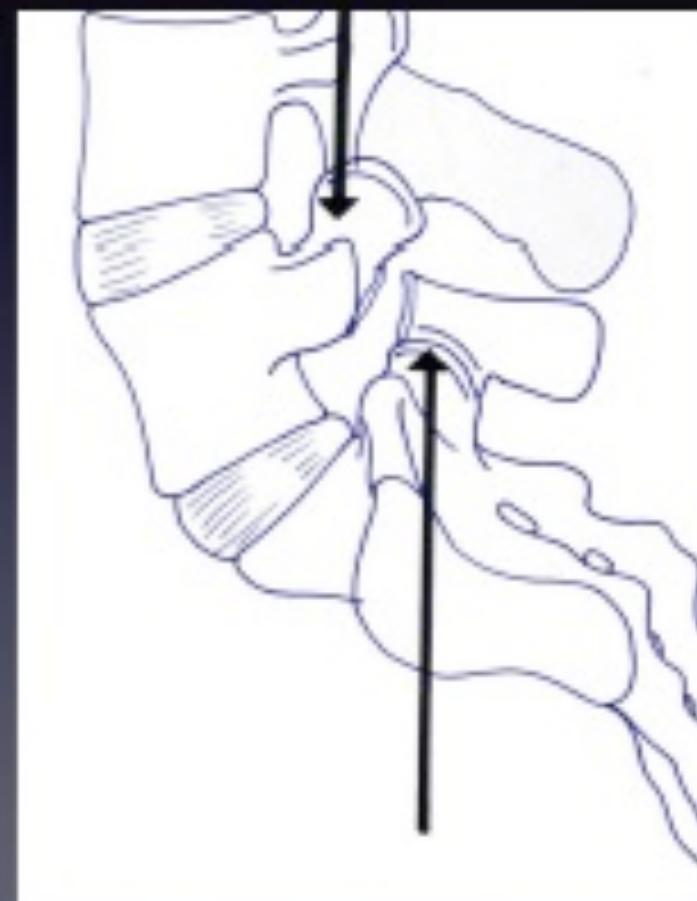


Spondylolyse reconstitution isthmique

Serge Troussel
Felix Debusscher
GHDC (Charleroi)

Spondylolyse

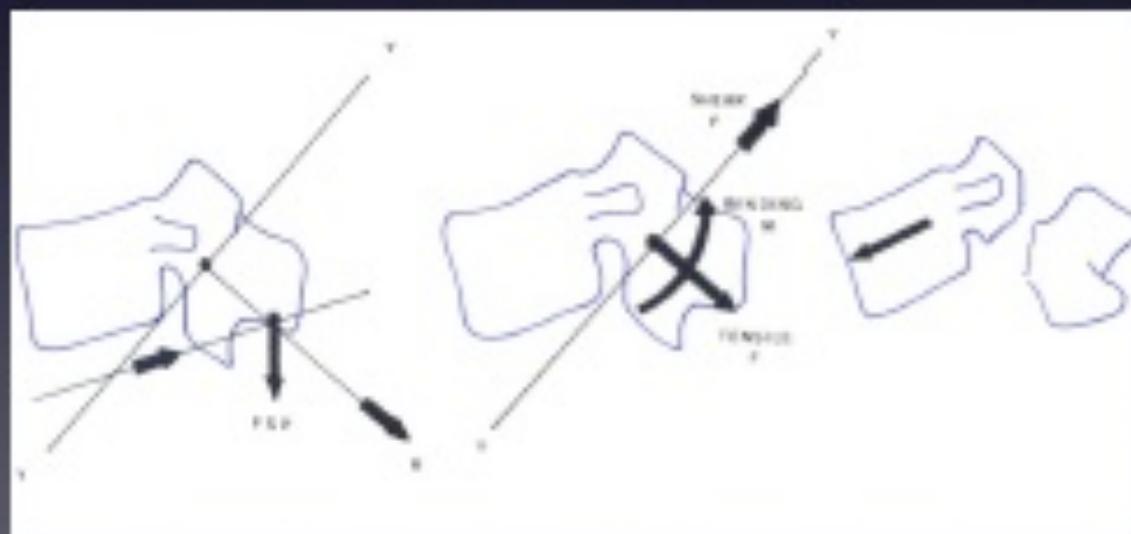
- discontinuité au niveau de la pars intermedia,
- fracture de stress



«Variation in the amount and distribution of cortical bone across the pars interarticularis»

Cyron, B.M.,
Hutton W.L.

