Femoral neck fx in elderly

fixation or Arthroplasty ?

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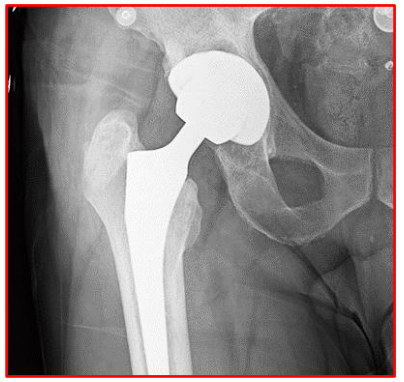
September 2021

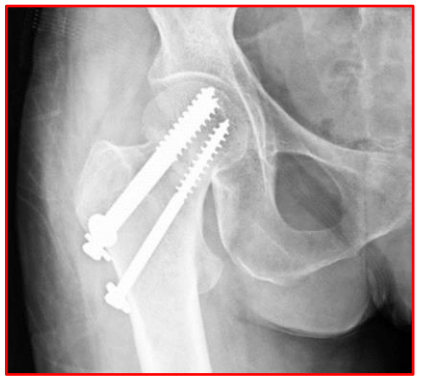
Femoral neck fracture

- ***Main option for displaced fractures***

younger patients → **internal fixation**

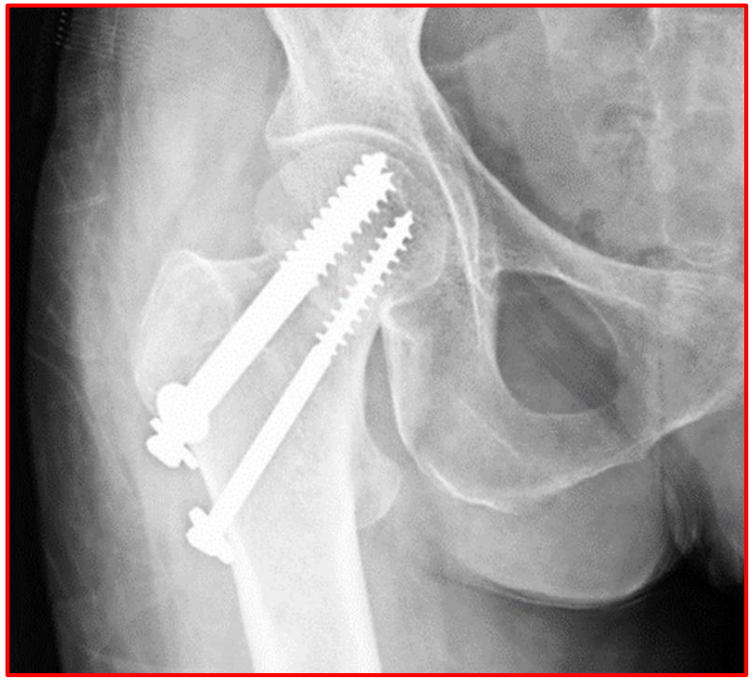
elderly patients → **hip replacement**





- **Undisplaced fractures in all age groups**

Internal fixation



Age 60 – 80 (controversial)

- *Fracture pattern and displacement*
- *Preoperative ambulation*
- *Level of independence*
- *Disability and general health status*

Strat Traum Limb Recon (2011) 6:7–12
DOI 10.1007/s11751-010-0099-3

ORIGINAL ARTICLE

Arthroplasty versus internal fixation for femoral neck fractures in the elderly

- *Retrospective , 140 patients , 2011*
- *60 – 80 age group*
- *Arthroplasty versus int. fixation*

Int.fix. Group
Arthroplasty group

- Operation time
- Blood loss
- Infection
- Length of hospitalization
- **Functional scores and quality of life**
- **Reoperation rate**

J Orthop Spine Trauma. 2019 June; 5(2): 45-9. DOI: http://dx.doi.org/10.18502/jost.v5i2.3753

Educational Corner

Decision Making in Femoral Neck Fractures: Internal Fixation versus Arthroplasty

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Surgical decision on adult femoral neck fx

Table 1. Quantitative score system (QSS) for the surgical decision on adult femoral neck fractures

Component score	
Age (year)	
20-60	0
61-65	1
66-70	2
71-75	3
76-80	4
> 80	5
Fracture type	
Non-displaced (Garden I, II)	0
Displaced (Garden III, IV)	5
Activities of daily living	
Outdoor	
Completely normal; can participate in vigorous activities such as swimming	0
Able to participate in physical activity in general; can be up and down 6 floors independently	1
Mild imitation of general physical activity; can be up and down 3 floors independently	2
Indoor	
Able to perform usual self-care	3
Able to perform little usual self-care; confined to a wheelchair	4
Bedridden and limited in ability to perform usual self-care	5
Bone mineral density (Singh index)	
Normal	
All trabecular groups are visible on the radiographic image	0
Principal tensile trabecule or trabeculae are accentuated	1
Principal tensile trabecule or trabeculae are reduced (markedly) but can still be traced	2
Osteoporosis	
There is a break in the continuity of the bone tensile	3
Principal compressive trabeculae are seen prominently	4
Principal compressive trabeculae are reduced in number	5
Medical comorbidities (modified ASA score)	
Normally healthy patient	0
Patient with mild systemic disease	1
Patient with severe systemic disease that limits activity but is not incapacitating	3
Patient with an incapacitating systemic disease that is a constant threat to life	5

