



# 67° CONGRESSO NAZIONALE SIGG

LA LONGEVITÀ DECLINATA AL FEMMINILE

**Luca Pietrogrande**

MOBILIZZAZIONE PRECOCE: DALLE LINEE GUIDA  
ALLA IMPLEMENTAZIONE CLINICA  
**Mito o realtà?**



SOCIETÀ ITALIANA  
DI GERONTOLOGIA  
E GERIATRIA

Roma, 30 novembre - 3 dicembre 2022  
UNIVERSITÀ CATTOLICA DEL SACRO CUORE



# agenda

- cosa dicono linee guida e raccomandazioni?
  - internazionali
  - italiane
- cosa si fa realmente?
- considerazioni sui fattori in gioco



# Hip fracture: management

Clinical guideline

Published: 22 June 2011

[www.nice.org.uk/guidance/cg124](http://www.nice.org.uk/guidance/cg124)

## 9.1

### EARLY ASSESSMENT

Early assessment by medical and nursing staff, physiotherapist and occupational therapist to formulate appropriate preliminary rehabilitation plans has been shown to facilitate rehabilitation and discharge.<sup>143,144</sup>

2<sup>+</sup>

Pre-morbid mental state, mobility and function are the most reliable predictors of the success of rehabilitation, and can be used as screening tools to assess a patient's early rehabilitation needs and potential.<sup>145-148</sup>

2<sup>++</sup>

**B**

**A corroborated history should be taken, including:**

- **pre-morbid function and mobility**
- **available social support** (*including whether the patient already has a carer or whether someone is willing and able to provide such support*)
- **current relevant clinical conditions**
- **mental state.**

Patients from home, who are relatively alert and fit, are most likely to benefit from supported discharge schemes (see section 9.3). Patients previously precarious at home may require longer periods of inpatient rehabilitation to maximise their chances of return home. Cognitive status has a bearing on functional abilities, length of stay and outcome.<sup>145-149</sup>

2<sup>++</sup>

**B**

**Patients with comorbidity, poor functional ability and low mental test scores prior to admission should undergo rehabilitation in a geriatric orthopaedic rehabilitation unit.**

Maintaining balance during daily activities is a useful predictor of subsequent hospitalisation, care home placement and mortality.<sup>150</sup>





## 9.2.2 MULTIDISCIPLINARY REHABILITATION

Multidisciplinary team working is generally considered effective in the delivery of hip fracture rehabilitation. The professions, grades and inter-relationships of members of the “multidisciplinary team” vary between studies and, because these characteristics are rarely described in detail, the effectiveness of different approaches to team working is not yet well understood.<sup>143,144,152-154</sup> Rehabilitation should be commenced early to promote independent mobility and function. The initial emphasis should be on walking and activities of daily living (ADL), for example, transferring, washing, dressing, and toileting. Balance and gait are essential components of mobility and are useful predictors in the assessment of functional independence.<sup>145,150</sup>

2++

## 9.2.3 MEDICAL MANAGEMENT AND REHABILITATION

Collaboration between orthopaedic surgeons, physicians in geriatric medicine and other members of the multidisciplinary team should be sought to assist in medical management and rehabilitation. The benefits of shared postoperative management by orthopaedic surgeons and geriatricians include trends towards earlier functional independence, reduced length of stay, improved management of medical conditions and decreased future need for institutional care, including nursing home care.<sup>152,154-158</sup>

9.3

2++

9.3.1

## DISCHARGE

### GERIATRIC ORTHOPAEDIC REHABILITATION UNITS

Geriatric orthopaedic rehabilitation units (GORUs) are multidisciplinary inpatient facilities catering for the frailer, more dependent patient and were originally associated with larger orthopaedic units. Medical care and rehabilitation are supervised by a geriatrician, often with the help of a specialist general practitioner (GP). Orthopaedic cover from a visiting surgeon should be available.

Geriatric service interventions after hip fractures are complex and it is not easy to quantify conclusively the effectiveness of each different type of coordinated inpatient rehabilitation.<sup>141,142</sup> The observed trends favour GORU over conventional management, with a reduction in deaths and an increase in functional improvement.<sup>141</sup> GORUs can increase the efficiency of acute bed use by taking on potentially long stay patients, for example, patients needing prolonged rehabilitation prior to discharge or patients who are unable to return home and are awaiting an alternative placement.

There is no evidence that length of stay is reduced in a GORU compared to a conventional unit.<sup>142</sup> In both cases, excessive lengths of stay are primarily related to non-medical problems such as care needs and social support, as well as cognitive impairment.<sup>146</sup> As GORUs tend to increase the chance of a patient returning to their own home, they may be cost effective in reducing the costs of residential care.<sup>141</sup>

**B A multidisciplinary team should be used to facilitate the rehabilitation process.**

NICE - 2011

# Recovery

## Hip fracture

— [Overview](#)

— [Treatment](#)

— **Recovery**

**After fracturing a hip, you'll have a tailored rehabilitation programme to help you regain your mobility and independence as soon as possible.**

Prompt surgery and an effective rehabilitation programme have been proven to reduce the length of a person's hospital stay and help them to recover their mobility faster.

## Multi-disciplinary team

Your rehabilitation will usually involve a multi-disciplinary team (a team of different healthcare professionals working together). The team may include:

- physiotherapists – healthcare professionals trained in using physical methods, such as massage, manipulation and exercises, to promote healing and wellbeing. Find out more about [physiotherapy](#)
- occupational therapists – healthcare professionals who identify problem areas in everyday life, such as dressing yourself or getting to the shops, and help you find practical solutions
- social workers – people involved in providing social services who can advise on practical issues such as [benefits](#) and [placement in a care home](#)
- an orthopaedic surgeon – a surgeon who specialises in conditions involving the bones and joints
- a geriatrician – a doctor who specialises in healthcare for elderly people
- a liaison nurse – a healthcare professional who may be involved in planning your discharge and keeping you and your family informed about the care you're receiving

## Rehabilitation in hospital

A physiotherapy assessment and mobilisation, such as weight-bearing exercises, should begin the day after hip fracture surgery.

While you're in hospital, your rehabilitation may take place in:

- an orthopaedic ward – for people with bone and joint conditions
- a rehabilitation ward – for people undergoing rehabilitation programmes
- a geriatric orthopaedic rehabilitation unit – for older people with orthopaedic conditions

## Being discharged

How long you need to stay in hospital will depend on your condition and how soon you regain mobility. If you're otherwise healthy, you may be able to leave hospital around 1 week after surgery.

Before you're discharged, an occupational therapist may assess your home to see whether you'll need any mobility aids fitted, such as handrails. You may also be given a walking aid, such as a walking stick or crutch.

Your GP and carer (if you have one) may be told when you're being discharged so that plans can be made to support you. After you've been discharged you may need to:

- return to hospital for a rehabilitation appointment
- see your GP for a follow-up appointment
- have visits or telephone calls at home from healthcare professionals involved in your care

## Rehabilitation programme

After a hip fracture, you'll follow a rehabilitation programme that includes exercises to help improve your strength and mobility.

Your individualised programme will depend on your current level of fitness and mobility and may involve some of the following:

- weight-bearing exercises – where your feet and legs support your weight, such as walking
- non-weight-bearing exercises – where your feet and legs do not support your weight, such as swimming or cycling
- treadmill exercises – such as walking at different speeds and inclines
- intensive physical training – such as meeting with an exercise instructor three or more times a week to exercise
- strength training and balance training exercises

It's extremely important that you follow your rehabilitation programme after a hip fracture to ensure you regain as much fitness and mobility as possible.

## Care and support

It may be useful to read [our guide to social care and support](#) – written for people with care and support needs, as well as their carers and family.





# FFN

Toolkit Clinico

## Pilastro Clinico II:

Ottimizzazione della riabilitazione per il recupero della funzione, l'indipendenza e la qualità di vita

Nel 2016, il FFN Hip Fracture Recovery Research Special Interest Group ha riesaminato i risultati a lungo termine della disabilità dopo una frattura di femore<sup>72</sup>. Le principali conclusioni sono state:

Il 40-60% dei partecipanti allo studio riacquistava il livello pre-frattura

di mobilità e capacità di effettuare attività strumentali del vivere quotidiano

Il 20-60% dei soggetti che prima della loro frattura del femore era capace di effettuare in maniera indipendente le attività di igiene personale (come lavarsi o vestirsi) richiedeva assistenza per effettuare queste attività fino a due anni dopo la frattura

Il 10-20% dei soggetti che presenta una frattura di femore nei paesi Occidentali, come risultato della loro frattura, vengono trasferiti in una residenza protetta.

