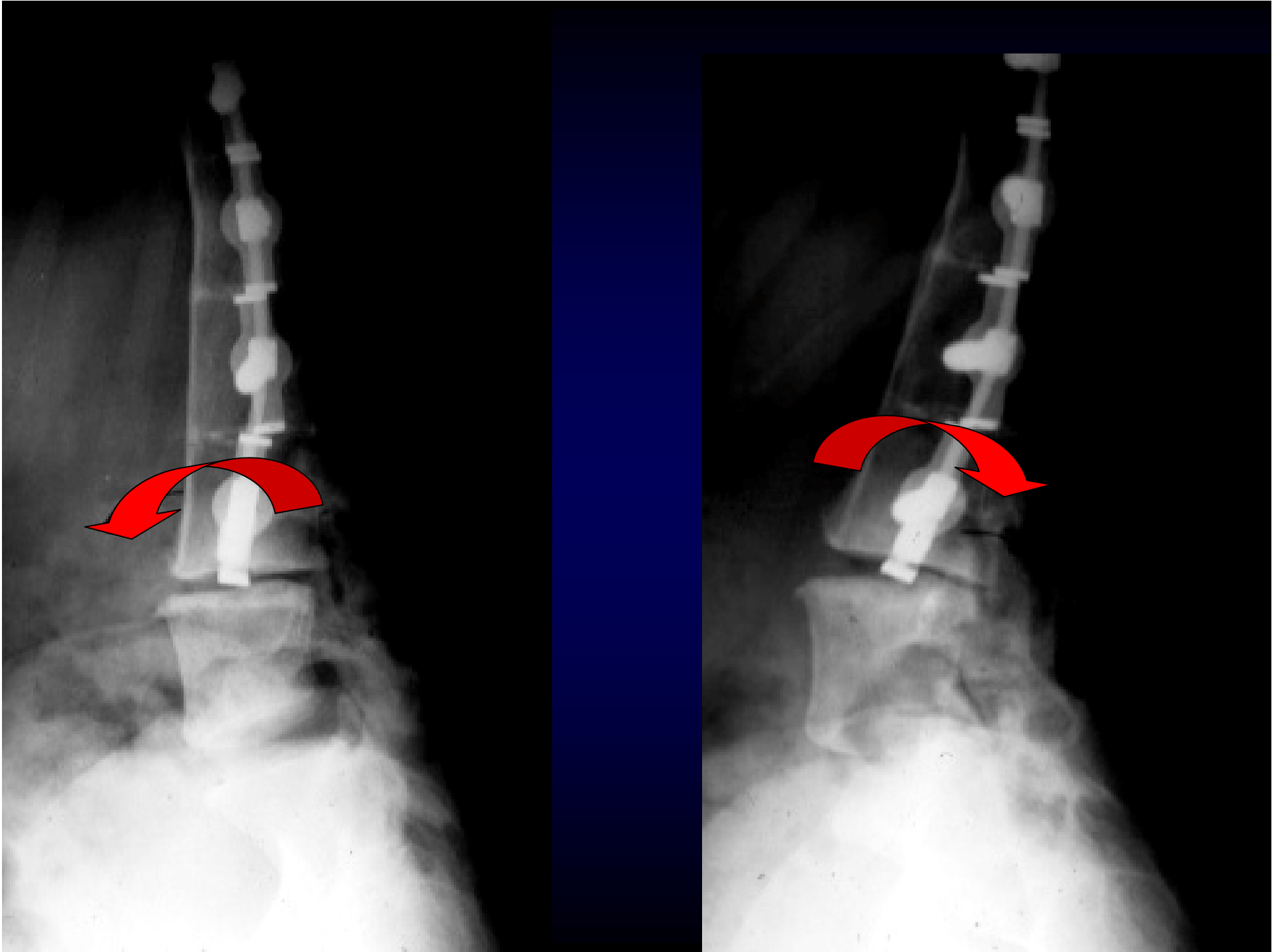


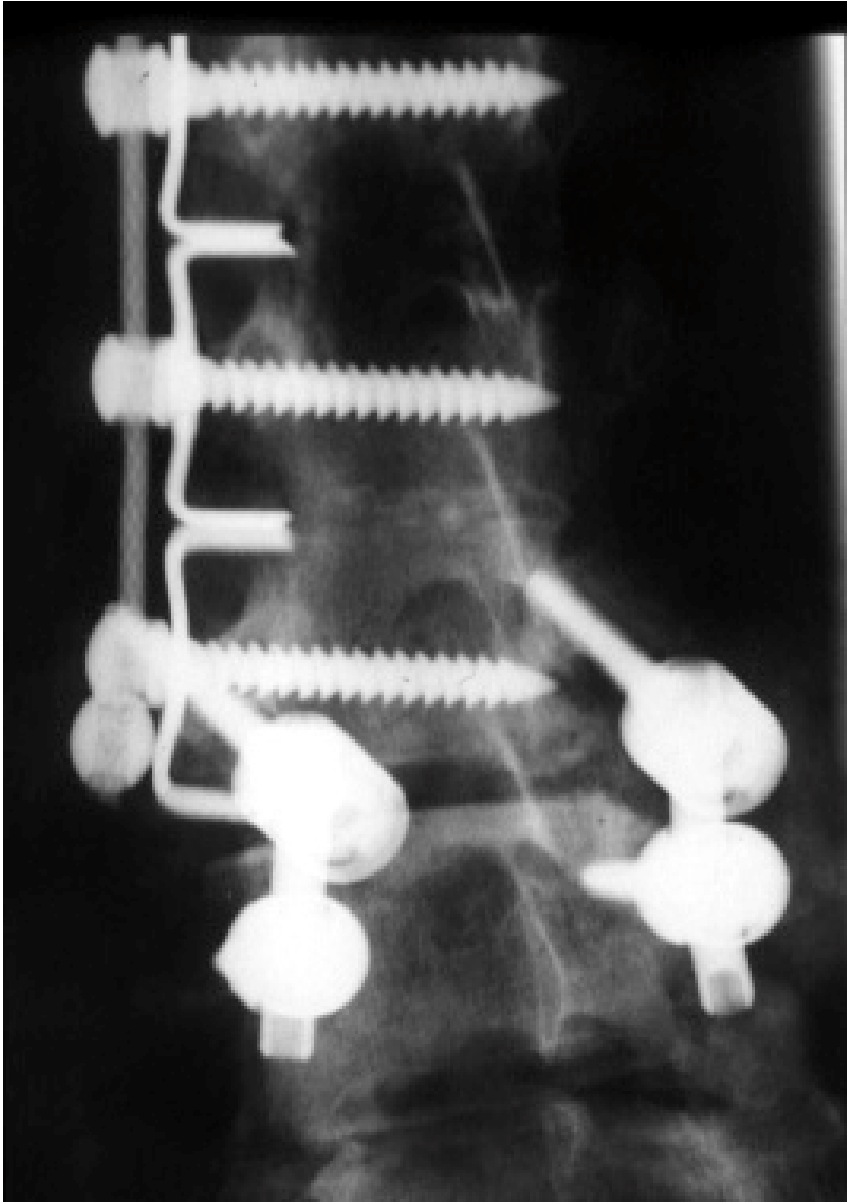


1976



1996

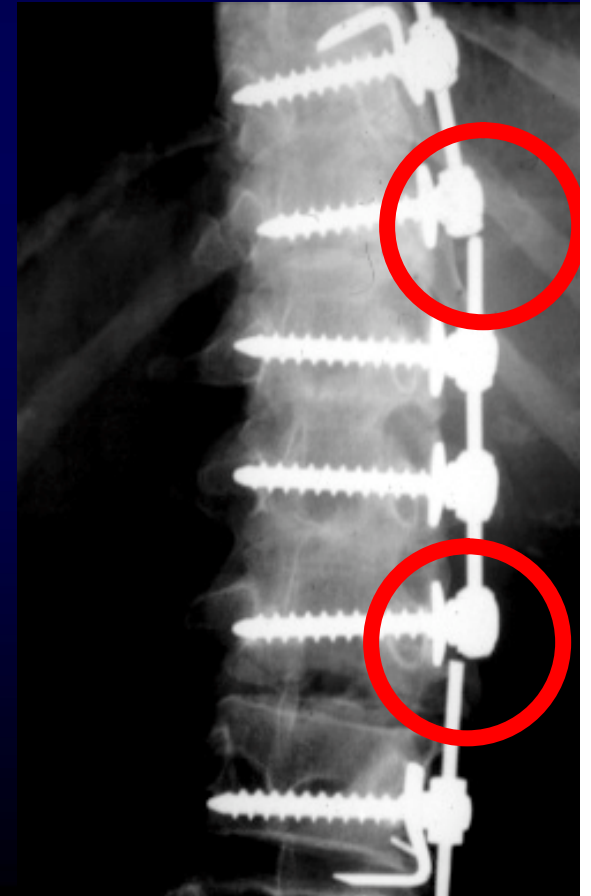


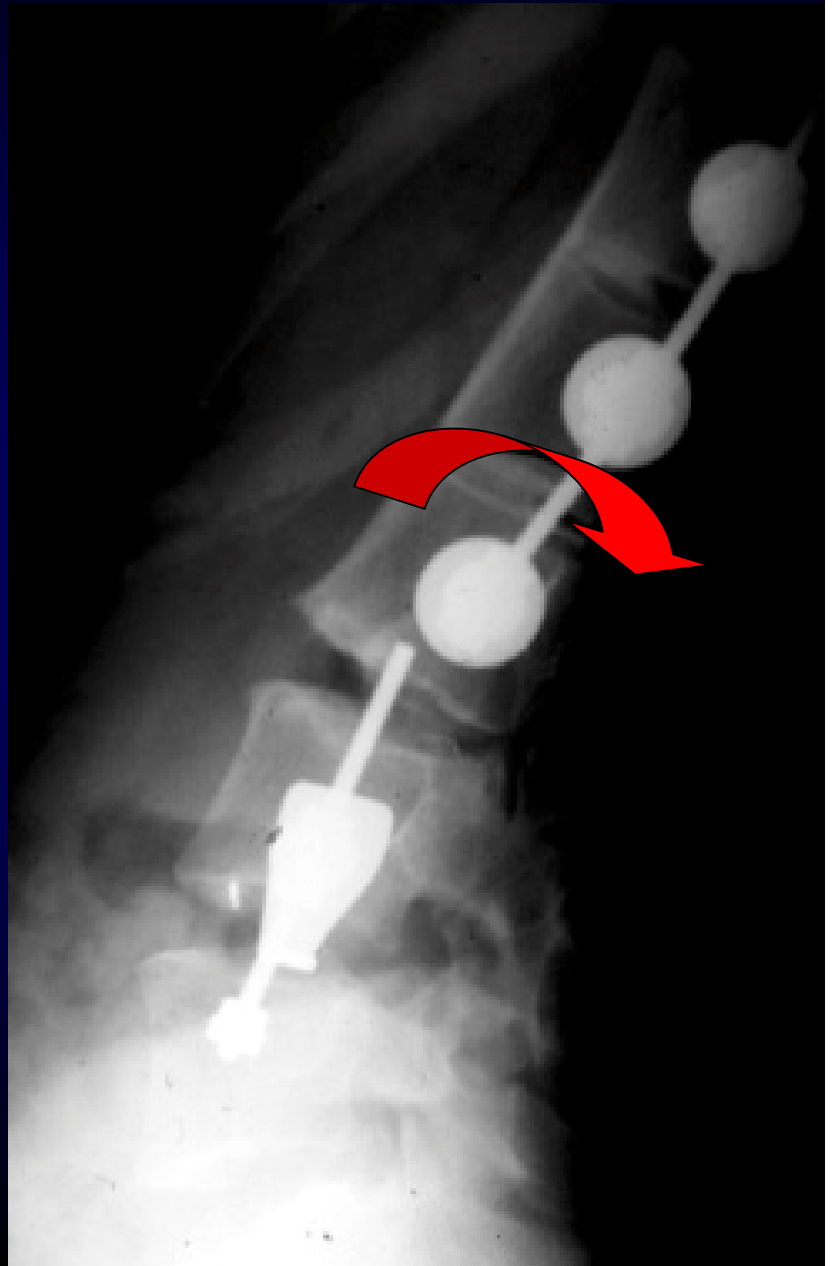
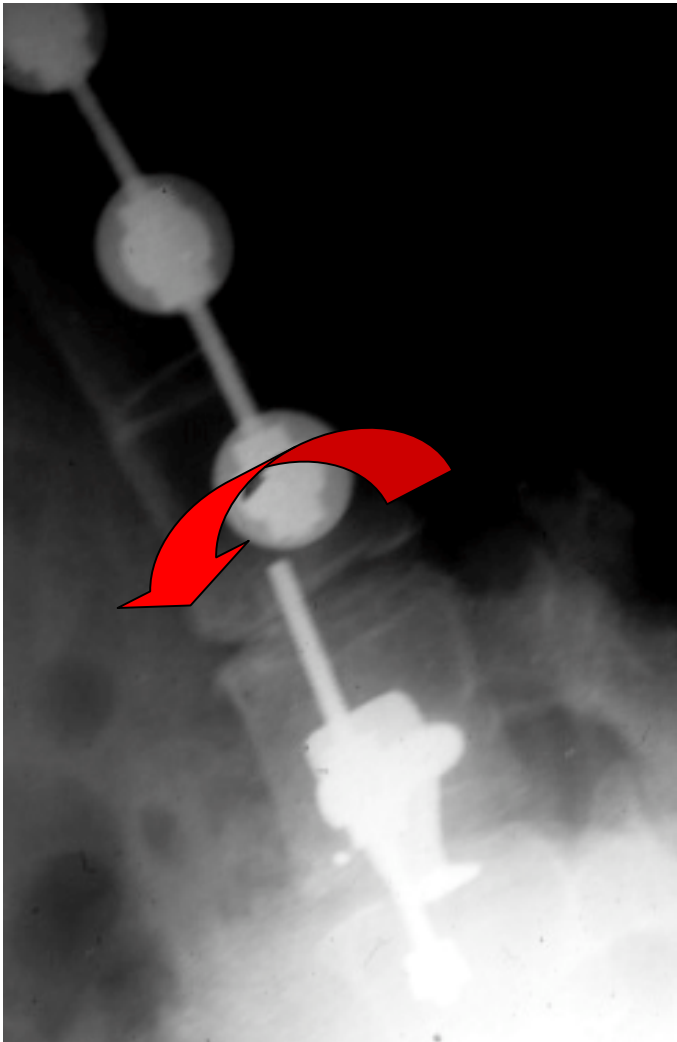


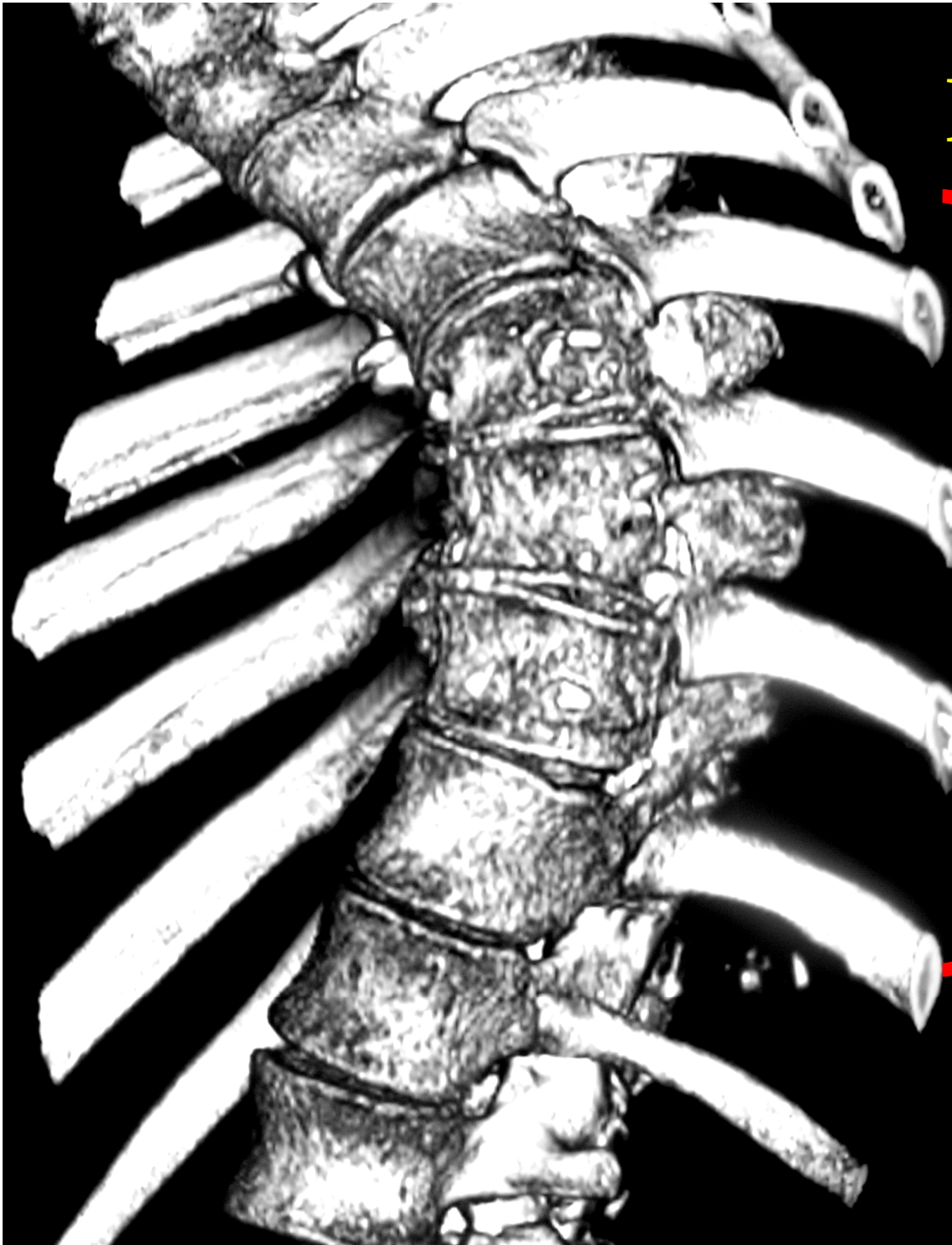
# PSEUDARTHROSIS



ZIELKE V.D.S.







