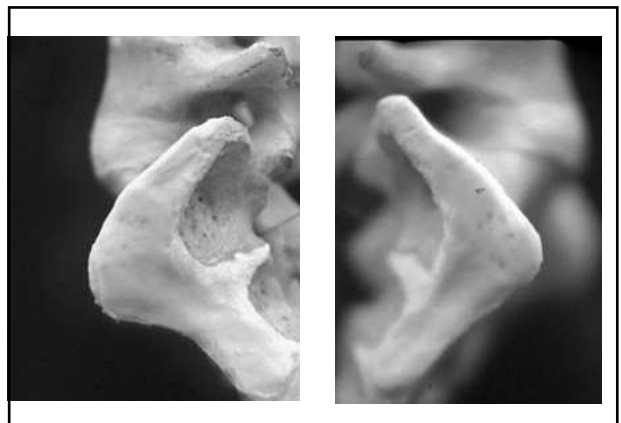
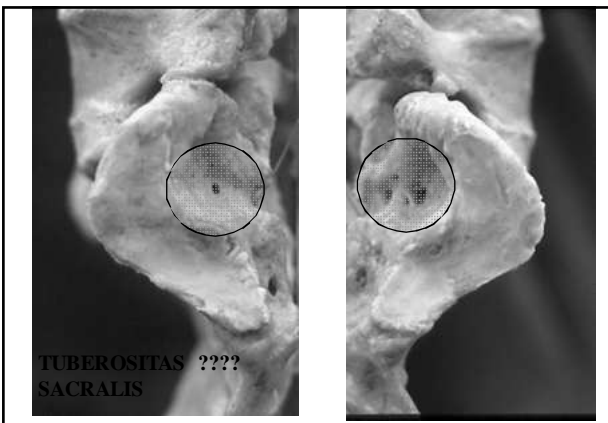
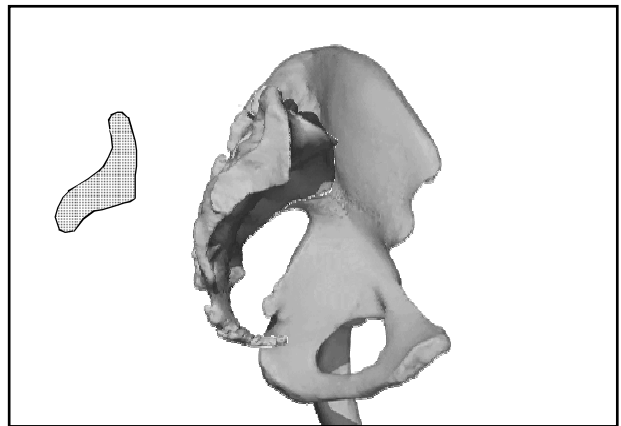
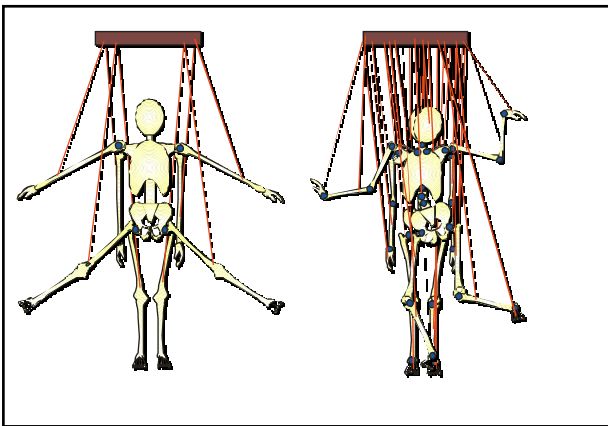
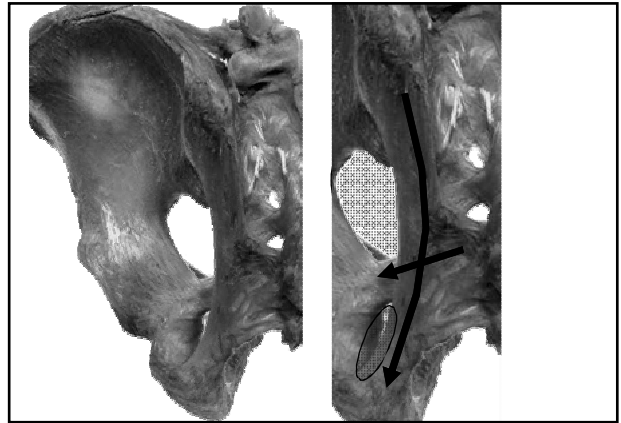
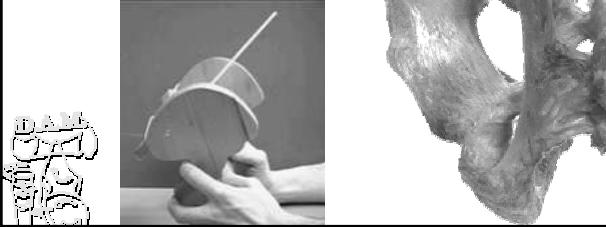
