



LEIDEN UNIVERSITY MEDICAL CENTER

*“Long-term clinical results of saddle
prosthesis after resection of peri-acetabular
tumours”*

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EMSOS, May 6th 2010**



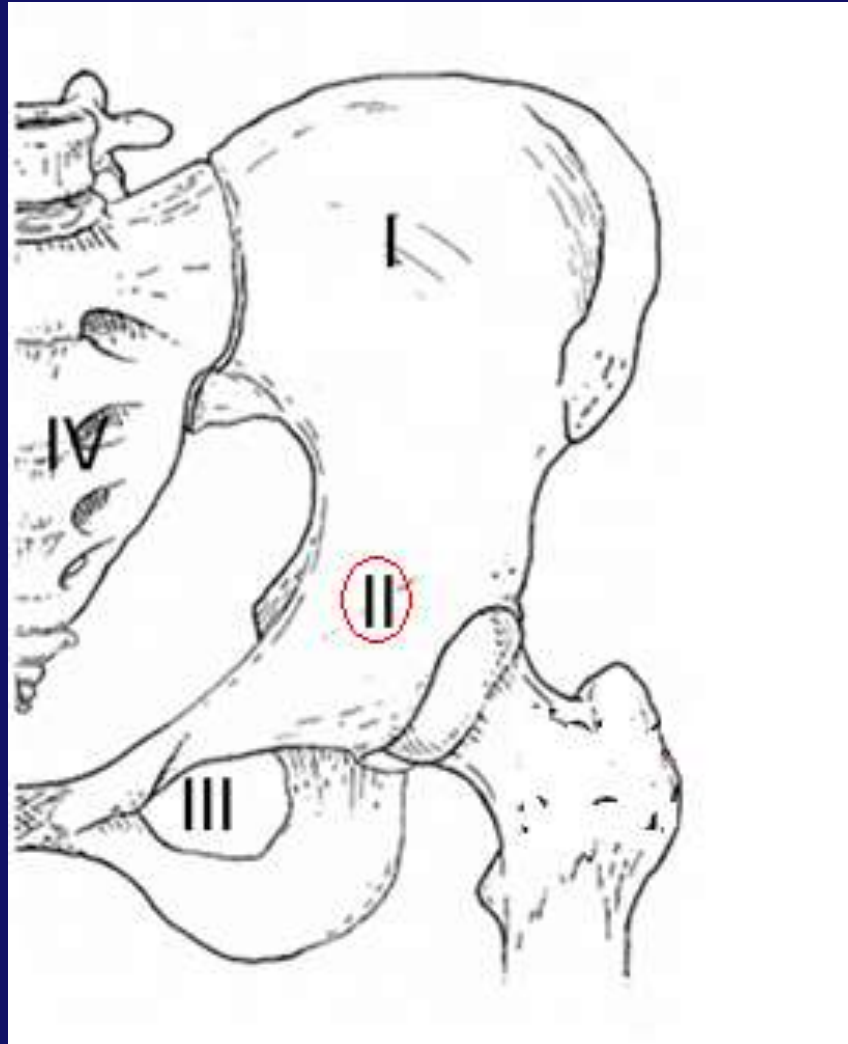
- Pelvis 5-15% of primary sarcomas & 3rd site for metastasis¹
- Pelvic resection classification (Enneking & Dunham)²
 - Type I – os ilium
 - **Type II – peri-acetabular**
 - Type III – os pubis
- **Peri-acetabular (type II)** pelvic resection and reconstruction is difficult due to high mechanical complication rate³

1 Aboulafia, et al. Reconstruction using saddle prosthesis following excision of primary and metastatic periacetabular tumors. Clin Orth Rel Res 1995;314:203-13

2 Enneking, et al. A system for functional evaluation of reconstructive procedures after surgical treatment of musculoskeletal tumors. Clin Orthop Relat Res. 1993;286:241-246

