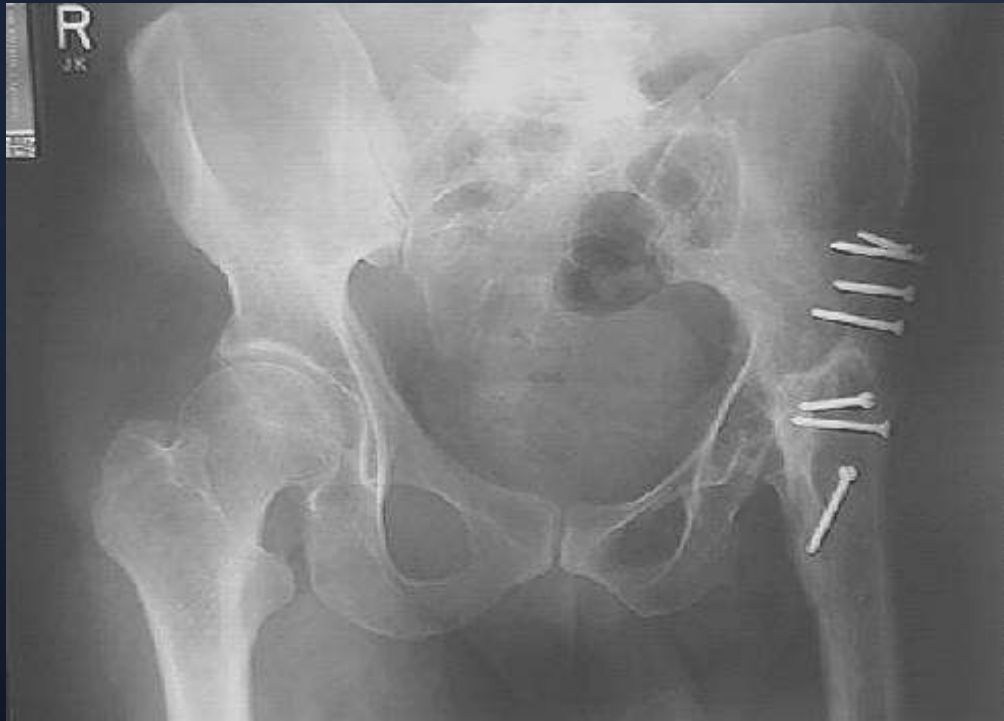


MOTION PRESERVATION PROJECTS

WAYNE CHENG, MD

BONES AND SPINE

HISTORY

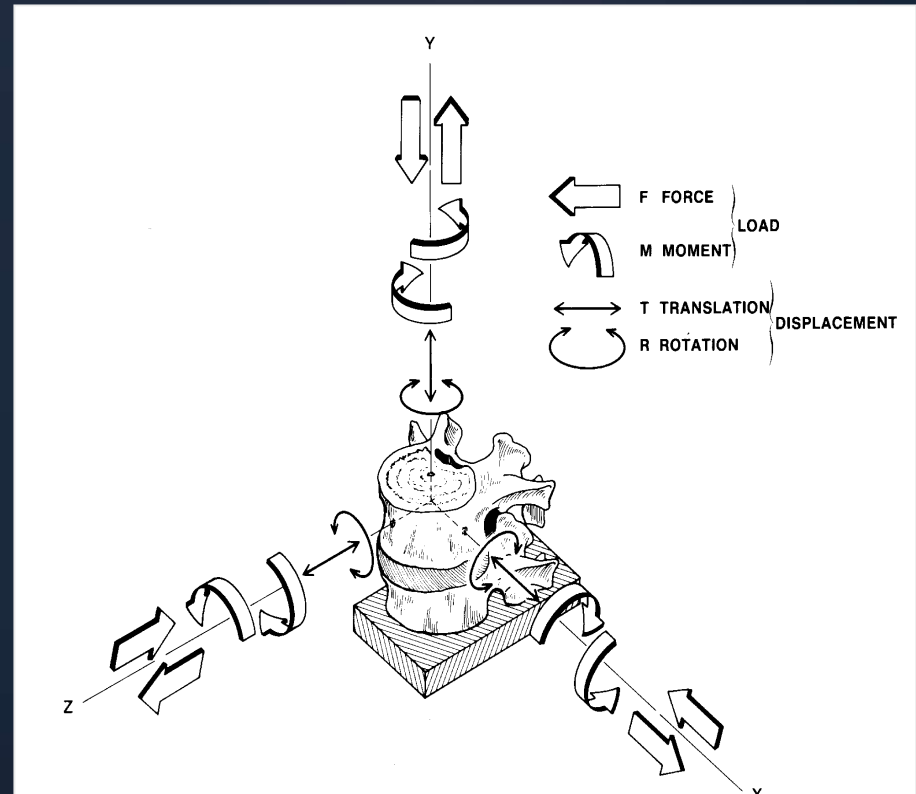


POSTERIOR APPROACH - FUSION DISEASE?



SPINAL BIOMECHANICS

- Each vertebral body interacts with an adjacent vertebra by means of 5 articulating joints – disc and 4 facets
- Biomechanics of a functional spine unit (FSU or motion segment) are determined by interaction of the disc, facets and ligaments
- FSU' have 3 main roles:
 - stabilize the vertebra relative to each other protect the nerves and each other from excessive loads
 - provide proper function for each FSU, the spine, and ambulation of the body as a whole
 - transfer and share loads in the spinal column.