# INDICATIONS

EPIPHYSIODESIS

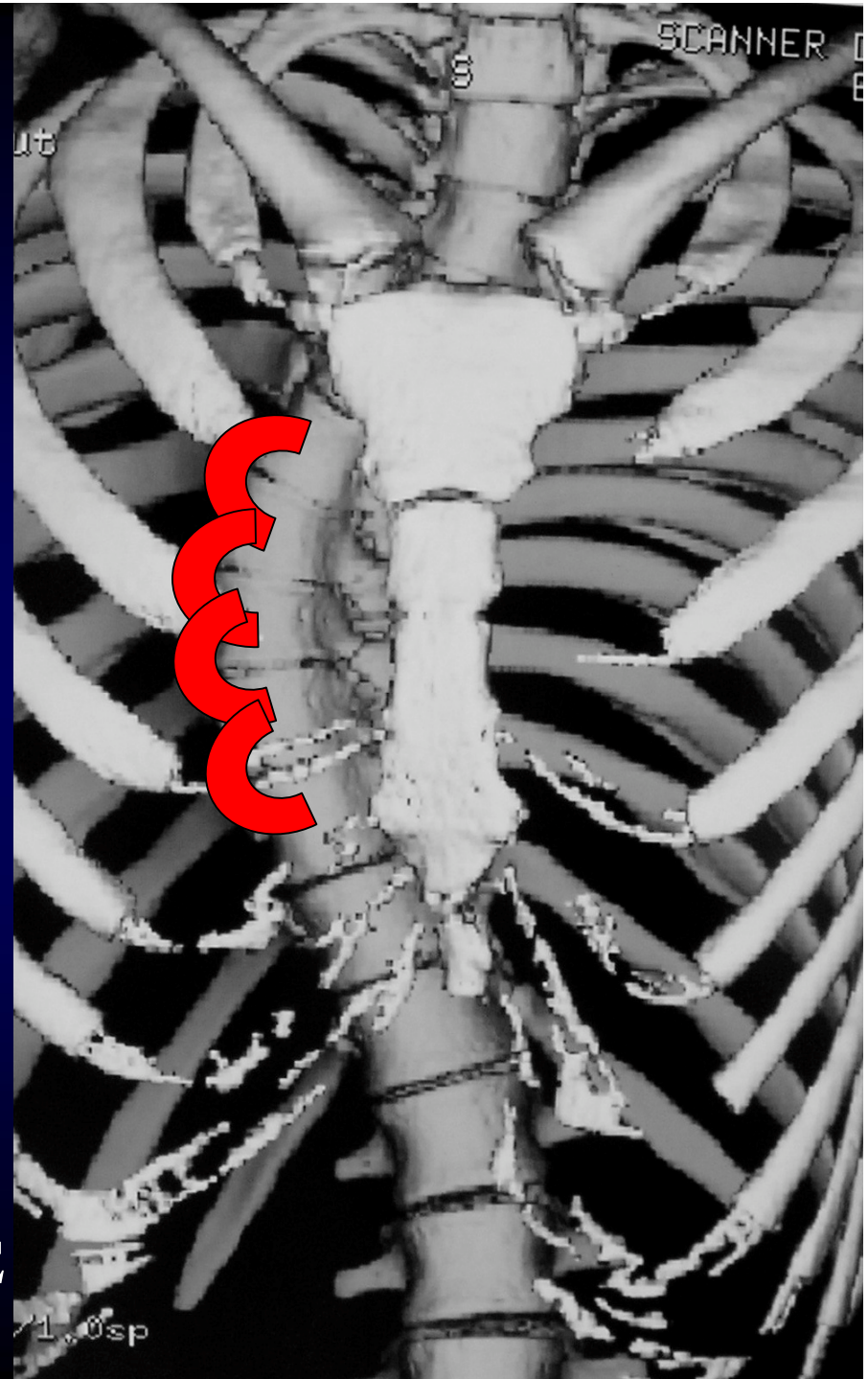
RELEASE

INSTRUMENTATION

**CONVEX EPIPHYSIODESIS**

**CRANKSHAFT PHENOMENOM**

**OPEN TRIRADIATE CARTILAGE**



# ANTERIOR RELEASE

- **DISCAL**

Thoracic : thoracoscopy  
thoracotomy

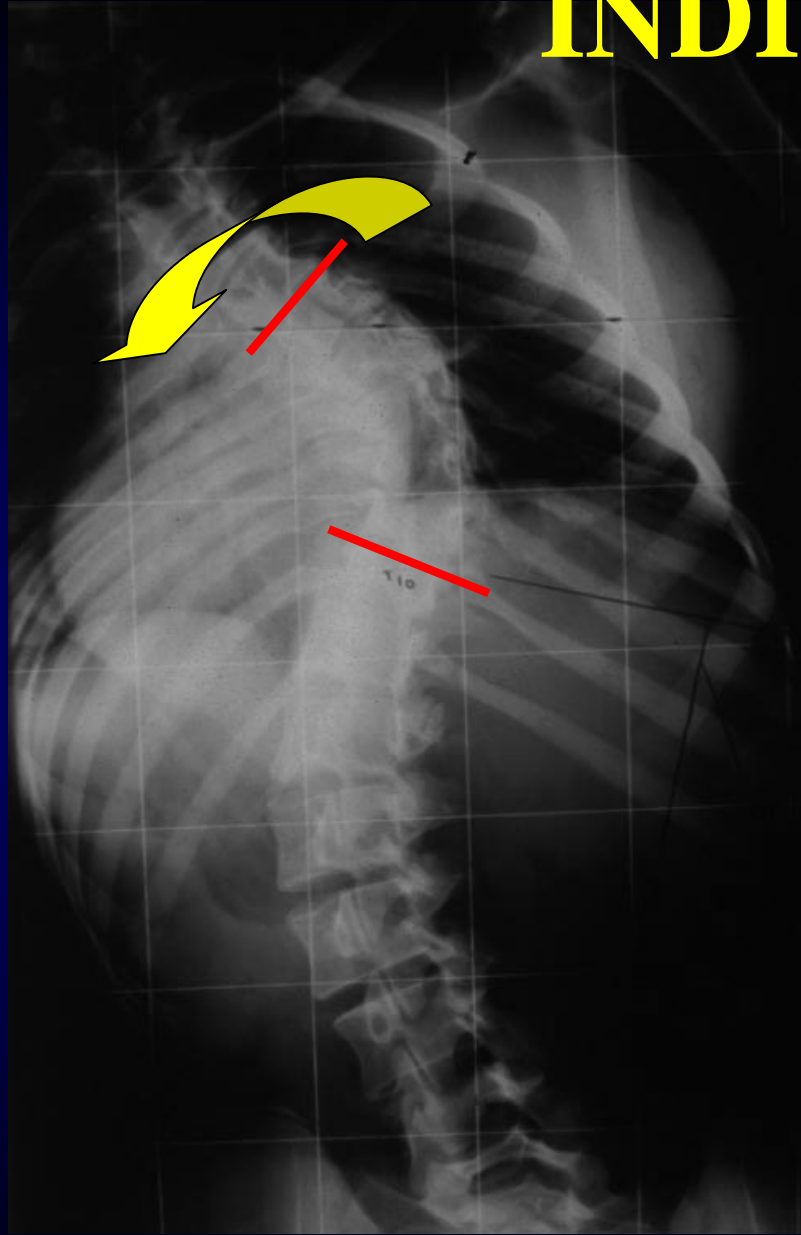
Thoracolumbar : thoracophrenolombotomy  
mini-approach

- **CORPOREAL** : vertebral resection

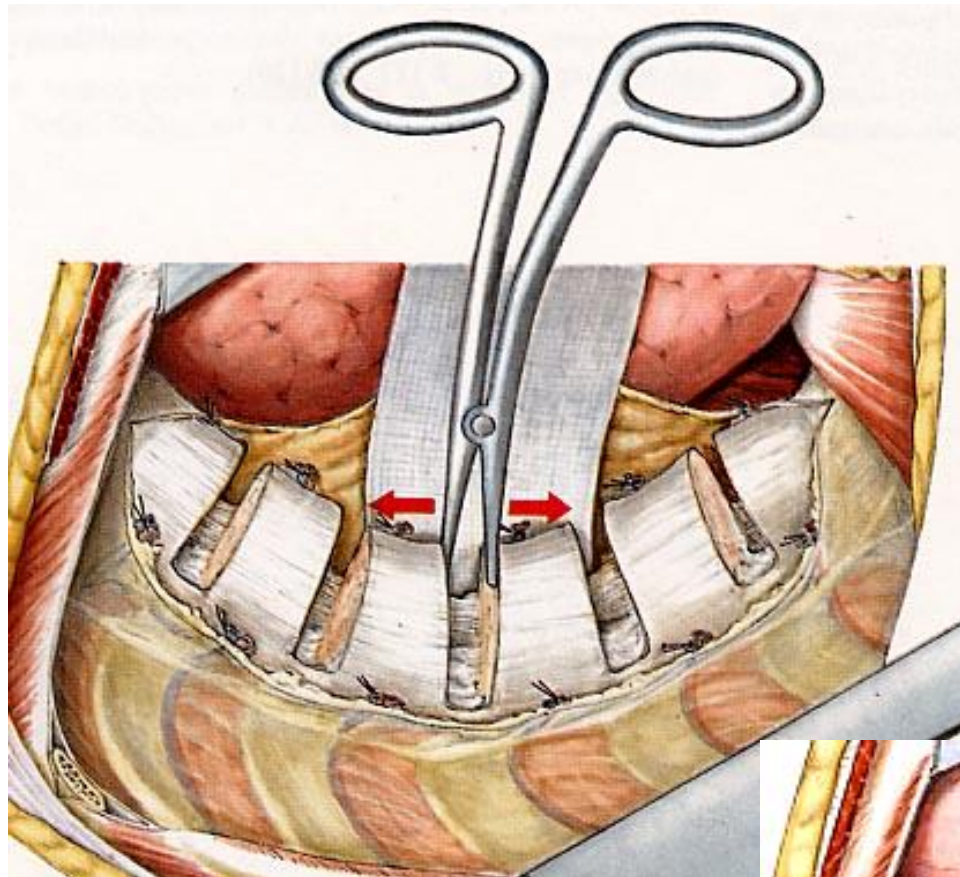




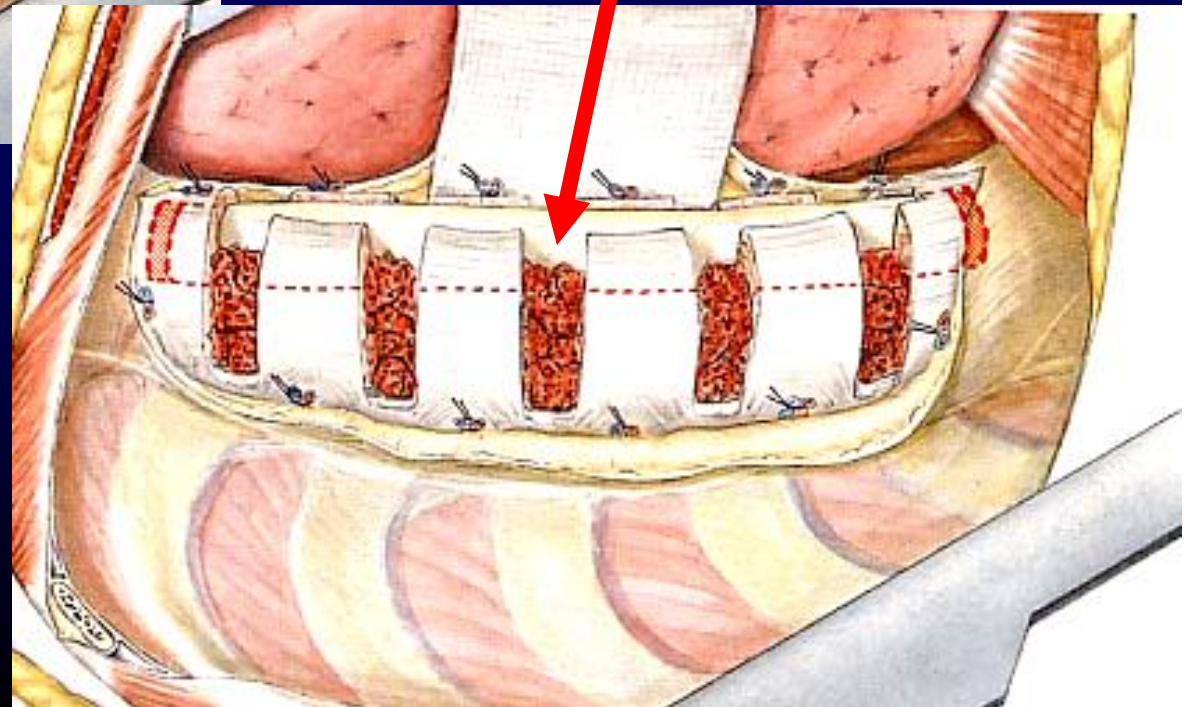
# INDICATION



**BENDING TESTS : REDUCTION LESS THAN 30%**



**RIB or ILIAC CREST**

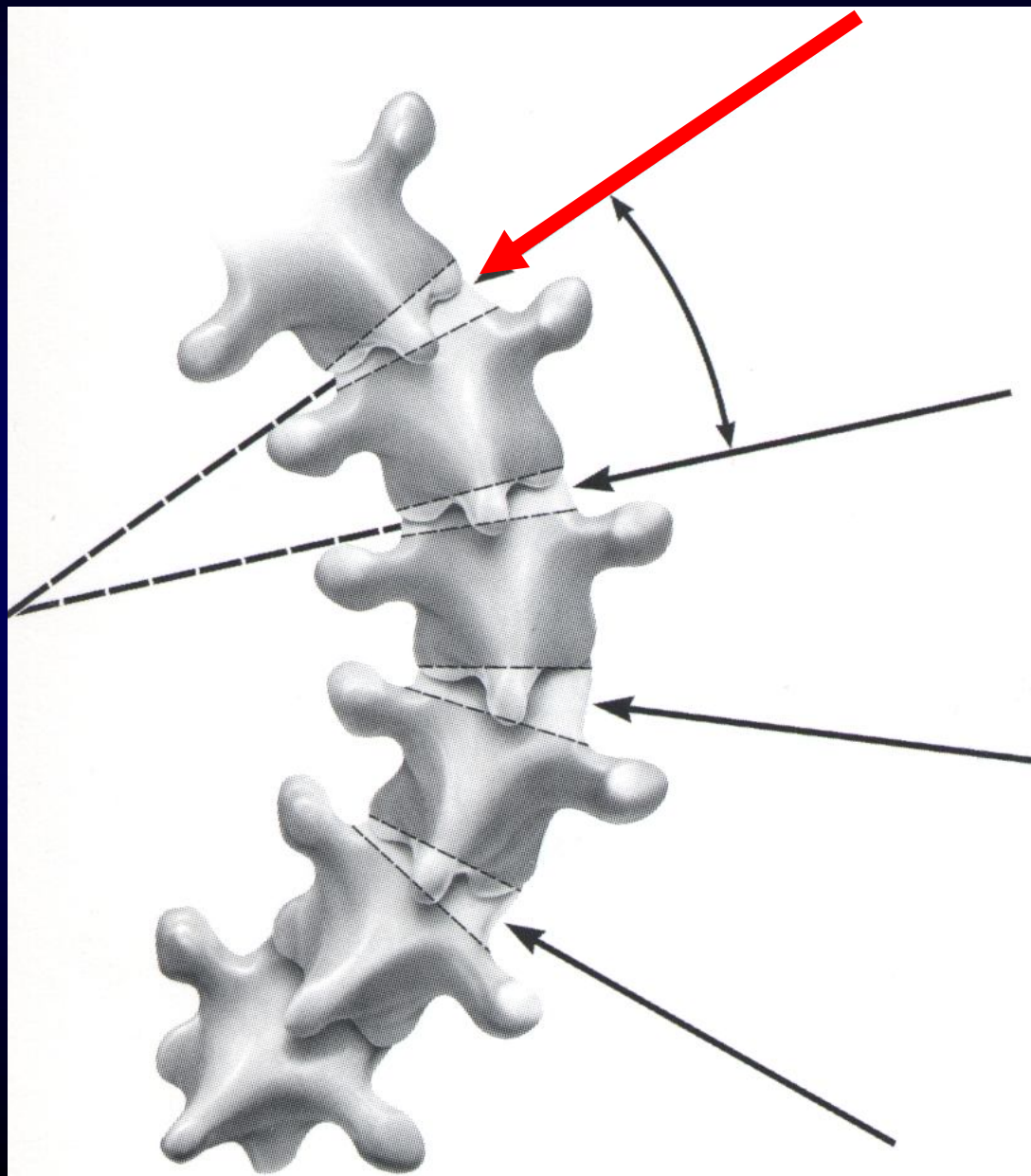
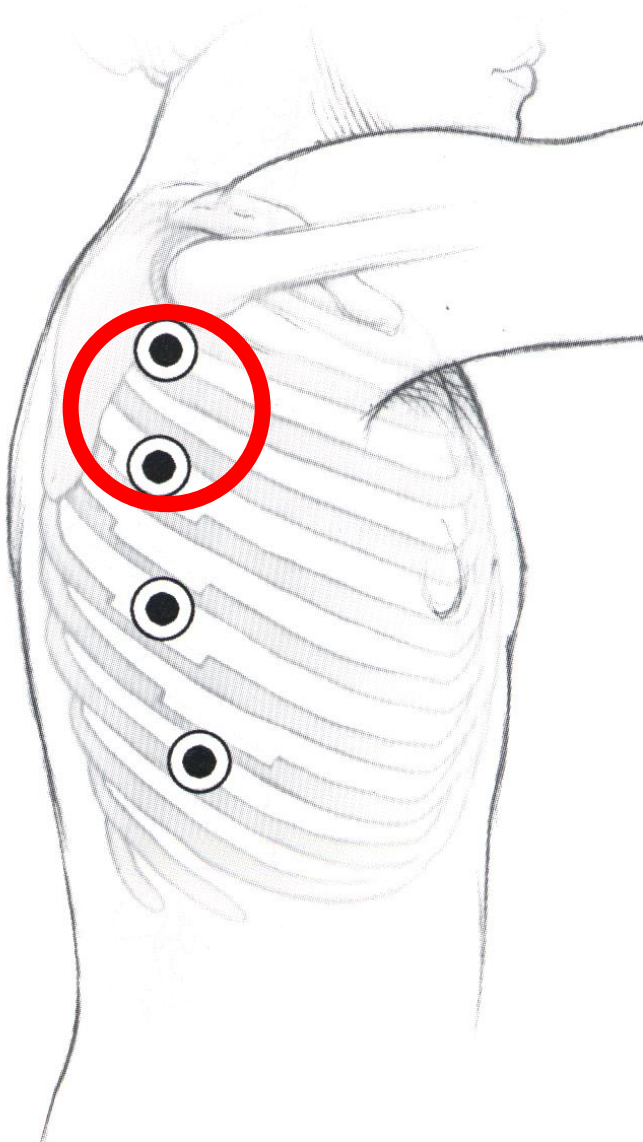


