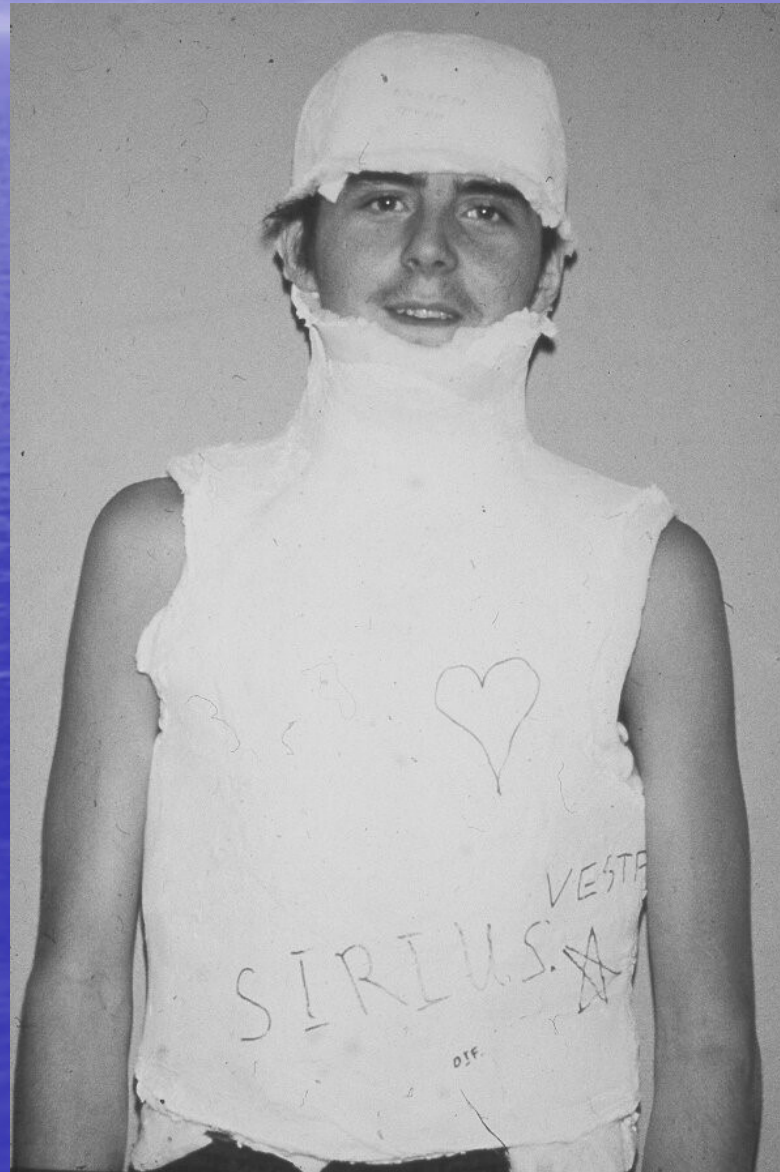


Hryggsúlan – meta alvarleika áverka? -- sjálf; síðan má tala við sérfræðing!



Halldór Jónsson jr

Áður komið í klinikum:

- Brot og liðhlaup í efri hálshrygg: Guðlaugur
- Brot og liðhlaup í neðri hálshrygg: Björn
- Brot á brjóst- lendhryggjarmótum: Helga

Samnefnari:

- Orsök: (oftast) háorka (sjá skilgr. LL)
- Anatomia: hryggsúlan, mænan, taugar
- Einkenni: staðbundin/ -taugatengd
- Myndrannsóknir: (rtg), CT, MR
- Flokkun: Denis, AO
- Meðferð: Fer eftir heildrænu mati - TLICS

Háorka

(Vinnuferlar LL fyrir sjúkraflutningamenn Des 2006)

