

Long term follow up of composite prostheses after periacetabular resection.

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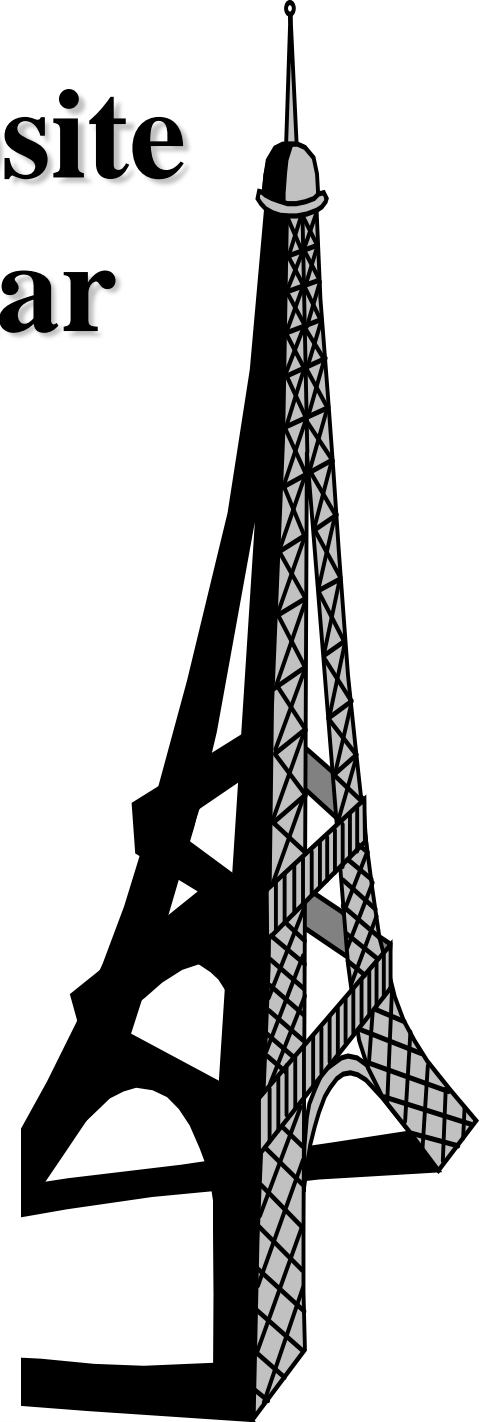
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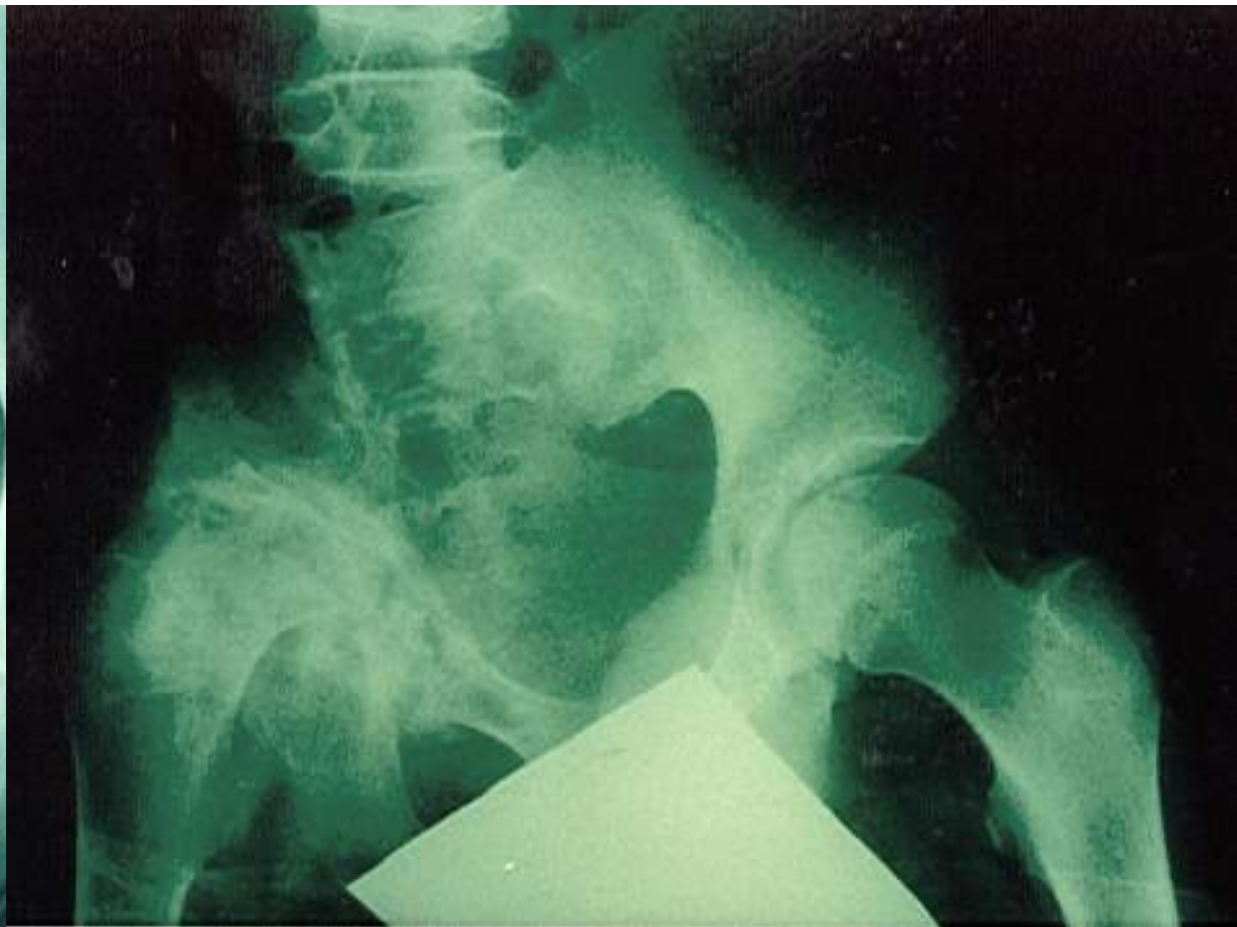
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Without reconstruction limb shortening can reaches 5 centimeters

