

# **Treatment of unstable thoraco-lumbar Metastases**



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## Unstable thoraco-lumbar spinal metastasis



Spinal metastasis –

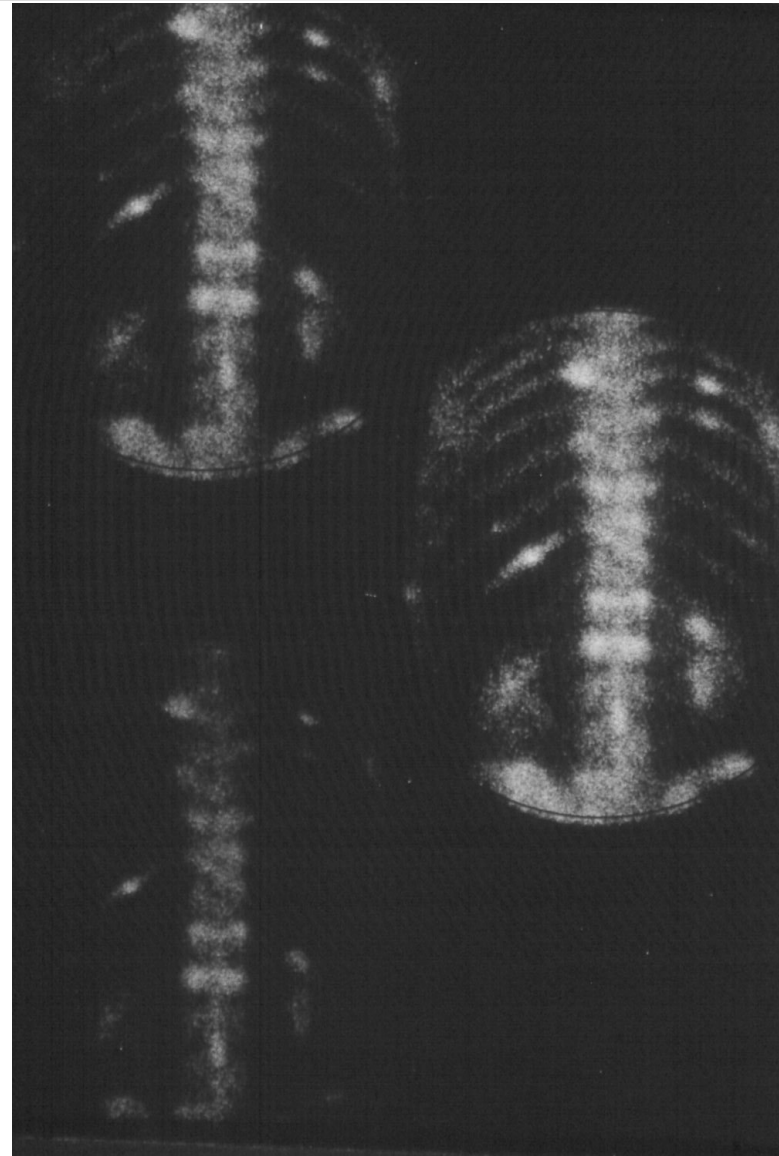
**“A disseminated disease”**



## My aim is to tell you:



1. To thoroughly evaluate the overall status of the patient and his symptoms!
2. To choose the “appropriate” treatment

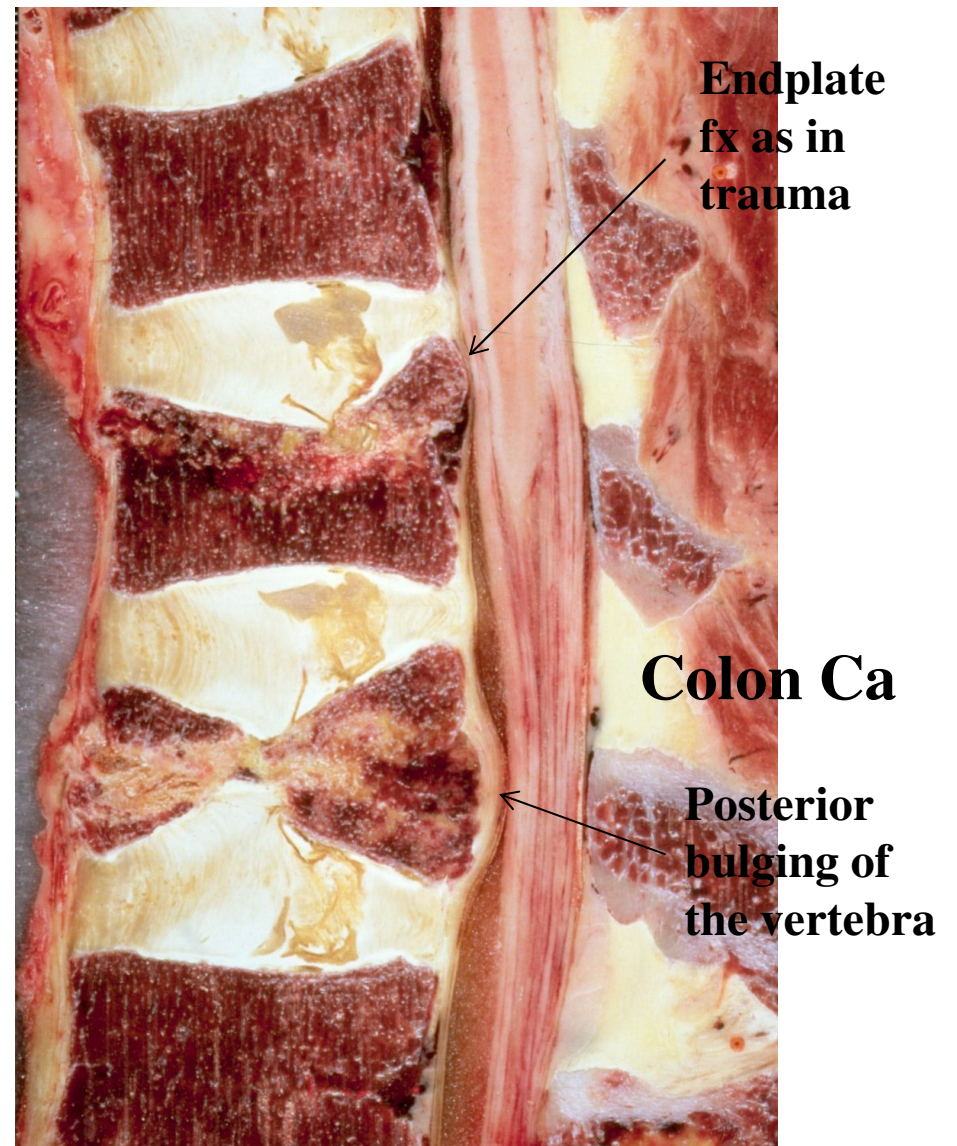


## Unstable thoraco-lumbar spinal metastasis



Affection on the vertebra depends on type of the primary tumor:

- lytic metastasis (Ca renis, myeloma)
- sclerotic metastasis (Ca prost)
- mixed metastasis (Ca mammae)





# Unstable thoraco-lumbar spinal metastasis



Affection on stability depends on affection of the spinal column integrity; can we use the same parameters as in trauma ??

## Biomechanics

**Three biomechanical regions**

**T1-T8:**  
relatively rigid (ribcage),  
kyphosis.  
flexion injury pattern predominates

**T9-L2:**  
transition: immobile - mobile,  
transition: kyphosis - lordosis  
most injuries occur here

**L3-sacrum:**  
mobile, lordosis  
axial load injuries predominate

**Denis**  
3-column classification

**AO**  
classification

**TLICS**  
classification

Morphology  
PCL integrity  
Neurologic status

## Unstable thoraco-lumbar spinal metastasis



In this situation: we rely more on symptoms .....