FFN

Fragility Fracture Network







Paolo Falaschi David Marsh *Editors* - Springer 2021  
Orthogeriatrics : The Management of Older Patients with Fragility Fractures

- *Assessment*: identification of problems to be addressed, which involves understanding the premorbid level of functioning and understanding the current comorbidities (e.g. delirium).
- *Goal-setting*: identifying what can be improved and what cannot. In particular, assessing what level of mobility and independence in bathing and dressing is likely to be achieved in the short, medium and long term. Similarly, identifying what informal and formal supports are available to help recovery.
- *Treatment*: intervening to improve medical and functional problems (such as pain, vitamin D deficiency, undernutrition, depression) as well as physical and psychosocial interventions to meet the rehabilitation goals.
- *Evaluation*: reviewing the effectiveness of interventions (i.e. reassessment).
- *Planning*: organising support services; providing self-management strategies for patients and carers.







## Orthogeriatrics : The Management of Older Patients with Fragility Fractures

4. Surgical planning should target early weight-bearing	<u>Weight-bearing restriction</u> in the post-operative phase should be avoided since it limits what a patient can achieve in terms of mobility and functional independence. Effective surgery allows early weight bearing
5. Early mobilisation after surgery (24 h after surgery)	<u>Unless medically or surgically contraindicated, physiotherapists and/or nurses should sit patients out of bed, and walk as early as possible</u> Care plans delivered co-jointly by nurses and physiotherapists can promote patients' mobility over the entire day
6. Early post-operative goal-directed mobilisation practice with balance and functional exercises	Begin progressive resistance exercises, weight-bearing exercises (unless contra-indicated) and <u>balance exercises during hospital stay, starting as early as possible</u> Some services in LMICs are based on early discharge from hospital to rehabilitation at home ("hospital at home"). Harness informal and formal caregiving training and use technology but be aware how to achieve the best results when relying on families as therapists in LMICs, particularly when education levels are low



in Asia



## Clinical Practice Guideline

Ann Rehabil Med 2021;45(3):225-259  
pISSN: 2234-0645 • eISSN: 2234-0653  
<https://doi.org/10.5535/arm.21110>

**arm**  
*Annals of Rehabilitation Medicine*

# Clinical Practice Guideline for Postoperative Rehabilitation in Older Patients With Hip Fractures





## in Asia

- Results:
  - A multidisciplinary approach, progressive resistance exercises, and balance training are strongly recommended.
  - Early ambulation, weigh-bearing exercises, activities of daily living training, community-level rehabilitation, management of comorbidities/complication prevention, and nutritional support were also suggested.
  - This multidisciplinary approach reduced the total healthcare cost.



# in Italia

## Linea Guida SIOT

## FRATTURE DEL FEMORE PROSSIMALE NELL'ANZIANO

2021

In collaborazione con

AIFI – Associazione Italiana Fisioterapia

AITOG - Associazione Italiana di Traumatologia e Ortopedia Geriatrica

AO Trauma Italy

CIO – Club Italiano Osteosintesi

FFN – Fragility Fracture Network

FNOPI - Federazione Nazionale Ordini delle Professioni Infermieristiche

GIOG-SIGG - Gruppo Italiano di Ortogeriatrica - Società Italiana di Gerontologia e Geriatria

GISOOS - Gruppo Italiano di Studio in Ortopedia dell'Osteoporosi Severa

GLOBE – Gruppo di Lavoro Ortopedia Basata sulle prove di Efficacia

OrtoMed - Società Italiana di Ortopedia, Medicina e delle Malattie Rare dello Scheletro

OTODI – Ortopedici e Traumatologi Ospedalieri d'Italia

SIAARTI – Società Italiana di Anestesia Analgesia Rianimazione e Terapia Intensiva

SICOOP – Società Italiana Chirurghi Ortopedici Ospedalità Privata

SICOST - Società Italiana di Chirurgia dell'Osteoporosi

Si dA – Società Italiana dell'Anca

SIMFER - Società Italiana Medicina Fisica e Riabilitativa

SIMG – Società Italiana di Medicina Generale

SIRM - Società Italiana di Radiologia Medica e Interventistica

## QC9. MOBILIZZAZIONE E RIABILITAZIONE PRECOCE POSTOPERATORIA

### Premessa

Il recupero della mobilità dopo un intervento per frattura del femore prossimale è finalizzato a ripristinare il miglior livello funzionale possibile, con *performance* per quanto possibile analoghe a quelle antecedenti il trauma [189] e implica in primis la mobilizzazione precoce del paziente in acuzie per riacquisire la capacità di cambiare posizione, stare seduto, stare in piedi e camminare. Dopo il recupero della stazione eretta e la concessione del carico (se non espressamente controindicato), il percorso riabilitativo prosegue senza interruzioni in post-acuzie nel *setting* riabilitativo più adeguato alle condizioni del paziente, in genere scelto tra riabilitazione intensiva, riabilitazione estensiva/lungodegenza riabilitativa e riabilitazione ambulatoriale o domiciliare. A prescindere dal tipo di percorso che si seguirà al termine del ricovero nel reparto di Ortopedia, il primo passo nel recupero della funzione del paziente anziano è comunque costituito dalla sua mobilizzazione precoce, che è segno di qualità dell'assistenza, in quanto potenzialmente in grado di ridurre la durata del ricovero, ovvero le complicanze legate al prolungato allettamento, quali delirium, ulcere da pressione e TVP (vedi Tabella 6 nell'Allegato 1 “Il modello ortogeriatrico”) e favorire il ritorno del paziente al suo ambiente di vita normale. Sebbene tale prassi rappresenti per la struttura sanitaria un obiettivo da perseguire, non sono ancora noti tempi, modi, intensità e componenti del programma di riabilitazione ideali per il ripristino della funzione.

### Quesito clinico

Nei pazienti operati per frattura del femore prossimale qual è l'efficacia clinica della mobilizzazione precoce (entro 48 ore dall'intervento) rispetto a quella tardiva?

### Quesito clinico

Nei pazienti operati per frattura del femore qual è l'efficacia clinica di programmi intensivi di fisioterapia rispetto alla fisioterapia non intensiva?

### QC9. MOBILIZZAZIONE E RIABILITAZIONE PRECOCE POSTOPERATORIA

#### Premessa

Il recupero della mobilità dopo un intervento per frattura del femore prossimale è finalizzato a ripristinare il miglior livello funzionale possibile, con performance per quanto possibile analoghe a

- **Si raccomanda, ove possibile, una valutazione multidisciplinare precoce del paziente per il suo inquadramento globale.**
- **Si raccomanda la valutazione da parte di un fisiatra (o di un ortopedico, ove non disponibile) del paziente e la mobilizzazione precoce da parte di un fisioterapista, a meno di controindicazioni mediche o chirurgiche.**
- **Si raccomanda di agire sul paziente con l'obiettivo di consentire il carico completo nell'immediato periodo post-operatorio (salvo controindicazioni).**
- **Si raccomanda almeno una seduta di mobilizzazione al giorno da parte di un fisioterapista.**

Linee  
FRATTURE  
NECROS

2021

In colla

AIFI -

AITOC

AO Tra

CIO -

FFN -

FNOPI

GIOG

GISOOS - Gruppo Italiano di Studio in Ortopedia dell'Osteoporosi Severa

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Aging Clinical and Experimental Research (2021) 33:2405–2443

<https://doi.org/10.1007/s40520-021-01898-9>

CONSENSUS DOCUMENT



## Orthogeriatric co-management for the care of older subjects with hip fracture: recommendations from an Italian intersociety consensus

Antonio De Vincentis<sup>1</sup> · Astrid Ursula Behr<sup>2</sup> · Giuseppe Bellelli<sup>3,4</sup> · Marco Bravi<sup>5</sup> · Anna Castaldo<sup>6</sup> · Lucia Galluzzo<sup>7</sup> · Giovanni Iolascon<sup>8</sup> · Stefania Maggi<sup>9</sup> · Emilio Martini<sup>10</sup> · Alberto Momoli<sup>11</sup> · Graziano Onder<sup>7</sup> · Marco Paoletta<sup>8</sup> · Luca Pietrogrande<sup>12</sup> · Mauro Roselli<sup>13</sup> · Mauro Ruggeri<sup>14</sup> · Carmelinda Ruggiero<sup>15</sup> · Fabio Santacaterina<sup>5</sup> · Luigi Tritapepe<sup>16</sup> · Amedeo Zurlo<sup>17</sup> · Raffaele Antonelli Incalzi<sup>1</sup> · on behalf of Società Italiana Geriatria e Gerontologia (SIGG), · Associazione Italiana di Psicogeriatria (AIP), · Società Italiana di Geriatria Ospedale e Territorio (SIGOT), · Società Italiana di Medicina Generale (SIMG), · Società Italiana di Anestesia Analgesia Rianimazione e Terapia Intensiva (SIAARTI), · Società Italiana di Ortopedia e Traumatologia (SIOT), · Fragility Fracture Network-Italia (FFN-I), · Società Italiana di Medicina Fisica e Riabilitativa (SIMFER), · Società Italiana di Fisioterapia (SIF), · Consiglio Nazionale delle Ricerche (CNR), · Associazione Italiana di Fisioterapia (AIFI), · Istituto Superiore Sanità (ISS)