3 Allan, et al. Complex acetabular reconstruction for metastatic tumor. J Arthroplasty 1995;vol10:no3:301-06,

Type II internal hemipelvectomy



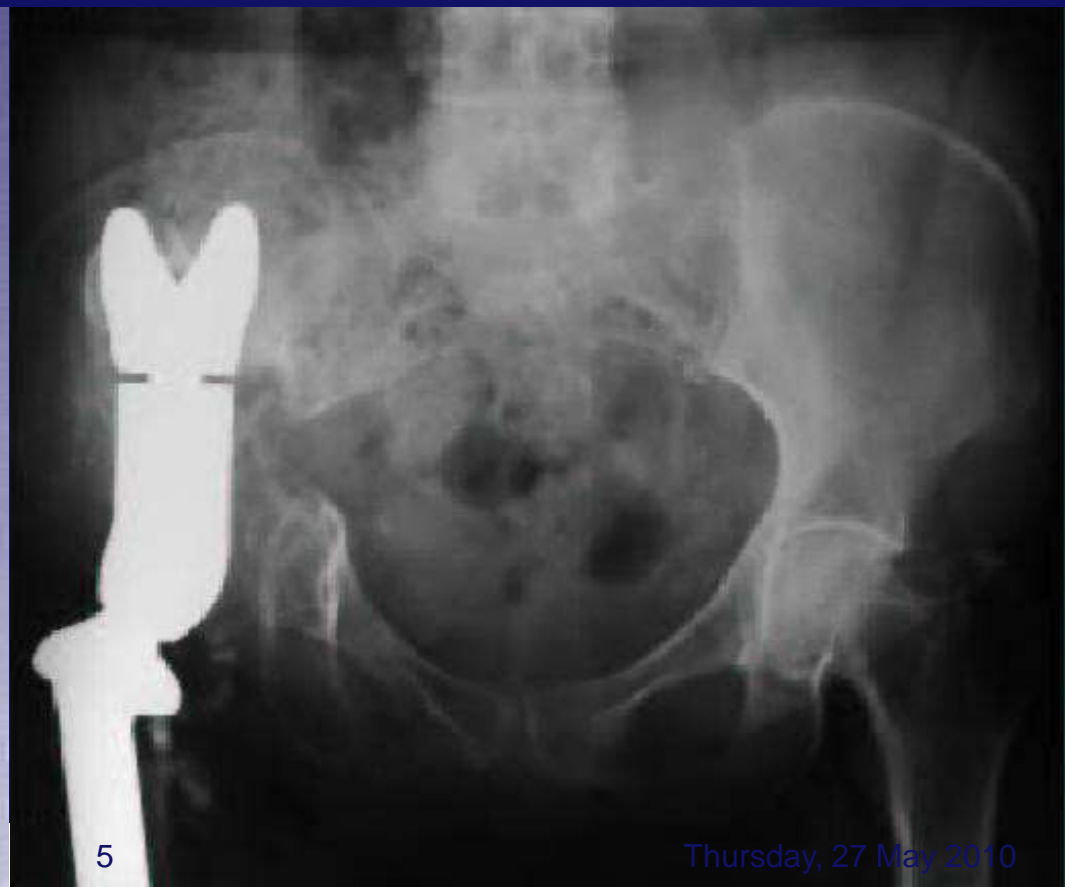
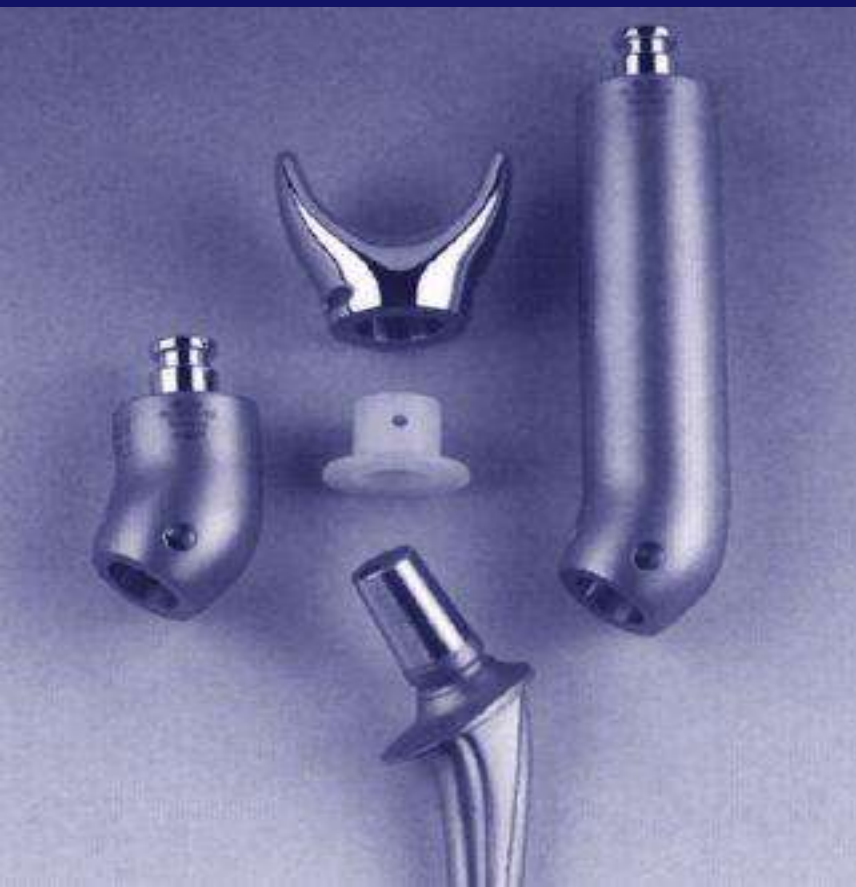
- Nieder '79 designed saddle prosthesis (Mark 1, Link, Germany) for large acetabular defects in hip revision arthroplasty
- Since 80's used for reconstruction after peri-acetabular tumours
- In case of patient survival:
long term good hip function is required of the saddle prosthesis!