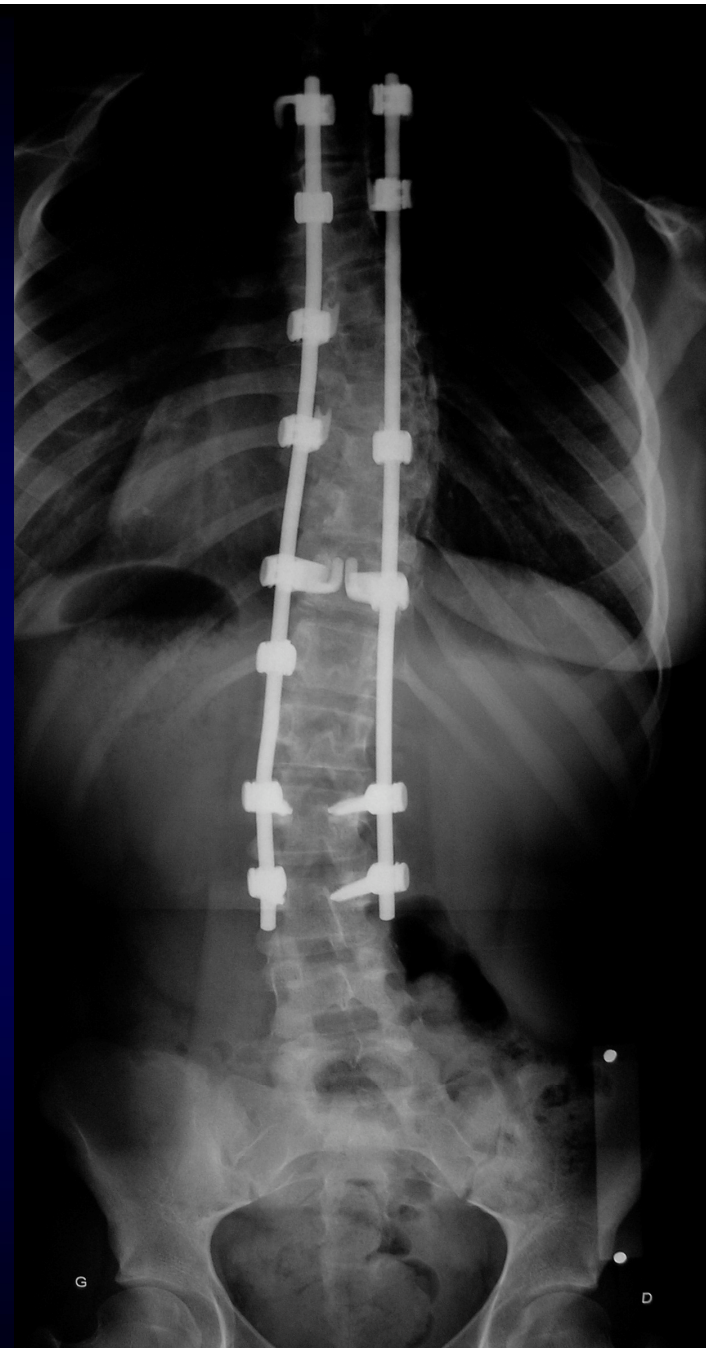
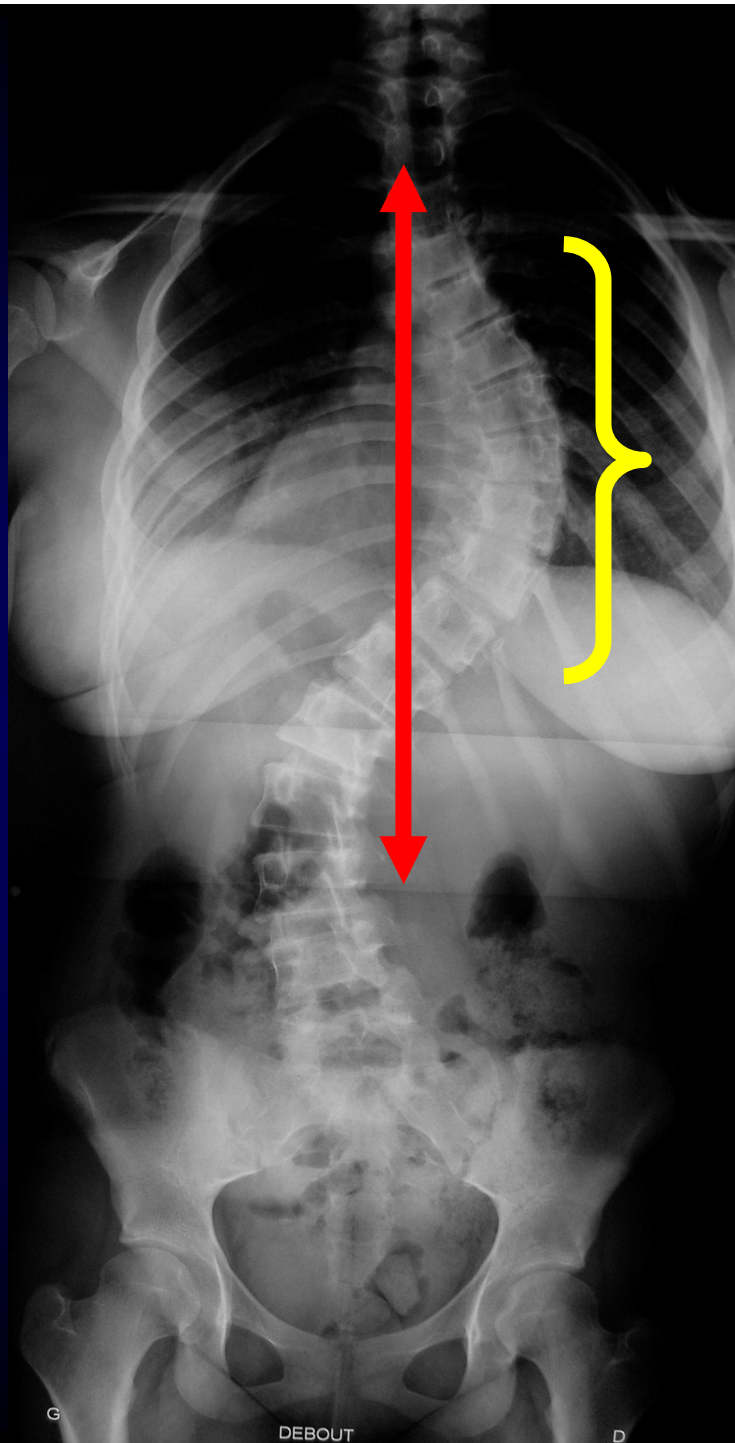


**THORACOTOMY**

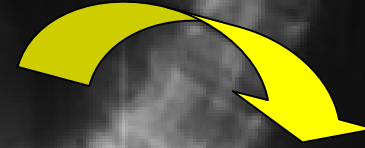


**THORACOSCOPY**

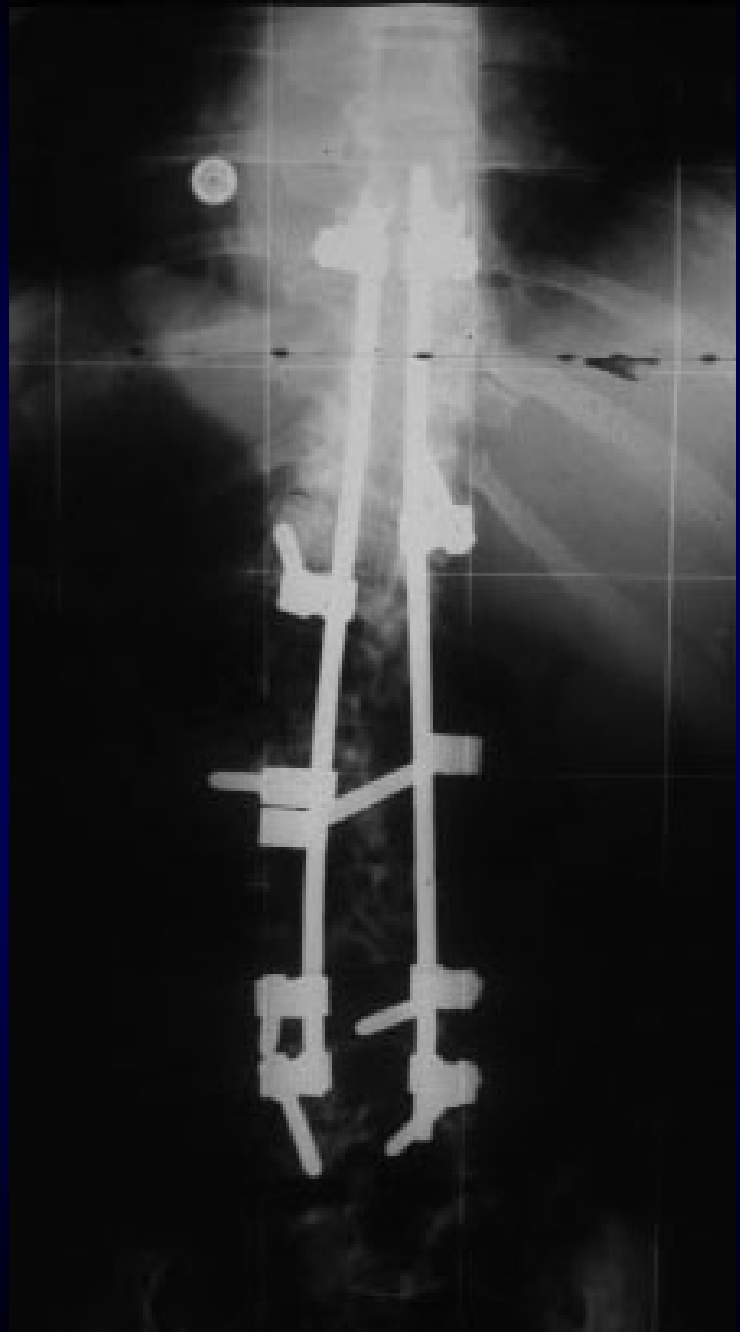
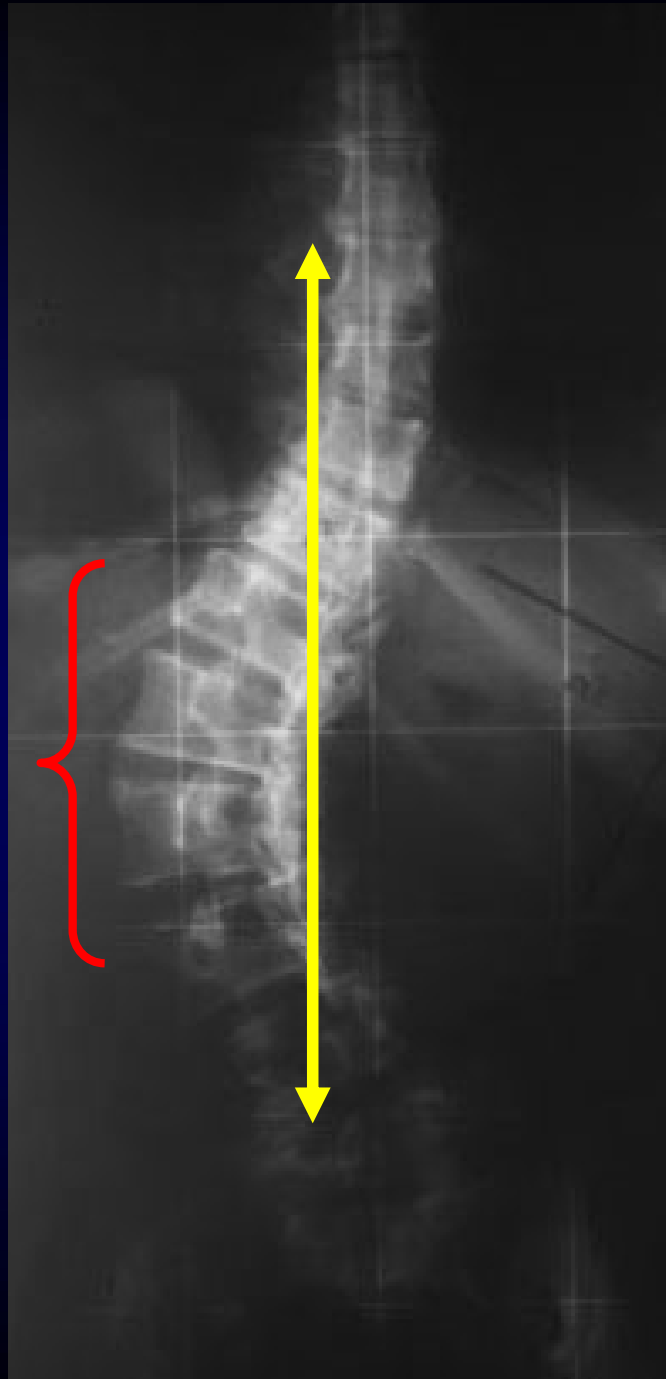


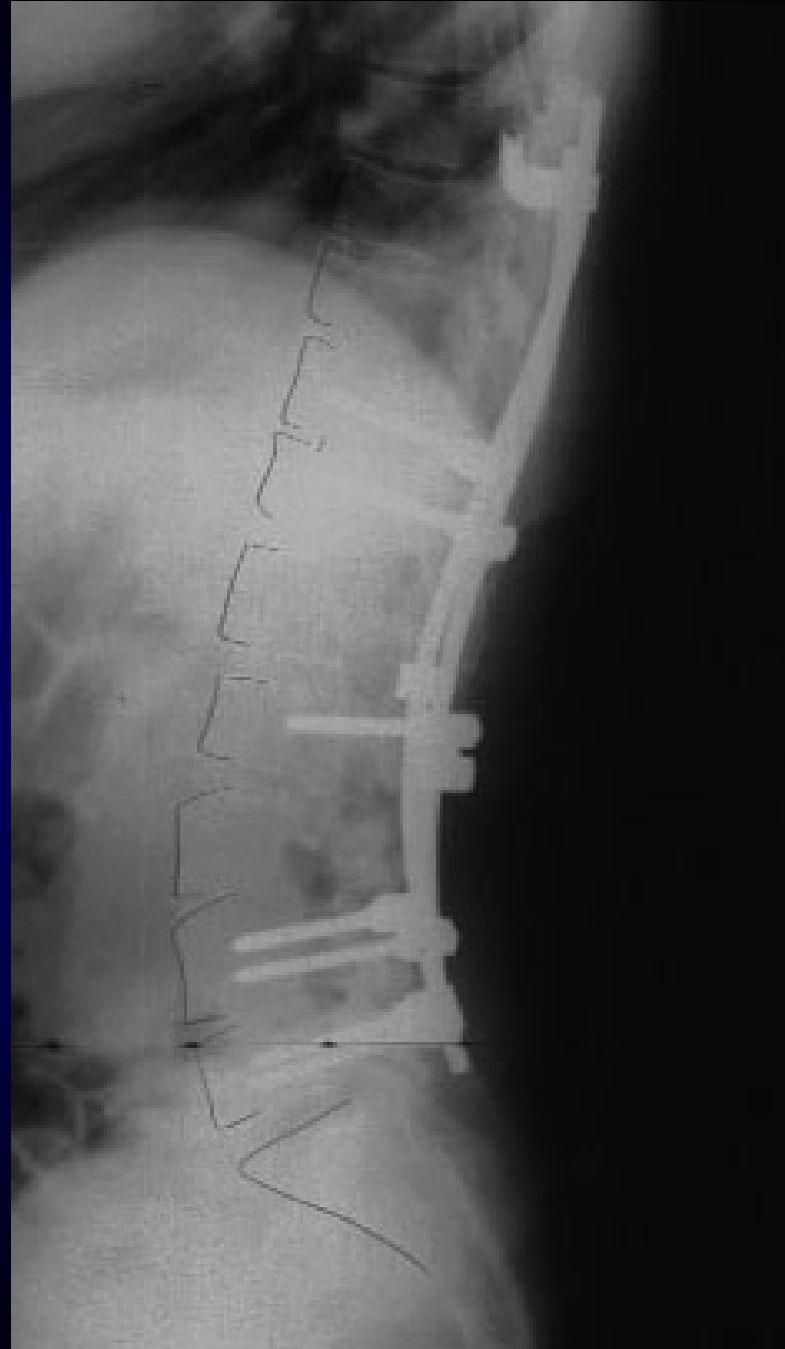
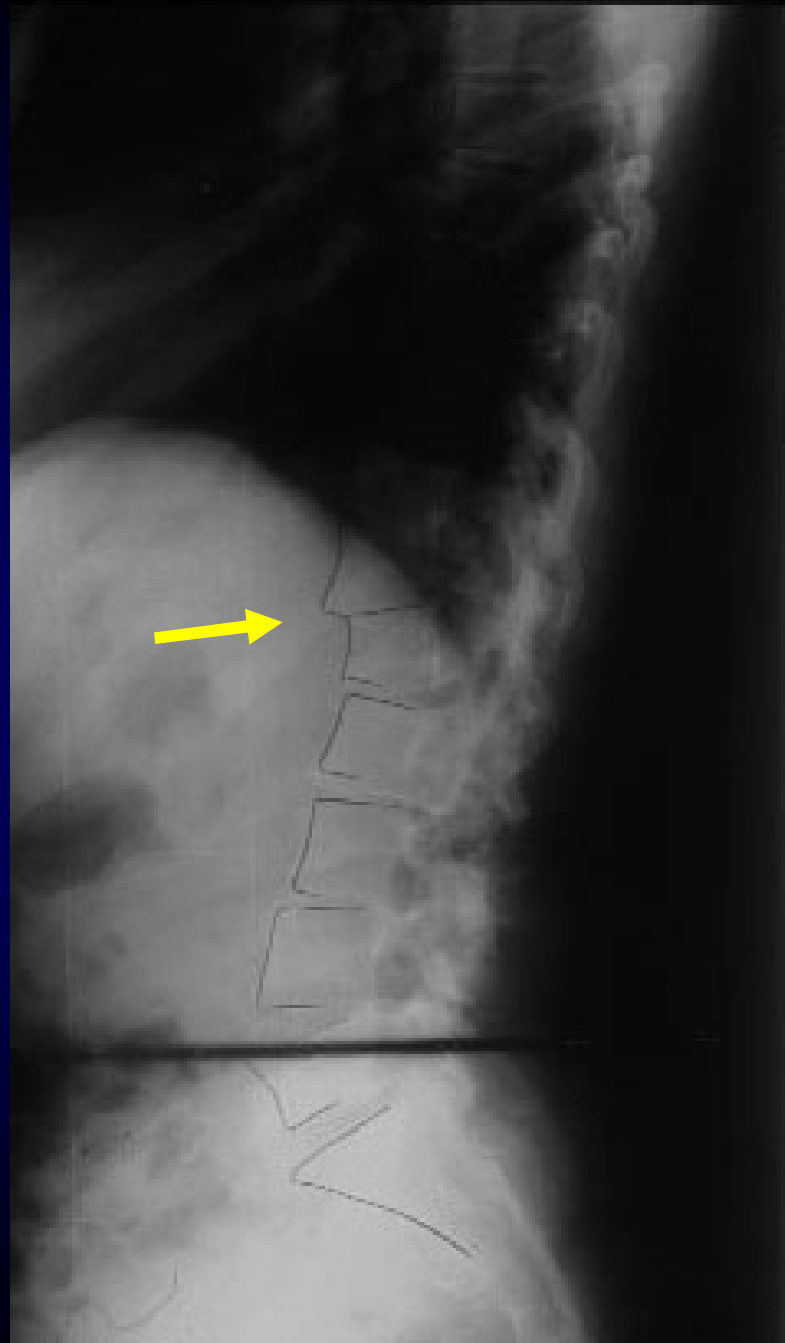


**ARLET , Eurospine J. 2005**



**THORACOLUMBRAR RELEASE**







# **VERTEBRAL RESECTION**

**LEATHERMAN (1969)**

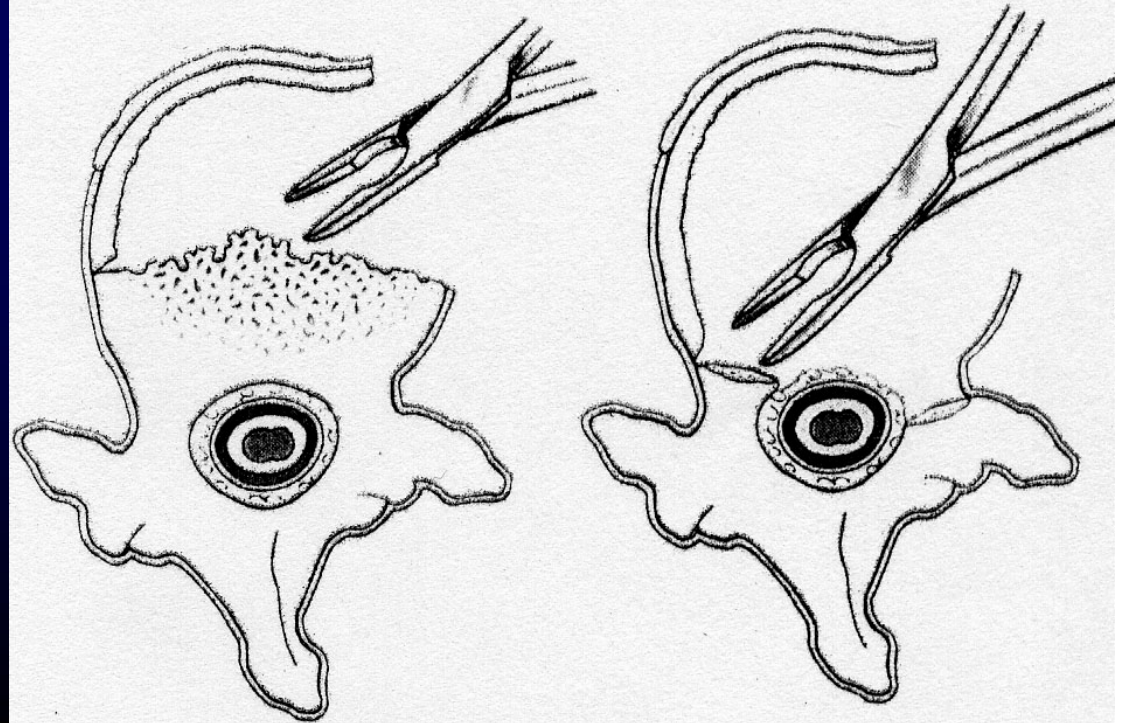
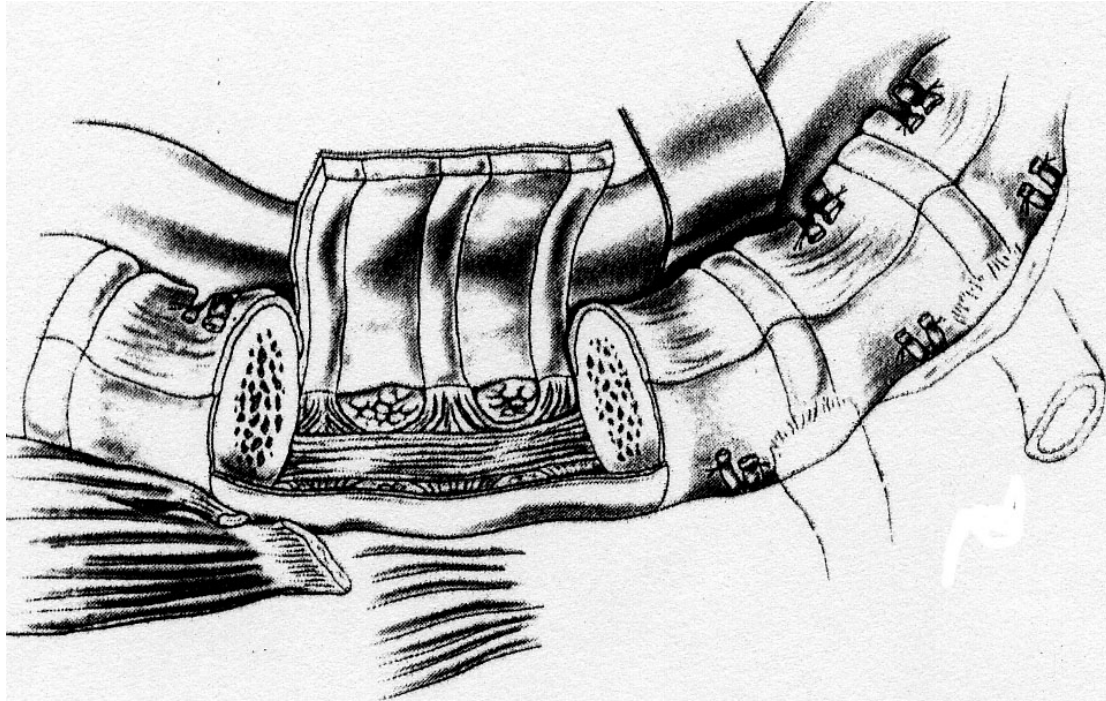
**LUQUE (1983)**