Spine 1979

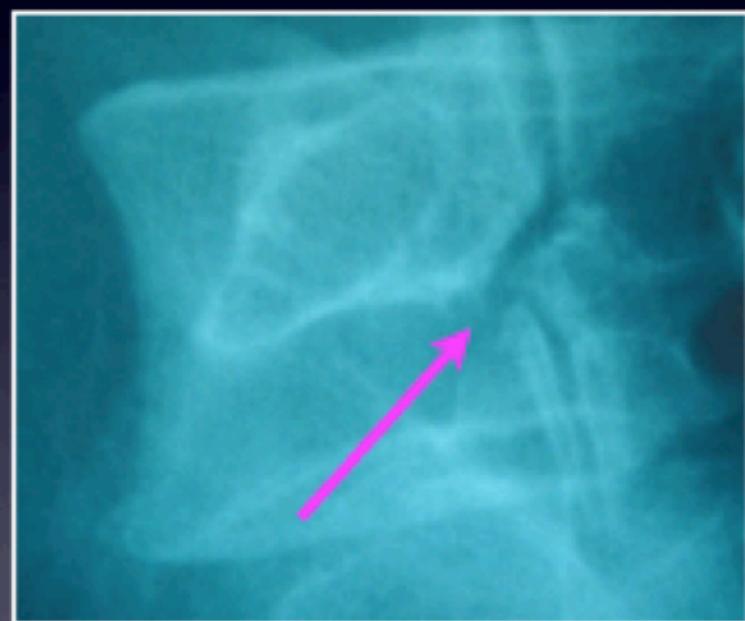


Spondylolyse

- Stress fracture

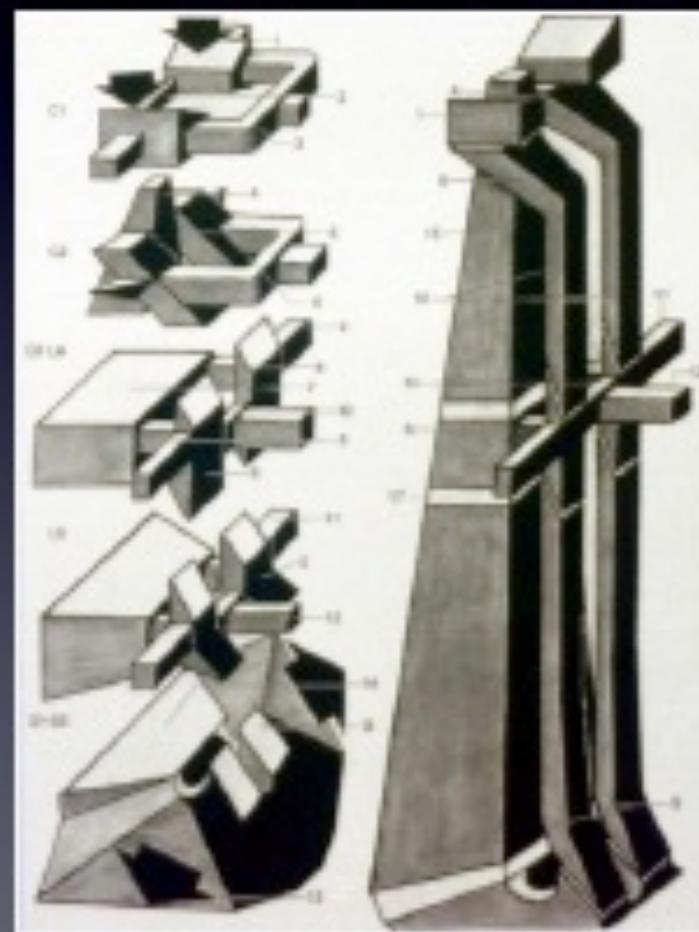
(L.Wiltse and coll.

J.B.J.S 1975)



Pathogénie

- Instabilité
- Stretching radiculaire
- Listhésis(till 16 y)



Facteurs héréditaires

- Pas de cas décrits à la naissance
- Découvert le plus souvent après l'âge de 5 ans
- Prédisposition génétique
- Association fréquente avec un spina bifida

Incidence

- 6% de la population générale
- 30% chez les esquimaux d'Alaska
- 15% chez les sportifs de haut niveau
- 25% cas familiaux

Reconstitution isthmique

Objectifs

- Restaurer l'anatomie
- Restaurer la stabilité
- Préserver la mobilité



Kimura M.

greffe in situ, cpl 6 m

(Orthop. surg. 1968)

92% bons résultats

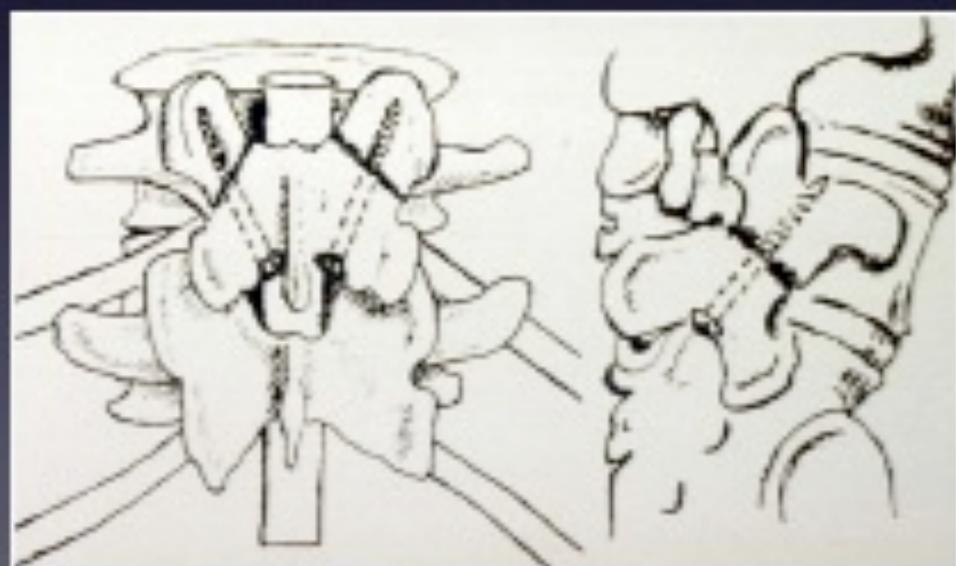
Buck J.E.