After peri-acetabular resection for bone sarcoma, a reconstructive procedure is necessary to stabilize the hip, avoid limb discrepancy and permit full weight bearing.



Blood loss after periacetabular resection



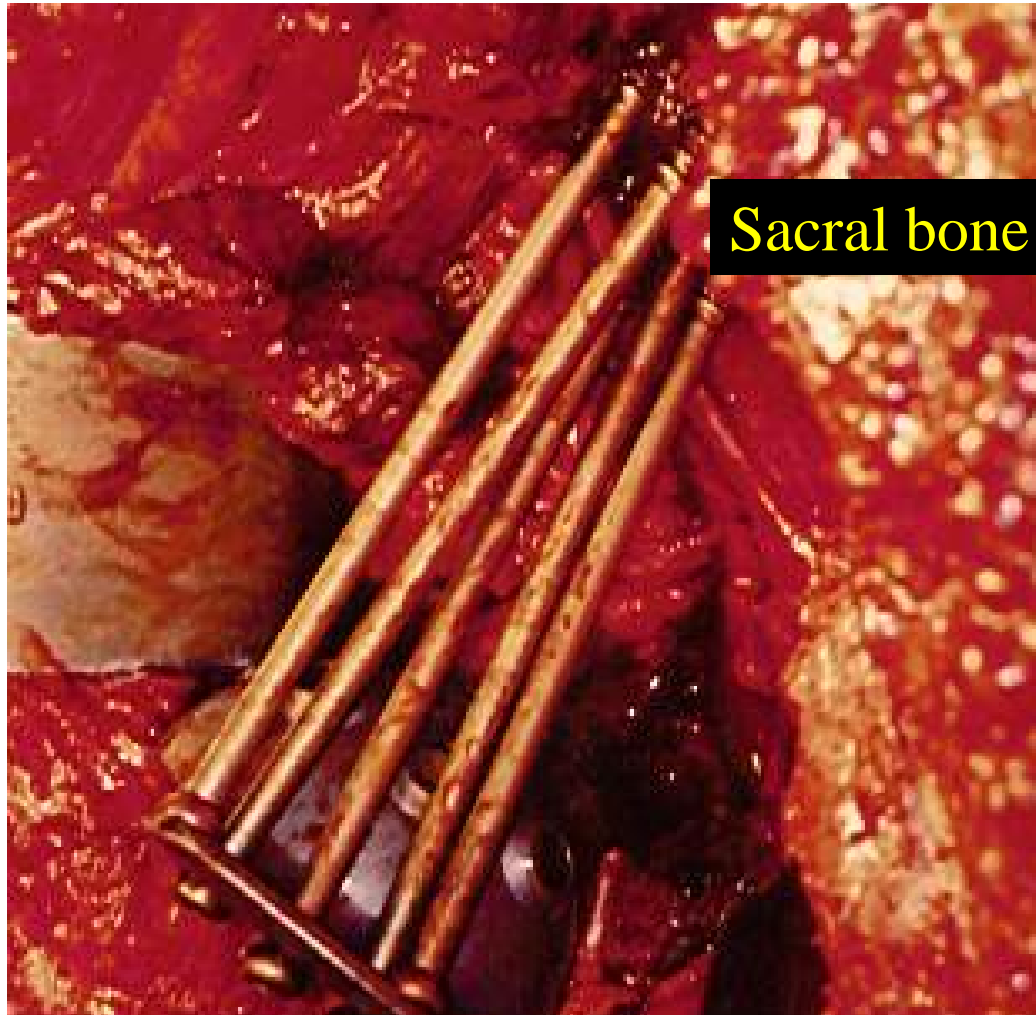
- resection of acetabula is time and blood consuming . the reconstuctive procedure needs to be easy to perform.