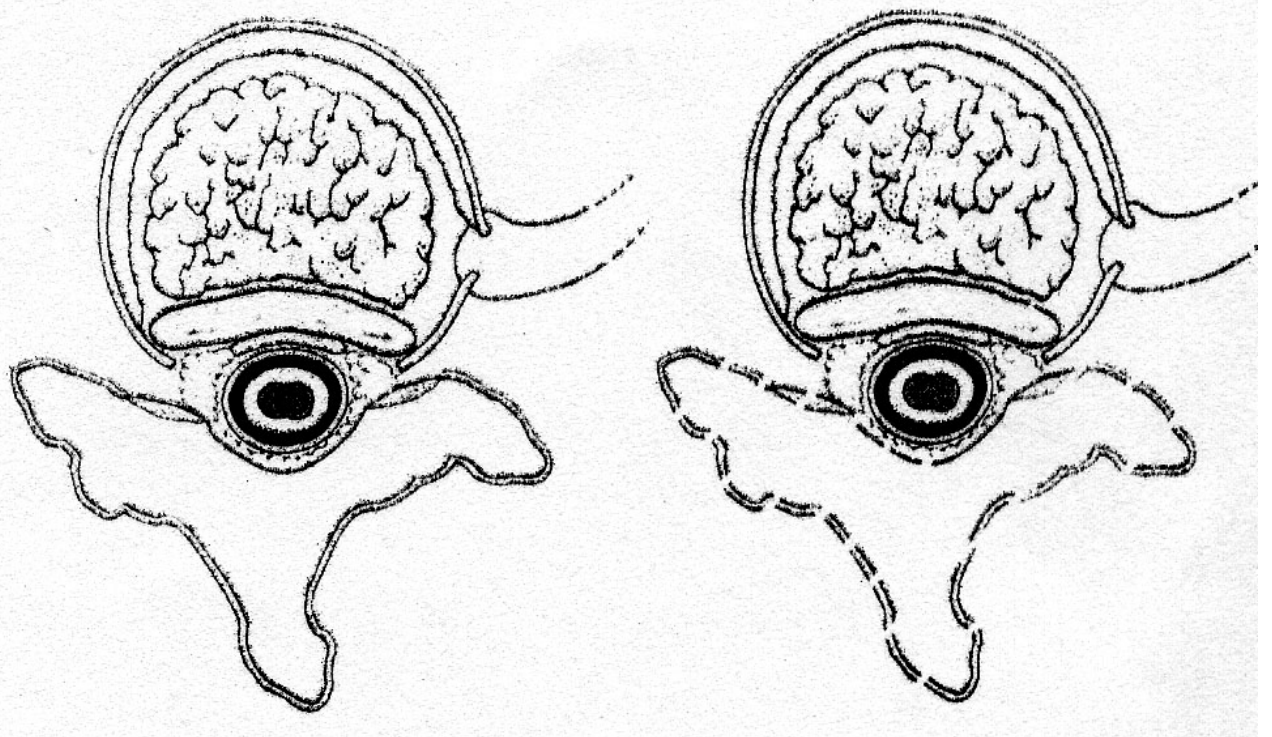
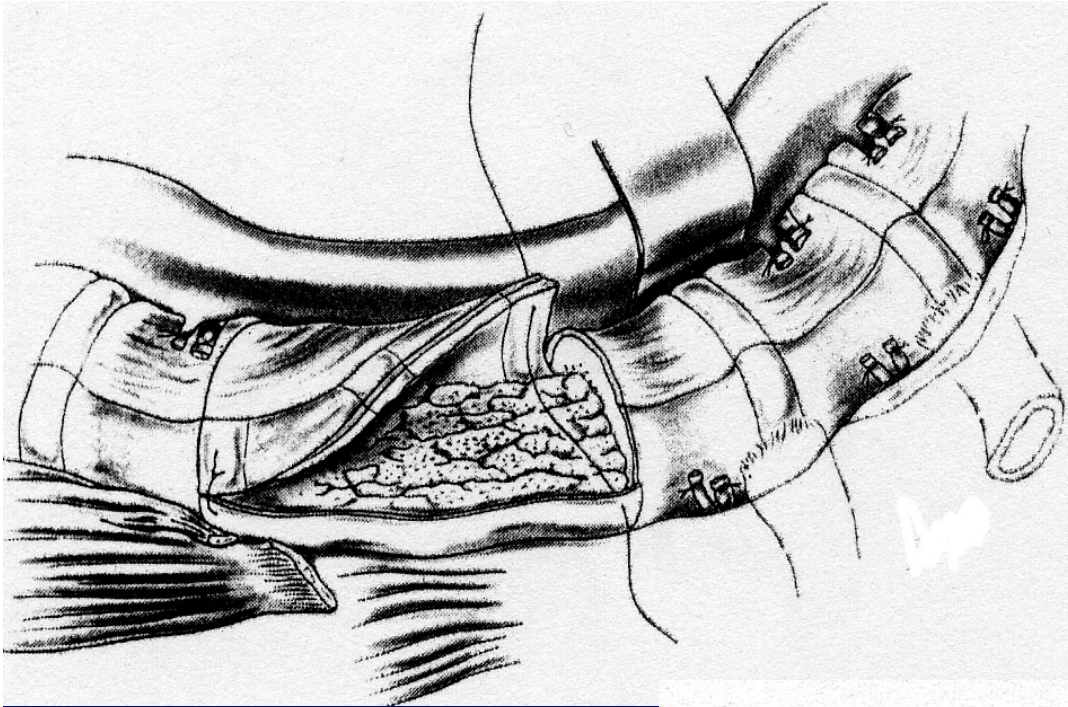
**BRADFORD (1997)**

**TOKUNAGA (2000)**



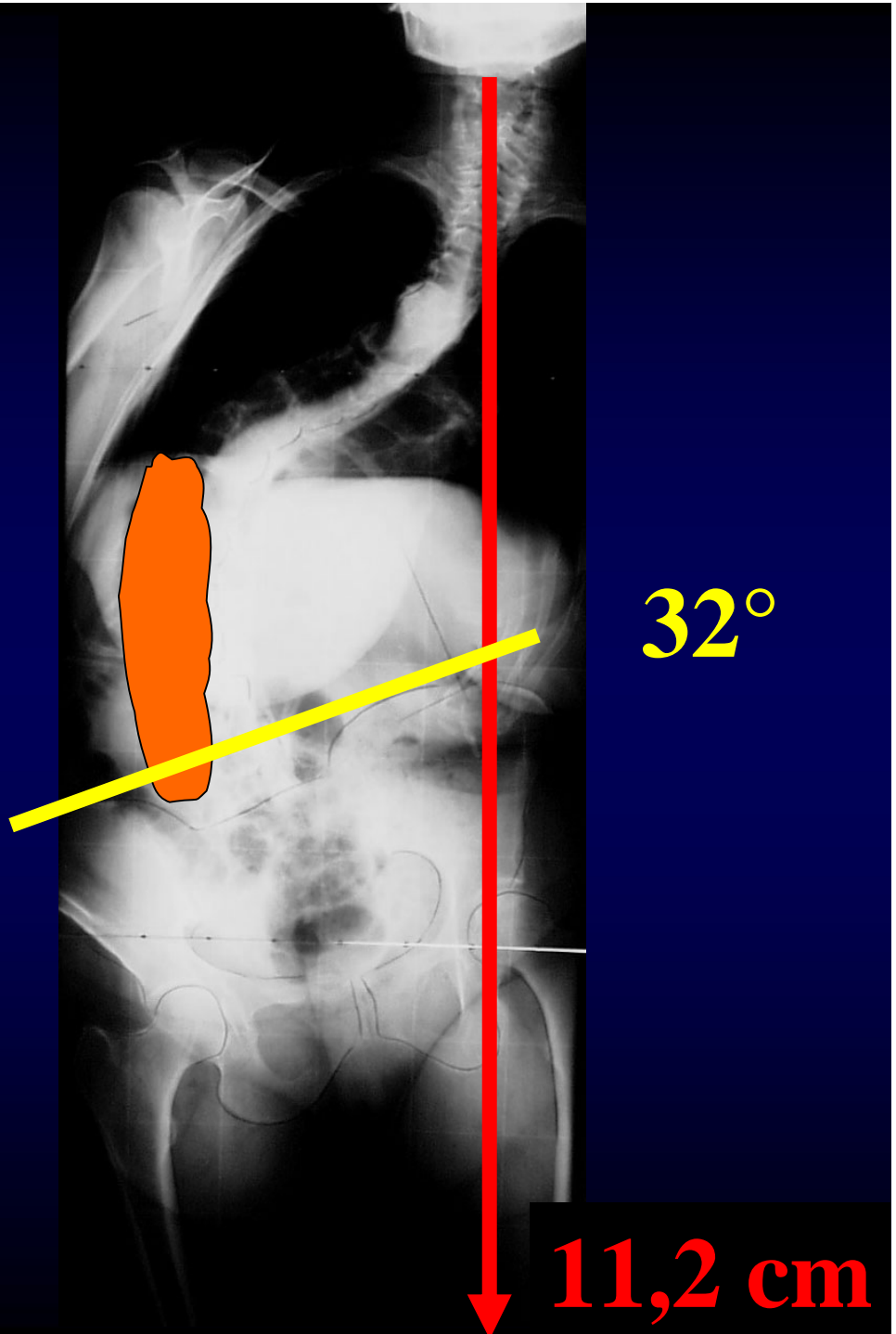
**BRADFORD (1997)**





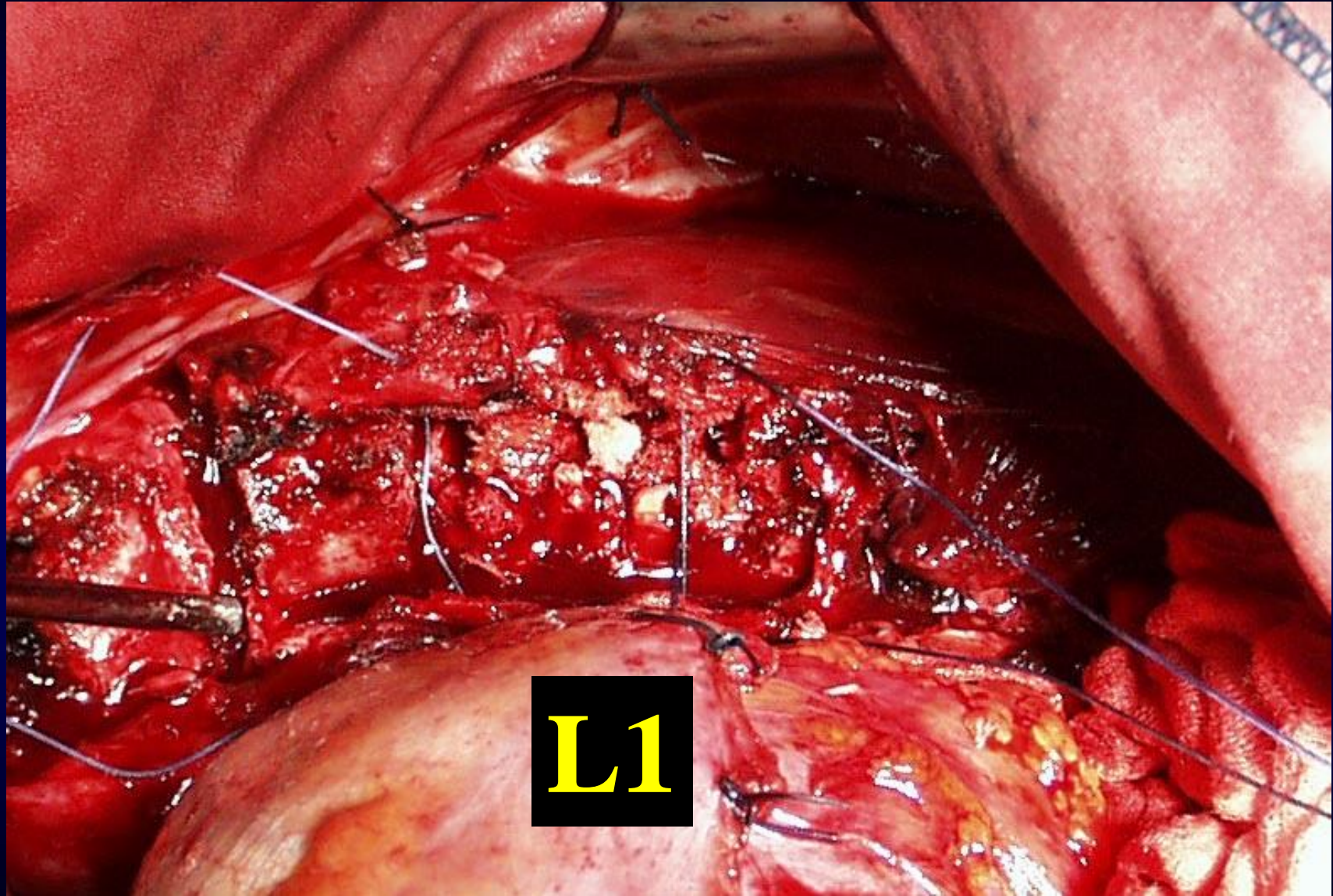
**Mrs PER. born on 1943**

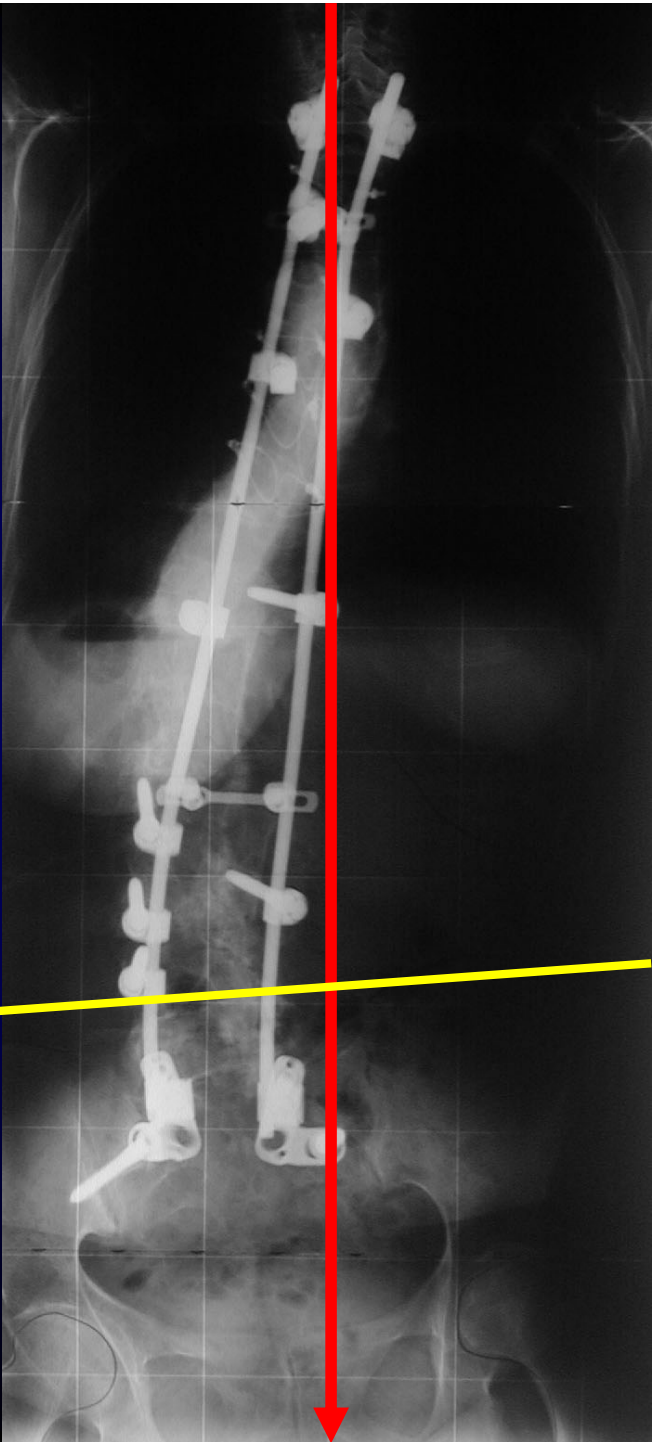
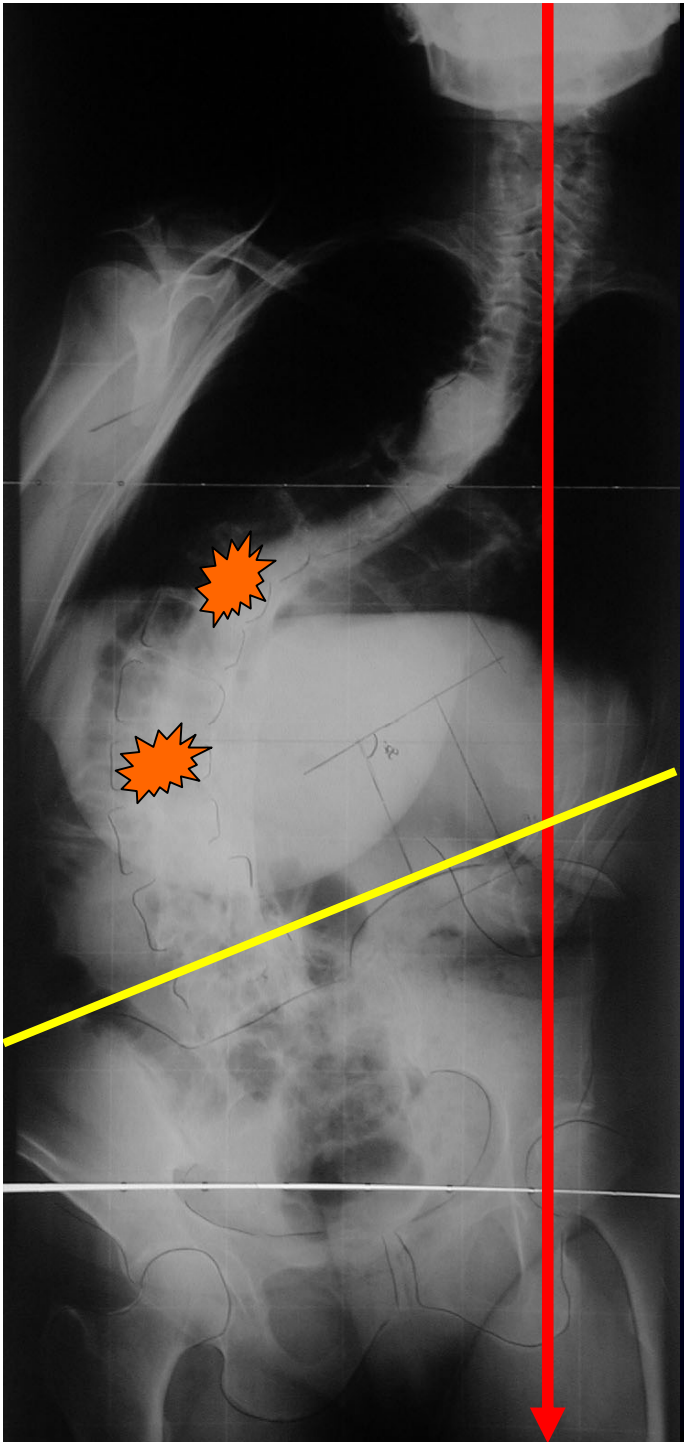
**Posterior arthrodesis  
T11-L4 on 1957**