vissage direct

1970

88% bons résultats

(J.Bone Joint Surg.,
1979)



R.Louis,
Plaque papillon
1977

86% bons résultats

(Rev.Chir.Orthop.
1988)

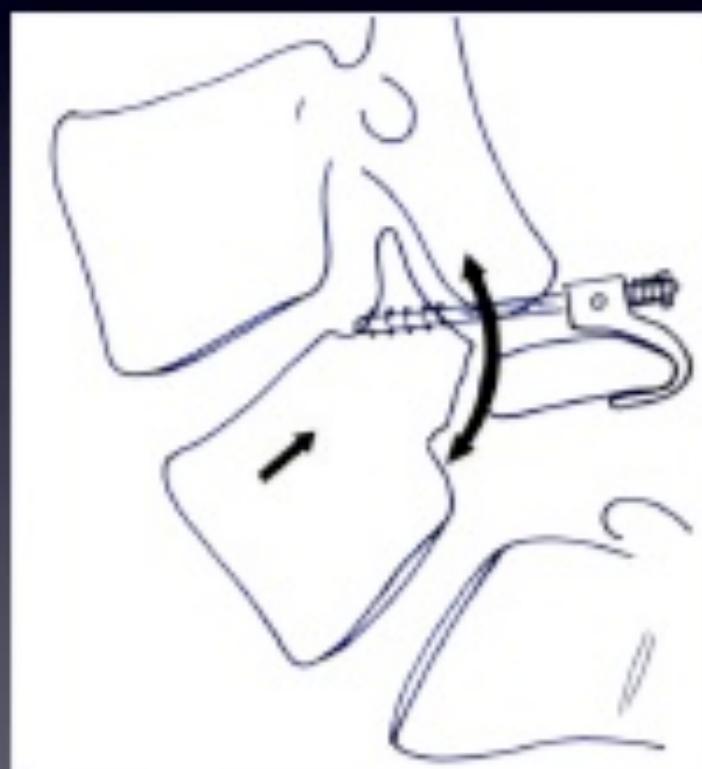


Morcher R.

crochet lamaire et vis articulaire
1984

87% bons résultats

(Arch.Orthop.Trauma.S
urg., 1984)



Scott J.H.S.

Cerclage arc post

1987

80% bons résultats

(J.Bone Joint Surg.
1987)



Technique de Scott modifiée

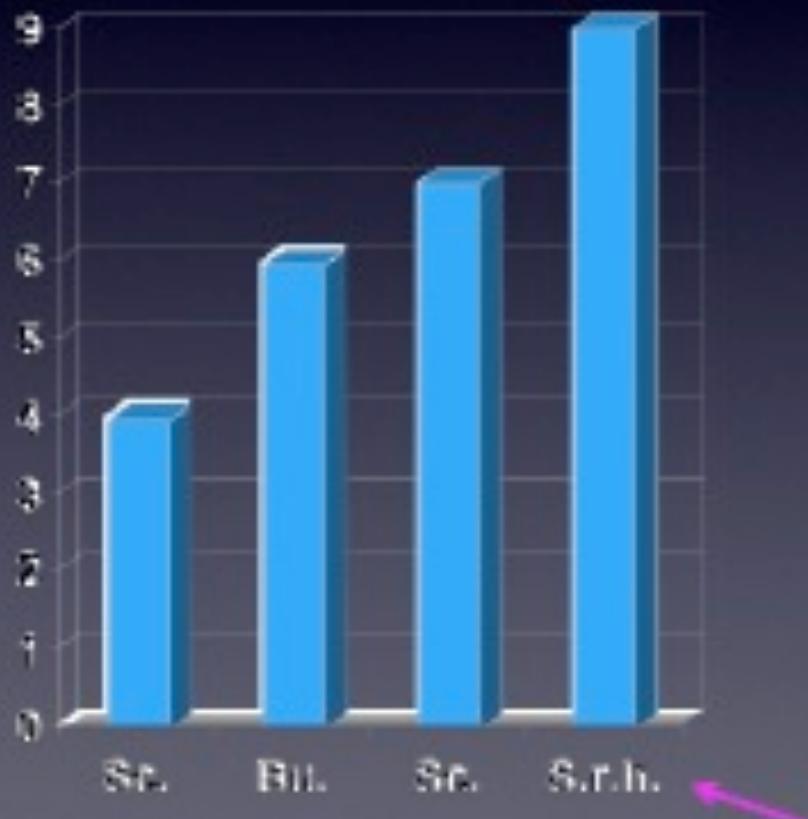


Résistance biomécanique

Comparaison

Deguchi M., Rapoff A.J.,
Zdeblick T.