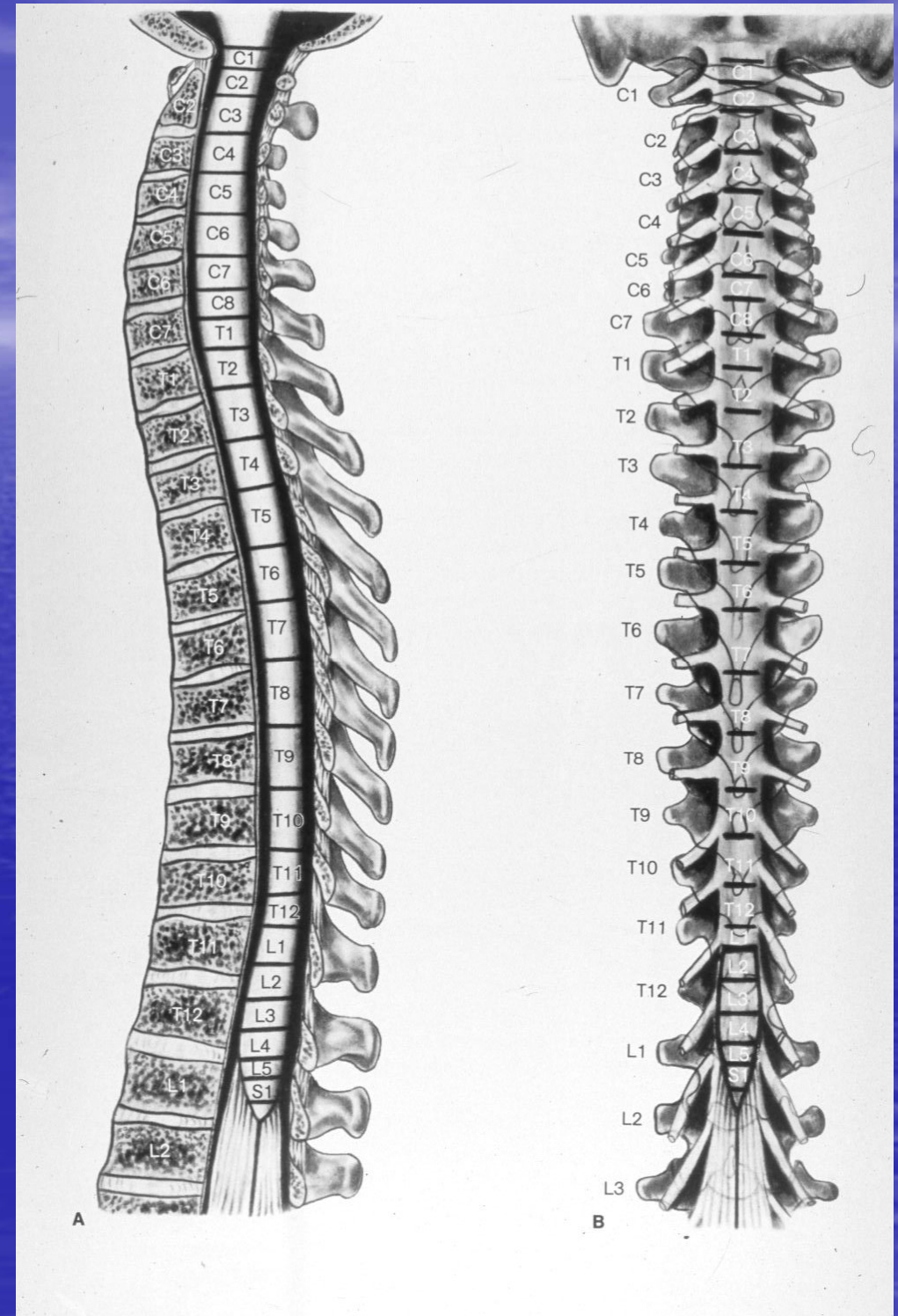
- Árekstur bíla á meira en 65 km/klst.
- Bílvelta.
- Dauðsfall í sama farþegarými.
- Aflögun farþegarýmis meira en 30 cm.
- Aflögun ökutækis meira en 50 cm.
- Sjúklingur fastur í flaki eða tók meira en 20 mín að losa.
- Sjúklingur kastast út úr ökutækinu.
- Bifhjólaslys þar sem hraði er meiri en 30 km/klst.
- Fótgangandi verður fyrir ökutæki á meira en 10 km/klst.
- Fall úr 4 metra hæð eða meira.
- Fall barns úr tvöfaldri hæð þess eða meira.