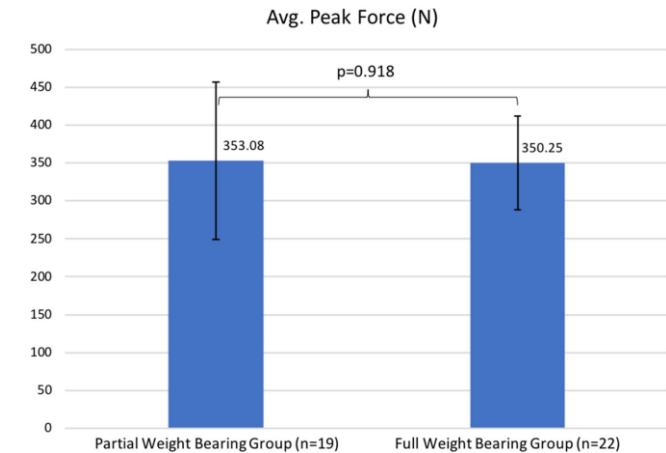
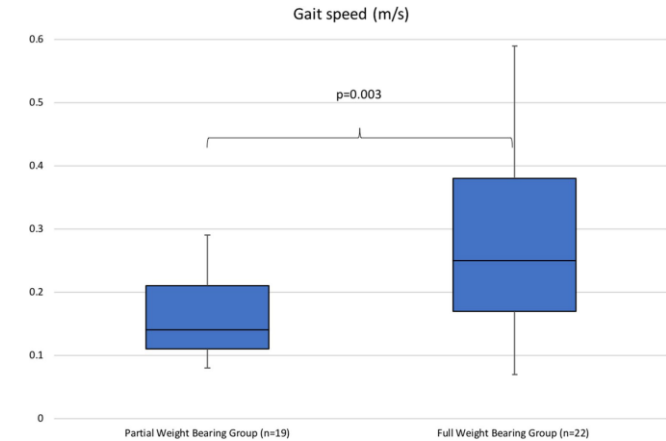
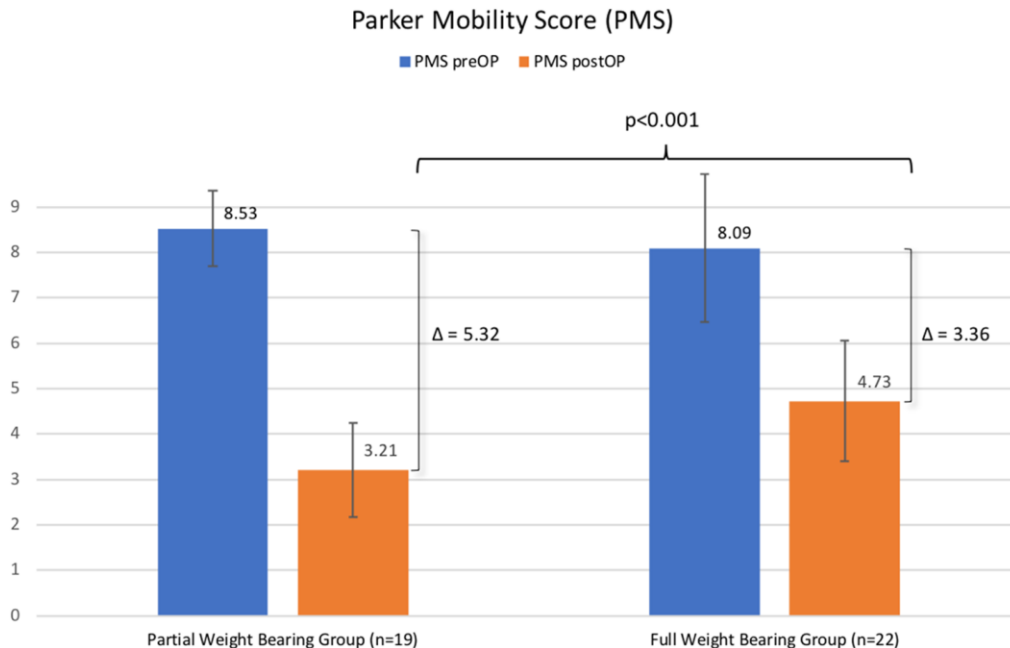
# Physiatriac and physiotherapy evaluation, individual rehabilitation project (IRP), and early mobilization

- Early mobilization and physical rehabilitation, starting the same day or the day after surgery, of patients with HF promote:
  - shorter hospital stay
  - lower rates of complications
  - better post-discharge physical function
  - lower mortality



# carico parziale si/no

- 19 paz. fratt. laterale carico parziale
- 22 paz. fratt. laterale carico completo
- gait analysis 5° giornata

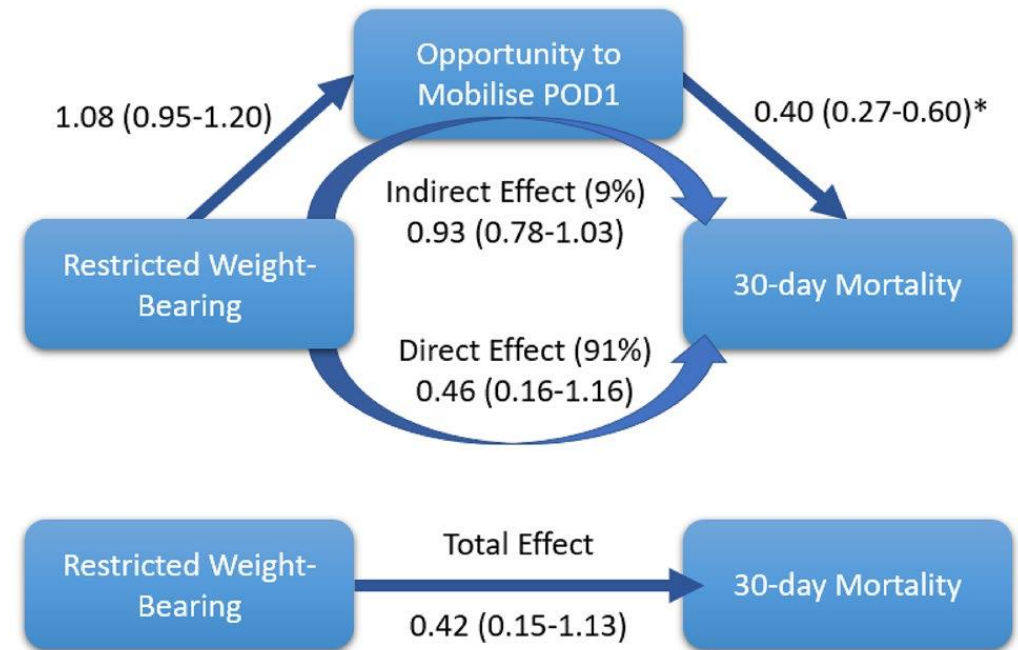
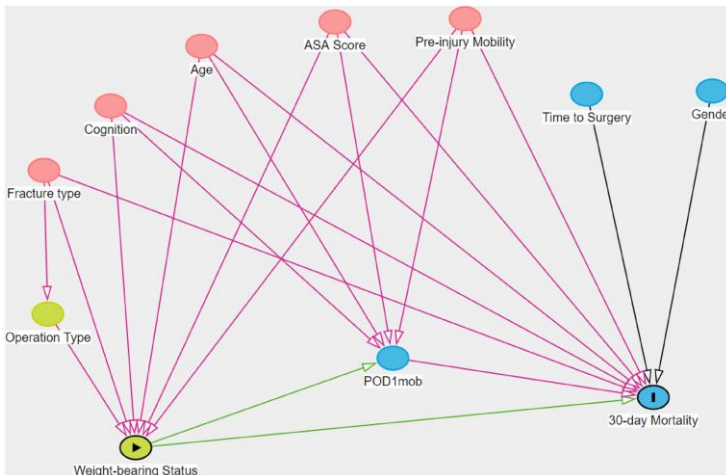




## carico parziale si/no

- prospettico 4 anni 1514 paz.
- mortalità a 30 gg:
  - non influenzata da carico parziale
  - meglio se mobilitazione primo giorno