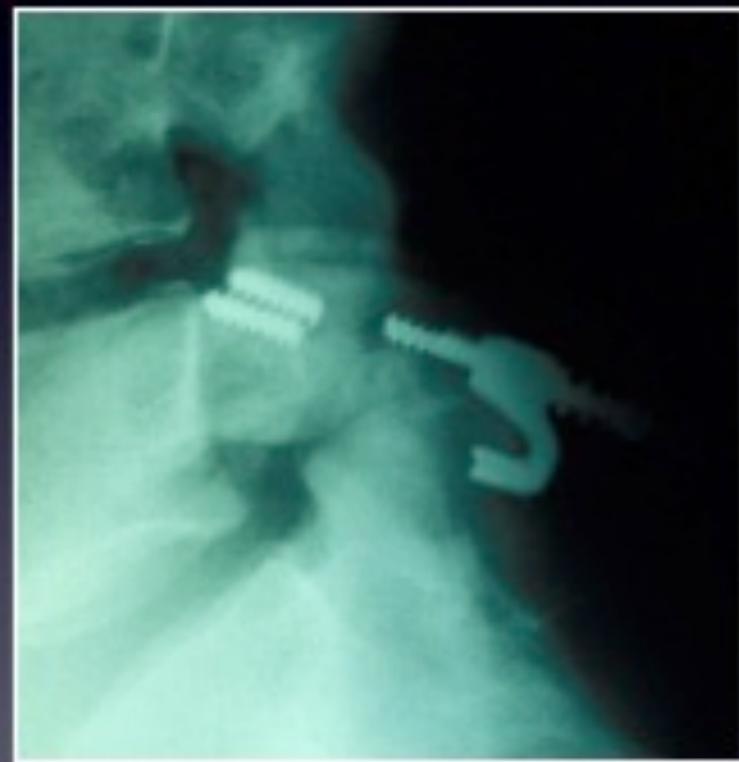
Spine 1997



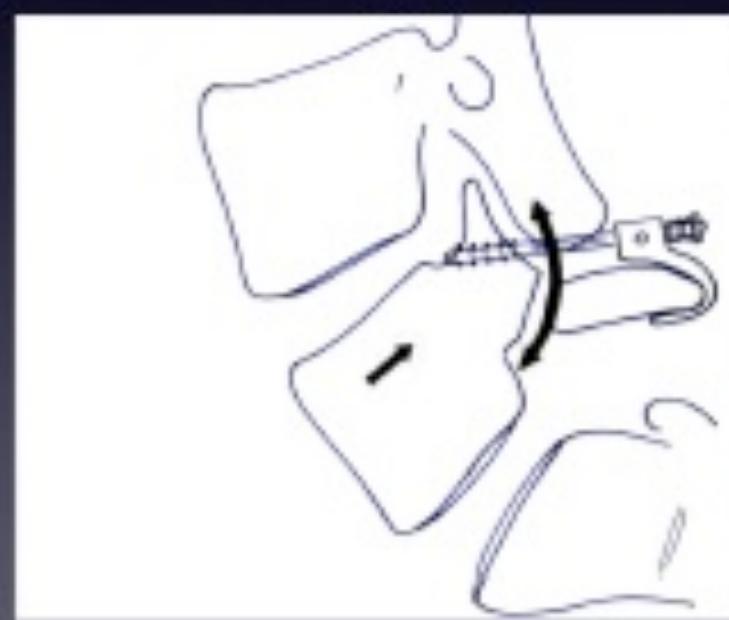
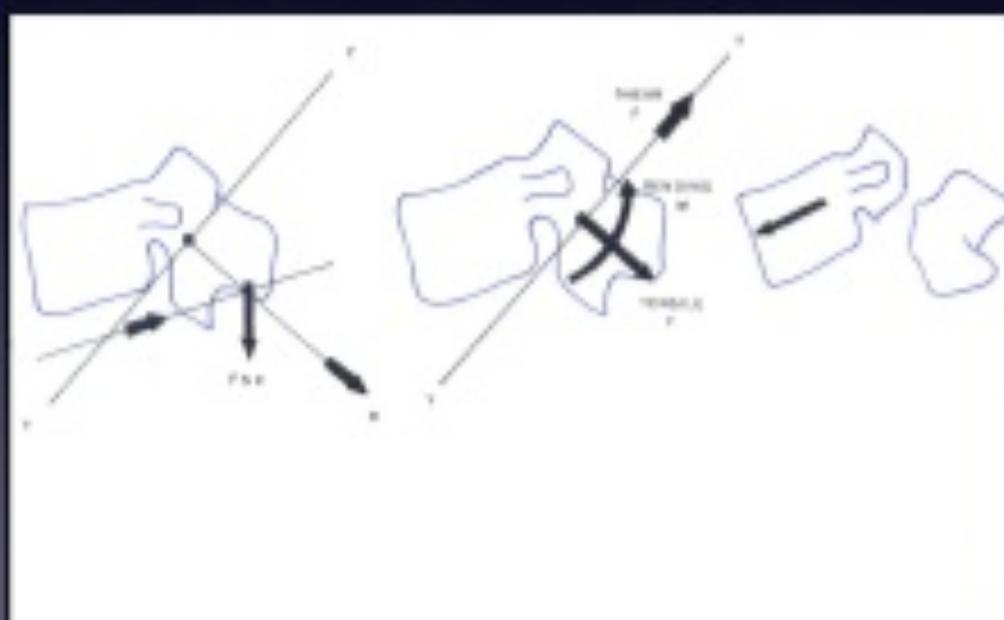
Etude comparative

Dreysin V., Esses S. (Spine 1994)

	Morcher	Buck
Screw loosening	33 %	9 %
Screw breakage	11 %	9 %
pseudarthrosis	56 %	18 %
reoperation	44 %	18 %