The hand on innominate prosthesis

described in 2003
(Sarcoma 2003 7,19~
27) is made of a
titanium cup, a set of
long titanium screws
and 2 or 3 packs of
antibiotics loaded
cement.



Fix the cup



Sacral bone



Iliac wing

The first phase of the reconstruction is to fix the cup with long screws

Fill the gap with cement and put the polyethylene component

the gap between cup
and bone is filled
with cement loaded
with antibiotics and
polyethylene
component
cemented on the
innominate
prosthesis.



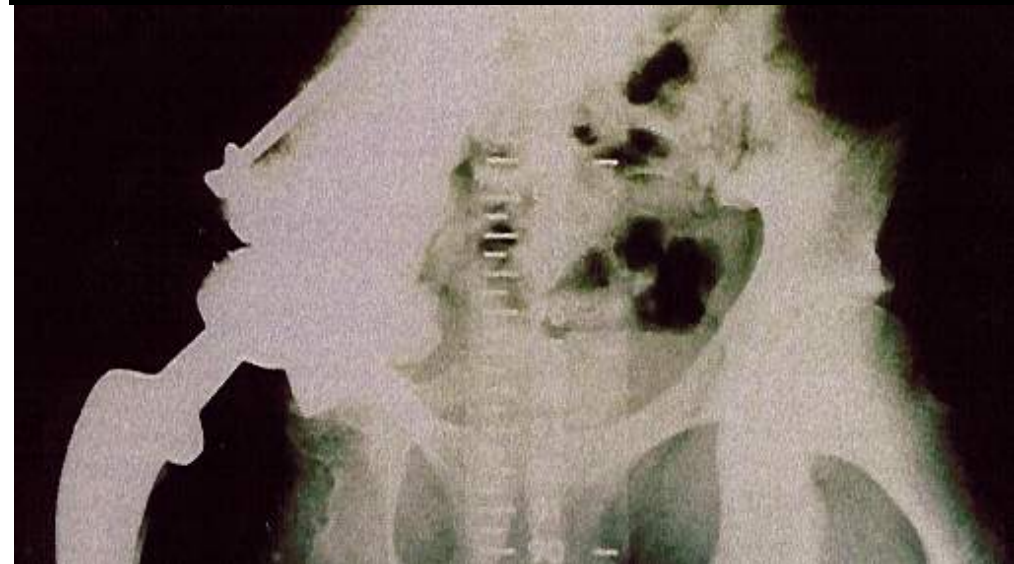
Patients

Between 1990 and 2007, 84 patients with bone sarcoma (40) or metastases (44) have been treated by internal hemipelvectomy followed by this reconstructive procedure.

Only 23 survivors (20/40 sarcoma and 3/44 metastases) could be followed more than 5 years.



Huge osteosarcoma zones 1 and 2



Solitary metastase from kidney carc.