*SM Tarrant - European Journal of Trauma and Emergency Surgery (2022)*







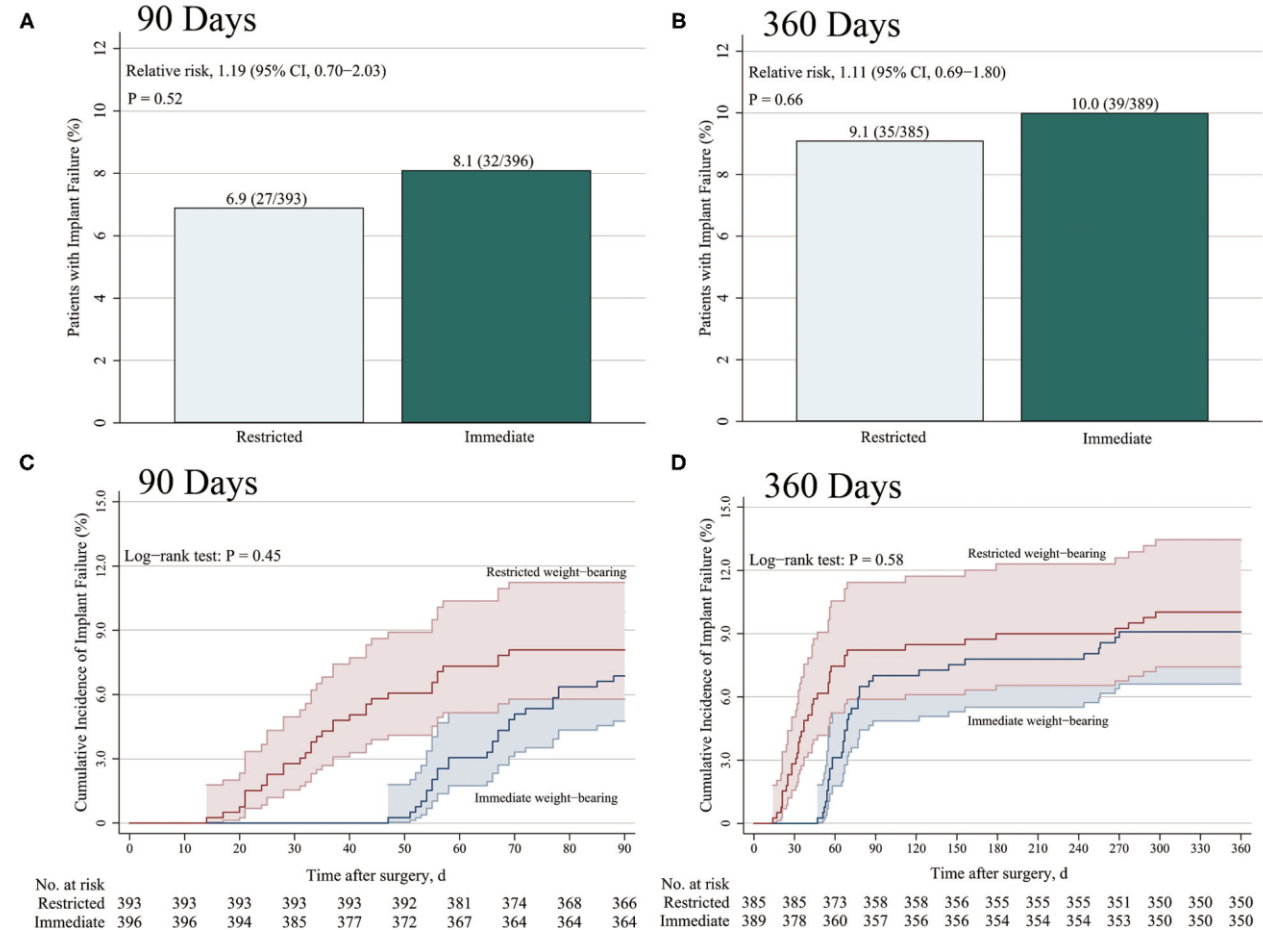
## carico in prima giornata

- American College of Surgeons (ACS) National Surgical Improvement Quality Improvement Program (NSQIP)
- 5845 patients were allowed to WBAT on POD1
- più rapida dimissione se carico precoce in prima giornata
- minor mortalità a 30 gg
- minor complicazioni nel ricovero
- non dati su complicazioni a distanza su osso



# carico parziale e cedimento impianto

- coorte 995 pz. 563 carico senza restrizioni
- propensity score
- nessuna differenza significativa in complicanze defli impianti a 12 mesi
- recupero carico completo più precoce a gruppo senza restrizioni



# Factors Associated With an Immediate Weight-Bearing and Early Ambulation Program for Older Adults After Hip Fracture Repair

Antonella Barone, MD, Andrea Giusti, MD, Monica Pizzonia, MD, Monica Razzano, MD, Mauro Oliveri, MD, Ernesto Palummeri, MD, Giulio Pioli, MD, PhD



The proportion of subjects treated with an intramedullary hip screw in the 2 subgroups showed a slight but not significant difference (WB, 57%, vs NWB, 67%;  $P=.084$ ). With respect to the subjects who adhered to the IWB-EA program, those in the NWB group were significantly older, were more cognitively and functionally impaired at the time of fracture, and presented a higher score on the CIRS-SI. In addition, a higher proportion (42.7%) of subjects in the NWB group underwent surgery on a preholiday (eg, Friday or the day before a public holiday) than the WB group (23.5%;  $P<.001$ ).

**Table 2: Multivariate Analysis: Predictors of Nonadherence to the Immediate Weight-Bearing and Early Ambulation Protocol**

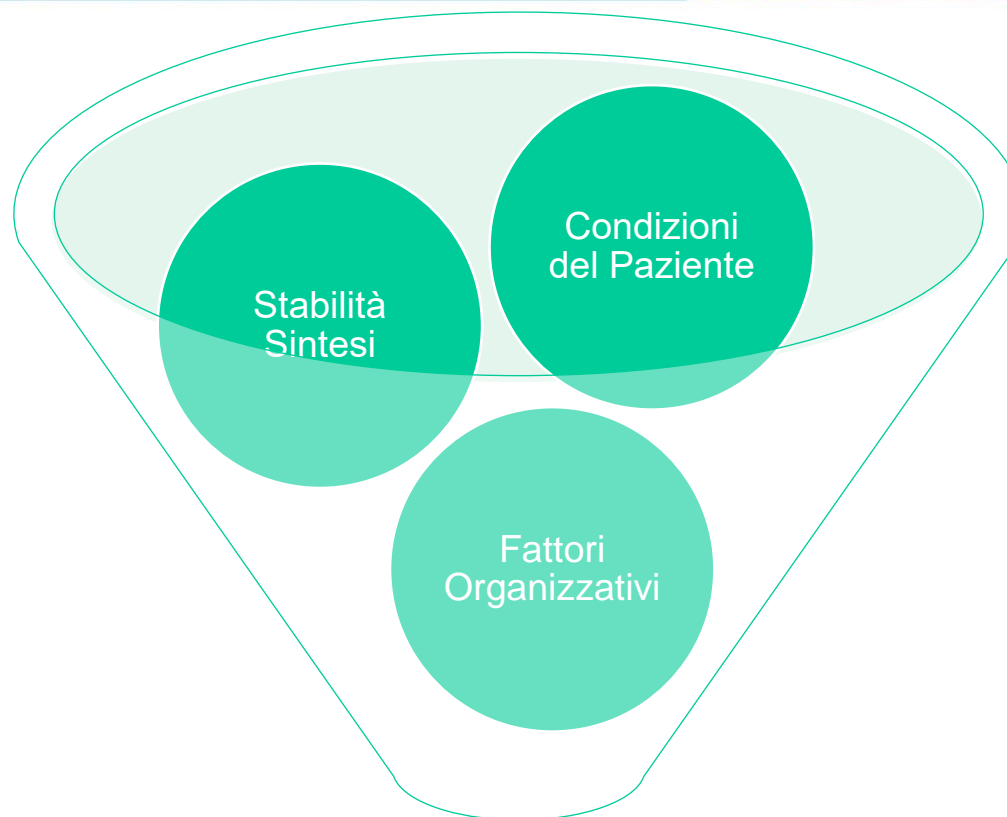
Variable	OR	95% CI	P
Age >85y	1.35	0.85–2.16	.21
Katz Index score <5	1.58	0.95–2.63	.08
CIRS-SI subscore >1.9	1.20	0.72–1.99	.50
Intramedullary hip screw treatment	1.50	0.93–2.41	.10
Preholiday surgery	2.49	1.56–3.99	<.001
Presence of cognitive impairment	1.42	0.82–2.47	.21





## fattori influenzanti il carico

- ACS-NSQIP
- totale 6404 con 1640 incapaci di caricare in prima giornata
- analisi multivariata fattori possibili:
  - stato funzionale di salute al ricovero
  - dispnea da sforzo moderato
  - necessità ventilazione
  - demenza pre intervento