ASA: American Society of Anesthesiologists

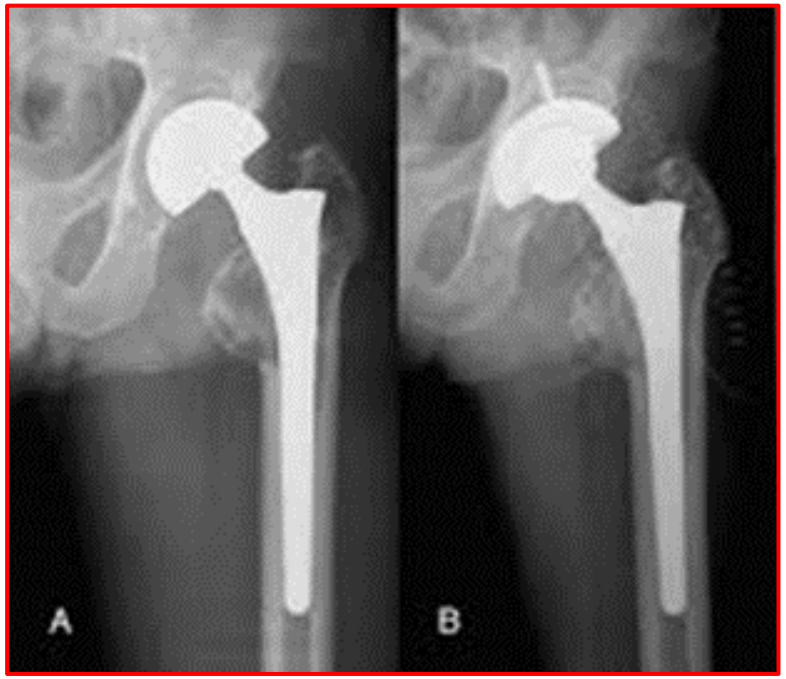
QSS (quantitative score system)

- *Age (0 – 1 – 2 – 3 – 4 - 5)*
- *Fracture type (0 – 5)*
- *Activity of daily living (0 – 1 – 2 – 3 – 4 – 5)*
- *Bone mineral density (0 – 1 – 2 – 3 – 4 – 5)*
- *Medical comorbidities (0 – 1 – 3 – 5)*

- **score 11 or less → internal fixation**
- **score 12 or more → arthroplasty**

Hemiarthroplasty or THA

- *The treatment of choice in a patient who is not a candidate for internal fixation, is THA unless:*
- Age more than 80 years
- life expectancy less than four years
- low mobility capacity
- compromised cognition
- Hemiplegia
- hemodialysis



Hemiarthroplasty : Bipolar or Unipolar ?

- ***Advantages of bipolar***
  1. lower acetabular wear
  2. increased ROM
  3. lower rate of dislocation
- ***Disadvantage of bipolar***
  1. more expensive

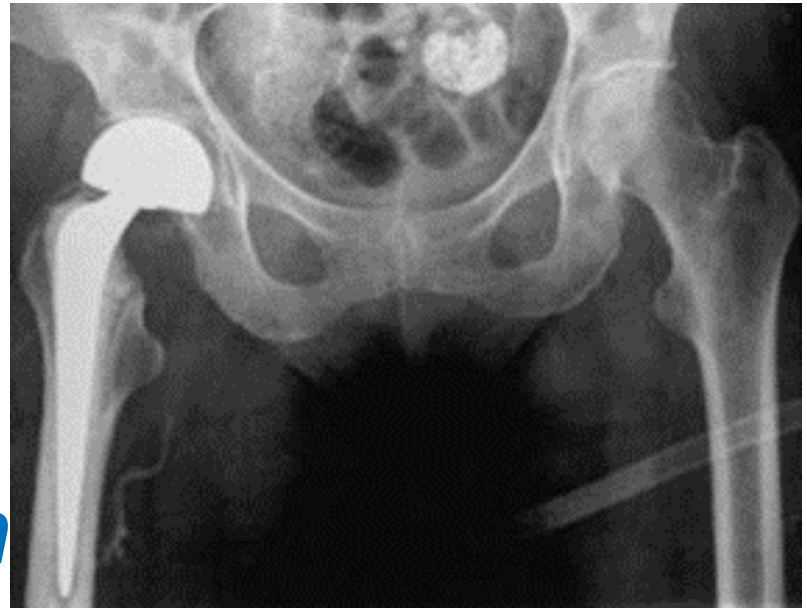
HA :
Cemented or Cementless

- ***Advantages of cemented stem***

  1. better fixation
  2. less thigh pain
  3. lower rate of femoral fracture

- ***Disadvantages of cemented stem***

  1. cardiopulmonary fat embolism
  2. difficult revision procedure



Routin indications of cementing

- ***Dorr type C classification***
- ***Obvious Osteoporosis***


Thank You