1. Acute or graduating
2. Local pain due to failure of support
3. Radicular pain or paresis due to neural compression



Artery of Adamkiewicz

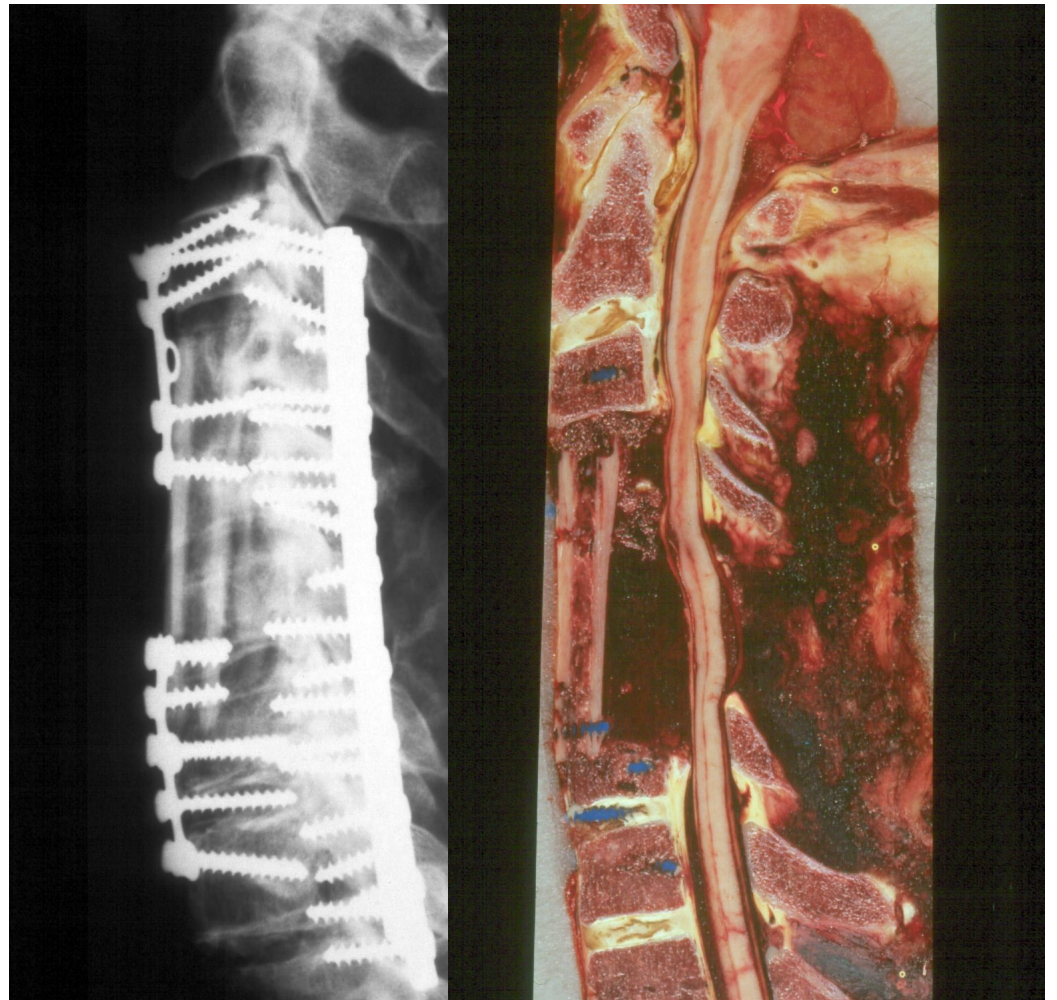


## Unstable thoraco-lumbar spinal metastasis



**To maximize function and quality of life, we have to:**

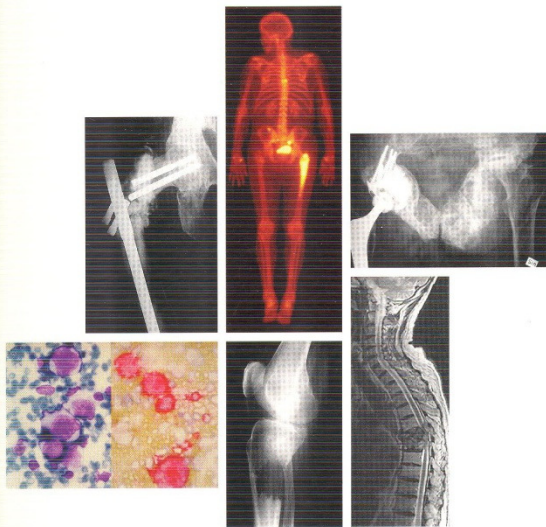
1. Evaluate stage of primary tumor:
2. Evaluate impact of surgery:
3. Evaluate benefits of surgery:
  - possibly less pain
  - possibly neurological recovery