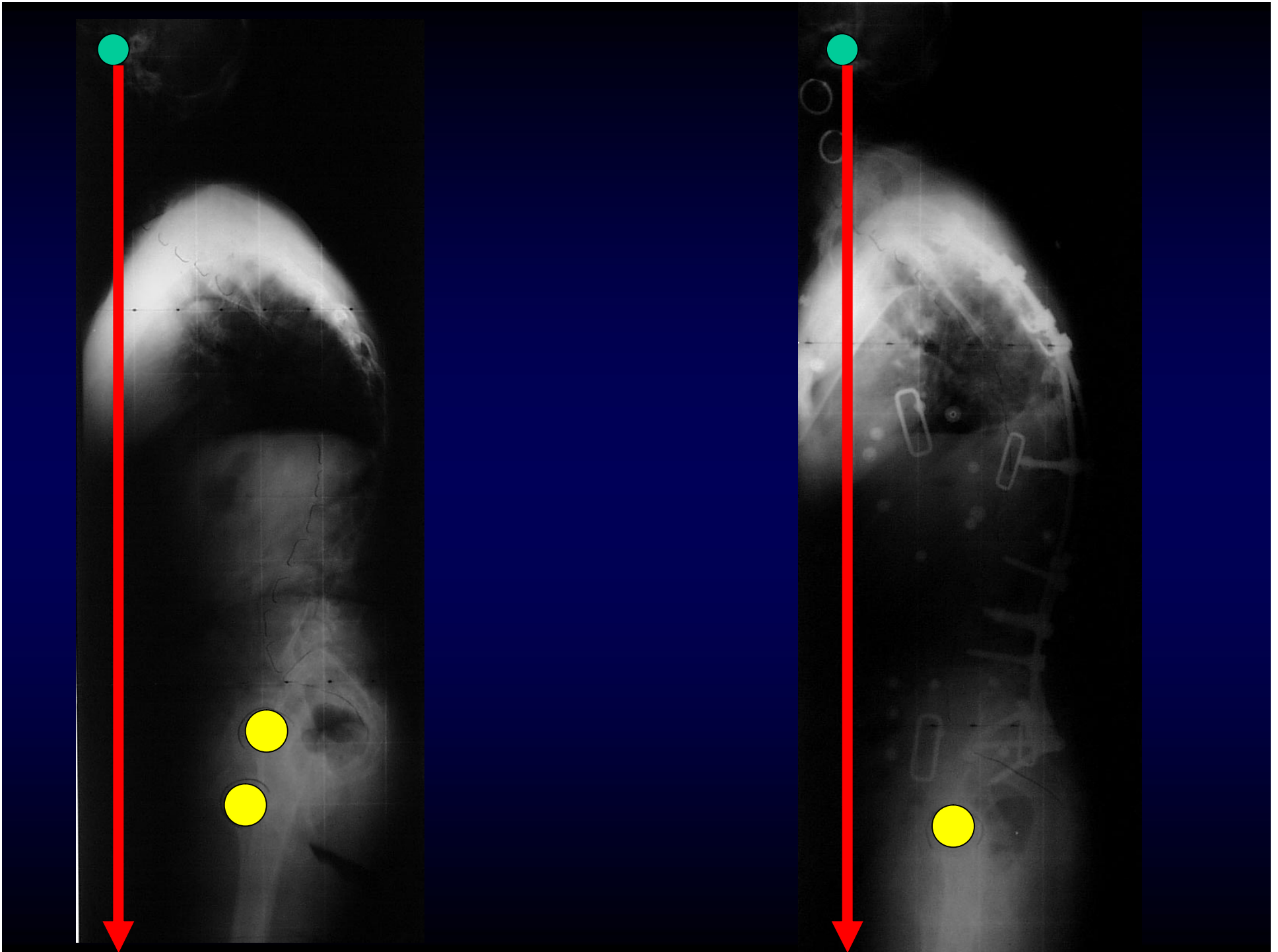


**11,2 cm**

**32°**













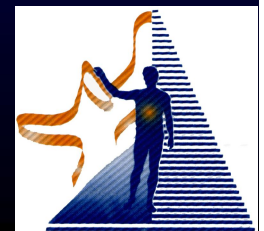






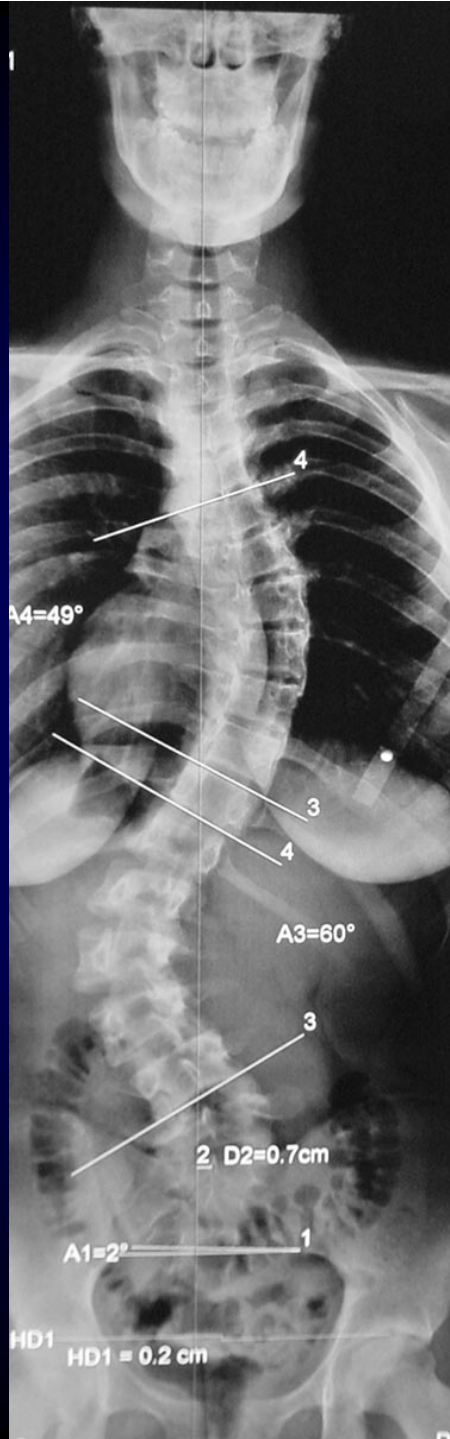
# **ANTERIOR OSTEOSYNTHESIS : INDICATIONS**

- **SINGLE CURVE : THORACIC ,  
THORACOLUMBAR , LUMBAR**
- **DOUBLE CURVE : NO INDICATION**



# T11-L3 CURVE : BEST INDICATION

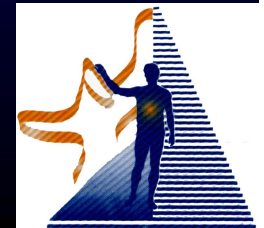




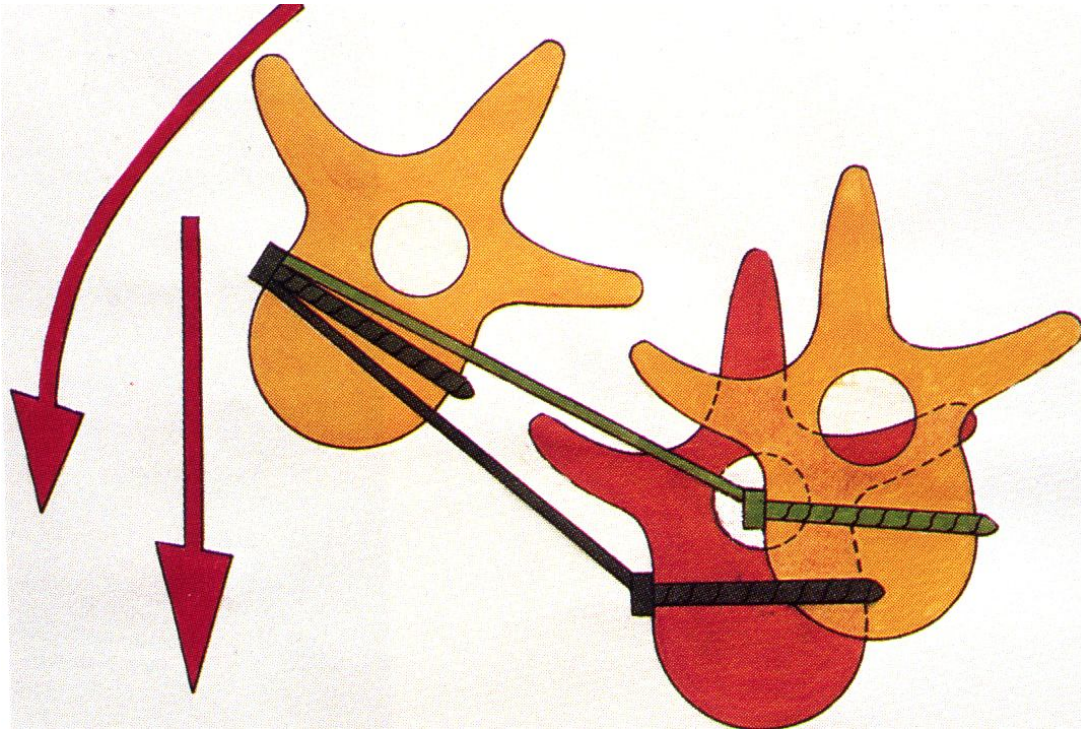
## CONTRINDICATION

# ANTERIOR OSTEOSYNTHESIS : TECHNIQUE

- DWYER , ZIELKE
- NEW INSTRUMENTATIONS

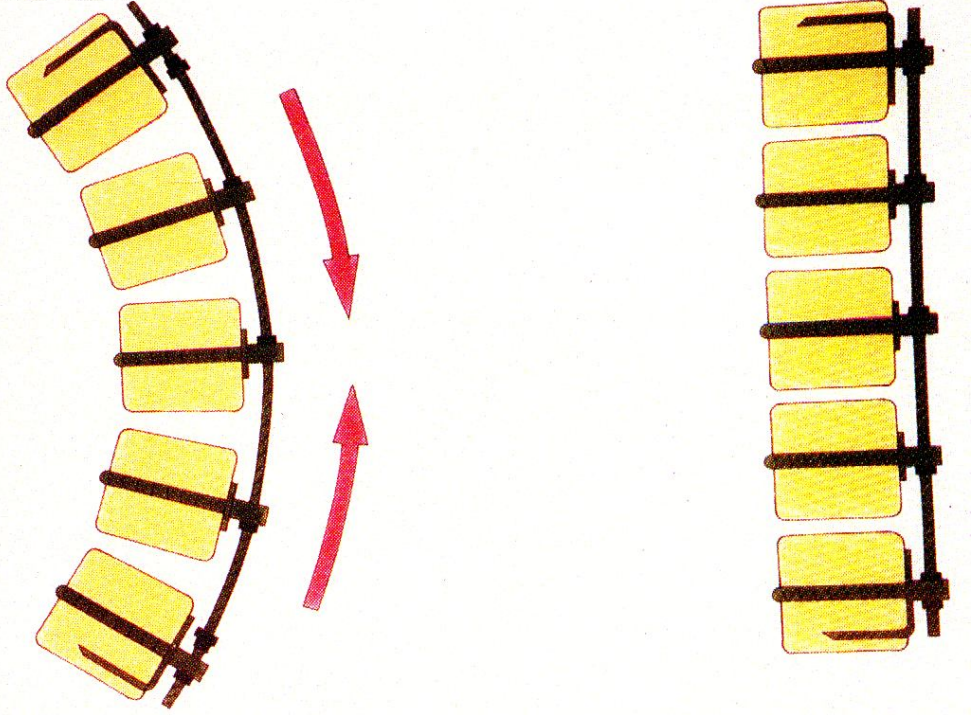




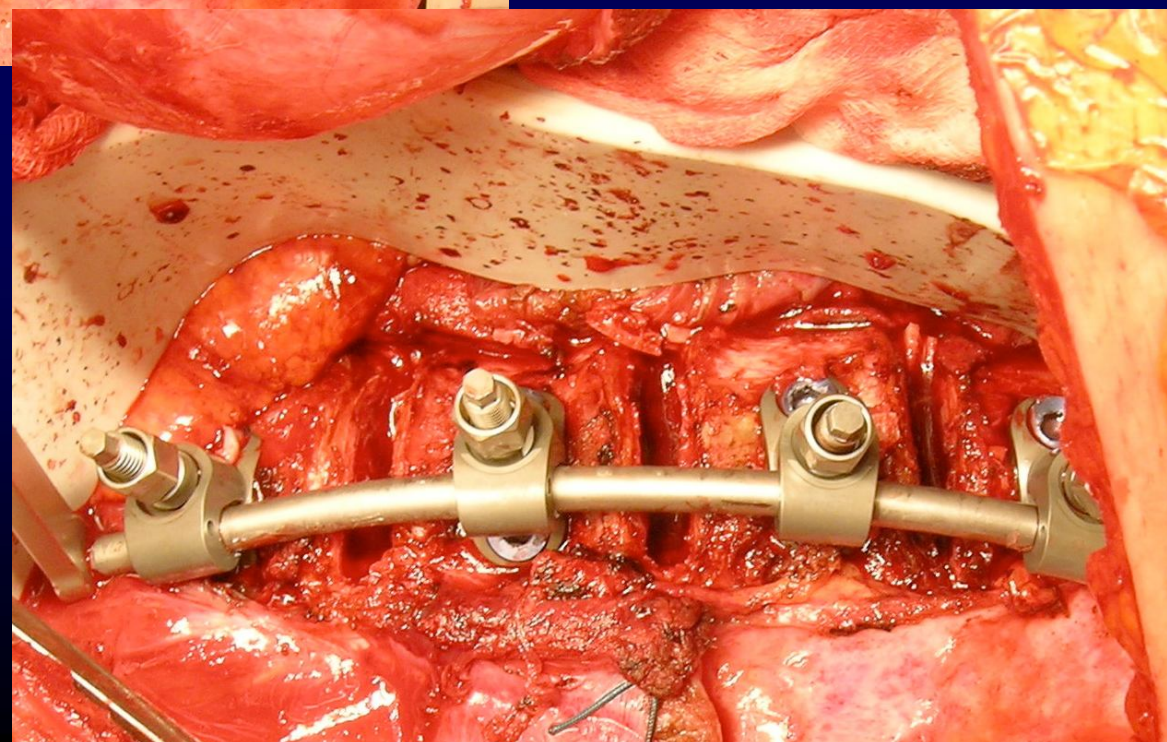
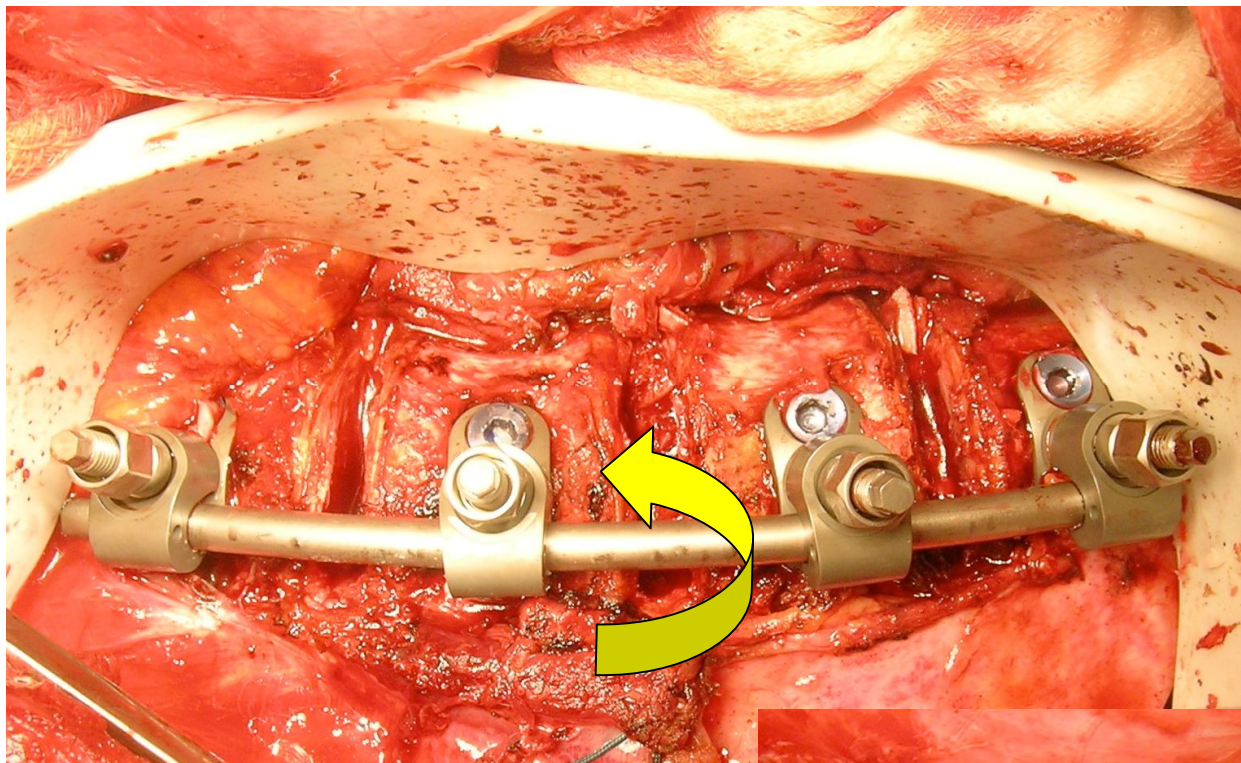