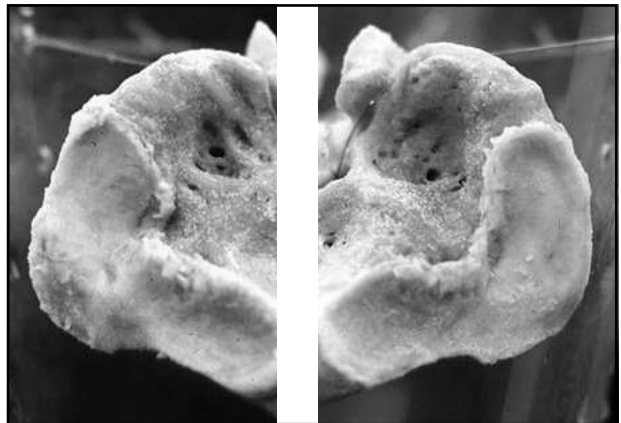
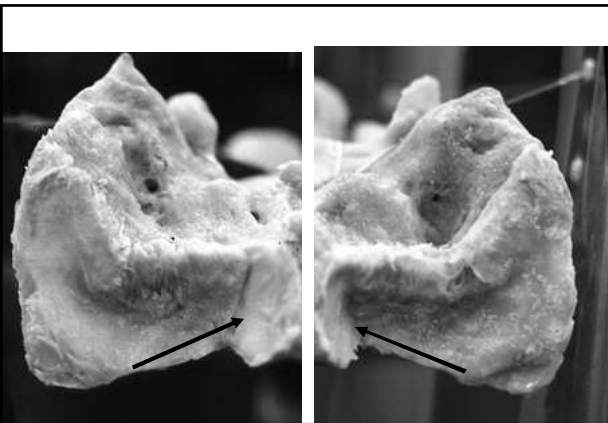
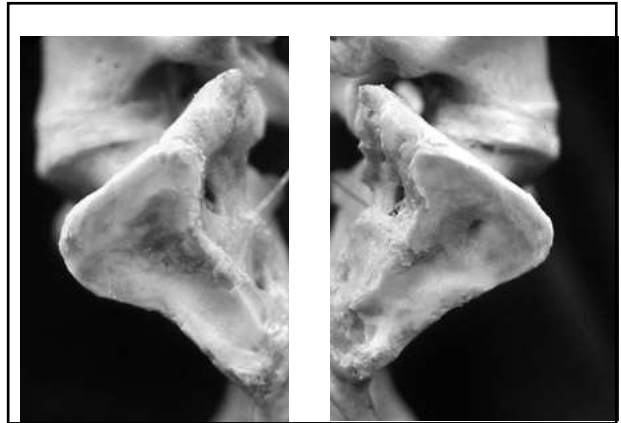
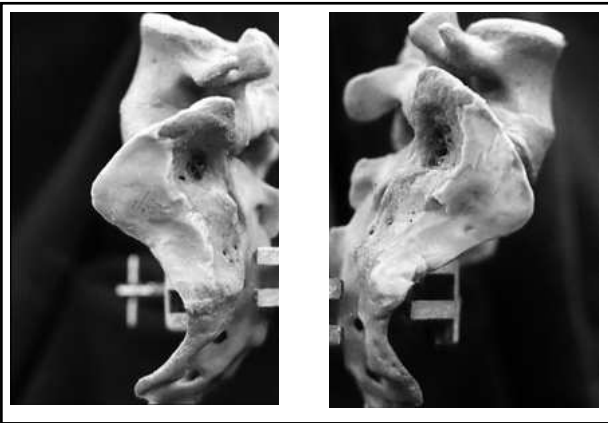
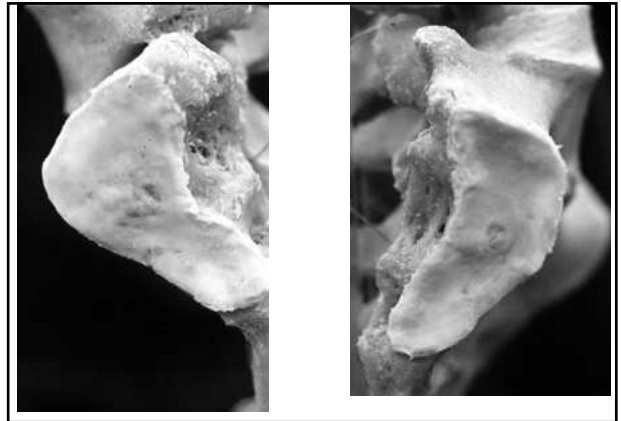
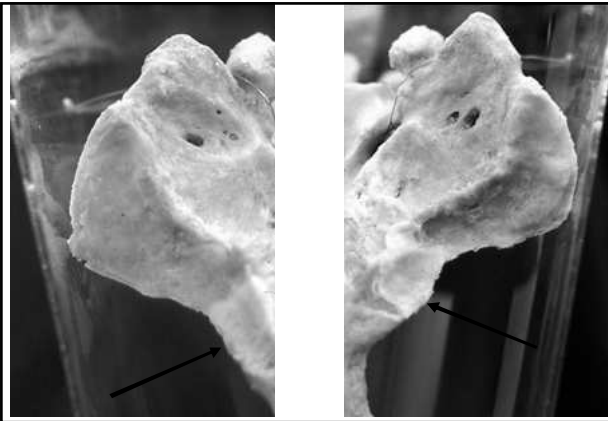