**Ripresa del Carico**

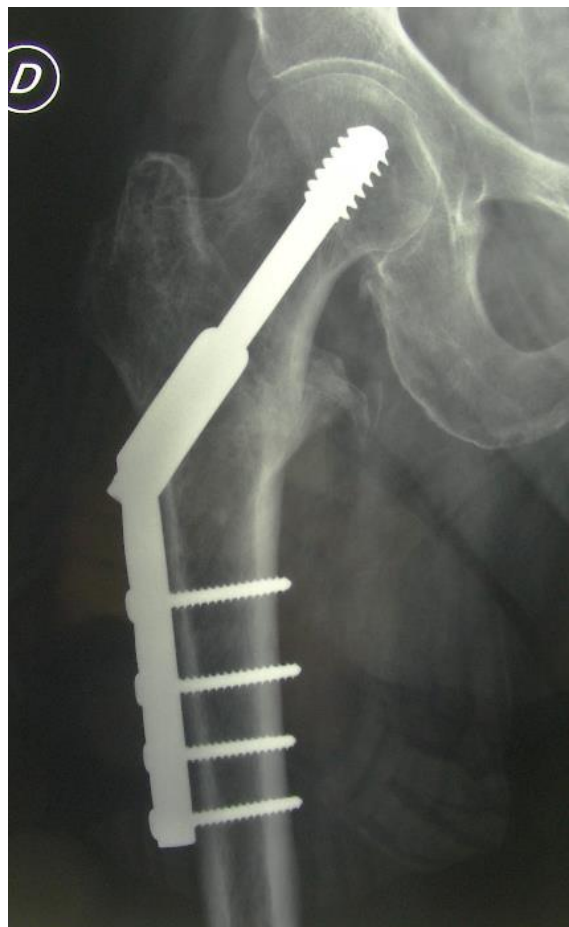








# Corretta Indicazione



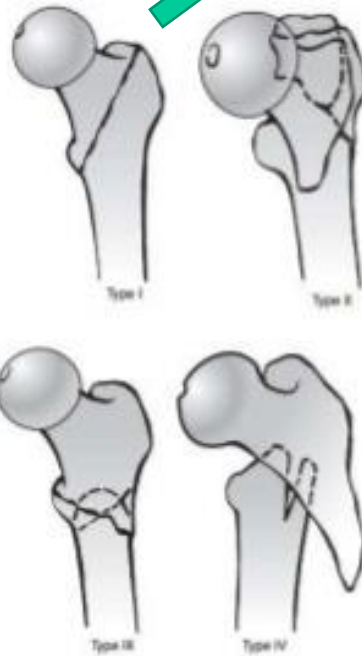




# Fratture Pertrocanteriche

## Boyd and Griffin Classification

- **Type I** – Stable two part
- **Type II** – Unstable Comminuted
- **Type III** - Unstable Reverse Oblique
- **Type IV** – Intertrochanteric – sub trochanteric with two planes of fracture

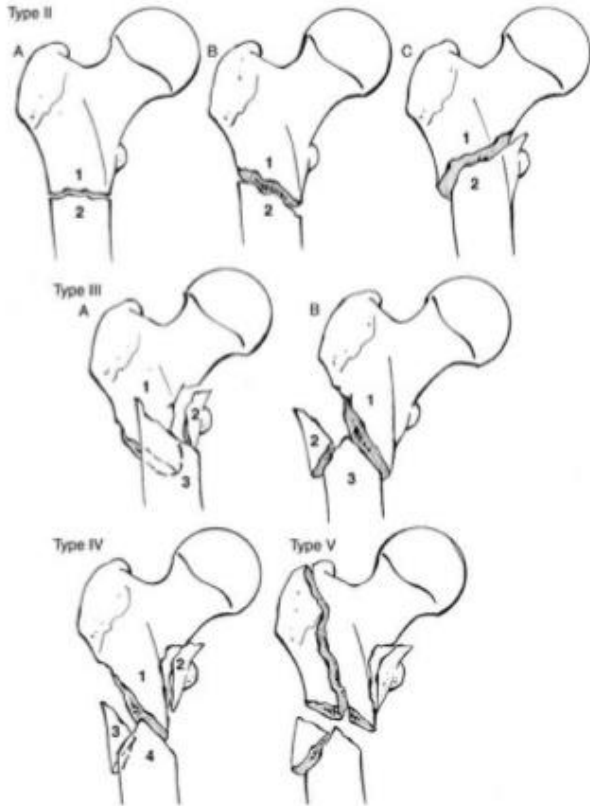






# Fratture Persottotrocanteriche

## Seinsheimer classification



- The Seinsheimer classification takes into account the factors affecting the stability of the fractures. It introduces the concept of the posteromedial cortical support, which has a direct effect on the stability.
- It also indicates that the more distal the primary fracture line is, the higher the incidence of complications will be.
- This classification offers guidelines for management and prognosis





## Gamma and other cephalocondylic intramedullary nails versus extramedullary implants for extracapsular hip fractures in adults (Review)

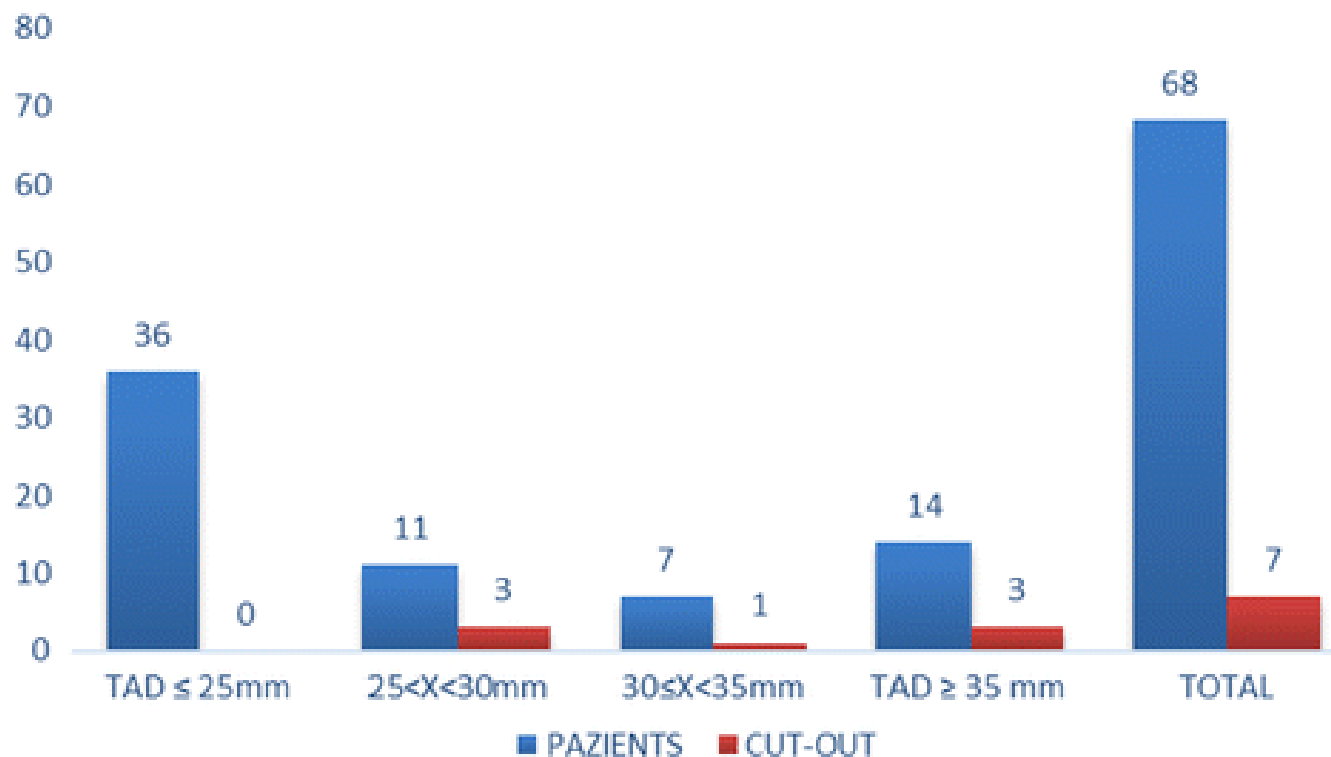
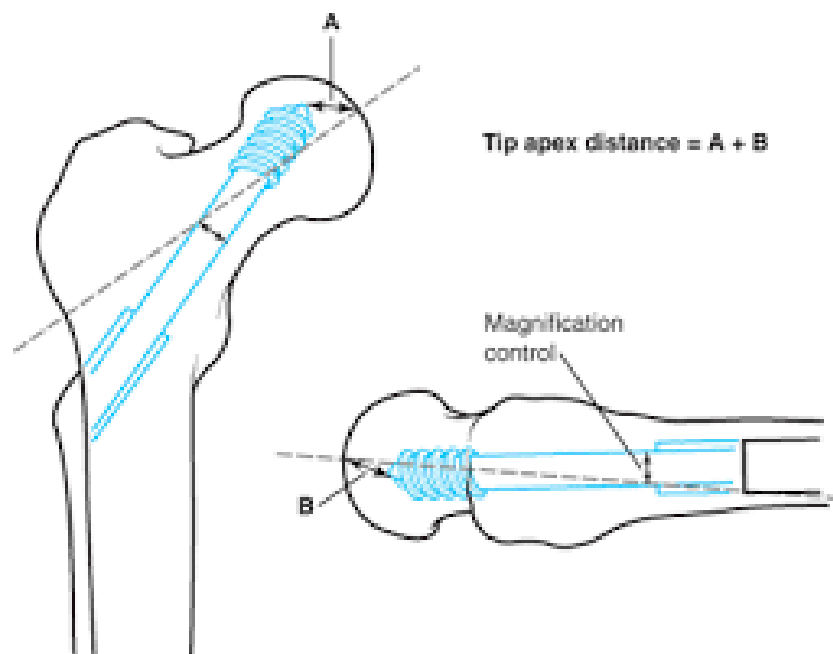
Parker MJ, Handoll HHG

The main results were for the comparisons of various types of intramedullary nails with the sliding hip screw. Twenty-two trials, involving 3749 participants, tested the Gamma nail. Five trials, involving 623 participants, tested the intramedullary hip screw (IMHS). Three trials, involving 394 participants, tested the proximal femoral nail. Other trials involved newer varieties of intramedullary nails. Most older trials showed a tendency for the nails to be associated with an increased risk of fracture of the thigh bone both during and after the operation. More recent trials testing newer varieties of nails seemed to avoid this specific problem to some extent. The review found that using intramedullary nails resulted in one extra reoperation in every 50 people. Mortality and, where data were available, other long-term outcomes were similar between the implants.