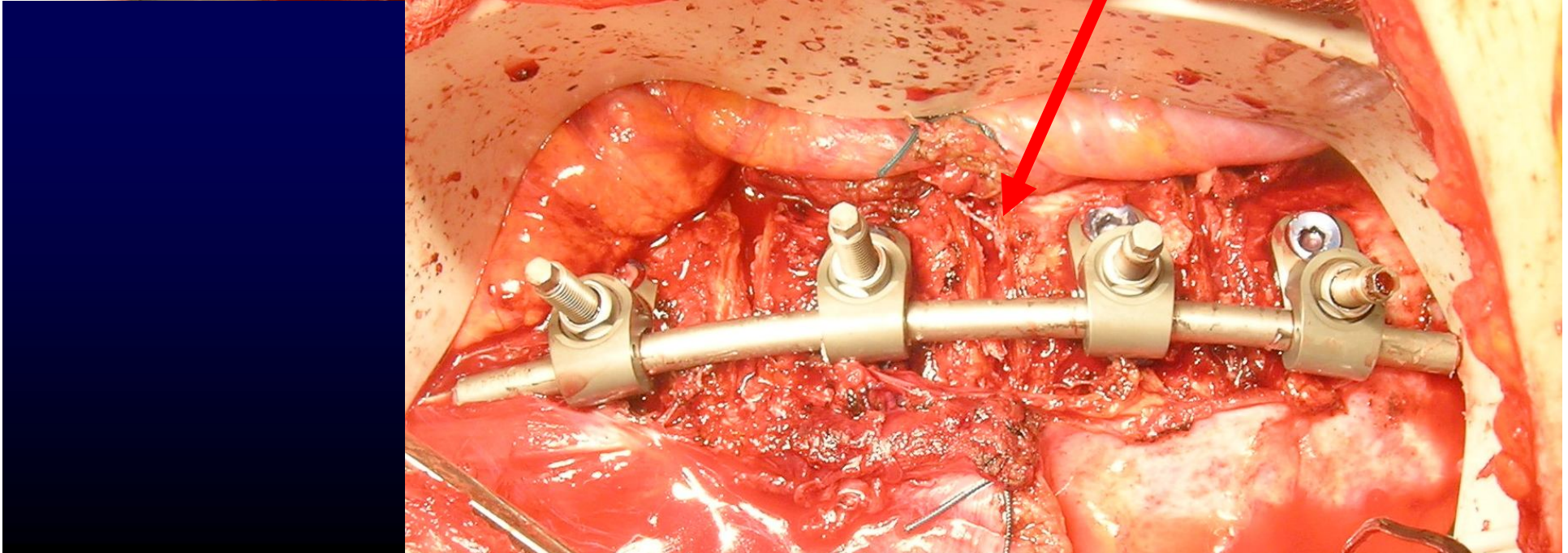
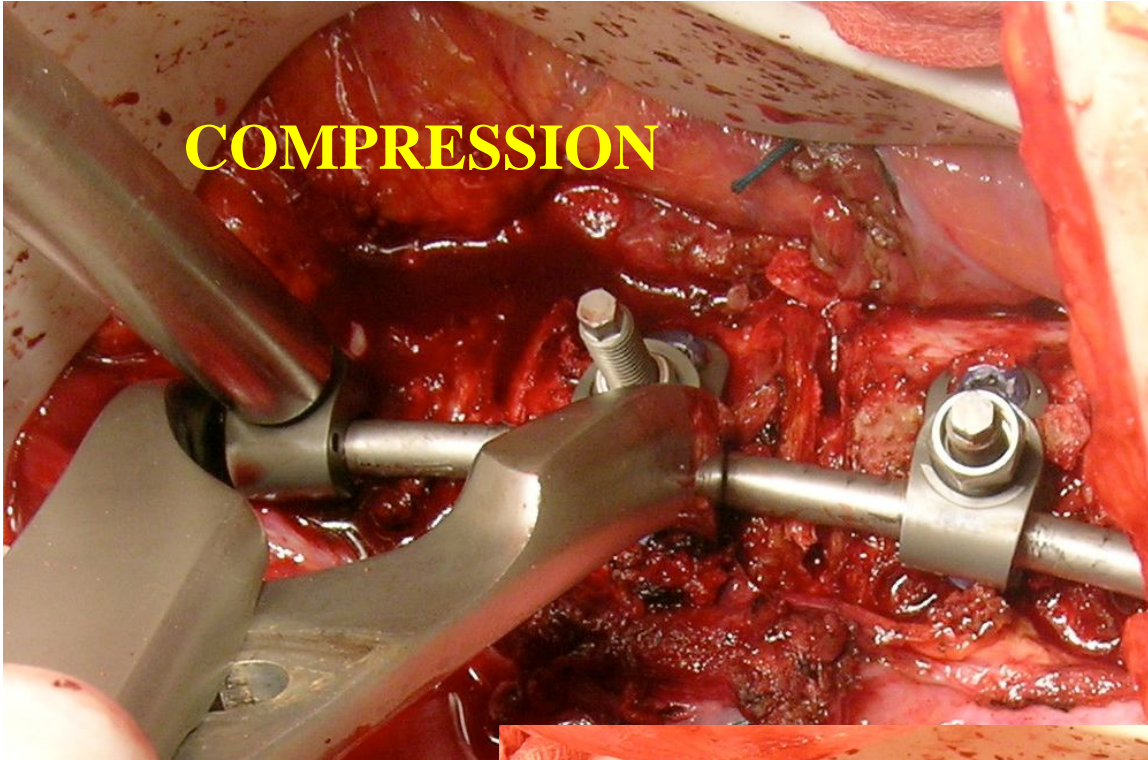
# ROD ROTATION