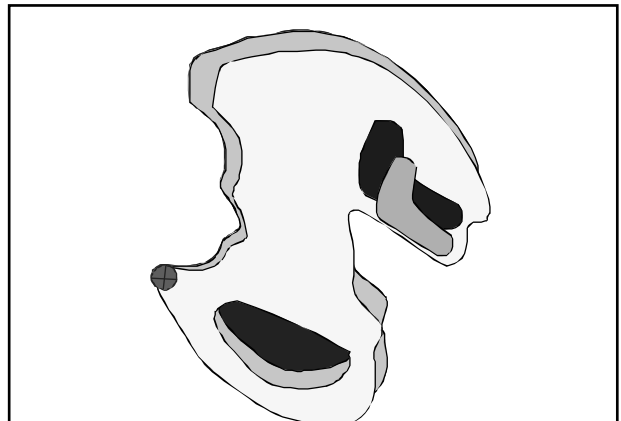
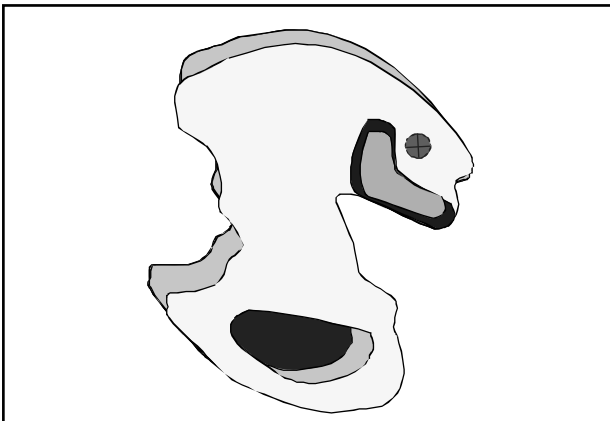
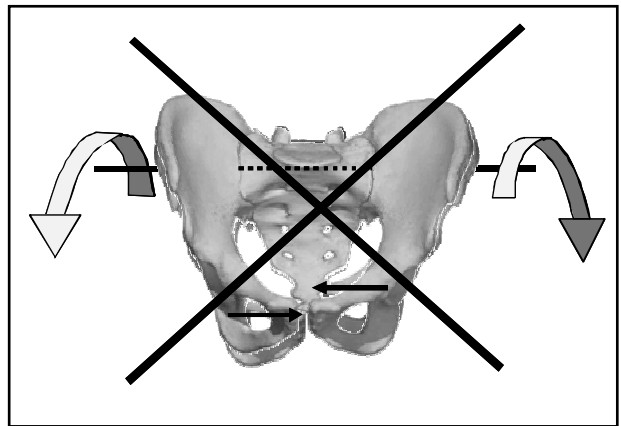
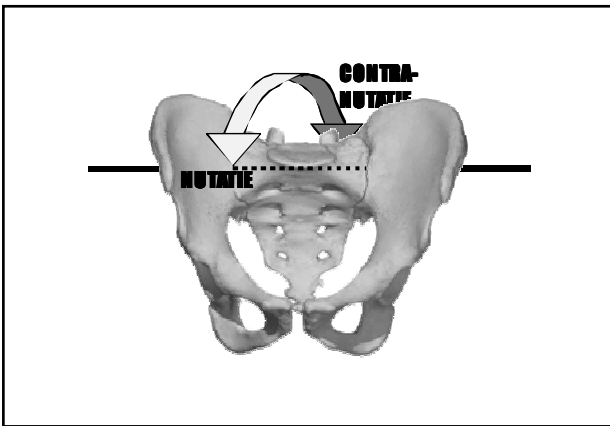
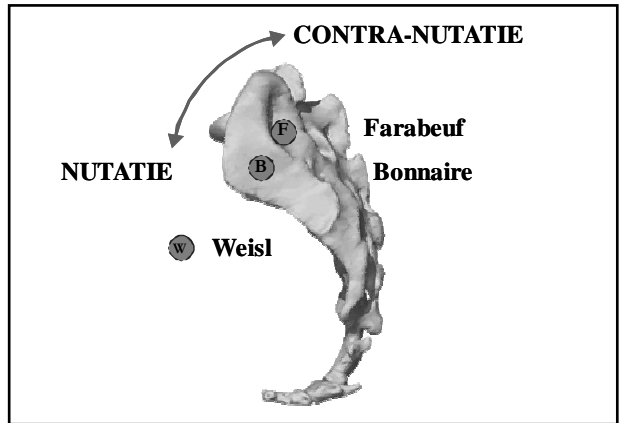
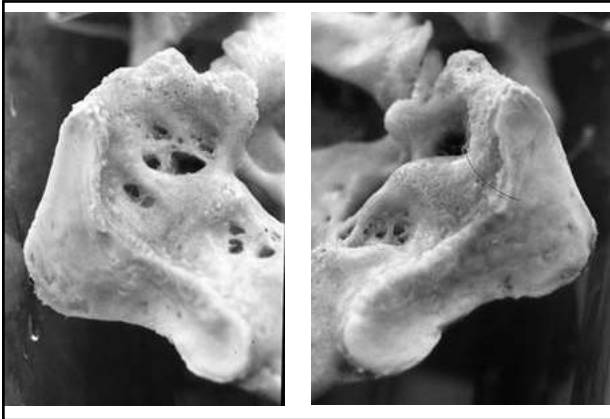