The review concluded that current evidence supports the continued use of the sliding hip screw for fixing the more common types of extracapsular hip fractures. This may not be the case for some of the more recently developed designs of intramedullary nails or for specific fracture types, but further research is required to confirm this.



# Corretta Esecuzione



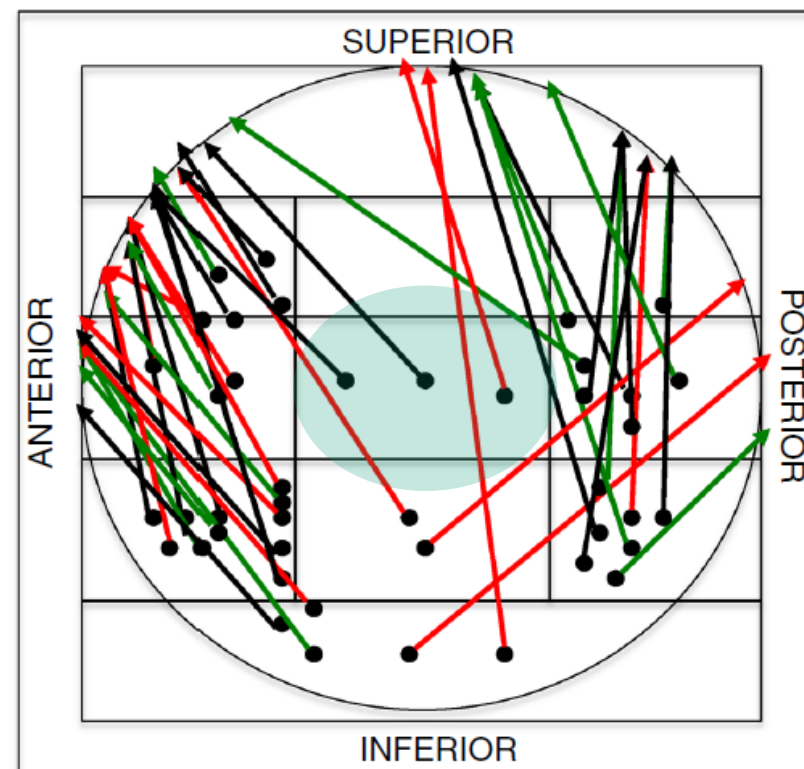


# Critical factors in cut-out complication after gamma nail treatment of proximal femoral fractures

Alicja J Bojan<sup>1\*</sup>, Claudia Beimel<sup>2</sup>, Gilbert Taglang<sup>3</sup>, David Collin<sup>1</sup>, Carl Ekholm<sup>1</sup> and Anders Jönsson<sup>1</sup>

71 Cut Out su 3066 fratture di femore (2,3%)

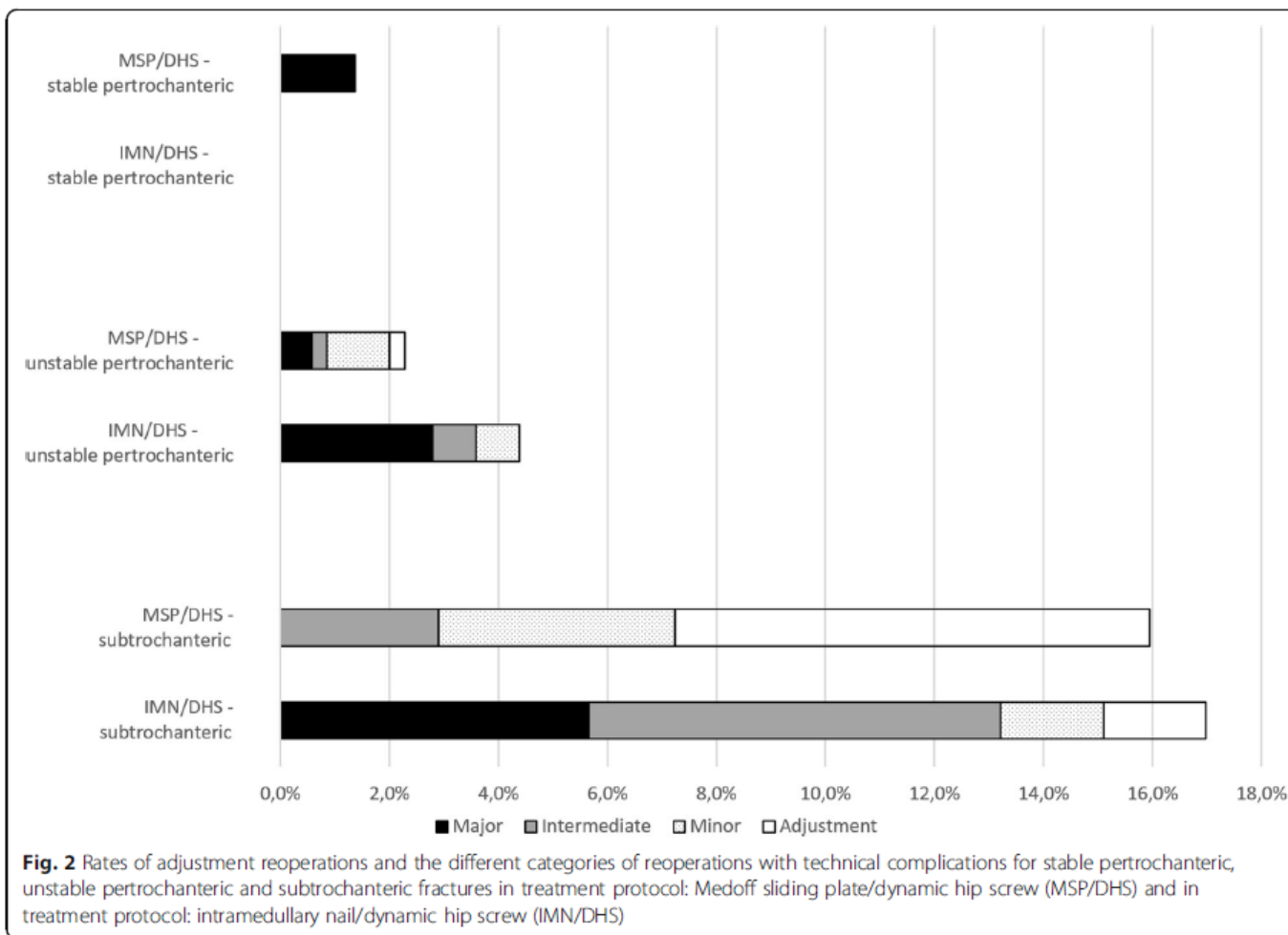
SIGG



**Figure 2 Cut-out patterns (two-dimensional interpretation).** Primary position of the lag screw in the femoral head (points in the zone template), direction of migration and approximate penetration point of the lag screw (arrows). Red arrows: 31-B2.1 (basicervical) fractures, green arrows: 31-A3.3 fractures, black arrows : other fractures; 43 cases, central cut-out has not been considered.



# Personalità della Frattura





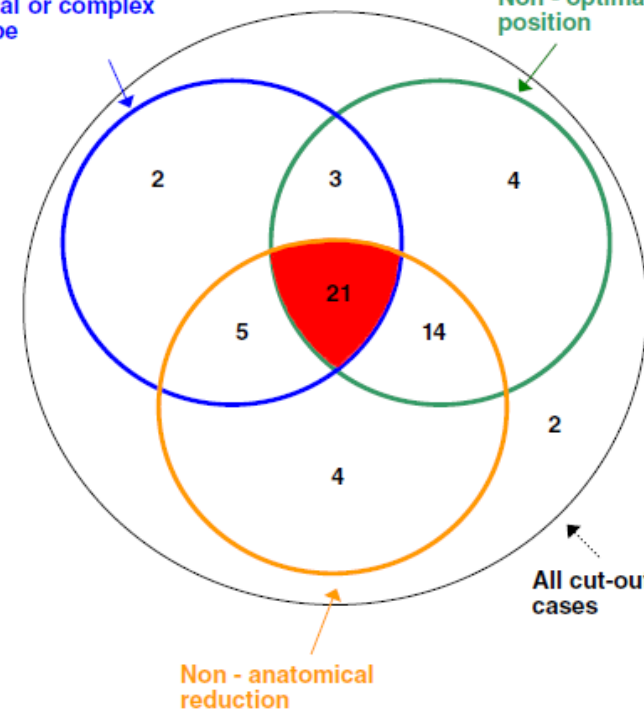
# Critical factors in cut-out complication after gamma nail treatment of proximal femoral fractures

Alicja J Bojan<sup>1\*</sup>, Claudia Beigel<sup>2</sup>, Gilbert Taglang<sup>3</sup>, David Collin<sup>1</sup>, Carl Ekholm<sup>1</sup> and Anders Jönsson<sup>1</sup>

**Conclusions:** The primary cut-out rate of 1.85% was low compared with the literature. A typical cut-out complication in our study is represented by an unstable fracture involving the trochanteric and cervical regions or the combination of both, non-anatomical reduction and non-optimal screw position. Surgeons confronted with proximal femoral fractures should carefully scrutinize preoperative radiographs to assess the primary fracture geometry and fracture classification. To reduce the risk of a cut-out it is important to achieve both anatomical reduction and optimal lag screw position as these are the only two factors that can be controlled by the surgeon.

