Extreme Bone Loss Options at the Hip

Disclosures:
• Musculoskeletal Transplant Foundation
• Biomet
• Merete, Implant Cast
• Musculoskeletal Tumor Society

Etiology of Bone Loss

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Specific Problems: Complications of Limb Salvage

- Recurrence
- Non-Union Fracture
- Implant failure
- Aseptic Loosening
- Infection

Surgical Principles: Diagnose is crucial:

- Aseptic Loosening
- Infection
- Recurrence

Surgical Principles: Diagnose is crucial:

- Single Stage Revision
- Modular Sub-Total Proximal Femur

Aseptic Loosening
Surgical Principles:

• Diagnosis is crucial:

- Two-Stage Proximal Femur (Ag)
- Explant Spacer (IV Abx)
- Proximal Femur (Ag)

Surgical Principles:

• Diagnosis is crucial:

- Biopsy
- Wide-Resection Extra-articular
- Constrained Acetabular
- Custom Hemipelvis

Surgical Implants:

- Allografts
  - Bone preservation in Children
  - Joint Preservation
- Endoprostheses
  - Most common
  - Versatile
  - Options
- Modular devices
  - Convenience
  - Ease of Revision
Anatomic Location

- Pelvis-Acetabulum
- Proximal Femur
- Combined

Maintain restore weight-bearing axis

Iliac Wing (Type I)
Rectus Flap

Acetabulum + Pubis (II+III)

• Flanged Cage
• Fixation with lag screws
• Plate fixation allograft-host junctions
• Cemented constrained acetabulum
Polished SS Ischial Flange

Chondrosarcoma Grade 3 Acetabulum (Type II)

Wide resection - APC
Muscle flaps

Infected APC

Revision Techniques

Custom Hemipelvic cage with Sacrolilac fixation
Custom Hemipelvic cage with Sacroiliac fixation

Constrained Cup

11 years postop

Saddle Prosthesis
Pathologic Fracture of the Hip

9 y/o female

Biopsy-Desmoplastic Fibroma

Resection-Curettage Intercalary Allograft

Autograft-Allograft

Resection-Curettage Intercalary Allograft
Proximal Femur
Path Fx RCCA

Bone to metal abductor attachment
Bone to bone abductor attachment
Bone to bone healing

Endoprosthesis
APC
Proximal Femur

**Infection**

Options for patients with infection

- Custom Intraop antibiotic PMMA spacers
- Before re-implantation WBC, ESR, and CRP Had to be normal and Repeat cultures negative.

Two-Stage Reimplantation

Proximal Femur

**Infection**
Complications: Dislocation

Constrained
Wedin et al JBJS 2005

APC
Farid Y CORR 2006

Complications: Dislocation

Rate of dislocation:

Total hip arthroplasty 22%
head size:
22 mm (25%)
28 mm (15%)
Hemiarthroplasty 4%

Acetabulum (Type II)