Théorie biomécanique

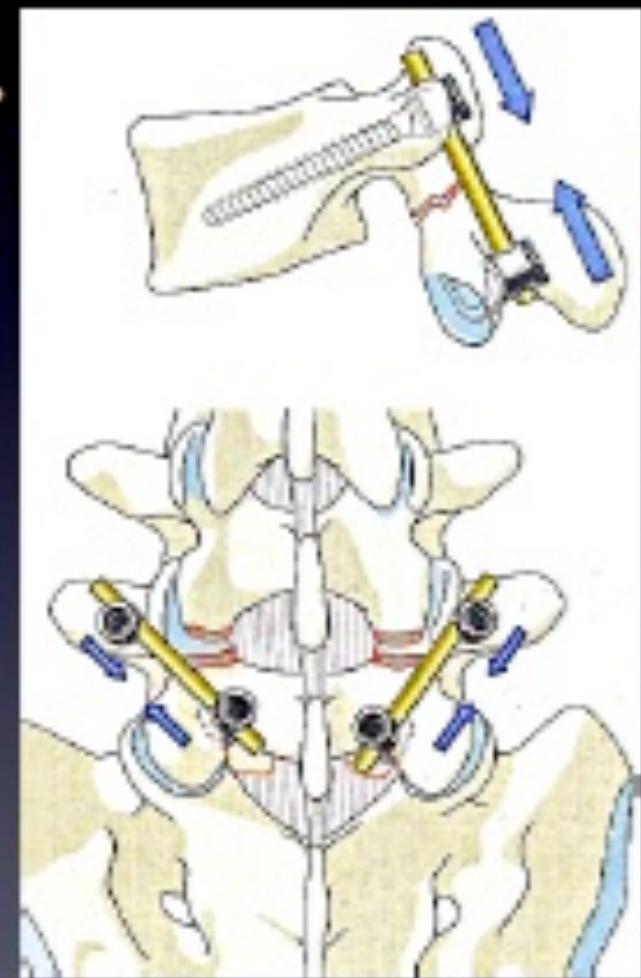


Tokuhashi Y., Matsuzaki H.
Kakiushi M.

Crochets lamaires et vis pédiculaires

1996, 1997

Spine 1996
J.Bone Surg.Am. 1997

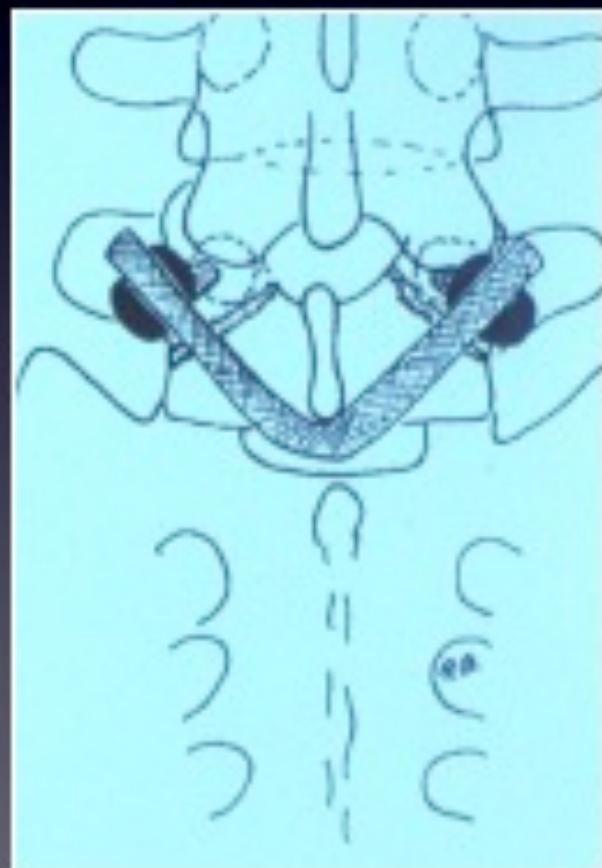


Gillet Ph.

V-shape rod et vis pédiculaires

1999

- Spine 1999



Ph. Gillet

(1999)