Anatomia:

Efri hálshryggur
Neðri hálshryggur
Brjóst-lendhryggur

Mæna endar bakvið L-I
Ath: hvernig mænan gildnar kringum:
C5,6,7,C8,T1 og L3,4,5,S1



Einkenni:

Staðbundin:

- eða taugatengd

C1: hvirfill

C2: eyra

C5: öxl

C6: þumall

L3: innanv hné

L5: stóratá

S1: litlatá

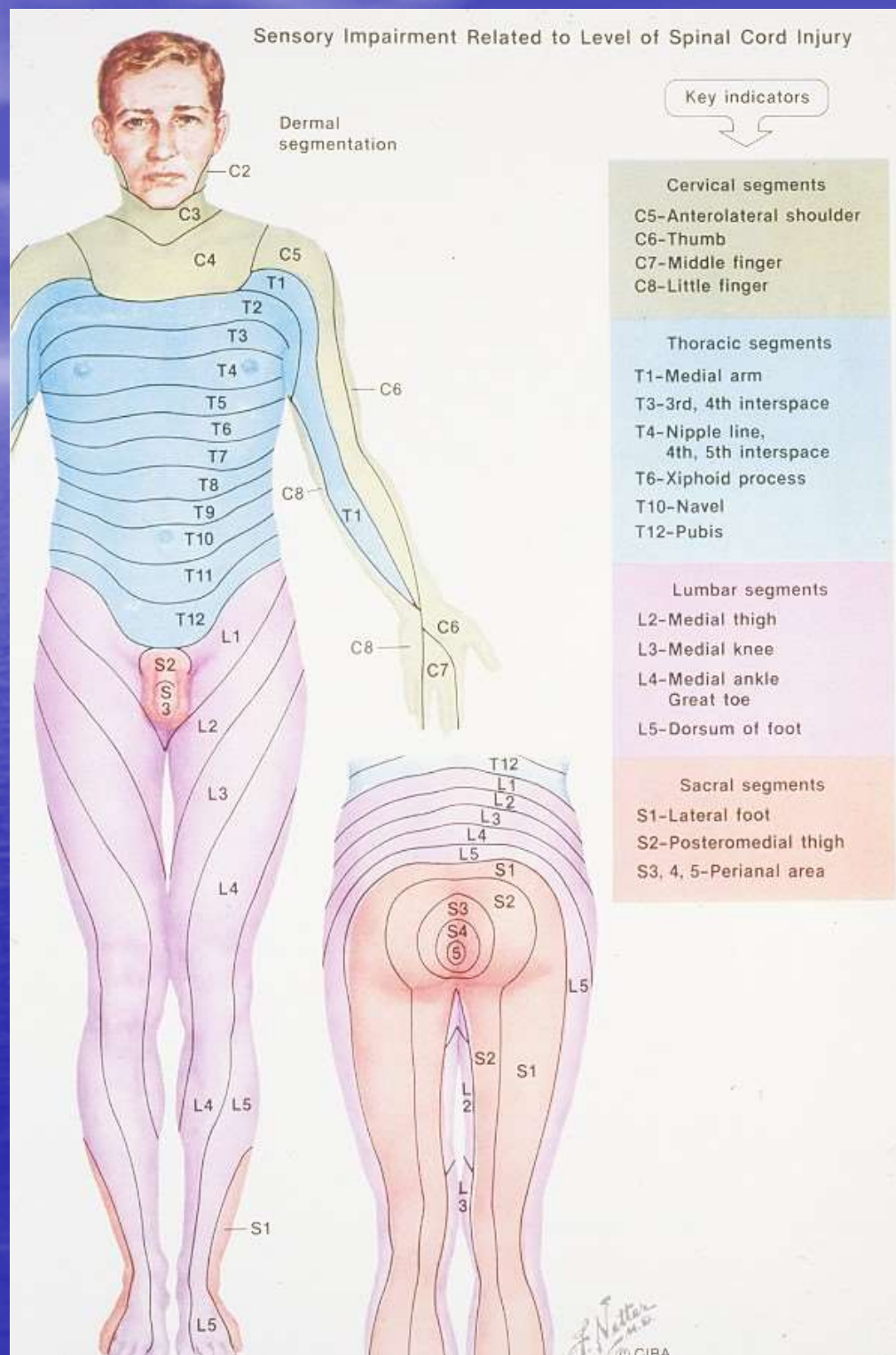
- eða mænutengd

C4: viðbein

T4/5: brjóstvarta

T9/10: nafli

T12/L1: nári



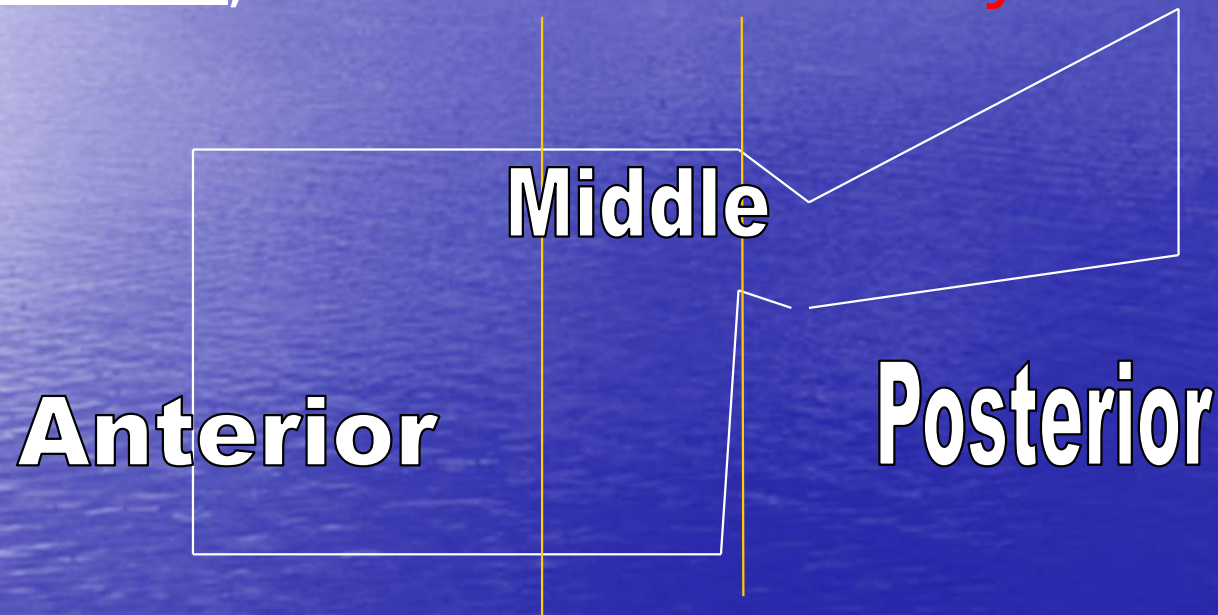
Myndrannsóknir: (Rtg), CT, MRI

- Hvað á að skoða á rtg
- Hvers konar **aflögun** á súlunni – er samt að detta út sem bráðarannsókn!
- Hvað á að skoða á CT:
- Metur bezt **beinvefinn** (sérstaklega smáatriðin - einnig hjálpar 3D við að meta „aflögun“!)
- MRI:
- Metur bezt **mjúkvefinn** (sérstaklega, hryggþófann, innihald mænuganga og aftari liðböndin (Posterior Ligamentous Complex eða PLC – sjá síðar v/ TLICS)



Denis flokkunin: "3 columns"

- Unstable, if 2 of 3 columns are injured



- Also if neurological damage; partial – or total

Ant column:

ALL

ant. 2/3 of body
ant. 2/3 of disc

Middle column:

post. 1/3 of body
post. 1/3 of disc
PLL

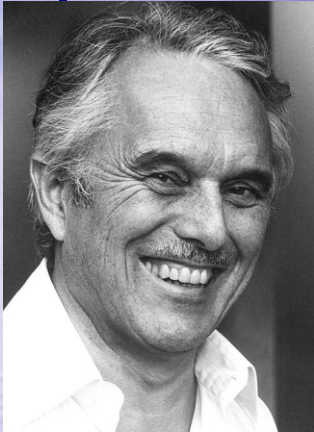
Post column:

All behind PLL

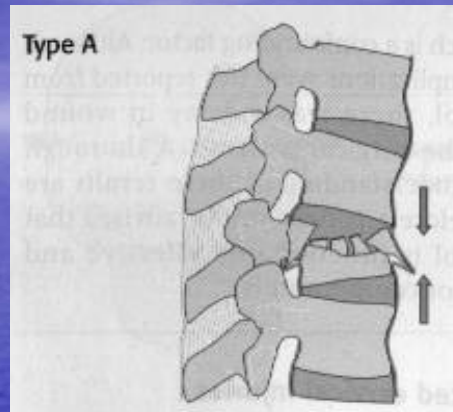


Francis Denis

AO flokkunin (Müller) – “3 fracture types” ...