# Read these Thesis: .....

## Metastatic Bone Disease

Rikard Wedin



Stockholm 2000

### Paper II:

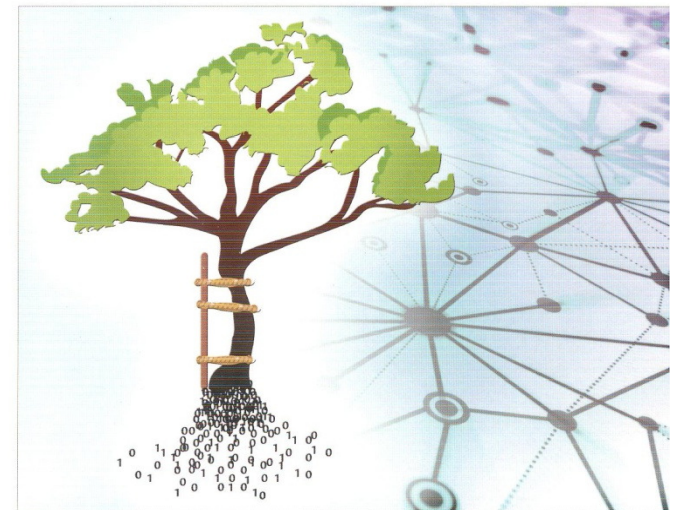
**“Survival after surgery for spinal and extremity metastases”, by Bauer, Wedin, Acta Orth Scand 1995;66:143-146**

#### **Discussion: ...descriptive!**

1. Life expectancy should be taken into account in prophylactic surgery
2. Good prognosis after pathologic fracture in kidney cancer and myeloma
3. Bad prognosis in visceral and brain metastases and in epidural compression
4. Age does not influence survival and should not be used to decide whether or not to operate on metastasis

Thesis for doctoral degree (Ph.D.)  
2015

## Turning Data Into Decisions — Clinical Decision Support in Orthopaedic Oncology



Jonathan A. Forsberg, M.D.

Post – op  
prognostic  
calculator:



<https://pathfx.org/>





**and look into these papers .....**

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*“The (revised) Tokuhashi Scoring System for prediction of prognosis of patients with metastatic spinal cord compression (MSCC)”*.

Yasuaki Tokuhashi, Hiroshi Uei, Masashi Oshima, and Yasumitsu Ajiro, Spine 2005, 30 (19), 2186 -2189

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4095019/table/T2/?report=objectonly>

**Evaluation System for the Prognosis in Metastatic Spine Tumors**

**General condition (Karnofsky performance status - KPS)**

**Number of extraspinal bone metastases foci**

**Number of metastases in the vertebral body**

**Metastases to the major internal organs**

**Primary site of the cancer**

**Palsy**

**Criteria of predicted prognosis:**

<u>Total points</u>	<u>Mean survival periods</u>
0-8	< 6 mo
9-11	≥ 6 mo
12-15	≥ 12 mo

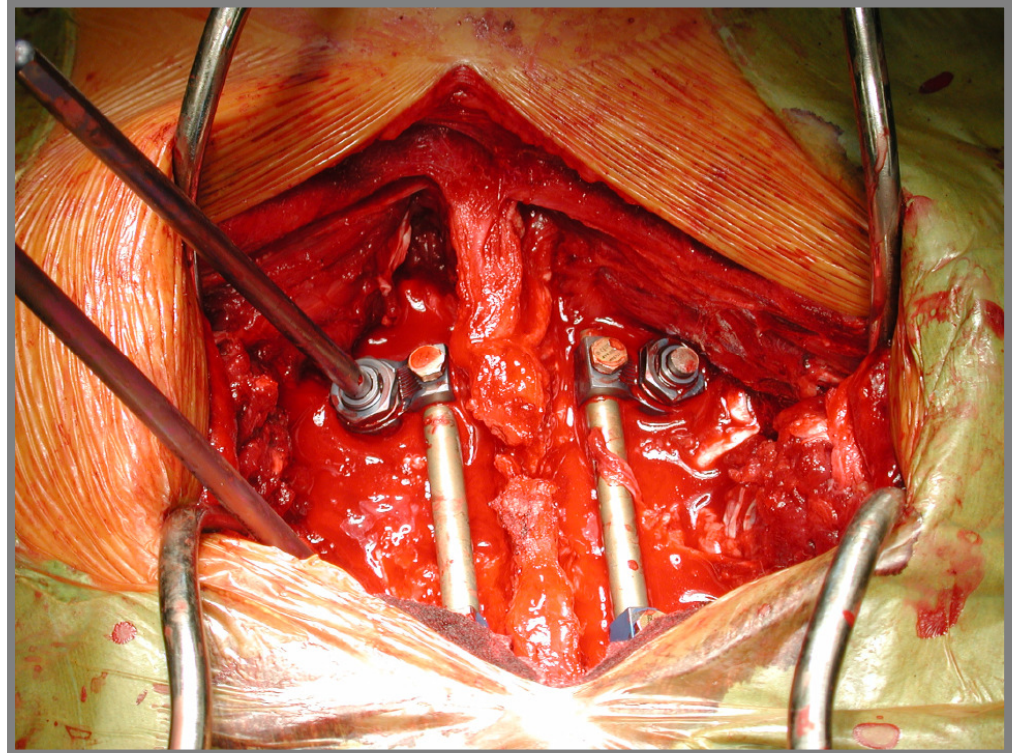
*“Testing the accuracy of the revised Tokuhashi Scoring System”* (European Spine Journal 22(S1) · January 2013

