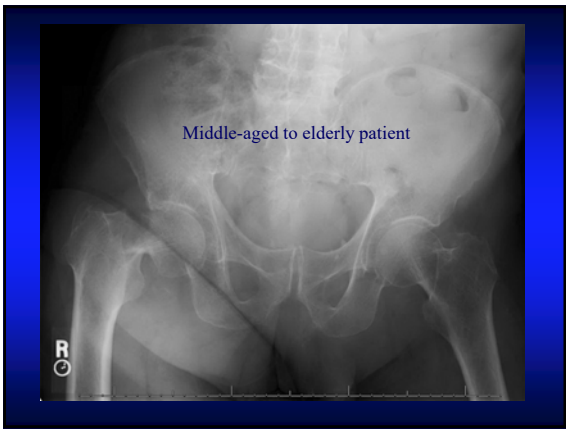


Preferred Management of Femoral Neck Fractures: THA

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Total Hip Replacement

- First case series reported in 1980' s
- Now many randomized clinical trials showing superior outcome, longevity
- Decreased rates of Reoperations

Management of Hip Fractures by Total Hip Arthroplasty

- 112 patients @ Mayo Clinic 1970-1978
- 3 categories of patients:
 - Advanced medical illnesses, cancer, or neuromuscular conditions
 - Pre-existing hip arthrosis
 - High activity level

Sim FH, Stauffer RN. Clin Orthop 1980;152:191

Literature

- Lots of controlled trials of ORIF vs HA vs THA
- Recent economic analyses
- Only a few studies that compare implant options.

Displaced intracapsular hip fractures in fit, older people: a randomised comparison of reduction and fixation, bipolar hemiarthroplasty and total hip arthroplasty

JF Keating, A Grant, M Masson, NW Scott and JF Forbes

Health Technology Assessment 2005; Vol 9; No. 41 October 2005

Health Technology Assessment
NHS R&D HTA Programme

- Multi-center study 11 Scottish hospitals
- 298 patients > 60 with displaced FNF
- Outcomes:
 - Mortality
 - Reoperation / Complications
 - Functional measures (HRQ, EQ-5D)
 - Economic

Keating et al, Health Tech Assess 9(41), Oct 2005

- 207 randomized among all choices; 91 among just ORIF vs HA.
- No differences in clinical outcomes.
- 2 yr reoperation 39% ORIF, 5% HA, 9% THA
- Functional scores favored arthroplasty at all time periods.
- Patient-reported outcomes best for THA.
- Economic analysis of total costs related to the hip (acute + follow-up) showed THA resulted in savings of £ 3,000 / pt vs HA

Keating et al, Health Tech Assess 9(41), Oct 2005

Author, year	Design	#	Age	Favored Rx
Baker, 2006	RCT	81	>63	THA
Blomfeldt, 2007	RCT	120	>70	THA (function)
Macauley, 2008	RCT	40		THA
Goh, 2008	Meta-analysis (4 RCTs)	407	>60	THA
Slover, 2009	Cost model			THA
Cho, 2010	Non-concurrent trial	190	>66	THA
Hopley, 2010	Systematic Review	1890		THA
Van den Bekerom, 2010	RCT	252	>70	HA (dislocations)
Avery, 2011	RCT	47	>60	THA
Yu, 2012	Meta-analysis (12 RCTs)	1320		THA

Internal fixation versus hemiarthroplasty versus total hip arthroplasty for displaced subcapital fractures of the femur – 13 year results of a prospective randomized study

- 271 elderly patients randomized into 3 groups:
 - Internal fixation
 - Hemiarthroplasty
 - Cemented total hip arthroplasty

Ravikumar and Marsh, Injury 31: 793, 2000

Early (1 year) results

- Mortality equal in all 3 groups
- ORIF
 - 25% converted to THA
 - 12% complaining of pain
- Hemiarthroplasty
 - 27% reported pain
- THA
 - No patient had pain

Skinner et al. Injury 20: 291-3, 1989.

Long-term (13 year) Results

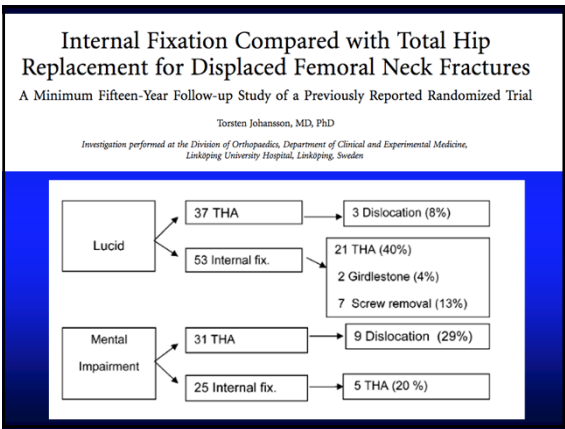
- ORIF and hemiarthroplasty patients deteriorated over time.
- Mortality remained equal over time.
- THA group: least pain and best function.