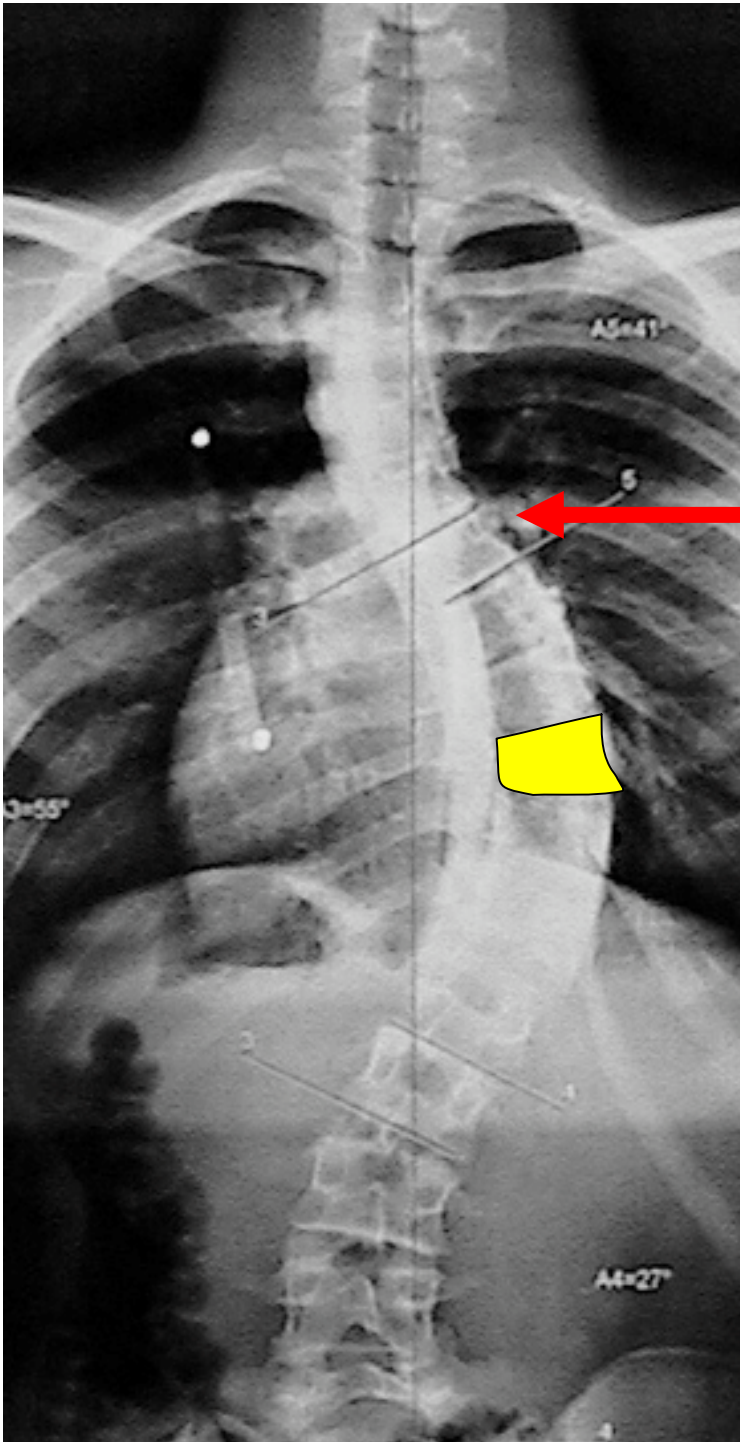
# COMPRESSION



# ROD ROTATION

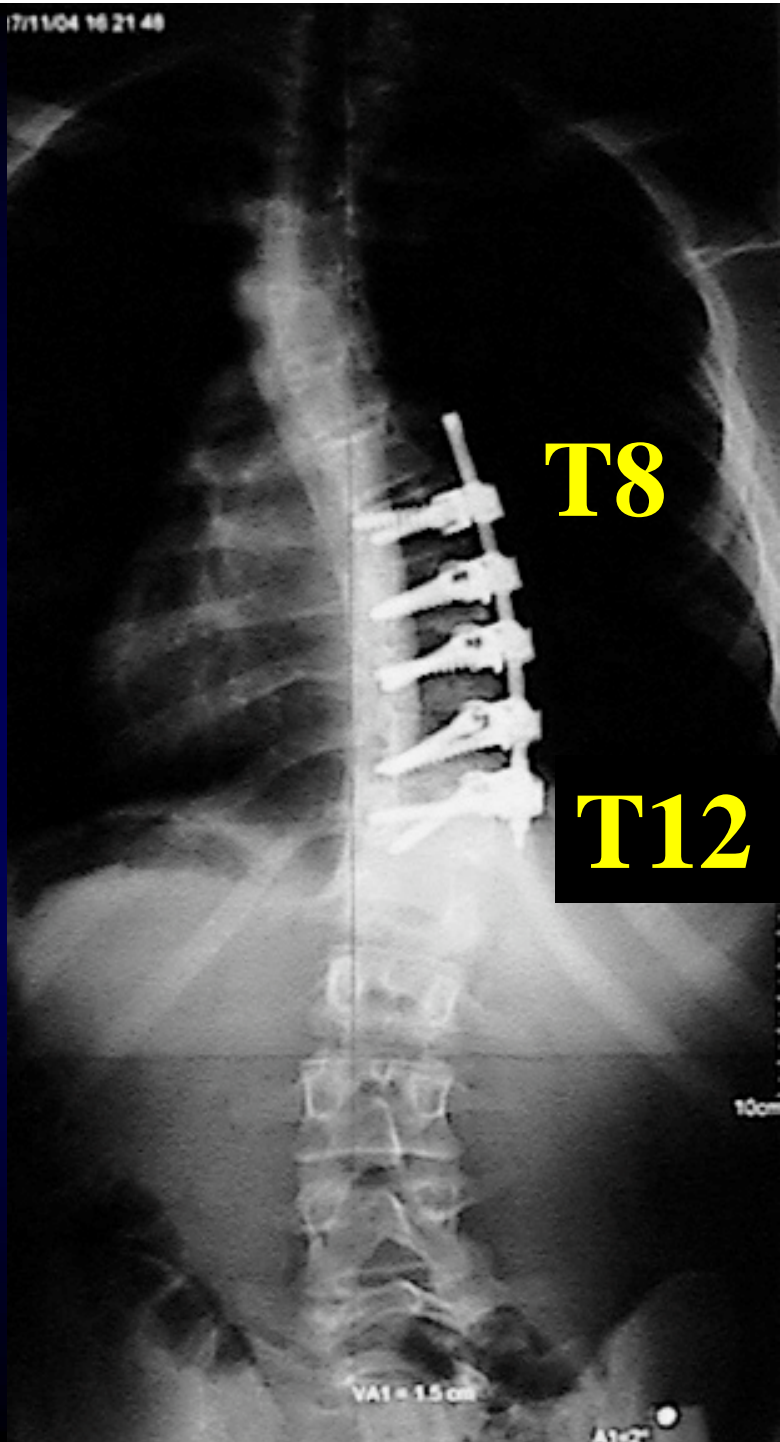






**Rib6**

**T10**

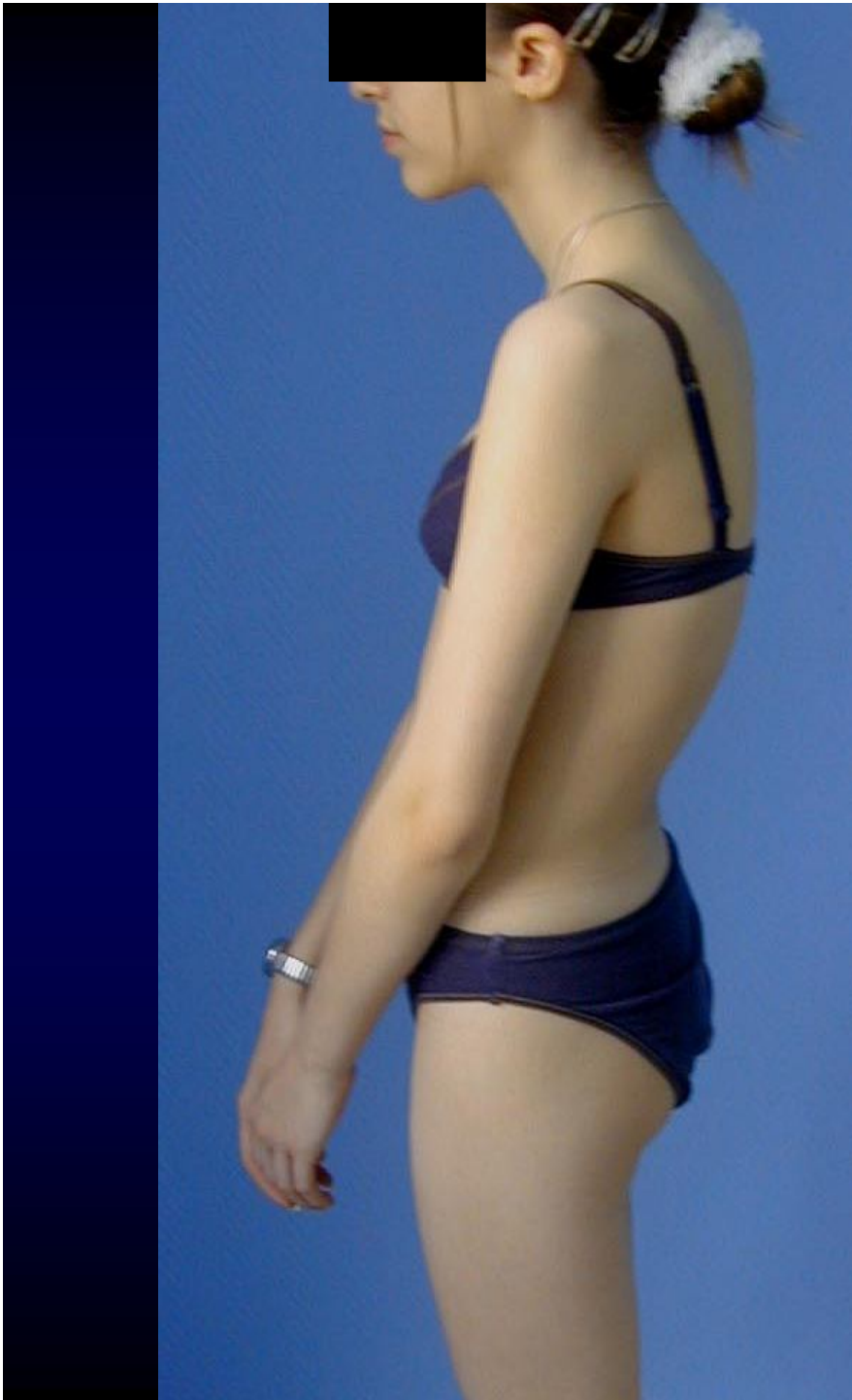


**T8**

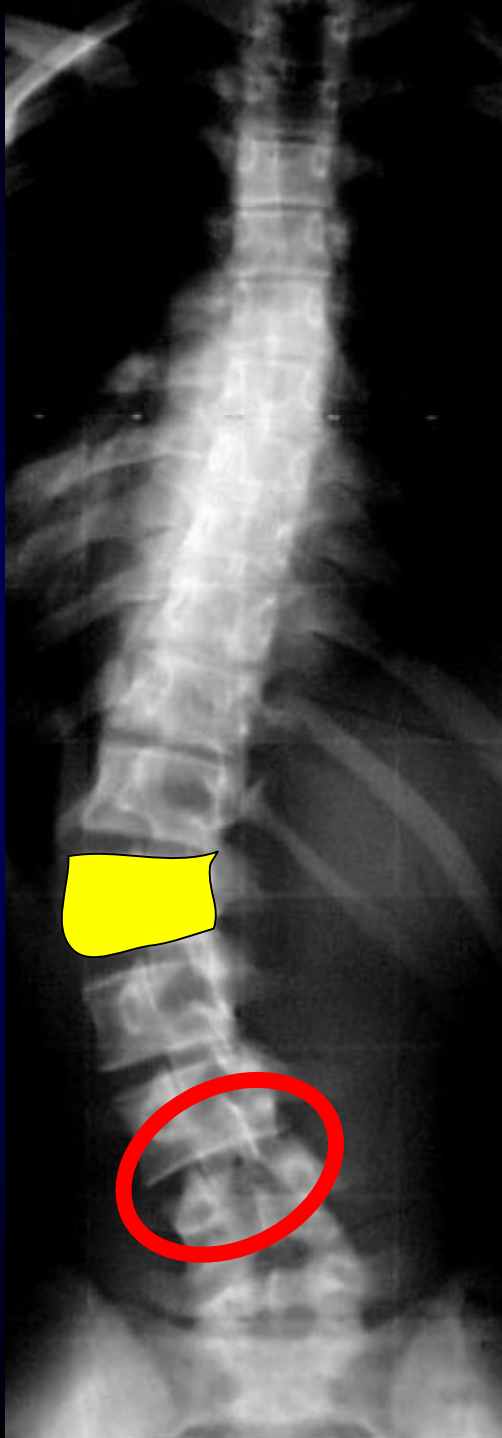
**T12**







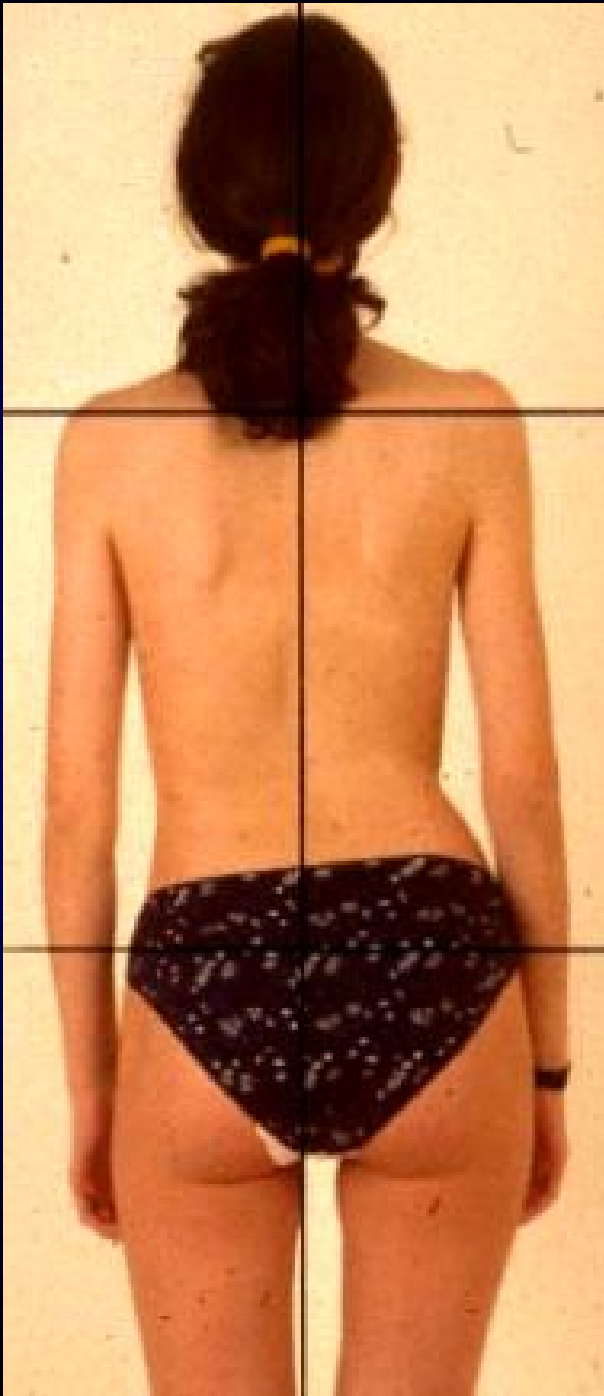
L1



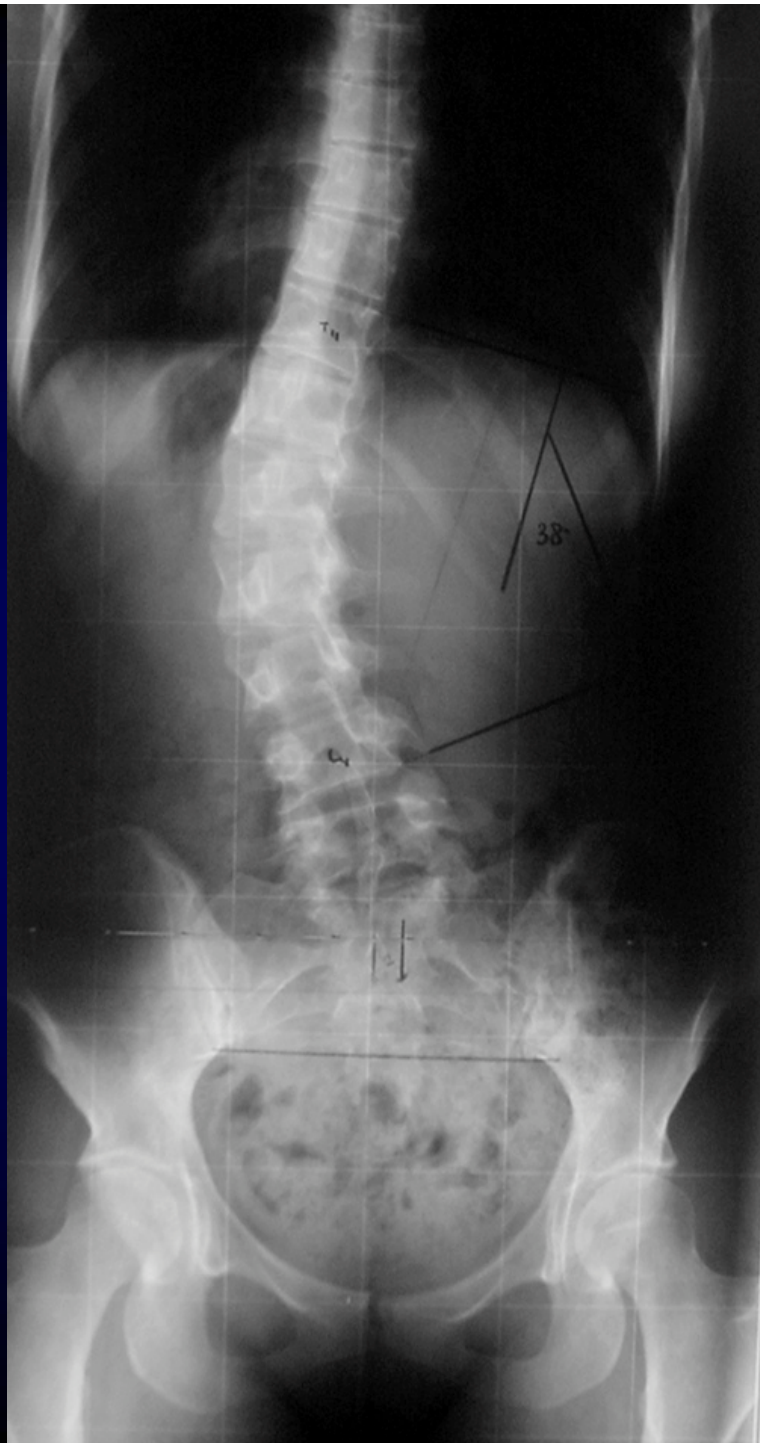
T11-L3



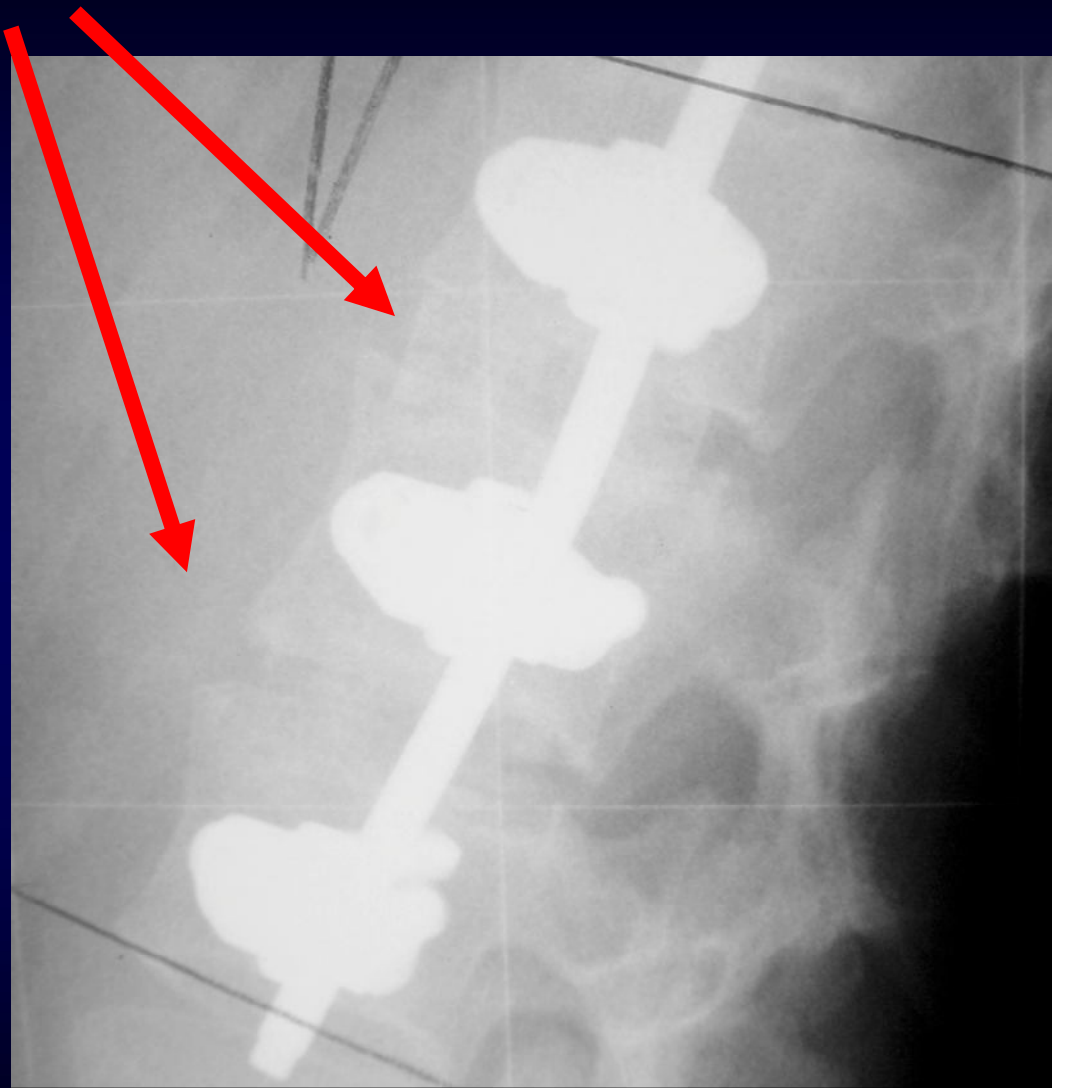
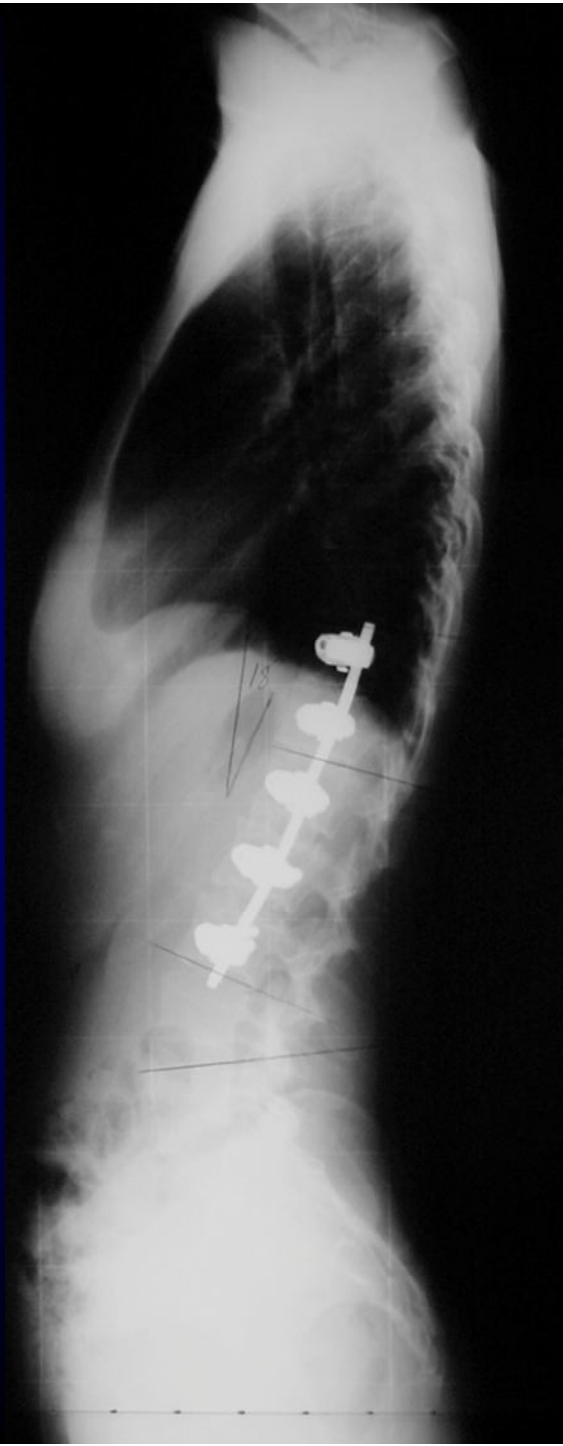






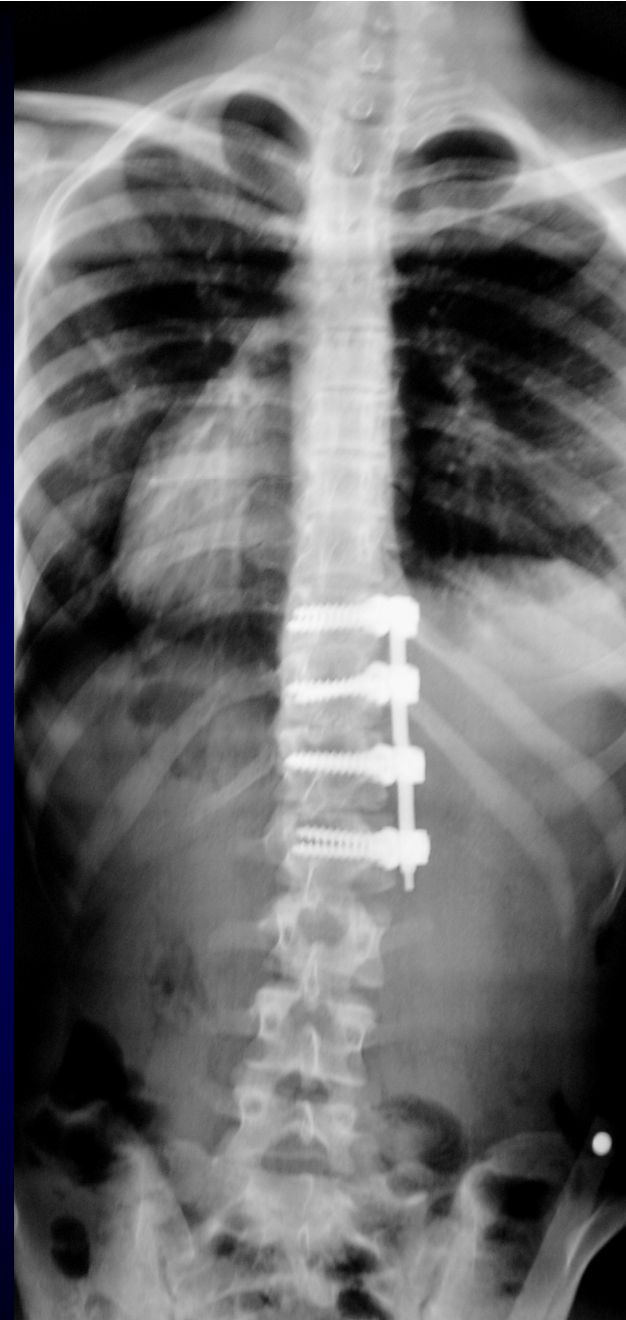


# CAGES

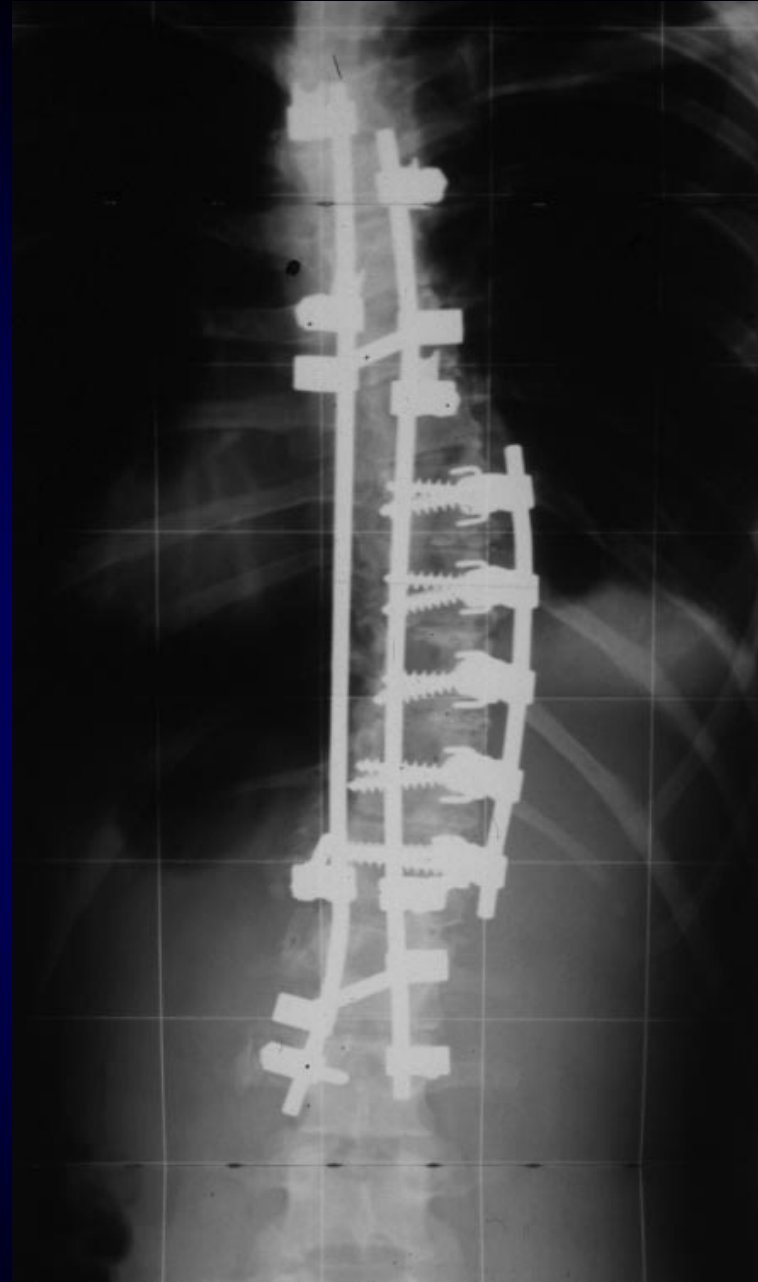
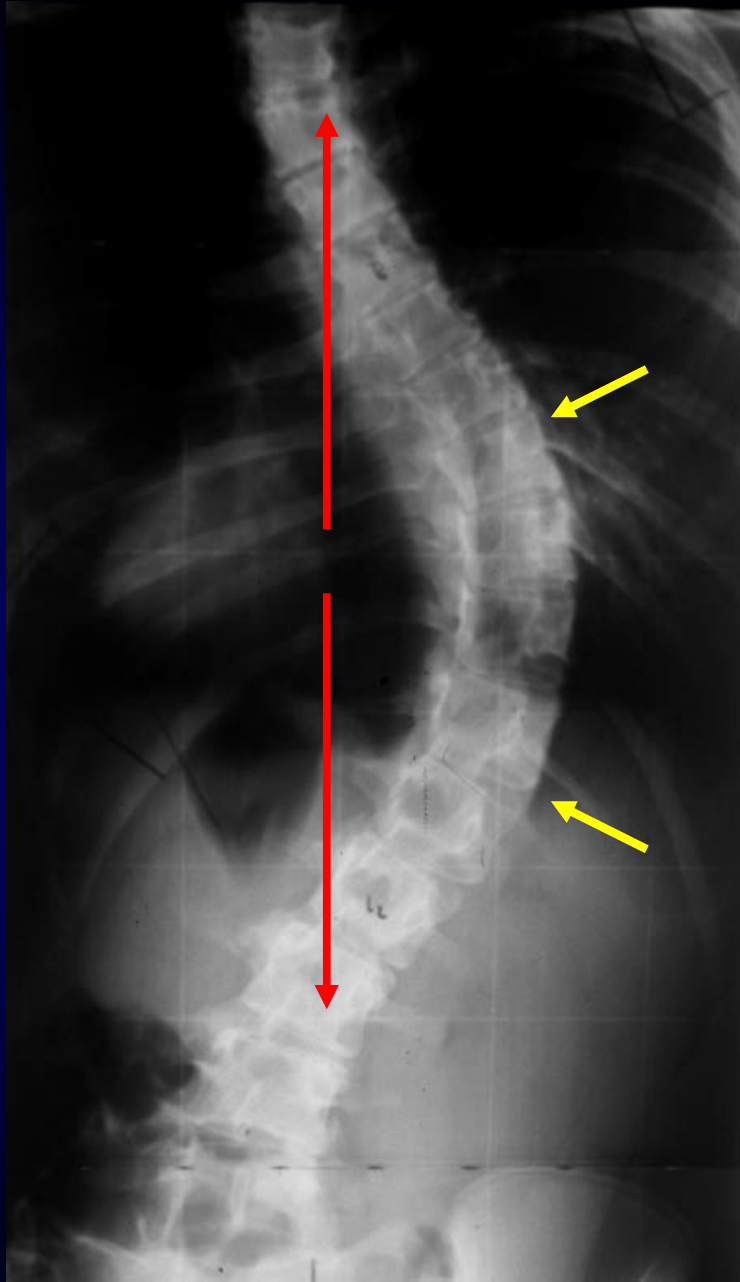