Basocervical or complex fracture type

Non - optimal screw position



**Figure 7 Venn diagram: interrelations between critical cut-out factors.** The figures represent number of cases in each category.





# Qualità dell'Osso



## INTERTROCHANTERIC FEMORAL FRACTURES

### MECHANICAL FAILURE AFTER INTERNAL FIXATION

T. R. C. DAVIS, J. L. SHER, A. HORSMAN, M. SIMPSON, B. B. PORTER, R. G. CHECKETTS

**In a prospective study we assessed the causes of mechanical failure in a series of 230 intertrochanteric femoral fractures which had been internally fixed with either a sliding hip screw or a Küntscher Y-nail.**

**The overall rate of mechanical failure was 16.5%; cutting-out of the implant from the femoral head was the cause in three-quarters of the instances. Implants placed posteriorly in the femoral head cut out more often (27%) than those placed centrally (7%). The cut-out rate was also determined by the quality of the fracture reduction, but age, walking ability and bone density (assessed by the Singh grade and metacarpal indices) had no significant influence.**

SIGGG



*Injury* Vol. 29, No. 1, pp. 47-53, 1998

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## Cutting-out of the lag screw after internal fixation with the Asiatic gamma nail\*

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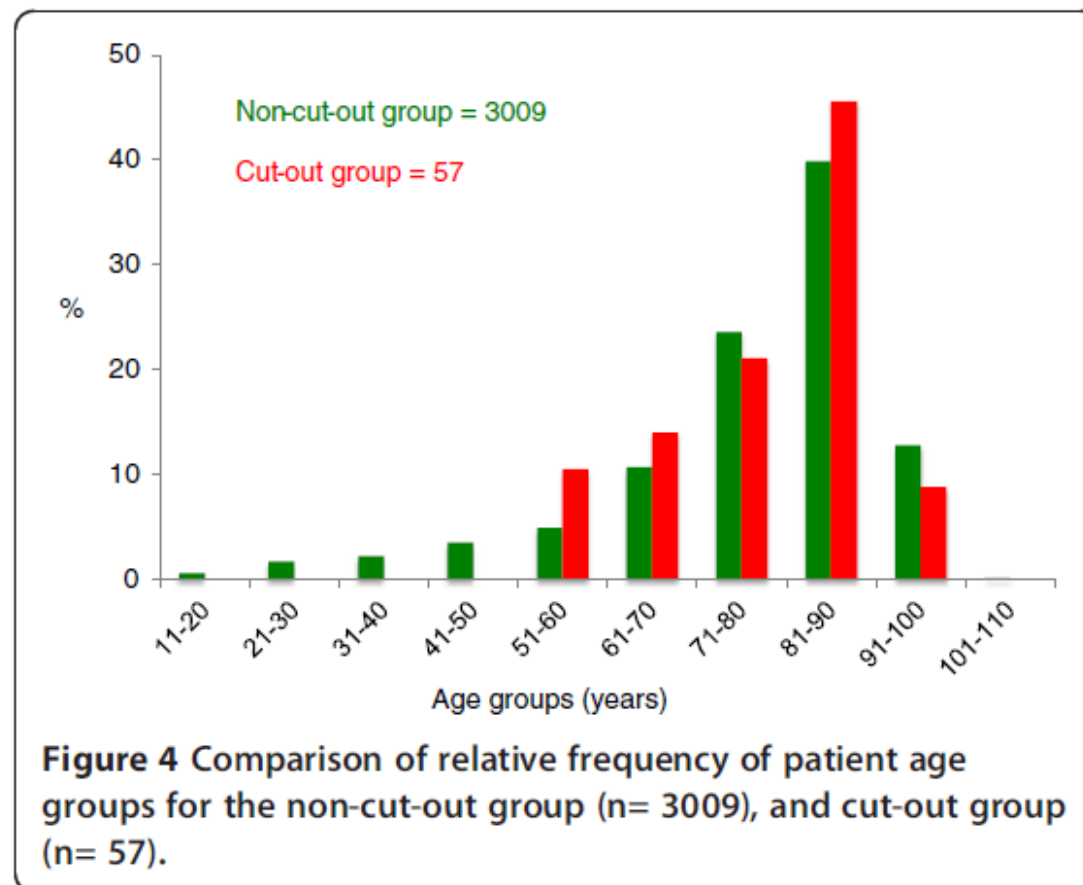
Satoshi Kawaguchi, Kazuzi Sawada and Yuki Nabeta  
Nikko Memorial Hospital, Muroran, Japan

Analysis of each value of the Singh grade between six fractures with cutting-out and the remaining 54 fractures also failed to show a significant difference.



# Critical factors in cut-out complication after gamma nail treatment of proximal femoral fractures

Alicja J Bojan<sup>1\*</sup>, Claudia Beimeel<sup>2</sup>, Gilbert Taglang<sup>3</sup>, David Collin<sup>1</sup>, Carl Ekholm<sup>1</sup> and Anders Jönsson<sup>1</sup>





# Internal fixation for displaced fractures of the femoral neck

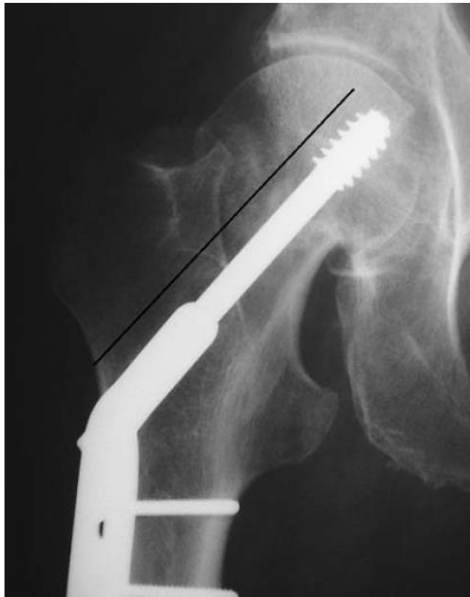
DOES BONE DENSITY AFFECT CLINICAL OUTCOME?



M. J. Heetveld,  
E. L. F. B.  
Raaymakers,  
B. L. van Eck-Smit,  
A. D. P. van Walsum,  
J. S. K. Luitse

*From the Academic  
Medical Centre,  
Amsterdam, The  
Netherlands*

We performed a prospective, multicentre study of 111 active patients over 60 years of age with a displaced fracture of the femoral neck which was eligible for internal fixation.




Revision to arthroplasty was performed in 41% of osteopenic and 42% of osteoporotic patients ( $p = 0.87$ ).

Our findings show that the clinical outcome of internal fixation for displaced fractures of the femoral neck does not depend on bone density



## Year to year comparison of 2000–2015 in hip fracture management: same survival rate despite older and more fragile patients

Carlo Trevisan<sup>1,2</sup> · Gianluca Gallinari<sup>1</sup> · Raymond Klumpp<sup>2</sup> · Alessandra Menon<sup>3,4</sup> · Riccardo Compagnoni<sup>3,4</sup> 

### Scopo dello Studio

Valutare la sopravvivenza dopo frattura prossimale di femore nell'anziano in due coorti di pazienti ricoverate nello stesso Ospedale a distanza di 15 anni alla luce delle variazioni nello stato clinico di presentazione dei pazienti e della variazioni nelle modalità di trattamento.