- Patient aged 45 years solitary metastase from kidney. primary tumor resected. Metastase primarily treated with radiotherapie.progressive disease .Resection

Metastatic Periacetabular Ewing's

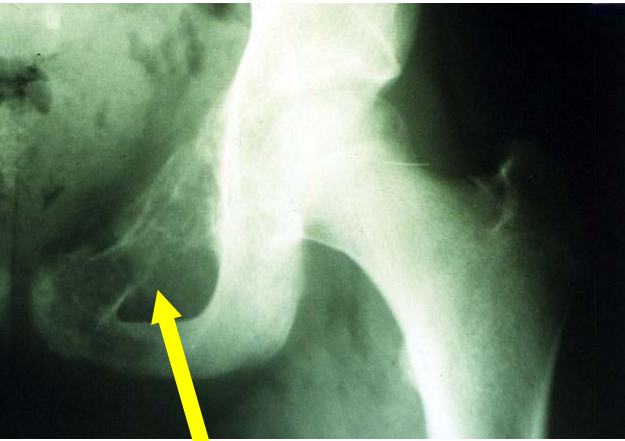


Resection of acetabular and iliac wing for ewing'sarcoma with solitary metastase on L4.

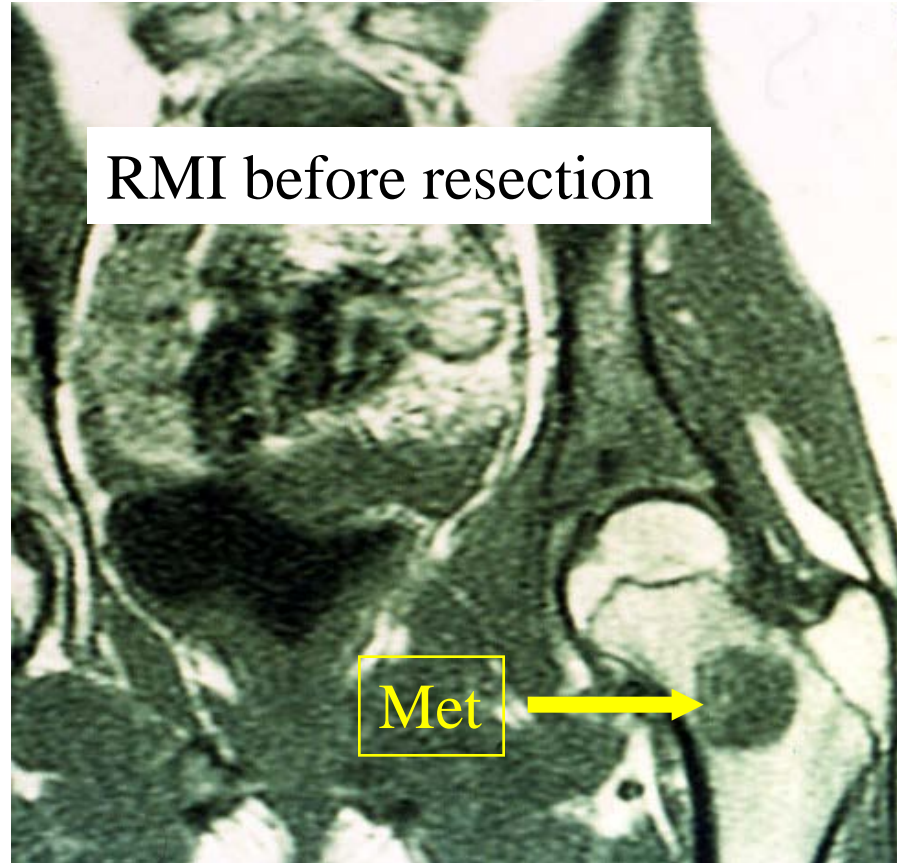
Resection of primary and of the metatsase

Bifocal Ewing' Sarcoma

DD2 protocol and surgery of both lesions.