<https://www.researchgate.net/publication/234161261>

... “found that that the scoring system and the components which it consists of, are important in the evaluation of these patients **when considering surgery**”!

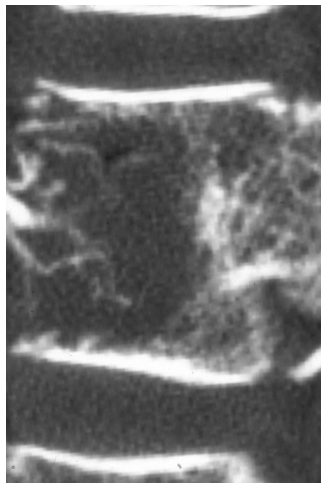
The decision to operate or not to operate is **still in your hands! REMEMBER: It’s not livesaving!**

**“First line of defence” in unstable T-L metastasis is always  
Posterior transpedicular approach with fixation**





**Supports the anterior column load for at least 12months!**

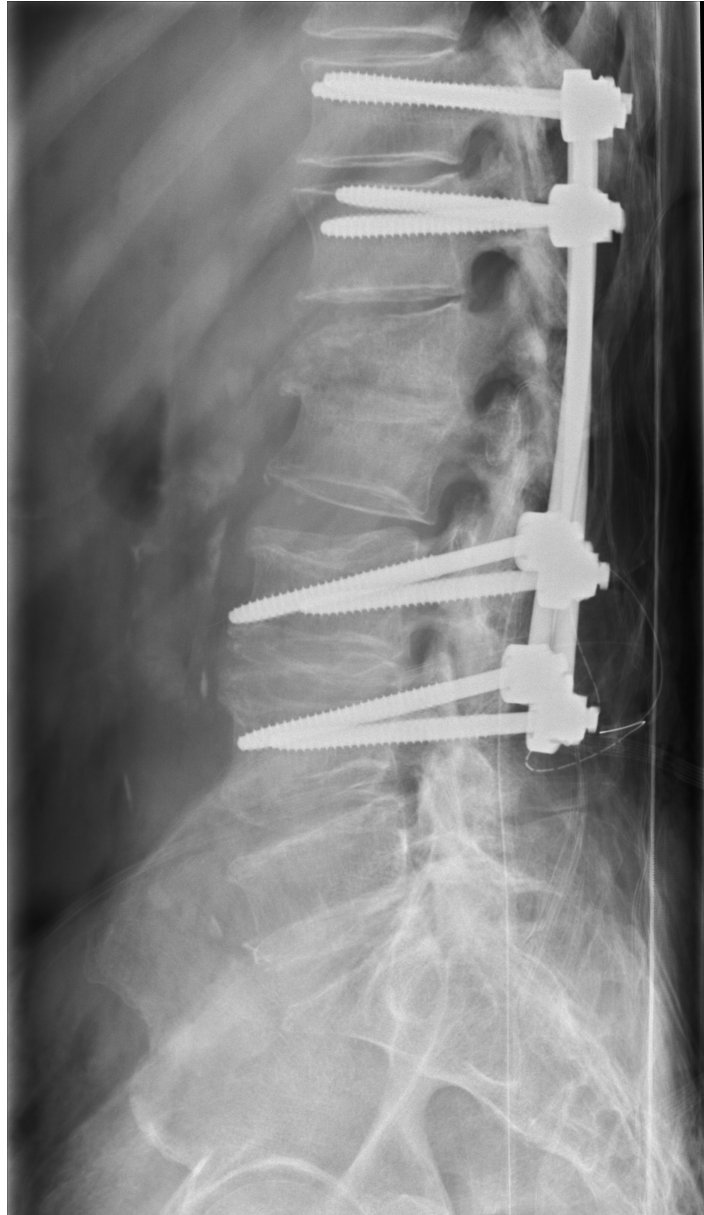




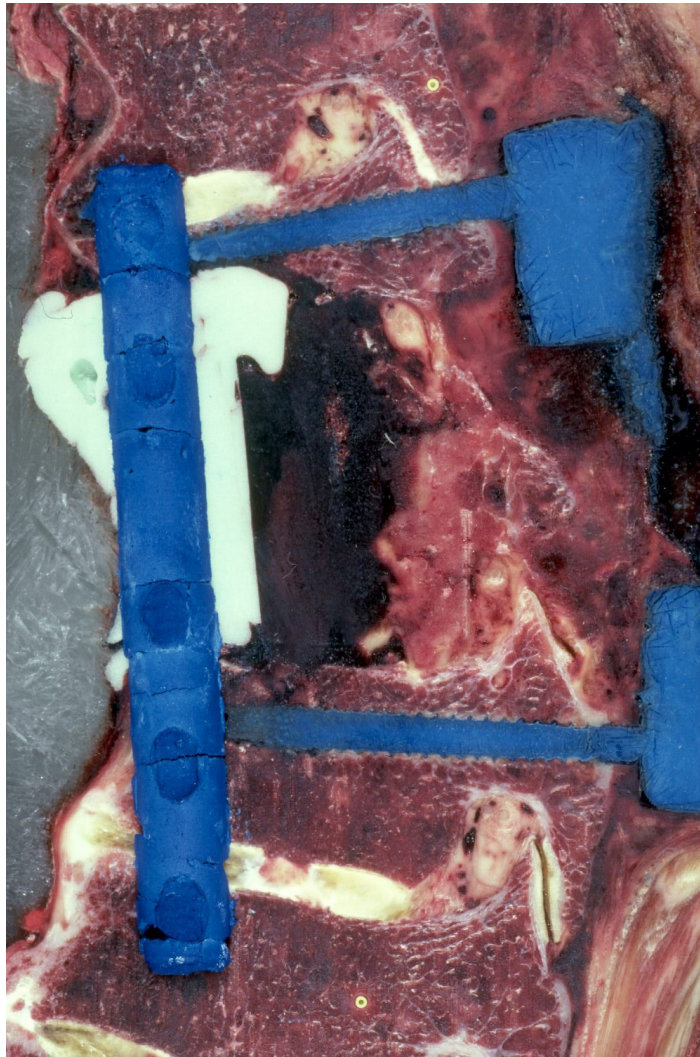
# “Simple” fixation – construct - must be in valgus!



**“Double” fixation – construct - must also be in valgus!**



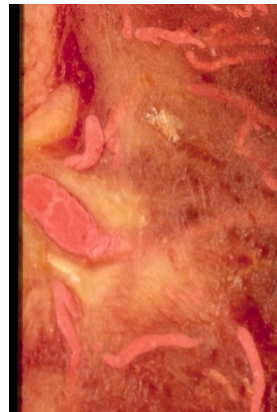
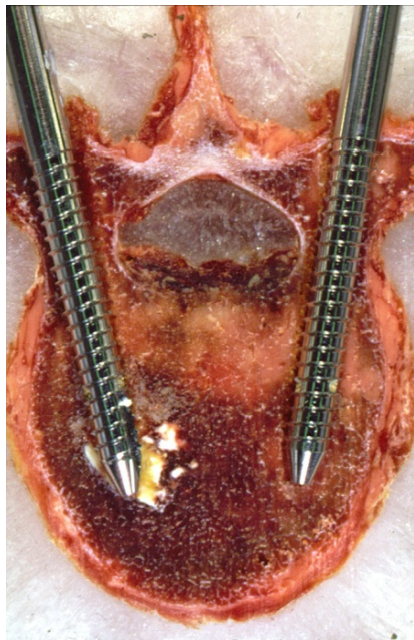
If the anterior decompression is not sufficient and you wish to go there; think first ! .....