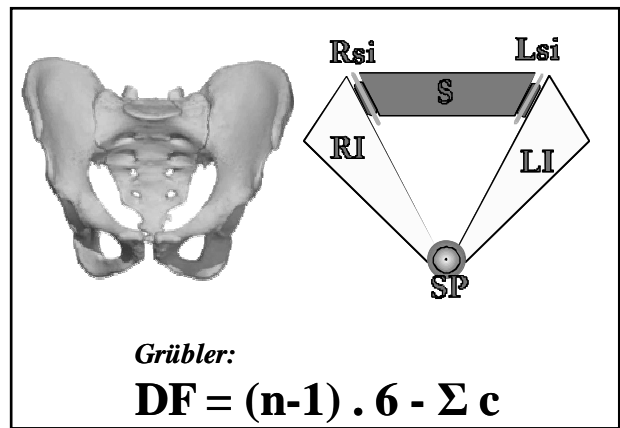
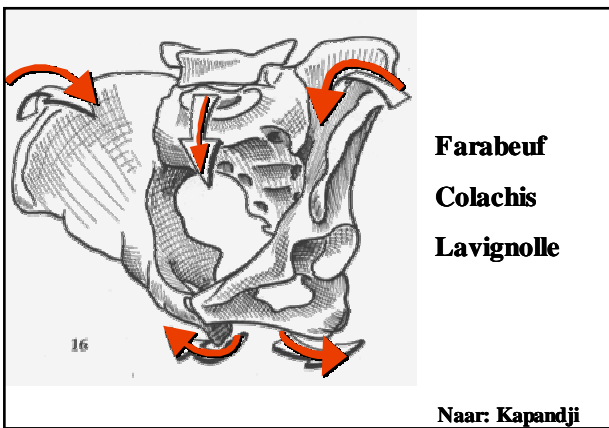
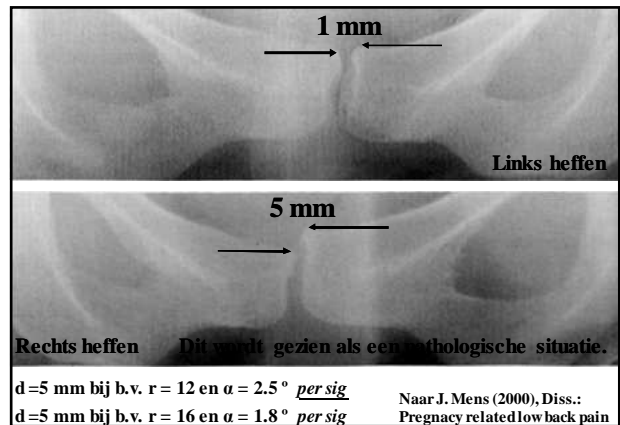
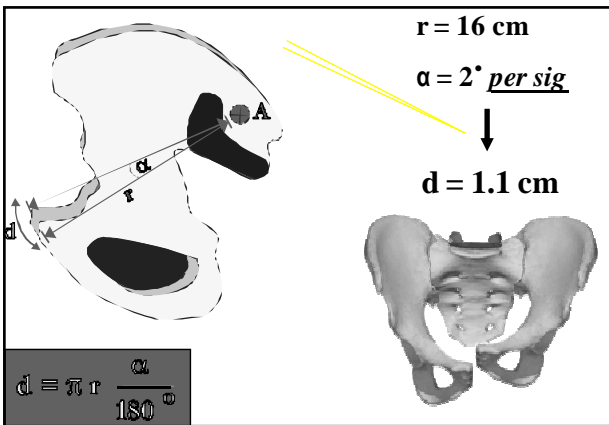
Patho-functionele morfologie:
art. sacroiliaca