Nieder , JBJS Br 1990;72-B:1014-22

Malawer, Ch 28: *Periacetabular Resections*. 2001; Kluwer Publ.425-438.



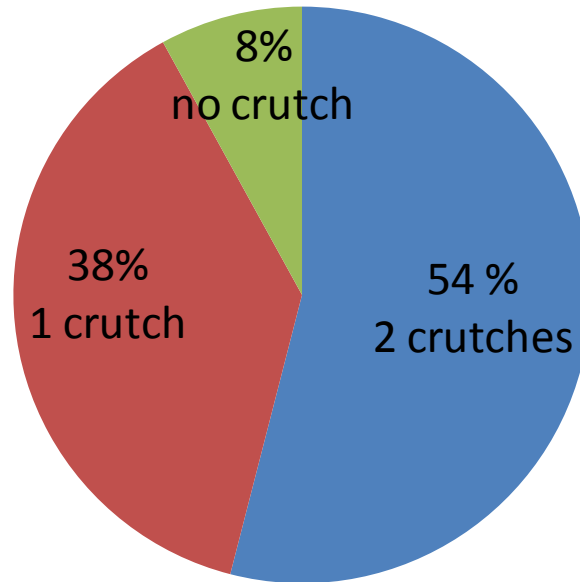
“Measurement of long-term clinical results of saddle prosthesis after resection of peri-acetabular tumours”



- Retrospective case series: Dec 1987 – Dec 2003
- 17 patients with saddle prosthesis after resection of peri-acetabular tumours
- Data extraction from patient records until 2009
- 11 patients died: mean survival 37 months (range 2-59)
- 6 patients alive: follow-up 12.1 years (range 8.3-16.8)
 - SF-36 questionnaire
 - Toronto Extremity Salvage Score (TESS)
 - Musculo Skeletal Tumour Society score (MSTS)