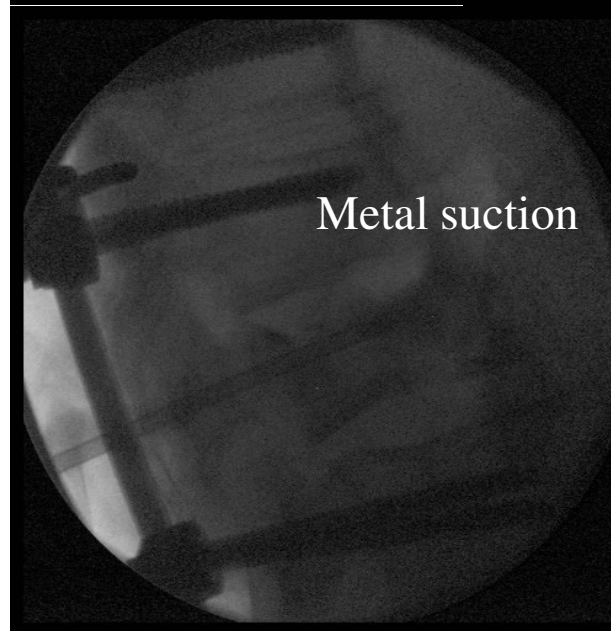
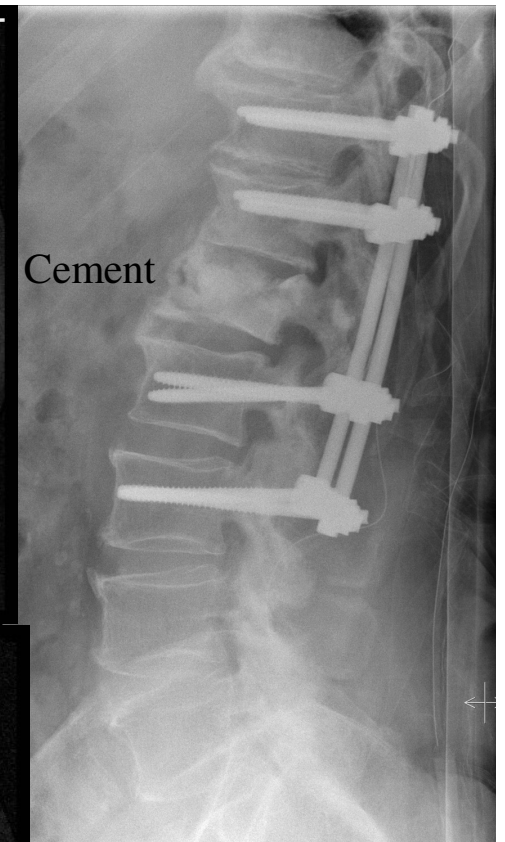
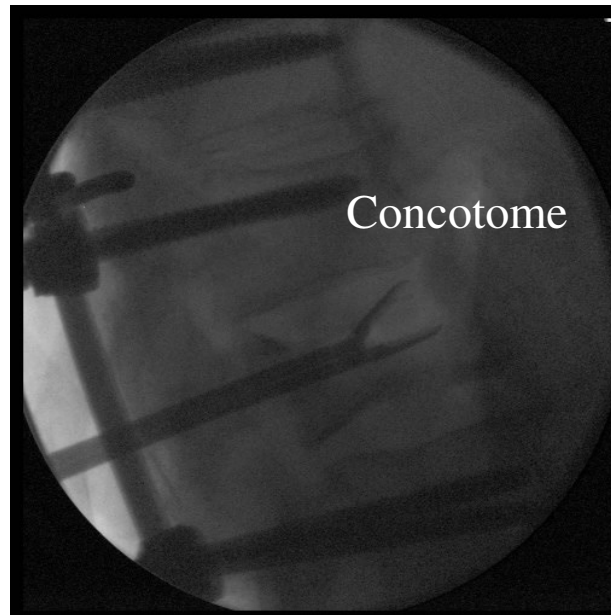


... about the possibility of working through the pedicle!

## A SECRET IN SPINE SURGERY THE PEDICLE



Pre-op embolization may give lesser bleeding .....



.... but the pedicle **gives total control** in tumor bleeding!



*THANK YOU!*

