To weight-bear or not to weight-bear?
That is the question.

Hip Fest. 23 Oct 2018
Mr Andrew Mattin
• Hamlet’s dilemma between life and death.
Full weight bearing

• Do they actually fully weight bear?

• Weight bear as tolerated/ unrestricted weight bearing?
Postoperative Weight-Bearing after a Fracture of the Femoral Neck or an Intertrochanteric Fracture*

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FREDERICK J. KUMMER, PH.D.†, AND JOSEPH D. ZUCKERMAN, M.D.†, NEW YORK, N.Y.

Investigation performed at the Department of Orthopaedic Surgery, Hospital for Joint Diseases, New York City

We concluded that elderly patients who are allowed to bear weight as tolerated after operative treatment of a fracture of the femoral neck or an intertrochanteric fracture appear to voluntarily limit loading of the injured limb.
• 51% weight at 1 week

• 87% 12 weeks

• Significantly less WB in internal fixation compared to hemiarthroplasty.

• Same after 6 weeks

• Revision rates 2.9%. Accelerated rehabilitation with no increased risk of disrupting the fixation.

(This assumes normal protective sensation.)
Method of fixation

- Fracture characteristics, anatomy.
- Implant options
Method of fixation

Surgical technical issues relating to ability to weight bear and implant failure.

- Fracture characteristics/Reduction.
- Varus malalignment.
- Tip apex distance

\[
TAD = (X_{an} \times \frac{D_{an}}{D_{an}}) + (X_{int} \times \frac{D_{int}}{D_{int}})
\]
• Some devices require weight bearing for compression at the fracture site and subsequent healing.

• Disuse osteopaenia.
Early Weight Bearing After Lower Extremity Fractures in Adults

Author: Erik N. Kubiak, MD; Michael J. Beebe, MD; Kylee North, MS; Robert Hitchcock, PhD; Michael Q. Potter, MD

Publication Date: 12/01/2013
• Lower limb injuries in the elderly review.

• Clear benefit for neck of femur fractures, pertrochanteric fractures and diaphyseal fractures.

• Less clear for periarticular fractures. (Tibial plateau, tibial plafond, ankle fractures.)
The management of intertrochanteric hip fractures

Ippokratis Pountos and Peter V. Giannoudis
Orthopaedics and Trauma, 2016-04-01, Volume 30, Issue 2, Pages 103-108, Copyright © 2016 Elsevier Ltd

Complications of primary fixation
Medical complications
• Medical complications as high as 20% even in fit pre morbid population.

• Cognitive and neurological complications.

• Acute renal injury 25%.

• Anaemia 45%.

• Cardiovascular and thromboembolic events 5%.

• Heart failure and myocardial ischaemia.

• Sepsis. Hospital acquired pneumonia and urinary tract infection. (Half who develop pneumonia died within 30 days.)
Complications as a result of not mobilising early

- DVT’s
- Chest infections
- Pressure areas. (Sacral, calcaneal.)
What are we doing?
Figure 34 Weight Bearing Status After Surgery

Previously, postoperatively, many patients were not permitted to weight bear fully for fear of disturbing the surgical fixation. However, there is little evidence to support this, and allowing immediate unrestricted weight bearing after surgery permits easier rehabilitation and earlier restoration of function. The ANZ Guideline for Hip Fracture Care and the Hip Fracture Care Clinical Care Standard both recommend that patients be allowed full weight bearing without restriction immediately after surgery. Figure 34 shows that all but a small proportion of patients are allowed full weight bearing after surgery.

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Legend: Unrestricted weight bearing, Restricted / non weight bearing, Not known
Quality statement 5 of the Hip Fracture Care Clinical Care Standard promotes early mobilisation of patients after hip fracture surgery. All hip fracture patients should be given the opportunity to sit out of bed and start to mobilise the day after surgery unless there is a specific documented contraindication. In New Zealand and Australia, 87% and 89%, respectively, of patients are given the opportunity to mobilise the day after surgery.
SUMMARY OF FINDINGS

The assessment of a patient's cognition preoperatively varies from 6% of patients in Victoria to 65% of patients in South Australia.

The provision of nerve blocks for the management of pain before the operating theatre varies from 34% in Tasmania to 86% in Western Australia.

The average time to surgery for hip fracture patients varies from 25 hours in South Australia to 39 hours in both Queensland and NSW.

Surgery within 48 hours occurs 70% of the time in Queensland to 88% of the time in Western Australia.

In NSW, 81% of patients are given the opportunity to mobilise on the day of surgery or the day after surgery, ranging to 95% in Western Australia.

7% of hip fracture patients in Victoria ranging to 60% in South Australia are discharged on active treatment for osteoporosis.
References.

• 2018 Annual report. ANZHFR.

*Postoperative weight-bearing after a fracture of the femoral neck or an intertrochanteric fracture.*  
Koval KJ¹, Sala DA, Kummer FJ, Zuckerman JD.

• The management of intertrochanteric fractures. Ippokratis Pountas et al.

• AAOS. Early weightbearing in lower extremity fractures in Adults. E. Kubiak et al.
Questions?

“I would encourage all hospitals that care for hip fracture patients to join the ANZHFR. Together we can optimise the care of patients with this fracture, as I'm sure you all know of someone who has sustained a fractured hip. It will also be beneficial to many of us, personally, to our own future health.”

Orthopaedic Clinical Nurse Consultant, Australia