Biokinematica van de
sacroiliacale keten









EISEN

- De afstand van de bewegings-as tot SIG en SP is gering.
- Beide SIG hebben identieke vrijheden.
- De SIG hebben ieder slechts 1 DF.
- De keten heeft minimaal 2DF.

Berekeningen volgens Grübler

Aantal elementen in de keten (n) = 3
 Maximum aantal vrijheidsgraden (3D):
 $(n - 1) \times 6 = 12$

Voor 2 vrijheidsgraden zijn aan beperkingen nodig: $12 - 2 = 10$

De mogelijke verdeling van beperkingen over de gewrichten is:




SIG	SIG	SYM	SIG	SIG	SYM
3	3	4	2	2	6
4	4	2	5	5	0

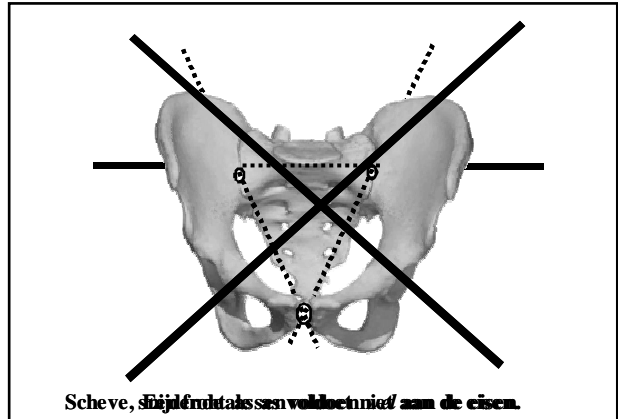
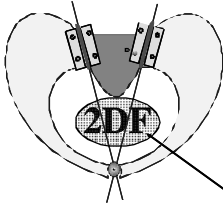
Dit betekent (omgekeerd) voor het aantal vrijheidsgraden per verbinding:

SIG	SIG	SYM	SIG	SIG	SYM
3	3	2	4	4	0
2	2	4	1	1	6

De formule van Grübler gaat niet op bij bijzondere geometrische oriëntatie van assen.


Voorbeelden:

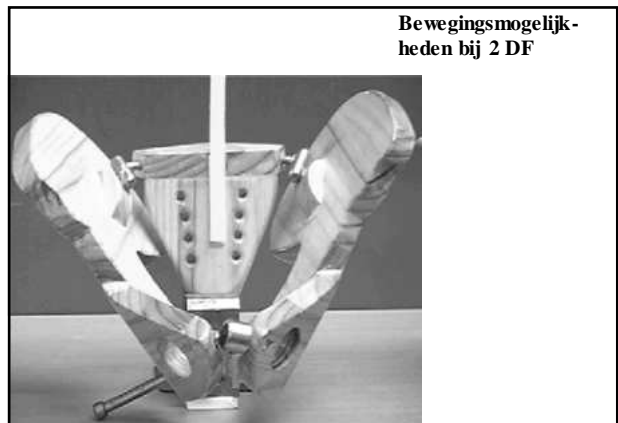
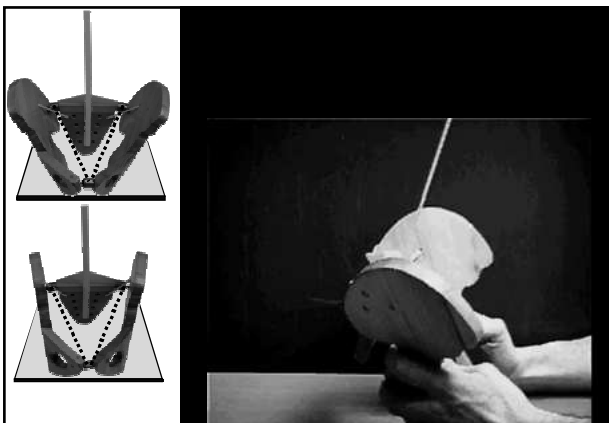
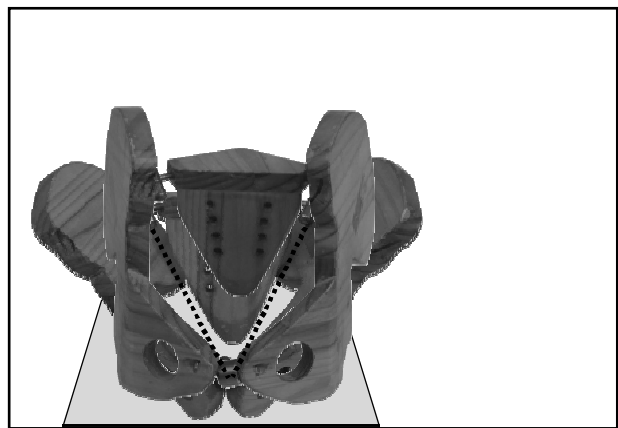
-  Evenwijdige assen
-  Collineaire assen
-  Snijdende assen