TOTAL DISC REPLACEMENT



Charite' (depuy)



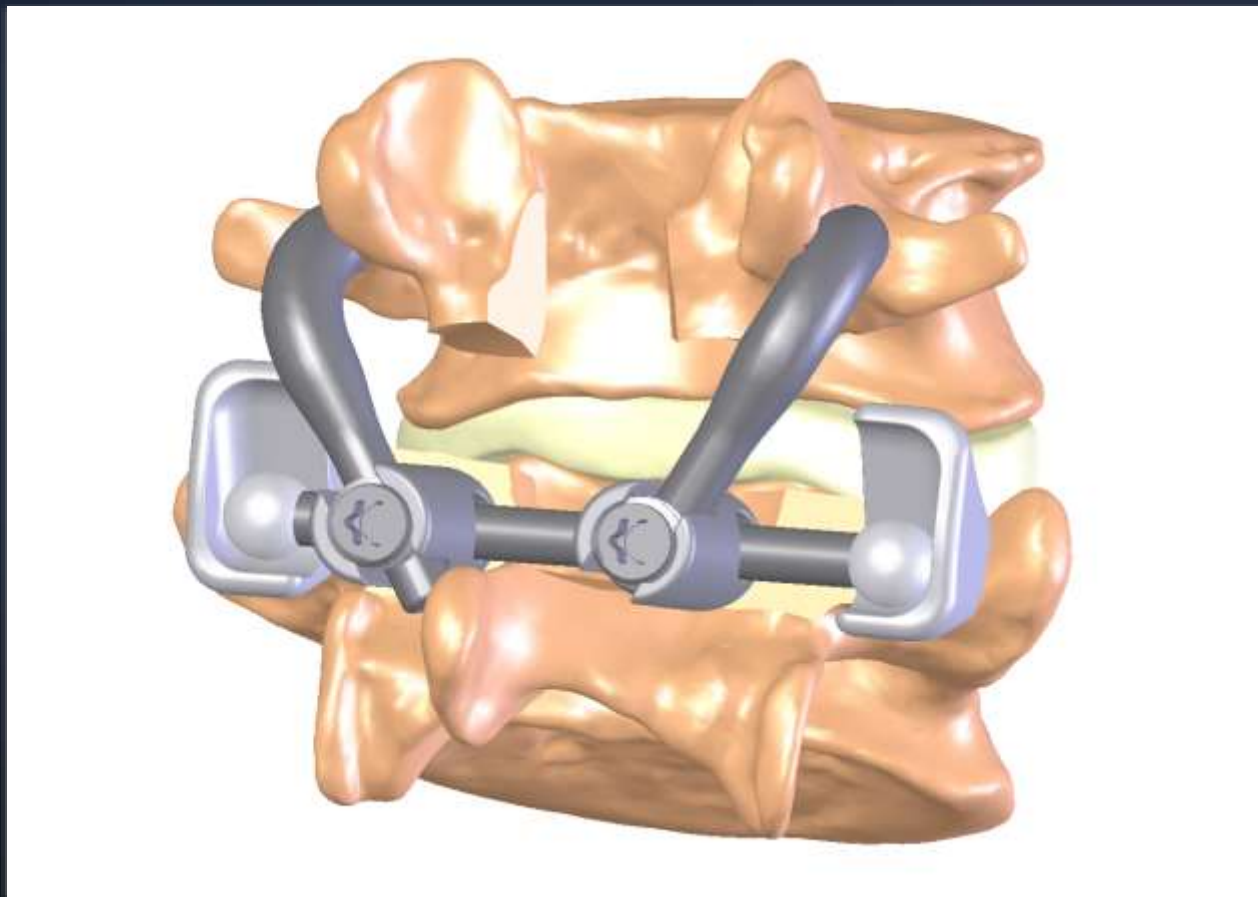
Prodisc (synthes)



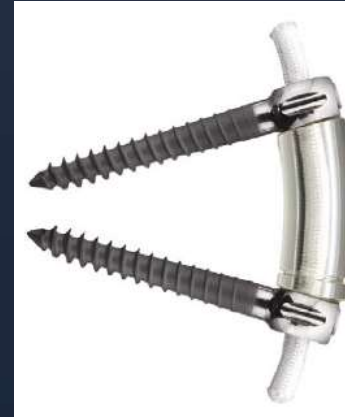
Maverick (Medtronic)

Flexicore (stryker)

TOTAL FACET ARTHROPLASTY SYSTEM



POSTERIOR DYNAMIC STABILIZATION



HOW MUCH MOTION?

QuickTime™ and a
decompressor
are needed to see this picture.

QuickTime™ and a
decompressor
are needed to see this picture.

QUESTIONS

- How stable? Replace all joints



QuickTime™ and a decompressor are needed to see this picture.



QUESTIONS

- How stable? TDR + posterior dynamic stabilization

QuickTime™ and a decompressor are needed to see this picture.



QUESTION: TDR LATERAL APPROACH

QuickTime™ and a
decompressor
are needed to see this picture.

QuickTime™ and a
decompressor
are needed to see this picture.

EQUIPMENTS

THANK YOU

QuickTime™ and a
decompressor
are needed to see this picture.