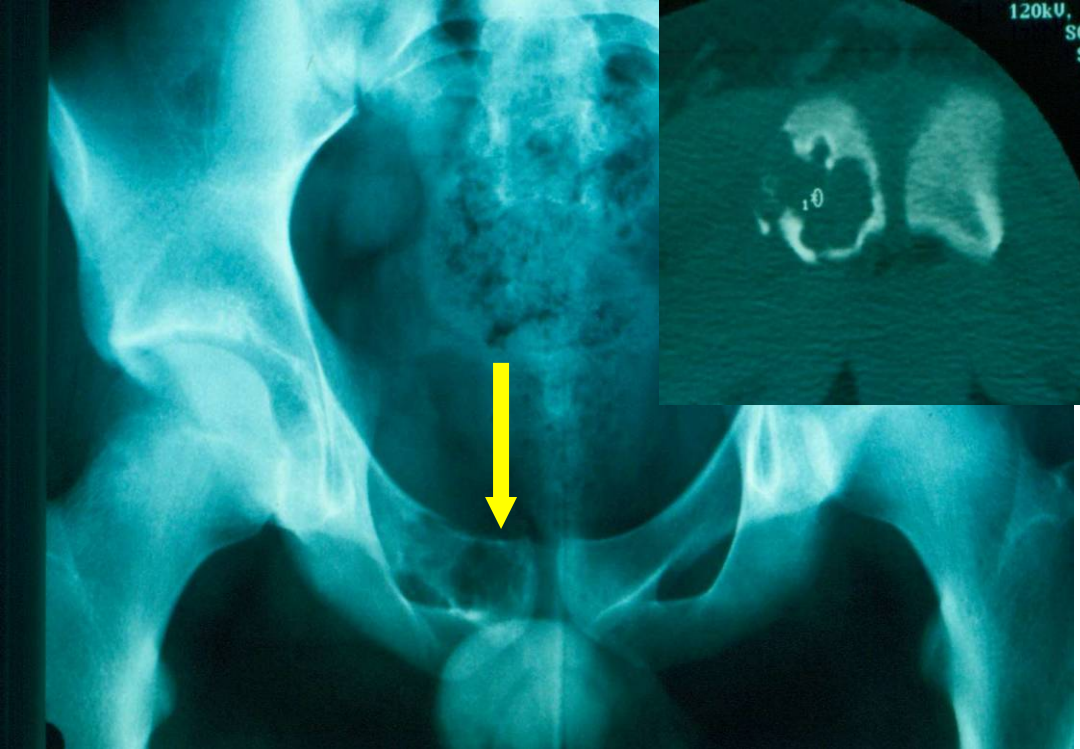


Primary



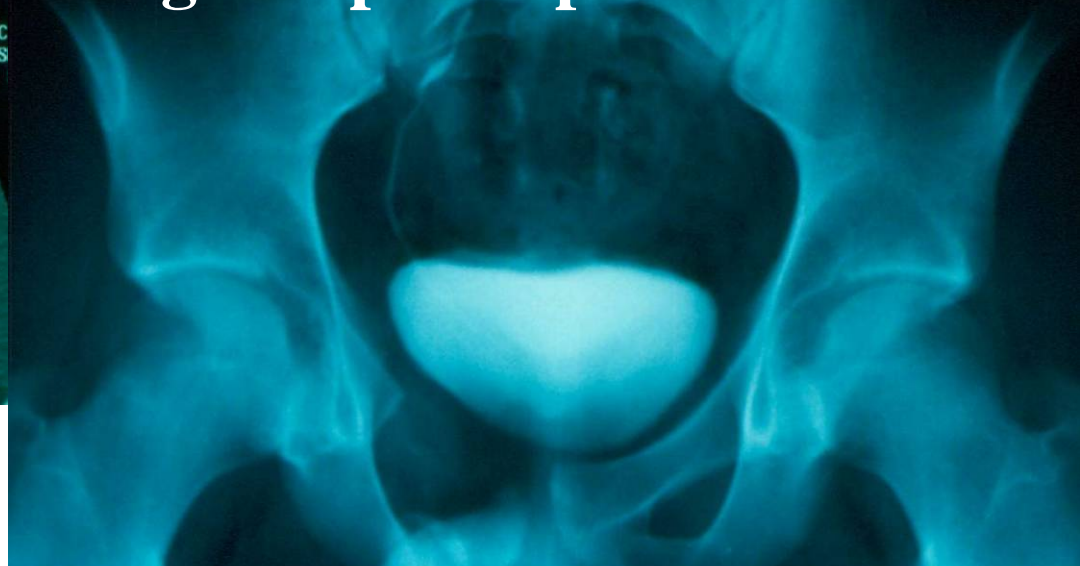
DFS 14 years after resection. Fair result. 2cms discrepancy . good acceptance, flexion 60°. some pain. illimited walking without support .

Grade 1 Chondrosarcoma



- 5 1991 :Grade 1
Chondrosarcoma of pubis.
Contaminated resection

1 1992 local recurrence. Wide
resection with reconstruction
using composite prosthesis



7 2011 Complete remission.



Post operative complications

6 patients (25 %)
experimented
postoperative
dislocation of the
hip prosthesis.