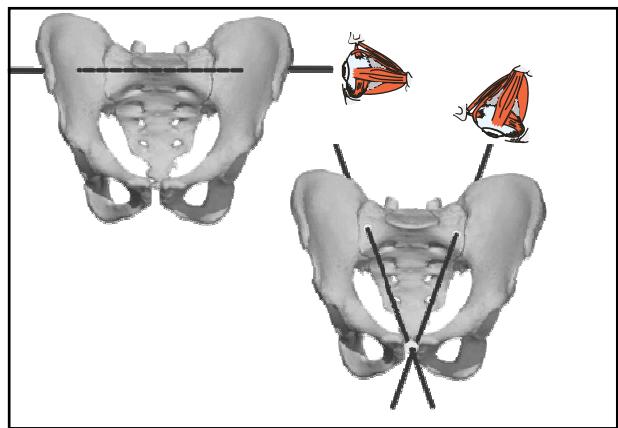
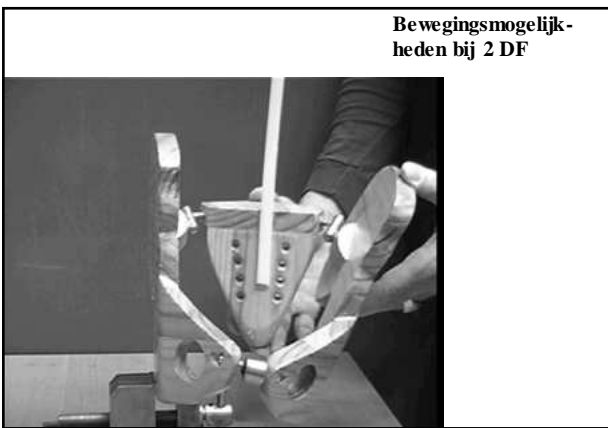
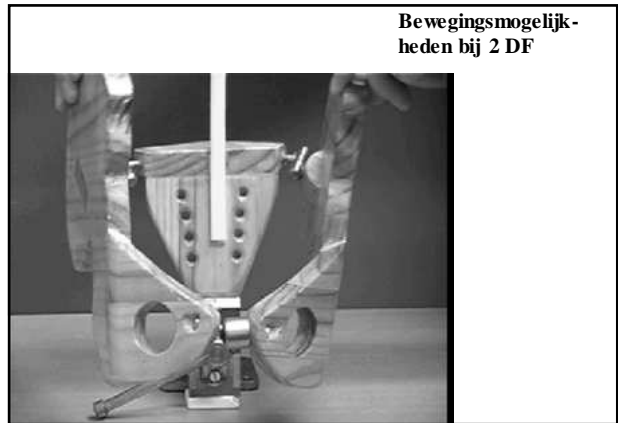
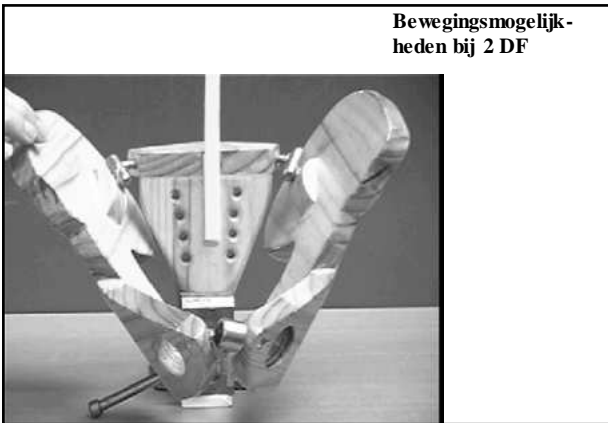



Bij de aangegeven, snijdende assen, gaat de berekening volgens Grübler niet meer op. De verdeling van het aantal vrijheidsgraden per verbinding wordt nu:

SIG	SIG	SYM
1	1	3

Vrijheidsgraden: $6 \times (3-1) = 12$
 Beperkingen: $5 + 5 + 3 = 13$
 Totaal aantal DF: 





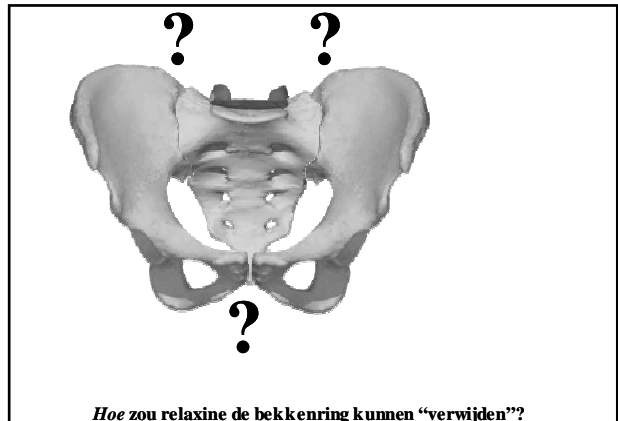
Relaxine
 Secretee par l'ovaire, elle favorise le travail par la dilatation du col uterin, la relaxation de l'uterus et la lactation par le developpement de la glande mammaire et du tetin.