S.Troussel, F. Debusscher

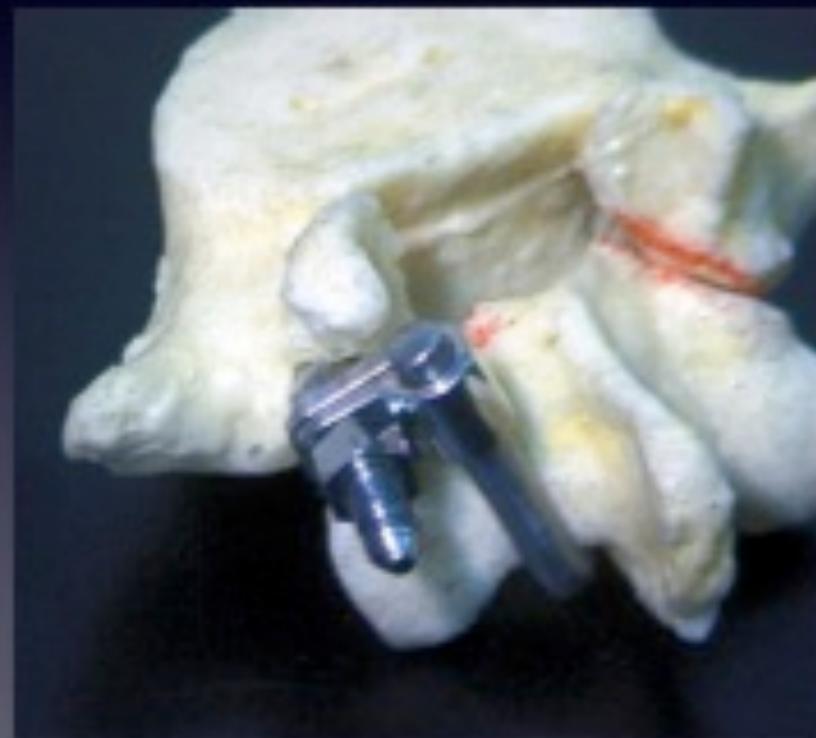
2007

Crochet lamaire
et vis pédiculaire

eurospine 2007



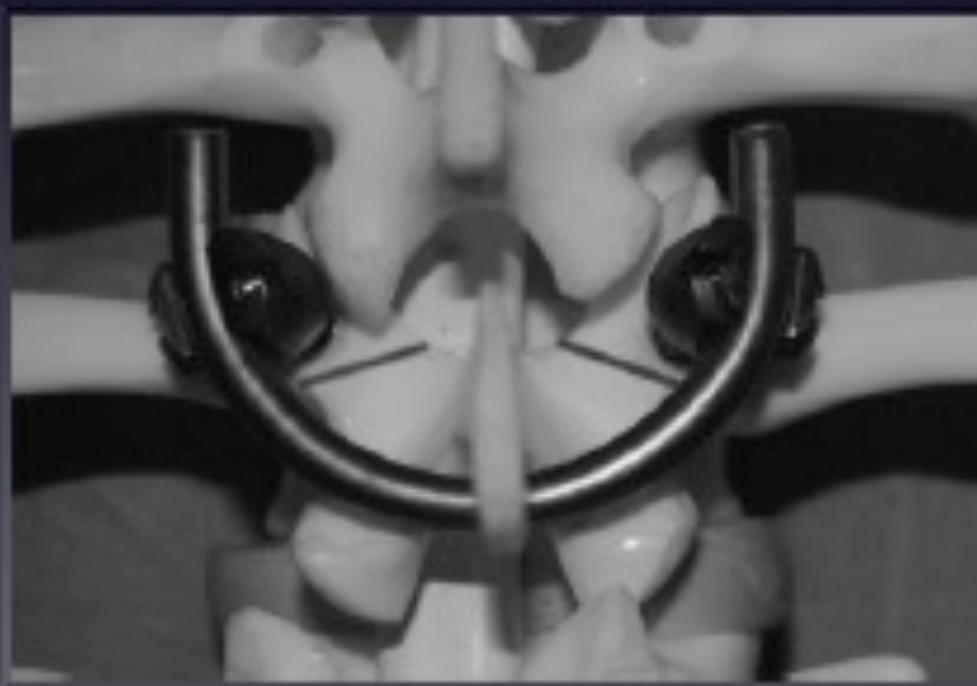
Biomécanique



Screw rod construct

F.Atlaf, N.A. Osei, E. Garrido, M. Al-Mukhtar, C. Natali, A. Sivaraman, H.H. Nordeen.

(2010)



Direct repair of defects in lumbar spondylolysis with a new pedicle screw hook fixation: clinical, functional and Ct-assessed study

Felix Dehusscher · Serge Trousdale



Revue de notre série

- 23 patients (8 girls, 15 men)
- Mean age : 34 y (16-52)
- Follow up : 5 years

Surgical indications

- Uni or bil lysis
- Failure of conservative treatment
- Listhesis \leq Meyerding I
- No degenerative disk : ≤ 3 (Pfirrmann's classification)