10 patients (43%) had
to be reoperated.



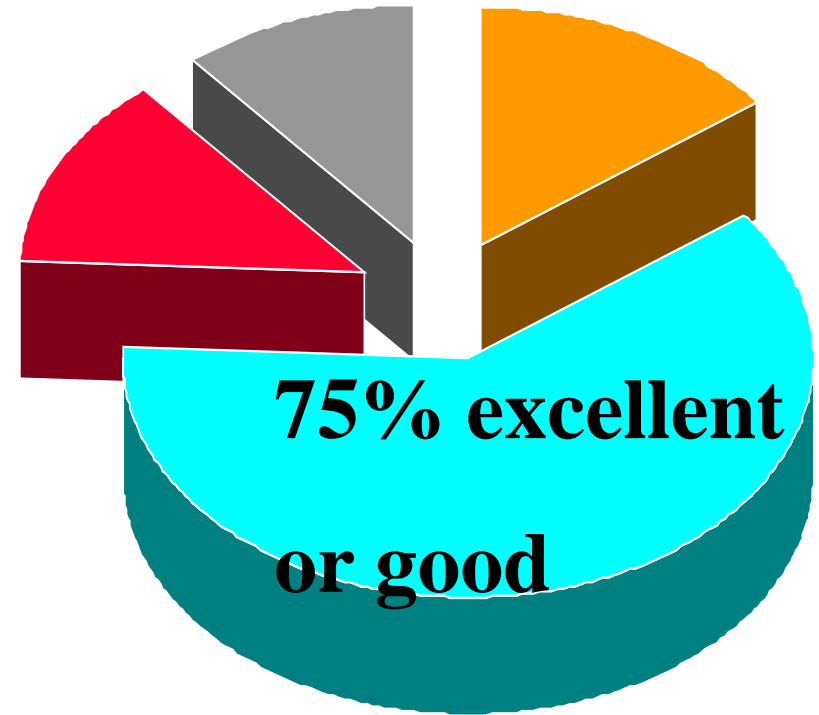
Late complications

- included 2 deep infections,
- 6 polyethylene wear and
- 7 loosening (5 iliac, 2 femoral).
- 10 patients (43 %) had to be re operated.

Orthopaedic results

According to grading of European Society for Musculoskeletal Oncology were excellent in 5, good in 12, fair in 3, bad in 3. The mean functional score of patients who have still their prosthesis is 80 %.

No pain, excellent acceptance, length discrepancy < 1 cm, average flexion 100° and illimited walking without support.