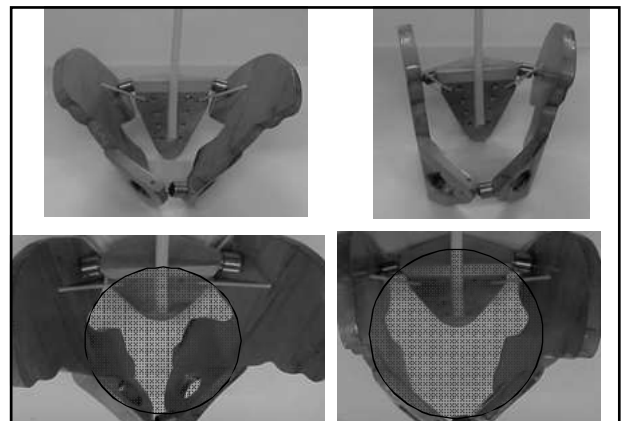
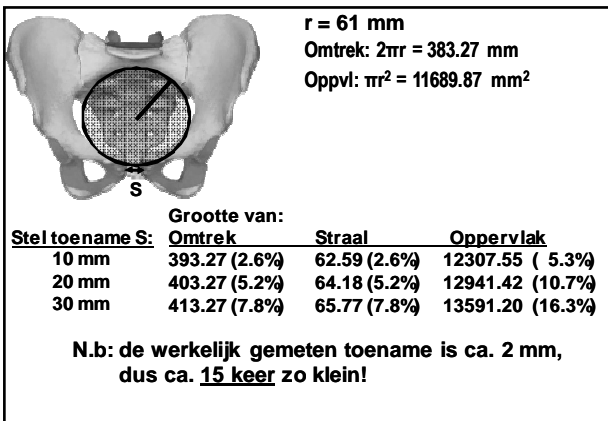
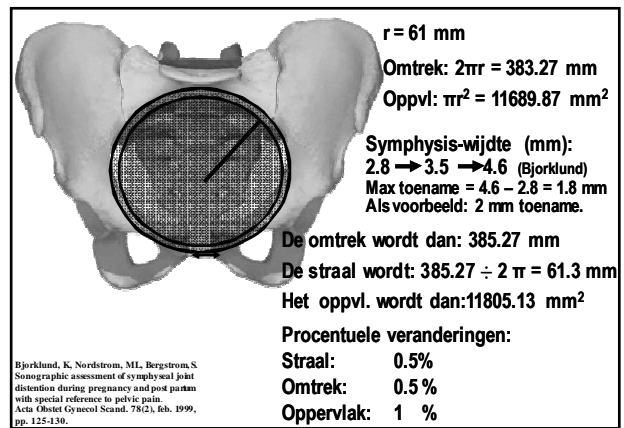
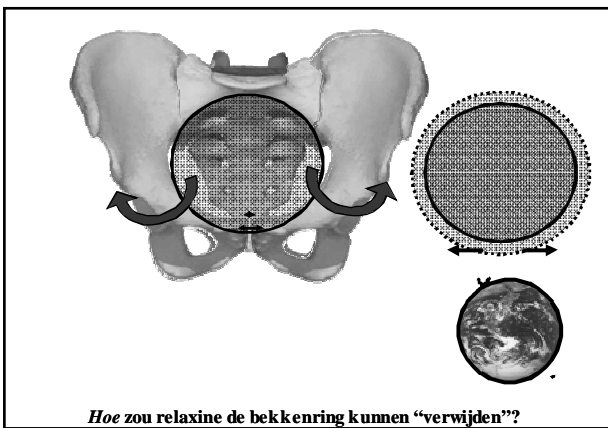
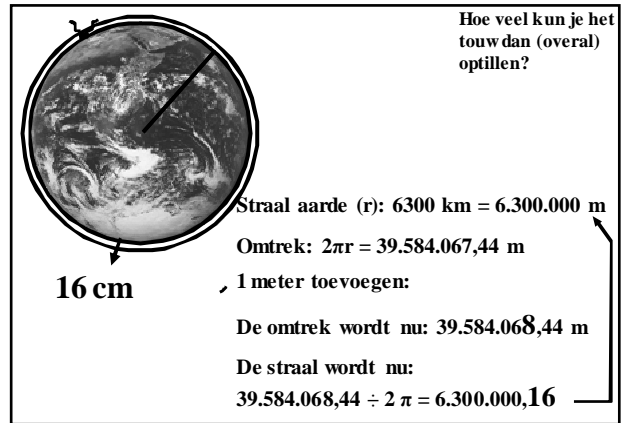
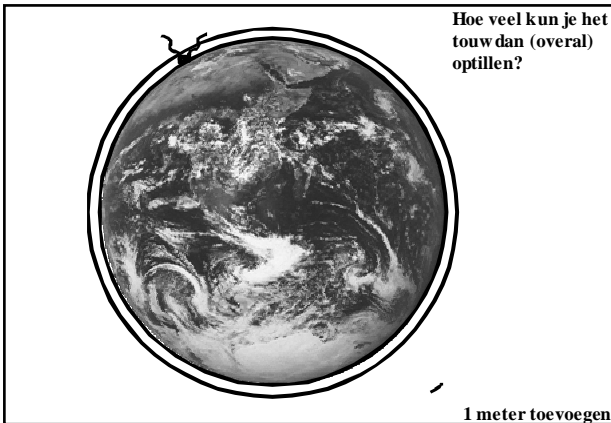
Traditionally, the first biologic activity attributed to relaxin is the lengthening of the interpubic ligament and softening of the tissues of the birth canal (cervix and vagina).