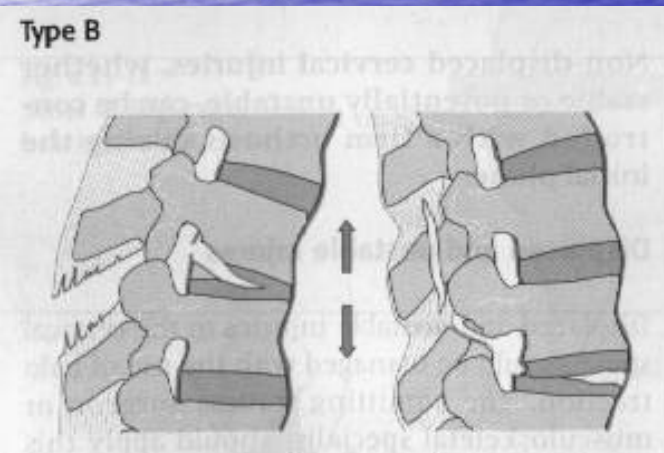
Maurice Müller



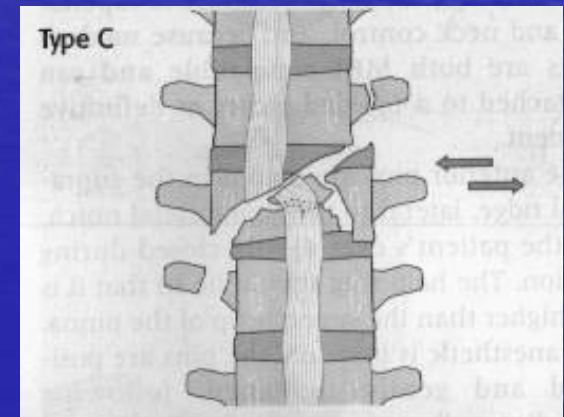
Compression injury of the anterior column

... also:
N: neurology
(0,1,2,3,4)
M: modifiers (1,2)

but No “rules” about stability ??



Two-column injury with either posterior or anterior transverse **distraction**



Two-column injury with **translation/rotation**

TLICS flokkunin- “ThoracoLumbarInjuryClassificationScore” (Vaccaro et al) – Meðferðin á að fara eftir heildrænu mati byggðu á: “3 independent predictors”



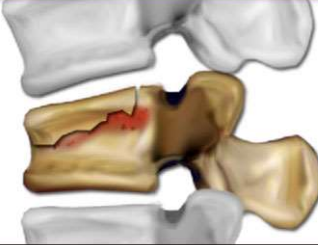
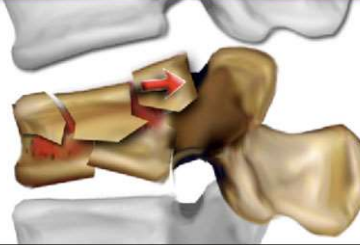
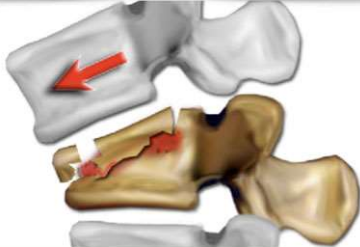
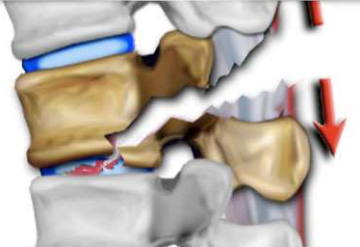
Alex Vaccaro

TLICS 3 independent predictors				
1	Morphology immediate stability	- Compression - Burst - Translation/rotation - Distraction	1 2 3 4	- Radiographs - CT
2	Integrity of PLC longterm stability	- Intact - Suspected - Injured	0 2 3	- MRI
3	Neurological status	- Intact - Nerve root - Complete cord - Incomplete cord - Cauda equina	0 2 2 3 3	- Physical examination
Predicts		- Need for surgery	0 – 3 4 > 4	- nonsurgical - surgeon's choice - surgical

TLICS flokkunin- “ThoracoLumbarInjuryClassificationScore” (Vaccaro et al) –

“Morphology”:

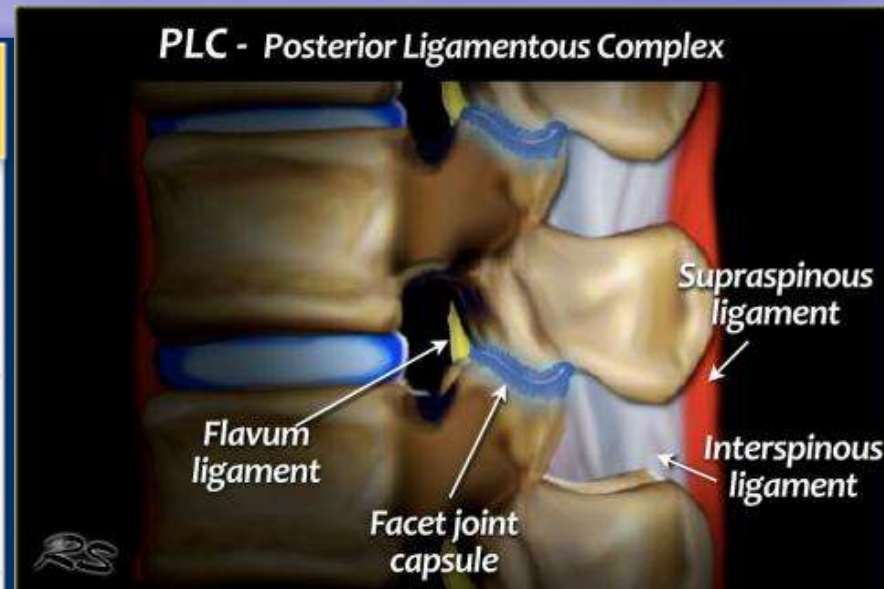
TLICS 3 independent predictors				
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Compression 1 pnt	Burst 2 pnts
 - Simple compression - Wedge deformity	 - Compression with retro-pulsion of superoposterior body fragment
Translation/rotation 3 pnts	Distraction 4 pnts
 - Rotatory / shearing - Anterior or lat displacement - Facet joint displacement	 - Horizontal fracture of posterior elements - Separation of posterior elements

TLICS flokkunin- “ThoracoLumbarInjuryClassificationScore” (Vaccaro et al) –

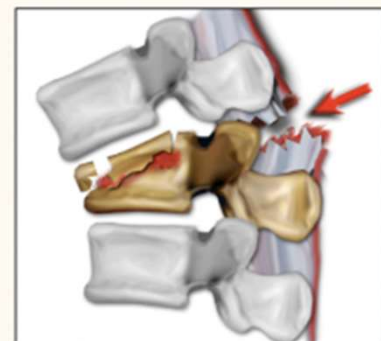
“Integrity of PLC”:

TLICS 3 independent predictors				
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2	Integrity of PLC longterm stability	- Intact - Suspected - Injured	0 2 3	- MRI
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Integrity of Posterior Ligamentous Complex

- Intact 0 pnt
- Suspected injury 2 pnts
- Injured 3 pnts



TLICS flokkunin- “ThoracoLumbarInjuryClassificationScore” (Vaccaro et al) –

“Neurological status”:

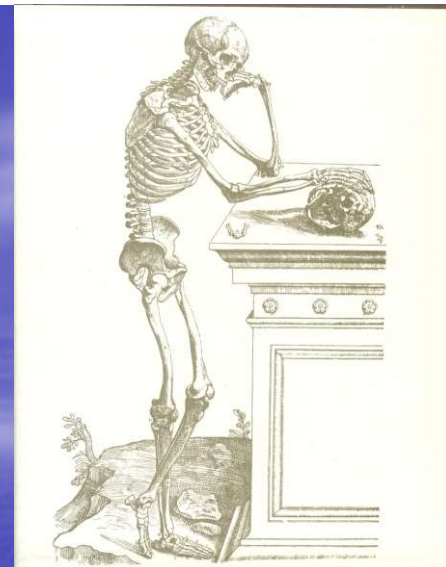
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Predicts		- Need for surgery	0 – 3 4 > 4	- nonsurgical - surgeon's choice - surgical

Neurological status	
- Intact	0
- Nerve root	2
- Complete cord	2
- Incomplete cord	3
- Cauda equina	3

Sérfræðingurinn!

-- hvað spáir hann í ?

- ATH hryggsúlu, m.a.:
- --- lækkun á framvegg (>50%)
- --- þrenging á mænugöngum (hvergi skilgr hversu mikil)
- --- liðskrið (sublux) í mm eða %, liðhlaup (disloc) uni-, bi-)
- ATH neurologiu:
- --- nei - engin:
- --- já: - stöðug/versnandi
- ATH heilðrænt:
- --- skoða TLICS kerfið (hægt að yfirfæra á neðri hálshrygginn)!



Markmið meðferðar er að:

- Minnka hættu á neurologiu – eða versnun
- Endurskapa anatomiu
- Endurskapa stöðugleika
- Endurskapa hreyfifærni



Takk fyrir !