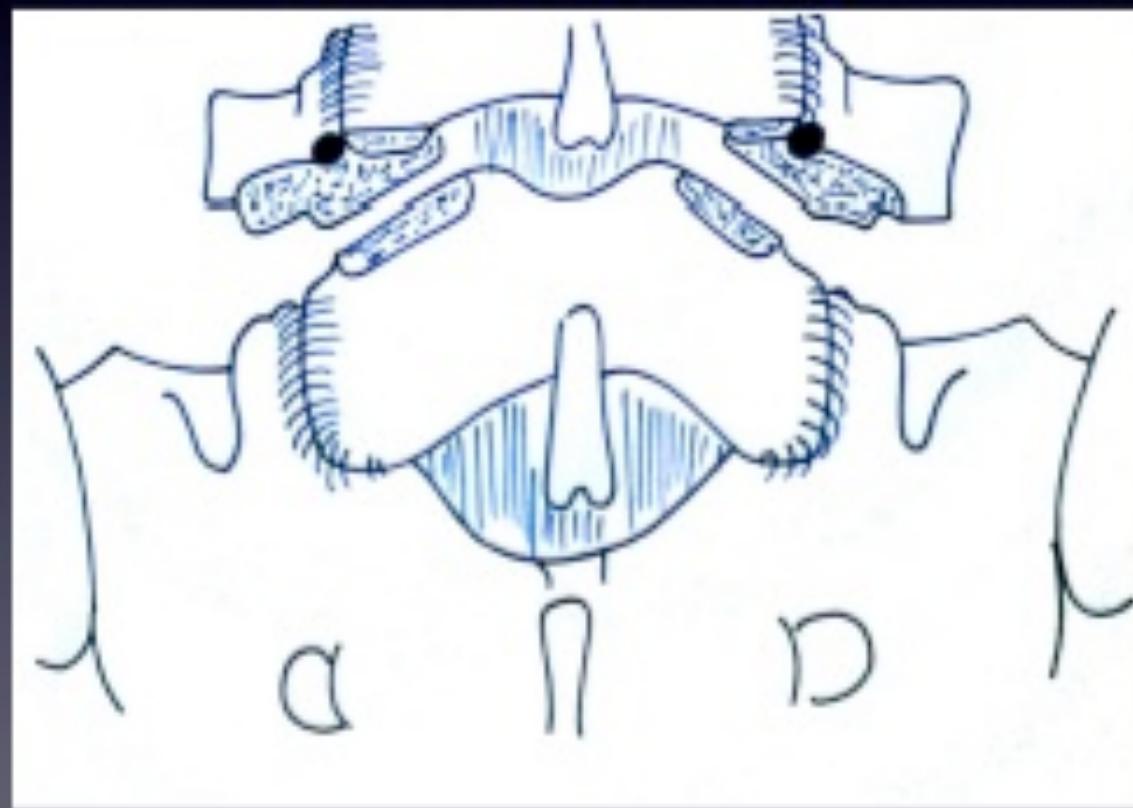


- Positive selective marcaine test

Surgical contrindications

- Meyerding > I
- Neurologic deficit
- Degenerative disk
- Spina bifida !
- Psychological disorders