There was a significant correlation between mean serum relaxin levels during the pregnancy and symphyseal pain or low back pain occurring during late pregnancy as measured by medical history or pain-provoking test.

Results: There was no difference in serum relaxin concentration between the control and study group, nor between the subgroups of women with pelvic pain.

Conclusion: We failed to confirm an earlier claim that circulating relaxin levels are related to pelvic girdle pain in pregnant women.





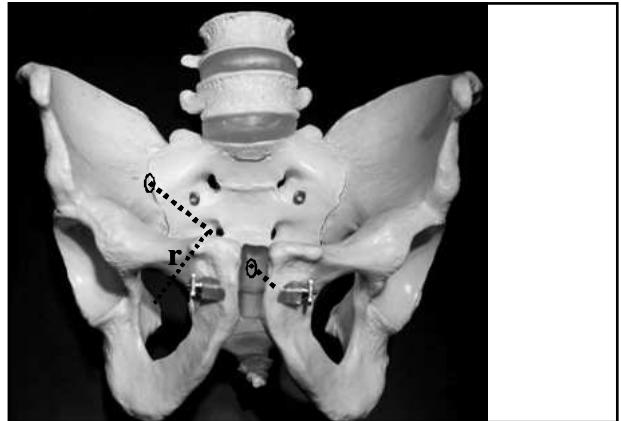
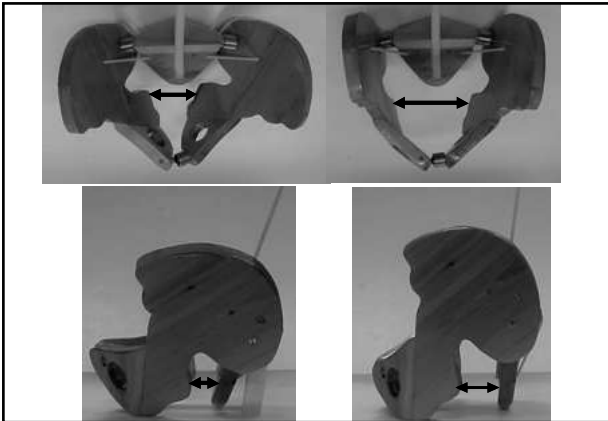


Table 1. Reported Values for Rotatory Motion (in Degrees)

Reference	Type	Method	N*	Value*	Comment
Bailey, 1938 ^b	In vivo	Manual pressure	41	4 (average)	No method
Wain and Prosser, 1939 ^b	In vivo	Radiographic/fluoroscopes	11	3-19	Rotation
Egami et al., 1971 ^b	In vivo	Fluoro	9	9	Six movements
Reynolds, 1980 ^a	In vivo	Stereostereography	16	3.9	Flexion
Chapman et al., 1982 ^a	In vivo	Stereography	16	3 (4.9)	Pubicocostal angle
Wassermann et al., 1982 ^c	In vivo	Fluoroscopy	16	3 (1.8)	Opp. rotation
Wassermann et al., 1983 ^c	In vivo	Stereostereography	16	16-16	Flexion
Wassermann et al., 1983 ^c	In vivo	Stereostereography	16	3.5 (0.4)	Pubocostal movement
Schmitt et al., 1985 ^a	Model	Computer	5	1	Relative rotation
Miller et al., 1987 ^a	In vivo	Loading	5	1.8	One torsion

*N = 1-12, 20-23-28
 *Value in mean (SD) or range, unless otherwise specified
 *1980 = average intervertebral distance

Joan M. Walker
 The sacroiliac joint: a critical review.
 Physical Therapy, Vol. 72, no. 12 (1992)

$d = \pi r \frac{\alpha}{180^\circ}$
 Li en Re: $d \times 2$

$d =$ grootte van de verplaatsing van de spinae = toename van de afstand S

α	d (mm)
2°	4.3
3°	6.4
4°	8.5
5°	10.6
10°	21.3
12°	25.6

Ter vergelijk: max. toename symphysis: ca. 2 mm