**HYPERCORRECTION**



**SHORT INSTRUMENTATION (HALL)**



# DOUBLE INSTRUMENTATION





# **CLINICAL SERIES**

**From 1996 to 2005**

**13 patients : 12 females  
1 male**

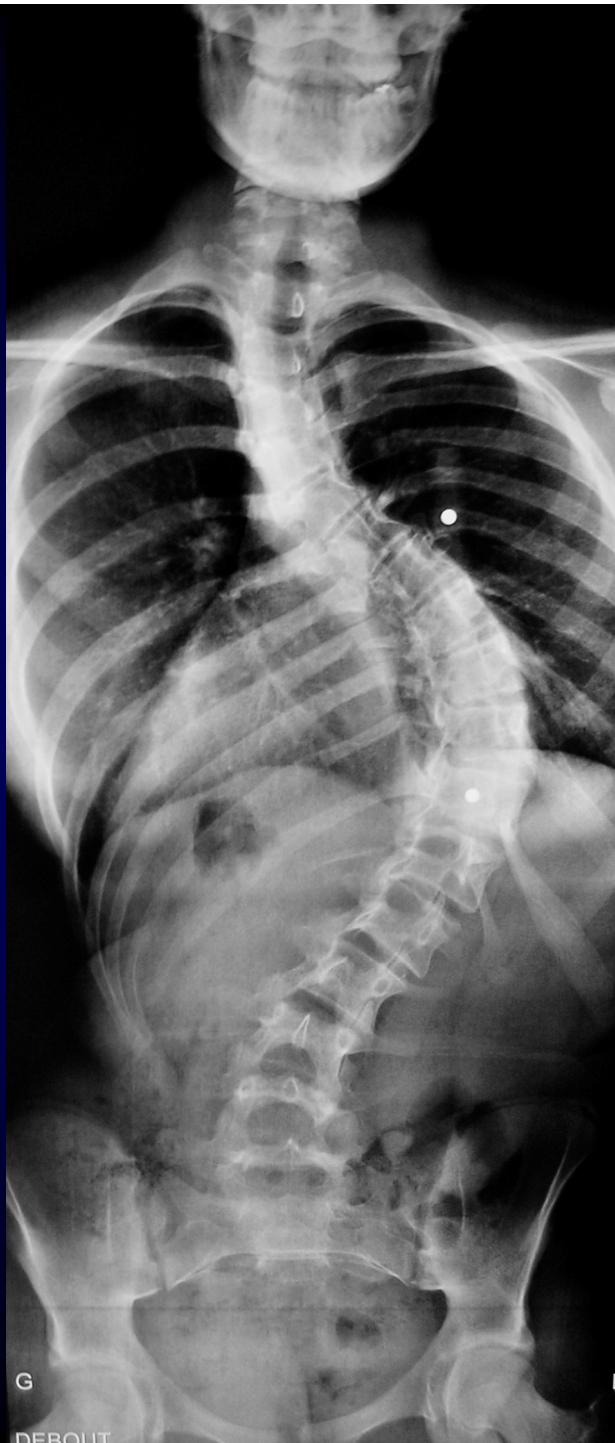
**Mean age : 25 years ( 12 - 49 )**

# **CLINICAL SERIES (DOUBLE INSTRUMENTATION)**

**{ 11 THORACOLUMBAR C.  
2 DOUBLE CURVES**

**MEAN ANGLE :  $69^{\circ}$  (  $56^{\circ}$ - $84^{\circ}$  )**

**BENDING CORRECTION : 30%**



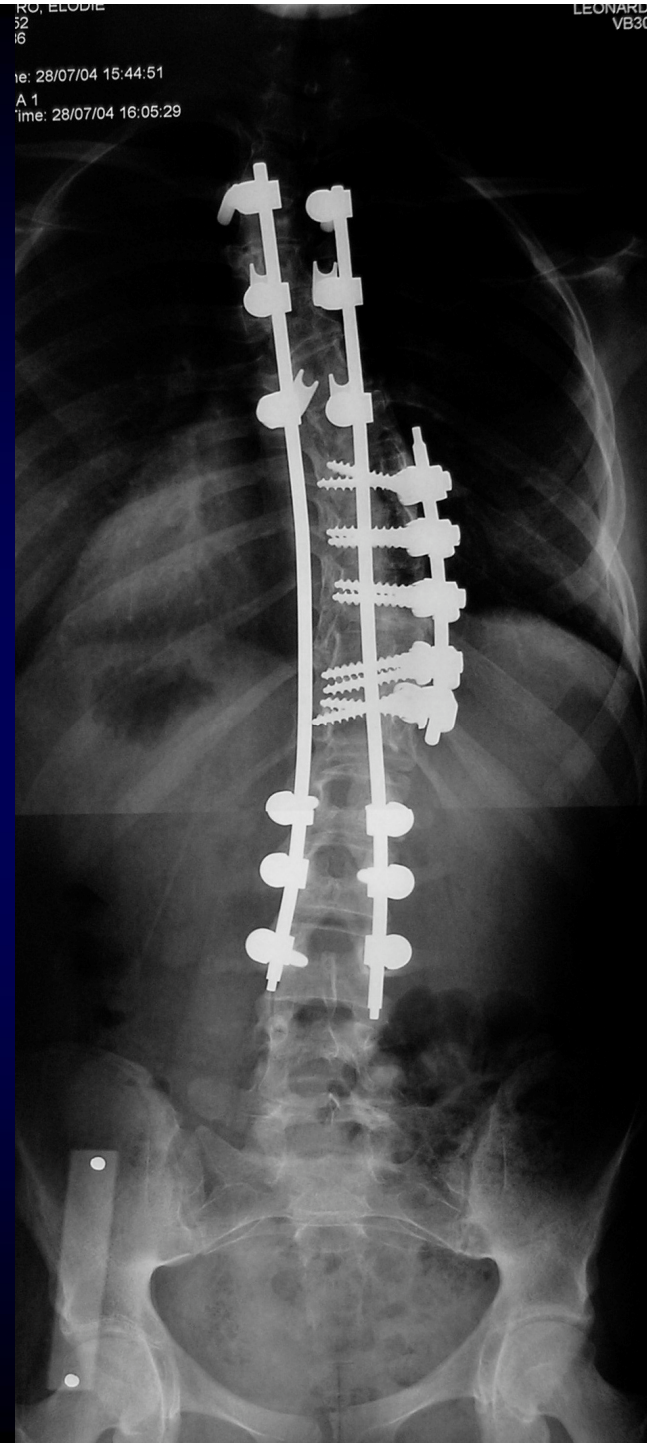
G

DEBOUT

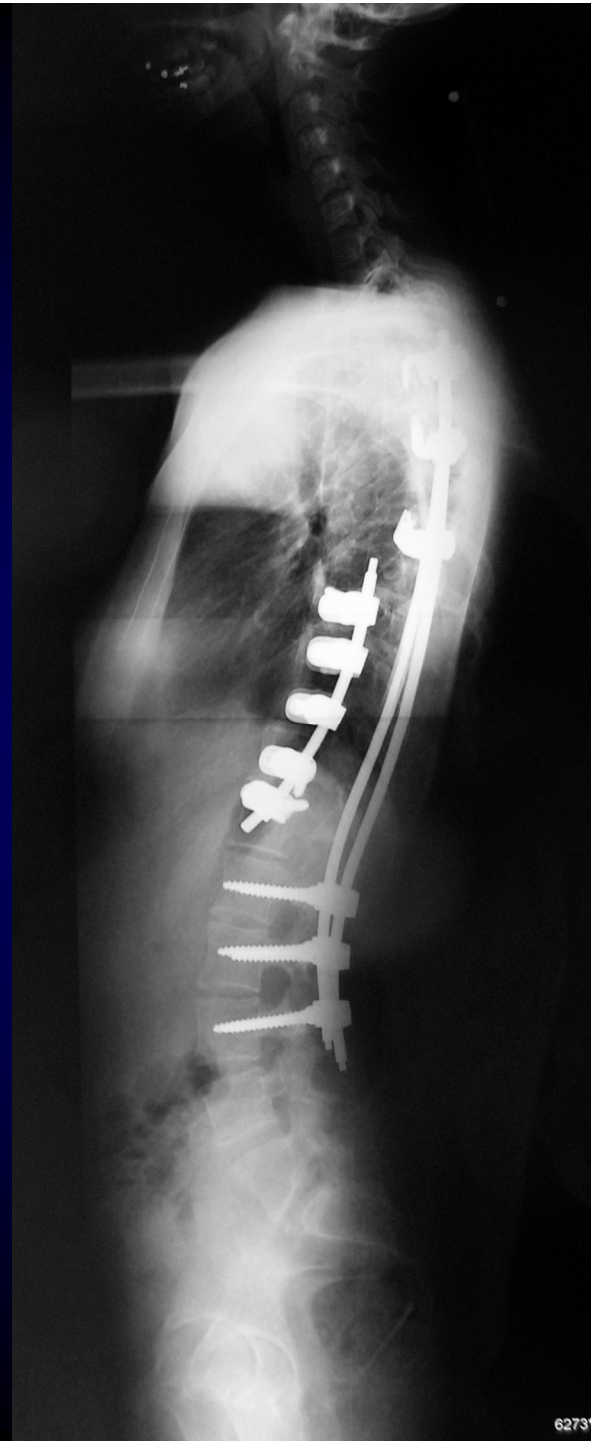
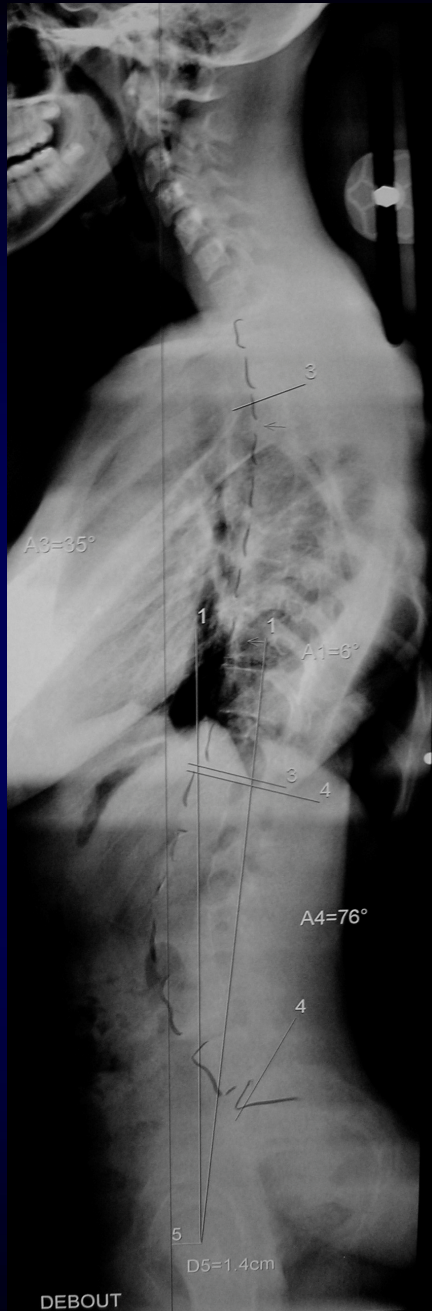
RO, ELODIE  
32  
16

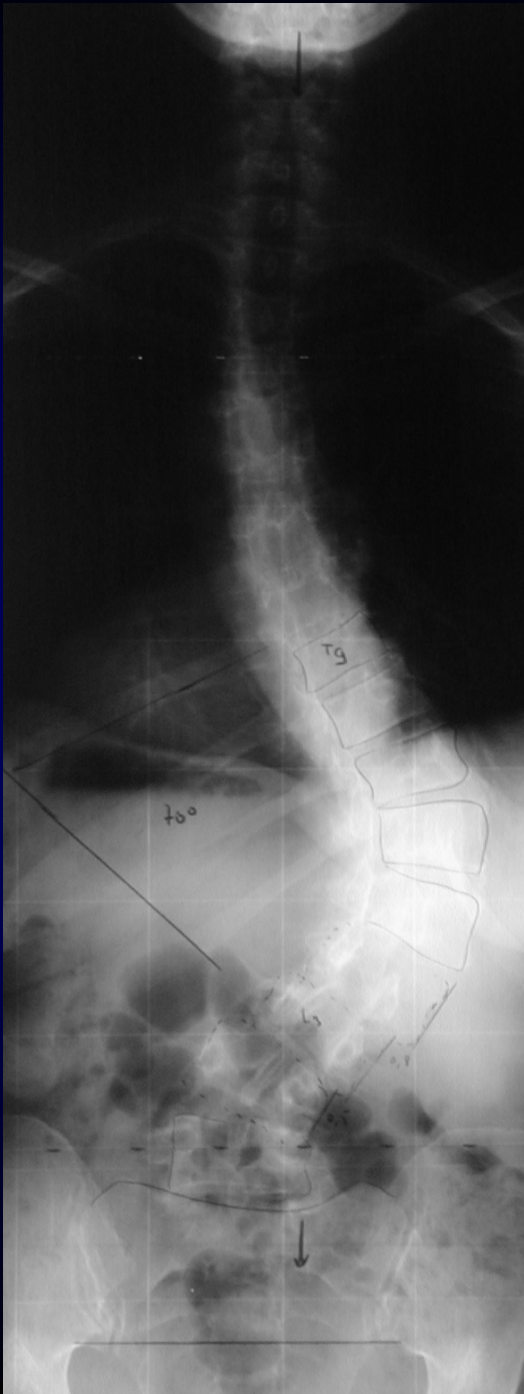
LEONARDO  
VB30A

ie: 28/07/04 15:44:51  
A 1  
Time: 28/07/04 16:05:29







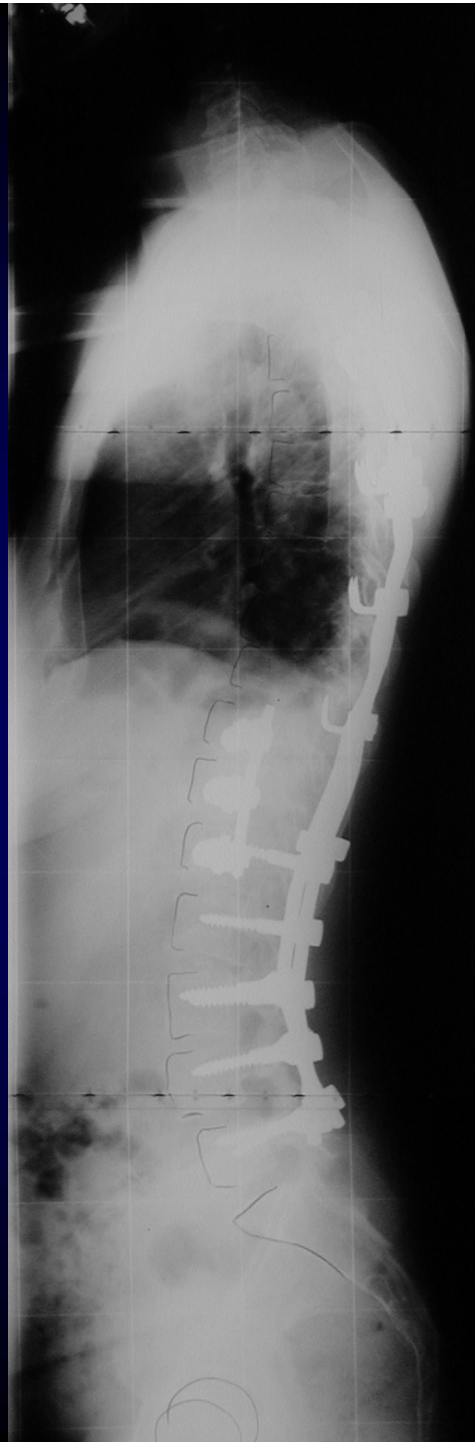
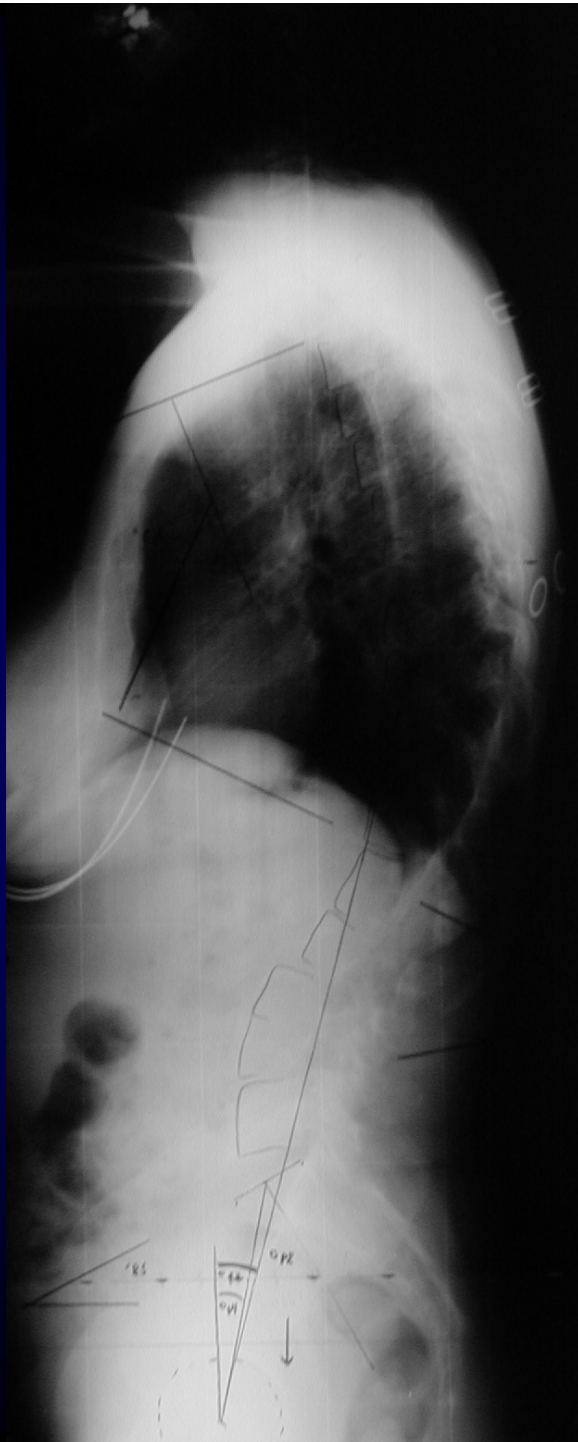


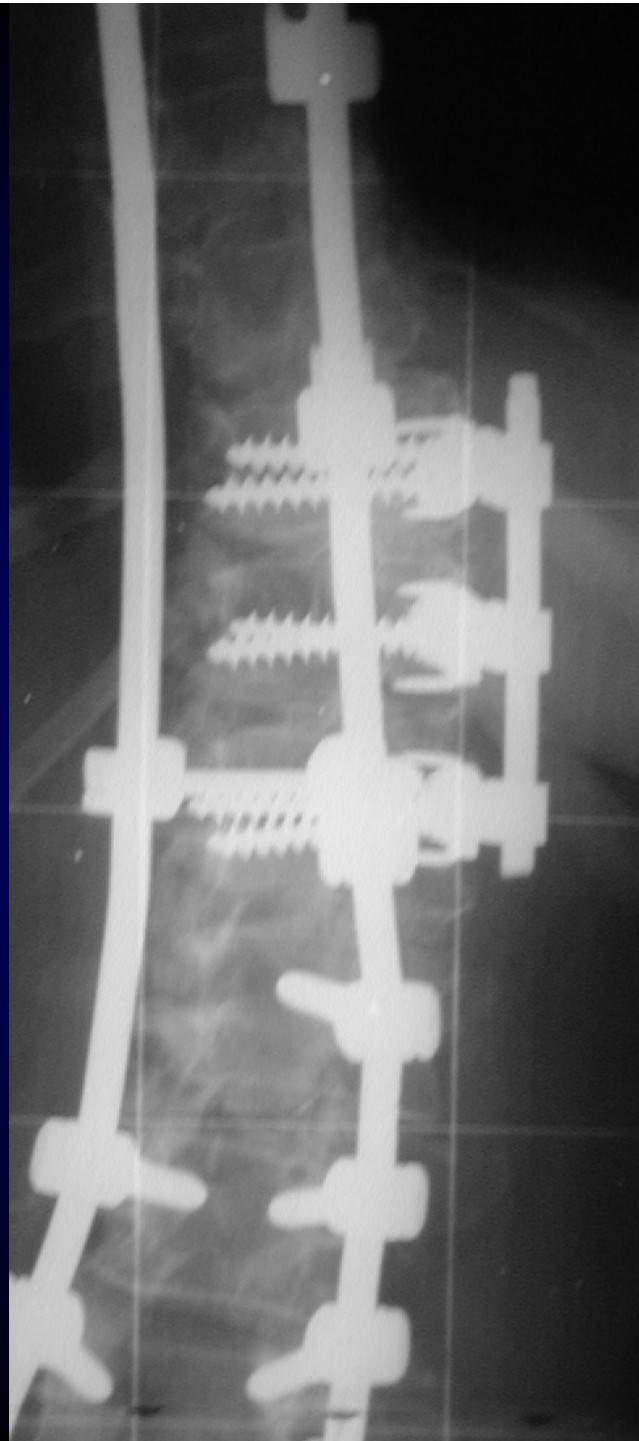
**T4**

**L5**

**HALL**







« CRUX »

« APEX »



# RESULTS

MAIN CURVE CORRECTION

= 2/3 INITIAL ANGLE

CORONAL IMBALANCE CORRECTION : 11/13

GOOD SAGITTAL BALANCE : 13/13

STABILITY WITH TIME