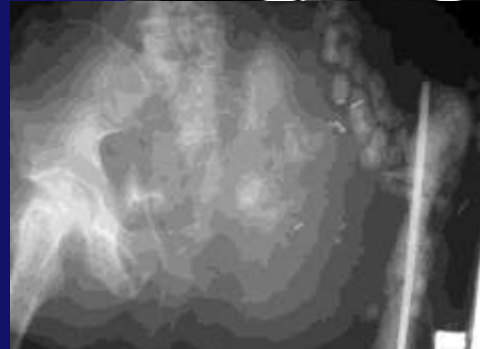
- Primary pathology:
 - 12 chondrosarcoma
 - 3 osteosarcoma
 - 1 malignant fibrous histiocytoma
 - 1 metastasis

Use of walking aids (N=17)



Mean post-operative hip flexion: 60 degrees (range 40-100)

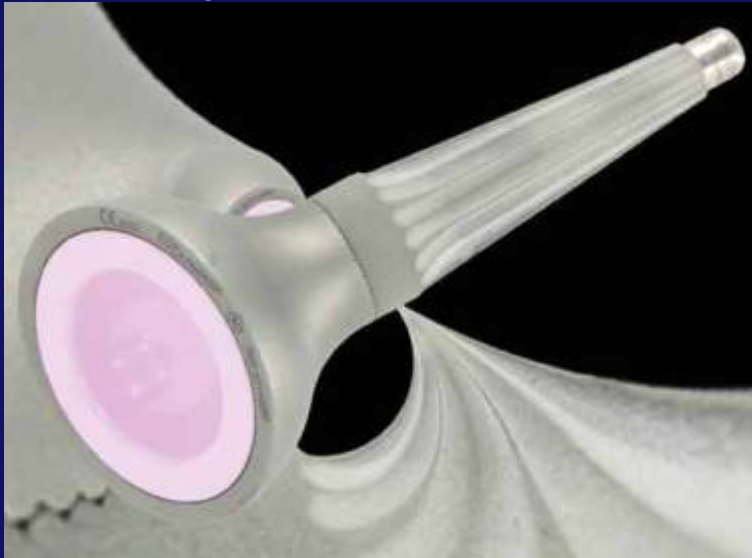
- Complications: 15 of 17 patients
 - 9 wound infections
 - 7 luxations
 - 5 saddle prosthesis removal
 - 2 leg length discrepancies (requiring additional surgery)
 - 1 decubitus
 - 1 wound necrosis
 - 1 femoral artery trombosis
 - 1 plexus lesion



- Long-term outcome surviving patients (N=5):
 - Mean MSTS score: 43%
 - Mean TESS score: 53%
 - Mean composite SF-36 physical score: 44
 - Mean composite SF-36 mental score: 51

Discussion

- Study: small numbers, however long-term follow-up
- Literature: better results reported, but shorter follow-up^{1,5,6,7}
- Alternatives:
 - PAR prosthesis: 3rd generation saddle⁵
 - LUMIC prosthesis: ball-socket reconstruction with iliac pedestal



5 Menendez, et al. *Periacetabular reconstruction with a new endoprosthesis*. Clin Orthop Rel Res 2009;467:2831-37.

6 Cotias, et al. *Evaluation of 17 saddle prosthesis*. J Surg Onc 2001: MSTs 56%, TESS 61%

7 Aljassir, et al. *Outcome saddle prosthesis*. Clin Ort Rel Res 2005: MSTs 51%, TESS 64%

8 Kitagawa, et al. *Pelvic reconstruction using saddle prosthesis*. J Ort Surg 2006: MSTs 53%, TESS 64%

Reconstruction with saddle prosthesis after peri-acetabular tumour surgery:

- high risk of complications
- limited flexion of the hip
- poor long term functional outcome



LEIDS UNIVERSITAIR MEDISCH CENTRUM

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Welcomes you to

1ST CHONDROSARCOMA CONGRESS

Tribute to Antonie Taminiau

February 11th 2011