■ Excellent ■ Good ■ fair ■ poor

Osteosarcoma of zone 2+3

6 1991



7 2011



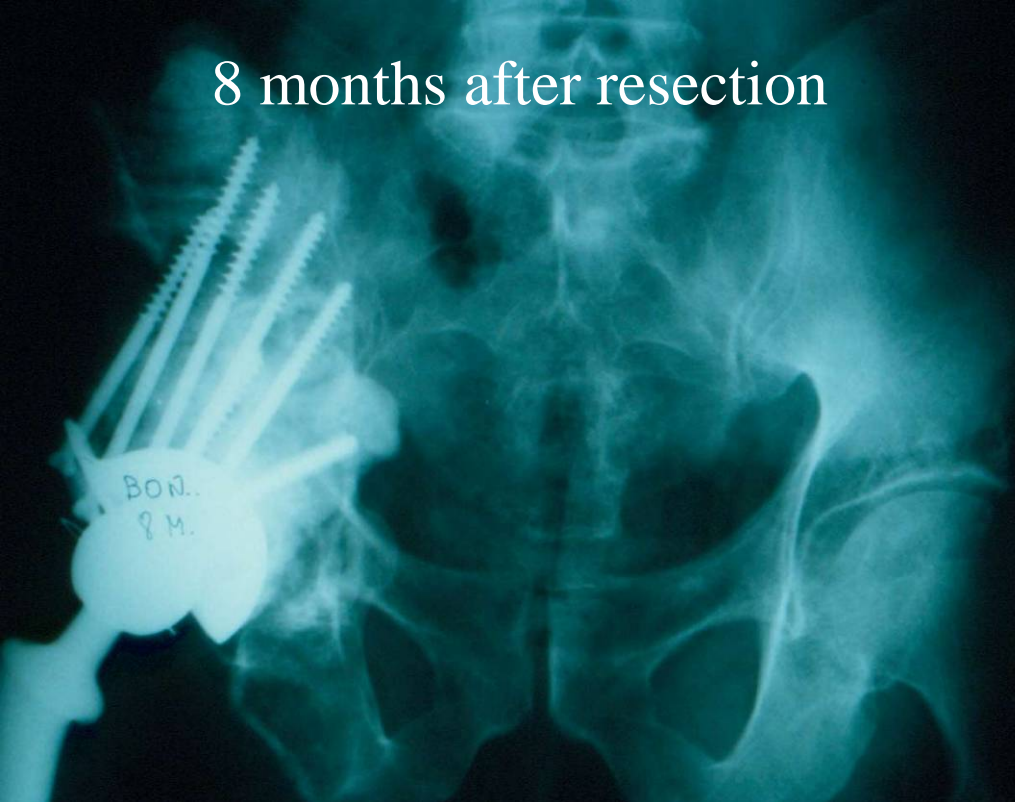
Excellent function



Thyroid Carcinoma.

Treatment of iliac lesion with composite prosthesis. 12 years after resection : No length discrepancy excellent acceptance, flexion 110° illimited walking without support .Little pain.

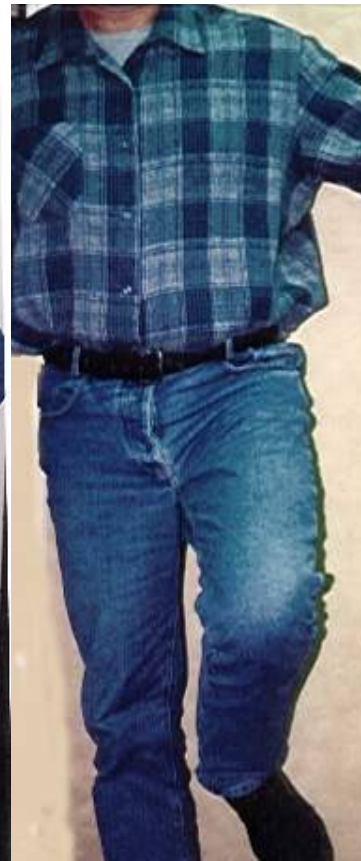
8 months after resection



100 months after resection

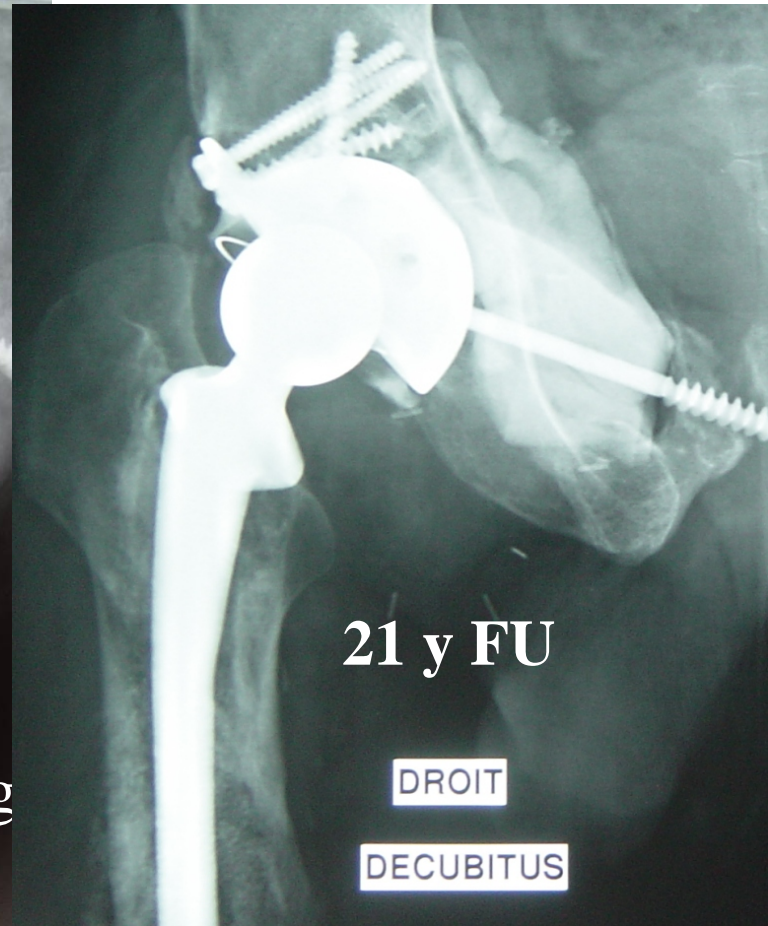
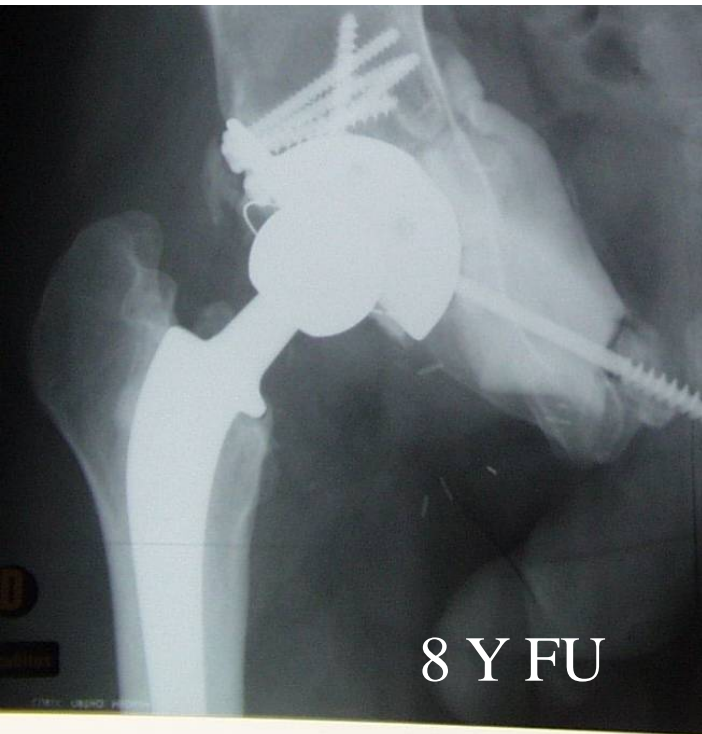