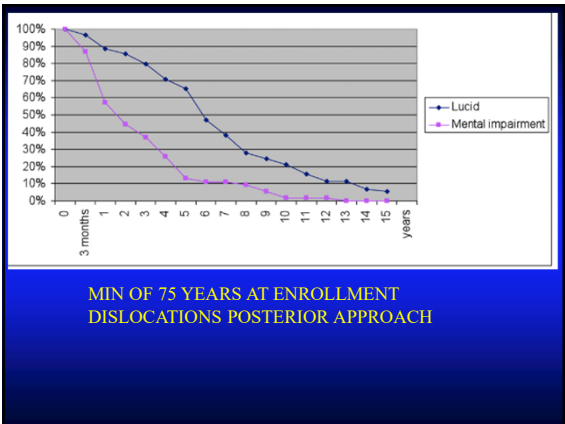
Ravikumar and Marsh, Injury 31: 793, 2000


Long-term (13 year) Results

- ORIF
 - 33% revised (25% in 1st year)
- Hemiarthroplasty
 - 25% revised
 - Dislocation rate 13%
- THA
 - Overall survival 93%
 - Dislocation rate 20%, only 6% recurrent

Ravikumar and Marsh, Injury 31: 793, 2000







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THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
EVIDENCE-BASED GUIDELINE ON
Management of Hip Fractures in the Elderly

DISPLACED FEMORAL NECK FRACTURES
 Strong evidence supports arthroplasty for patients with unstable (displaced) femoral neck fractures.
Strength of Recommendation: Strong ****

UNIPOLAR VERSUS BIPOLAR
 Moderate evidence supports that the outcomes of unipolar and bipolar hemiarthroplasty for unstable (displaced) femoral neck fractures are similar.
Strength of Recommendation: Moderate ****

HEMI VERSUS TOTAL HIP ARTHROPLASTY
 Moderate evidence supports a benefit to total hip arthroplasty in properly selected patients with unstable (displaced) femoral neck fractures.
Strength of Recommendation: Moderate ****


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CEMENTED FEMORAL STEMS
 Moderate evidence supports the preferential use of cemented femoral stems in patients undergoing arthroplasty for femoral neck fractures.
Strength of Recommendation: Moderate ****

SURGICAL APPROACH
 Moderate evidence supports higher dislocation rates with a posterior approach in the treatment of displaced femoral neck fractures with hip arthroplasty.
Strength of Recommendation: Moderate ****

My Practice...

- Consider a conventional total hip with capsular repair and a *slightly* larger head in active “elderly” patients with a displaced FNF.
- Modular unipolar hemiarthroplasty appropriate for those with less functional demands and short life expectancy.
- Use the implants and approaches that you are familiar with.
- Don’ t forget VTE prophylaxis, blood loss management, nutritional support, ...











**THE INFLUENCE OF COGNITIVE
FUNCTION ON OUTCOME
AFTER A HIP FRACTURE**

BY ANITA SÖDERQVIST, RN, RICARD MIEDEL, MD, SARI PONZER, MD, PhD, AND JAN TIDERMARK, MD, PhD
Investigation performed at the Department of Orthopaedics, Karolinska Institutet, Stockholm Söder Hospital, Stockholm, Sweden

TABLE 1 The Short Portable Mental Status Questionnaire**

Questionnaire

1. What is the date today?
2. What day of the week is it?
3. What is the name of this place?
4. What is your telephone number or, alternatively, street address?
5. How old are you?
6. When were you born?
7. Who is the prime minister now?
8. Who was prime minister before him or her?
9. What was your mother's maiden name?
10. Subtract 3 from 20 and keep subtracting 3 from each new number, all of the way down.

*Eight, nine, or ten correct answers indicated that cognitive function was intact; six or seven correct answers, that cognitive function was mildly impaired; three, four, or five correct answers, that cognitive function was moderately impaired; and zero, one, or two correct answers, that cognitive function was severely impaired.

Time to death (months)	Cumulative survival (SPMSQ ≥ 3)	Cumulative survival (SPMSQ < 3)
0	1.0	1.0
2	0.95	0.85
4	0.9	0.75
6	0.85	0.65
8	0.8	0.55
10	0.75	0.45
12	0.7	0.35
14	0.65	0.25
16	0.6	0.15

Summary

- HCMC THA in most patients >50 with a displaced femoral neck fracture.
- Valgus-impacted fractures get pinned
- Dependent on walking aids OR Mental Impairment unipolar

Thank You