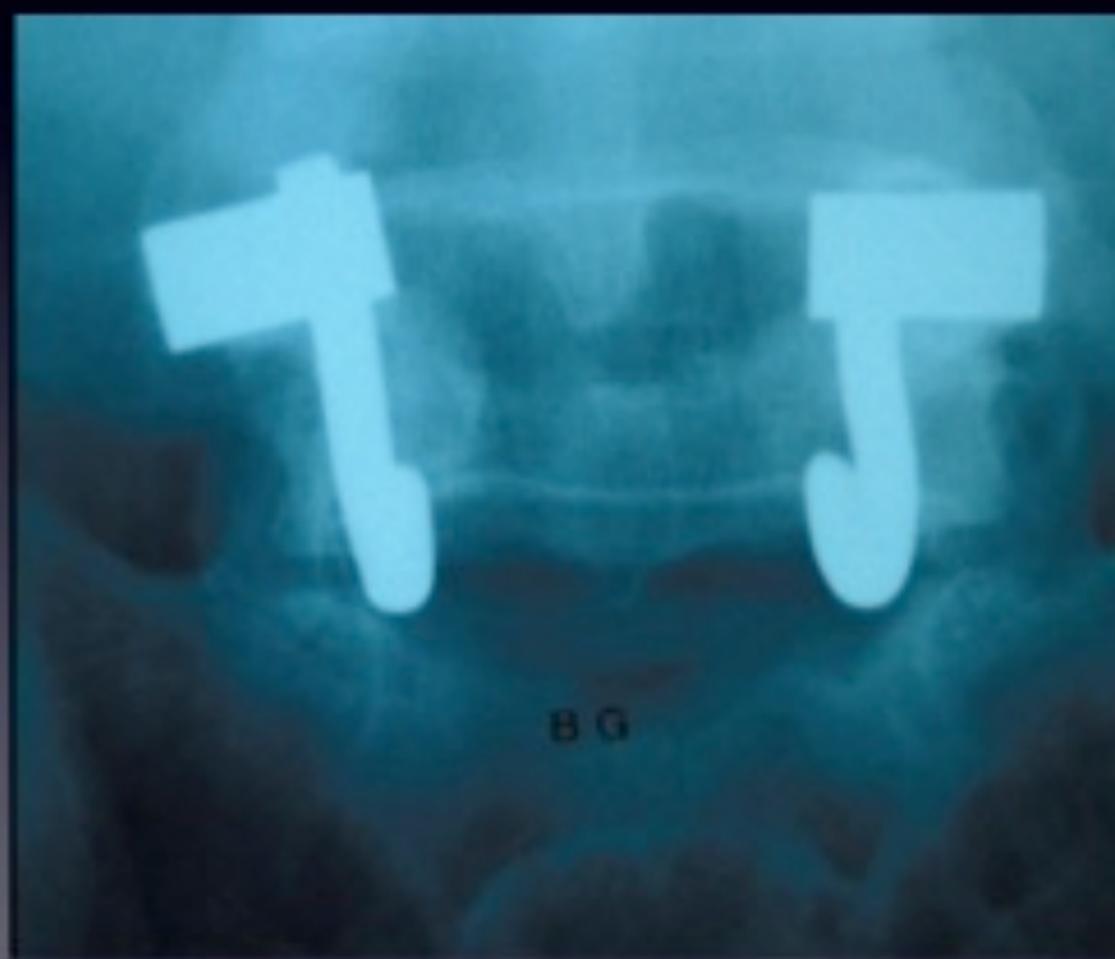
Surgical technique



Results

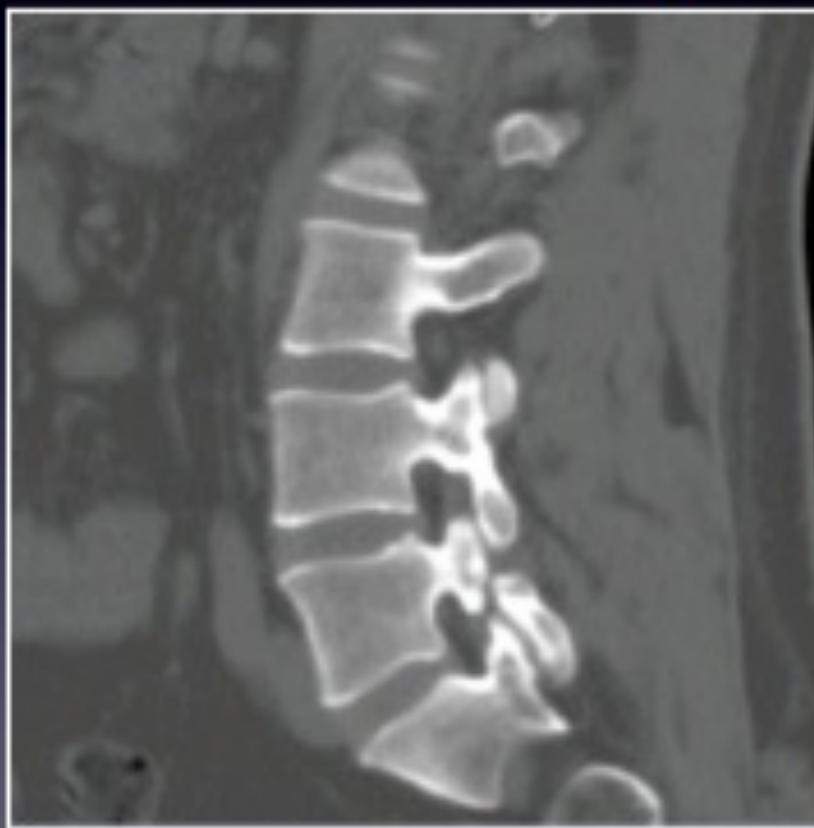
- CT scan at the last follow up (59 months)
- VAS, ODI, and Prolo score used
- Fusion rate : 91%
- Excellent and good results : 87 %
- Fair results : 13% (> 30 y , Pfirrmann 3)
- No complications, no hardware failure.

Radiographic study

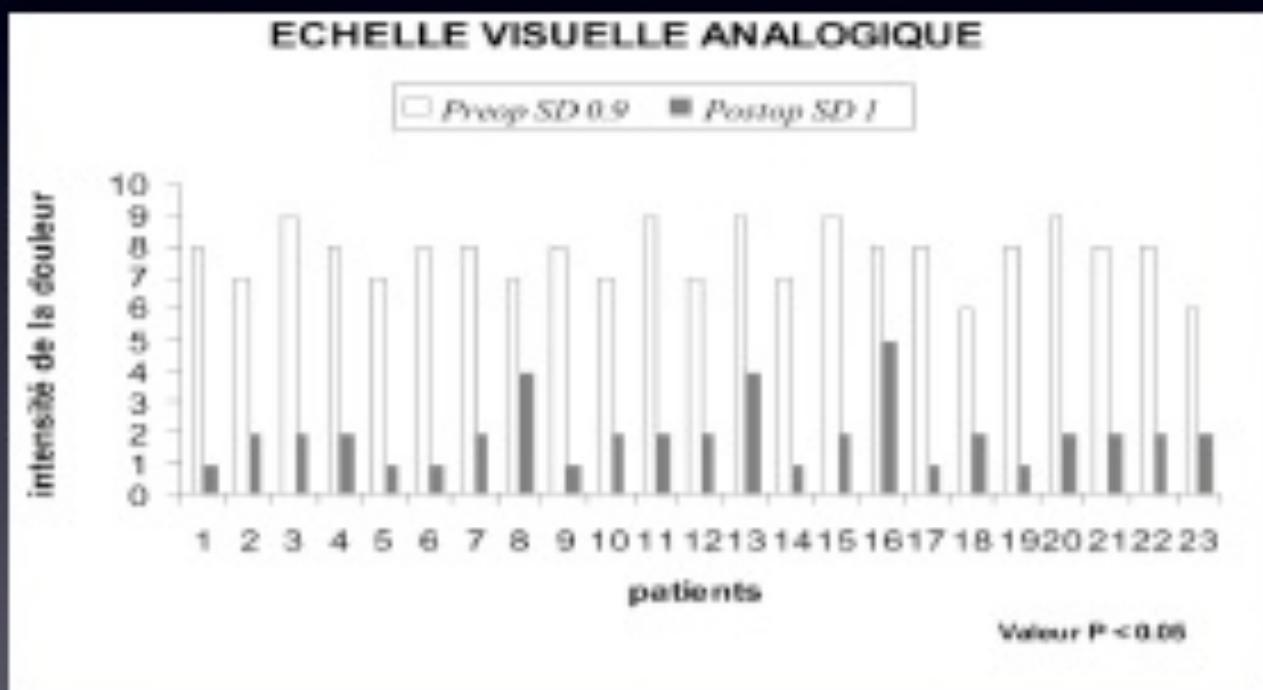


CT study

*consolidated if
obvious in 3
sections*



Clinical results



Conclusions

- No degenerative disk
- < 30 y



*100% excellent and
good results*
100% consolidation

- Degenerative disk
- > 30 y



13 % fair results
8,5% pseudoarthrosis