Solitary metastase from kidney.



12 years after resection. No length discrepancy excellent acceptance, flexion 110° illimited walking without support .No pain.

Chondrosarcoma grade 1 21Y FU



- After 21 years the acetabular reconstruction has no problem

Solitary metastase from parotid

DFS 30 months after
resection.

No length discrepancy
excellent acceptance,
flexion 110°
illimited walking
without support
and no pain.



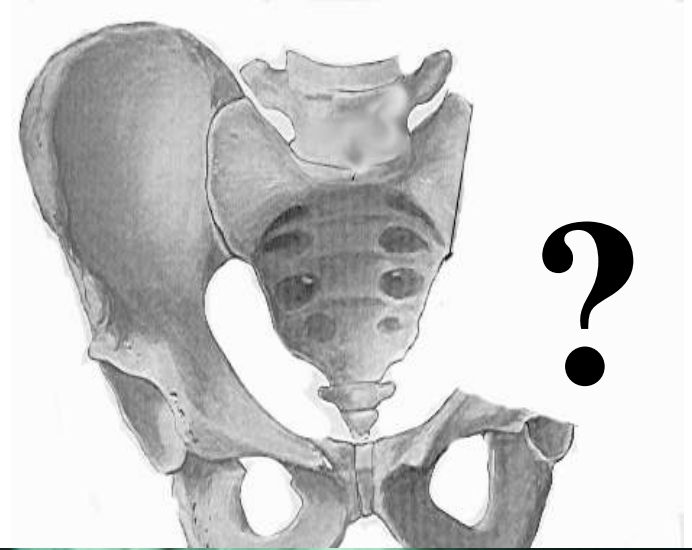
Comments

« Hand on » composite reconstruction gives similar functional result than custom made prosthesis and much better function than alternative techniques.

The use of cement permits the adjunction of antibiotics needed for these complicated cares.

Total iliac wing and Acetabular Resection

It is cheaper, more flexible than custom made prosthesis and can be used even when no part of iliac wing remains.



This device is feasible after total iliac wing and acetabular resection. No alternative technique of reconstruction has been described



Conclusion 1

The immediate advantages and the durability of such procedure plea for using it extensively after acetabulum resection of zone 2 and 3 where we did not observed loosening of the iliac reconstruction.

Conclusion 2

Such a procedure can also be used after total iliac wing resection even when including zone 4. but in this location loosening is frequent and pleas for reinforcing the reconstruction with the head and neck of femur when there are free of tumor.