MILANO 2015

	2000 <i>n</i> = 90	2015 <i>n</i> = 167	<i>p</i> value
Age (mean, range)	81.7 (65–94)	83.6 (66–99)	<0.05*
Male/female	12/78	40/127	0.051**
Fracture type (medial/lateral)	46/44	64/103	0.06**
Side (right/left)	54/36	83/84	0.11**
Istituzionalized before fracture ( <i>n</i> , %)	1 (1%)	25 (15%)	<0.01**
Dementia ( <i>n</i> , %)	24 (26.7%)	41 (24.6%)	0.76**
ASA score ( <i>n</i> , %)			
2	37 (41.5%)	64 (38.3)	0.97§
3	35 (39.3)	74 (44.3)	
4	17 (19.1)	29 (17.4)	
5	1 (1.1)	0	
Age -adj CCI ( <i>n</i> , %)			
3	11 (12.3)	12 (7.2)	<0.05§
4	35 (39.3)	61 (37.0)	
5	29 (32.6)	46 (27.9)	
> 5	15 (16.8)	46 (27.9)	

\*Student's *t* test

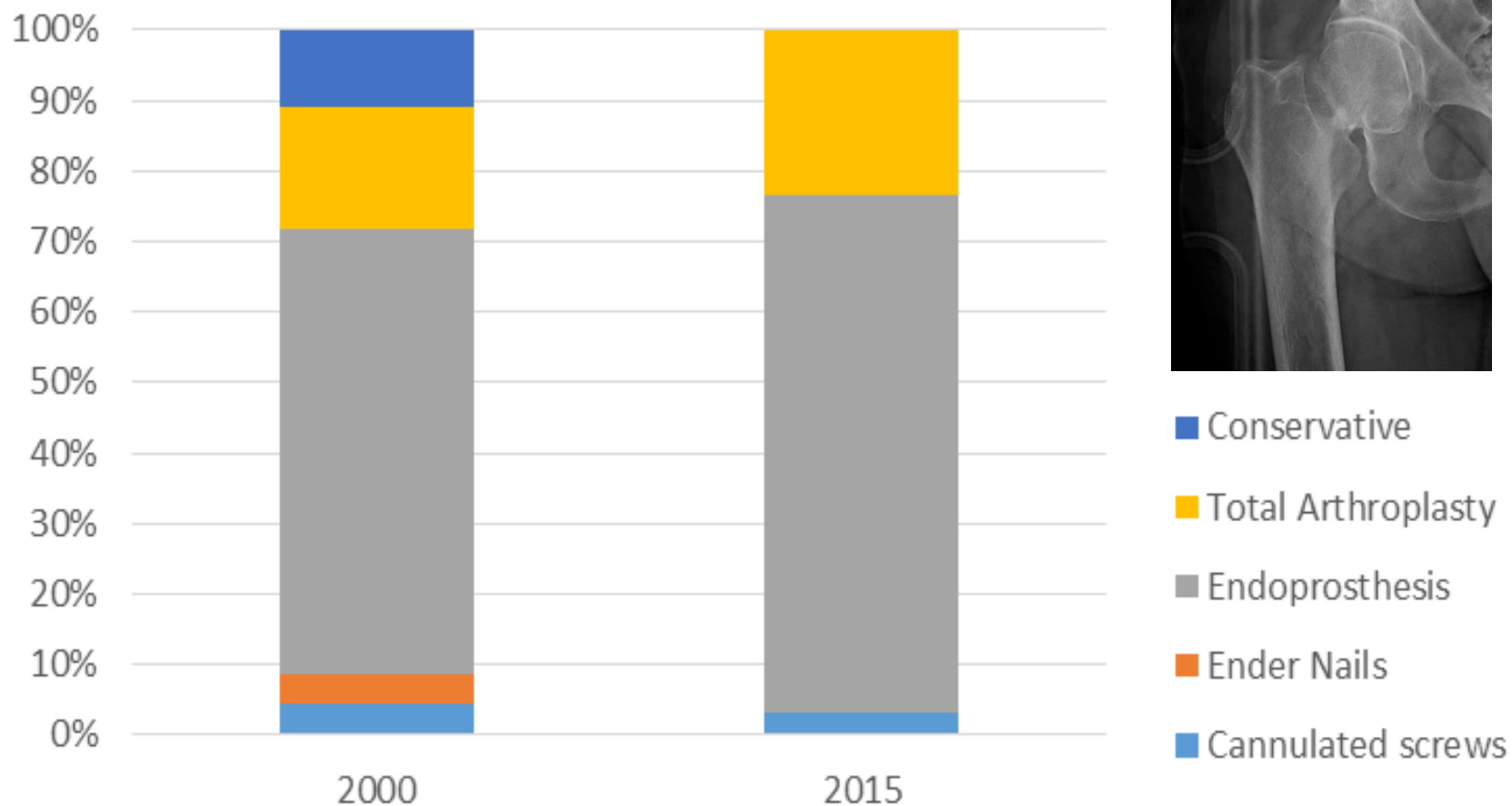
\*\*Fisher's exact test

§Mann–Whitney test





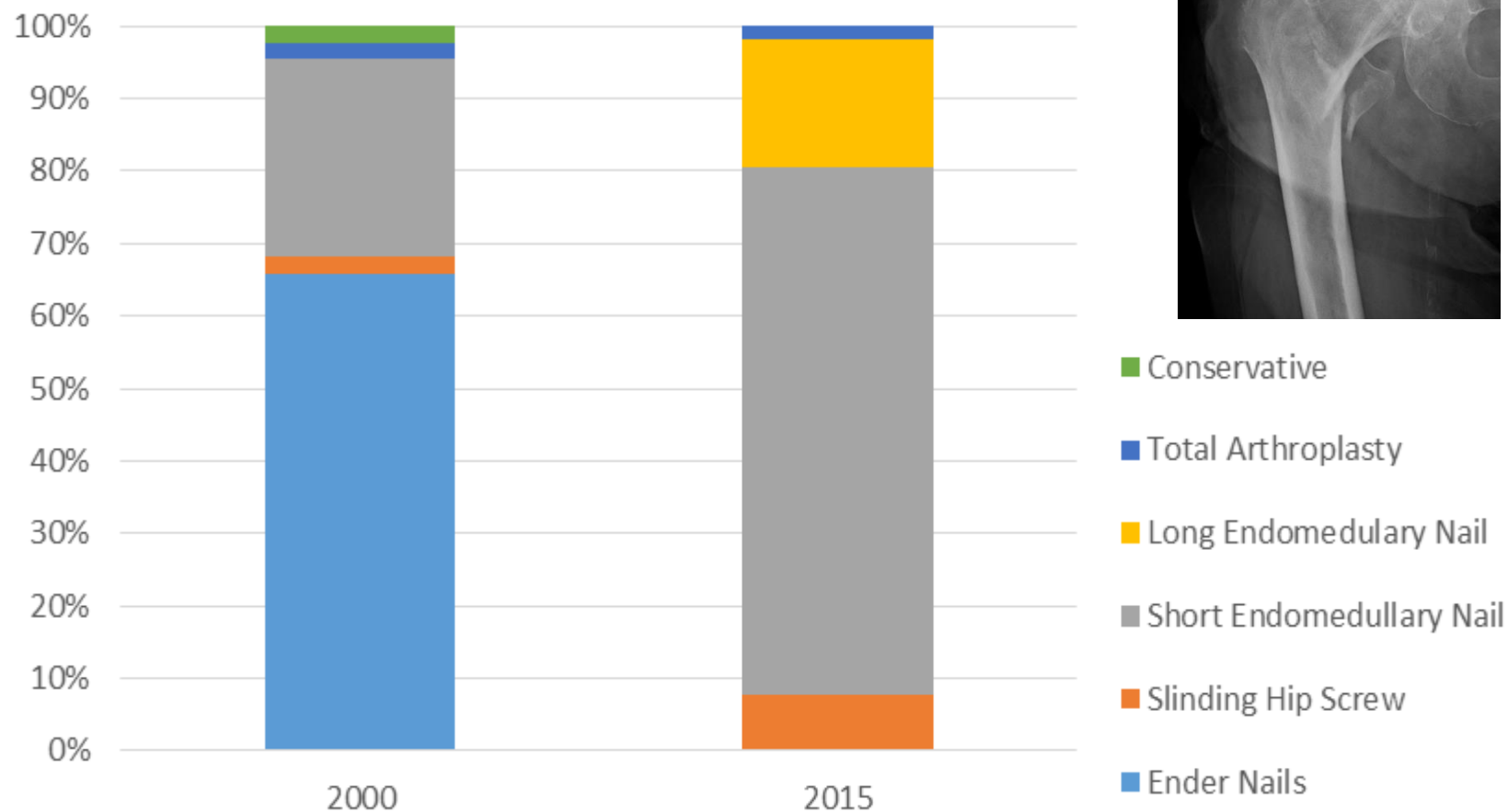
## Medial Fractures Treatment



- Conservative
- Total Arthroplasty
- Endoprosthesis
- Ender Nails
- Cannulated screws



## Lateral Fractures Treatment





## Degenza e ripresa del carico

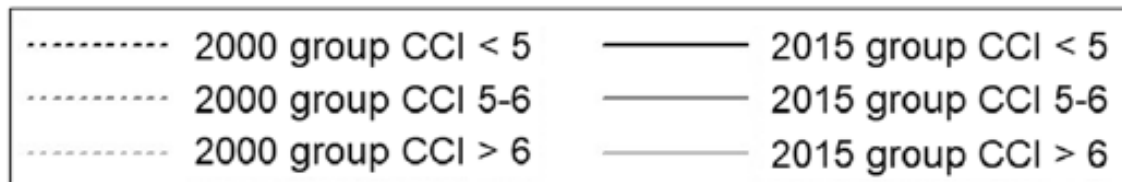
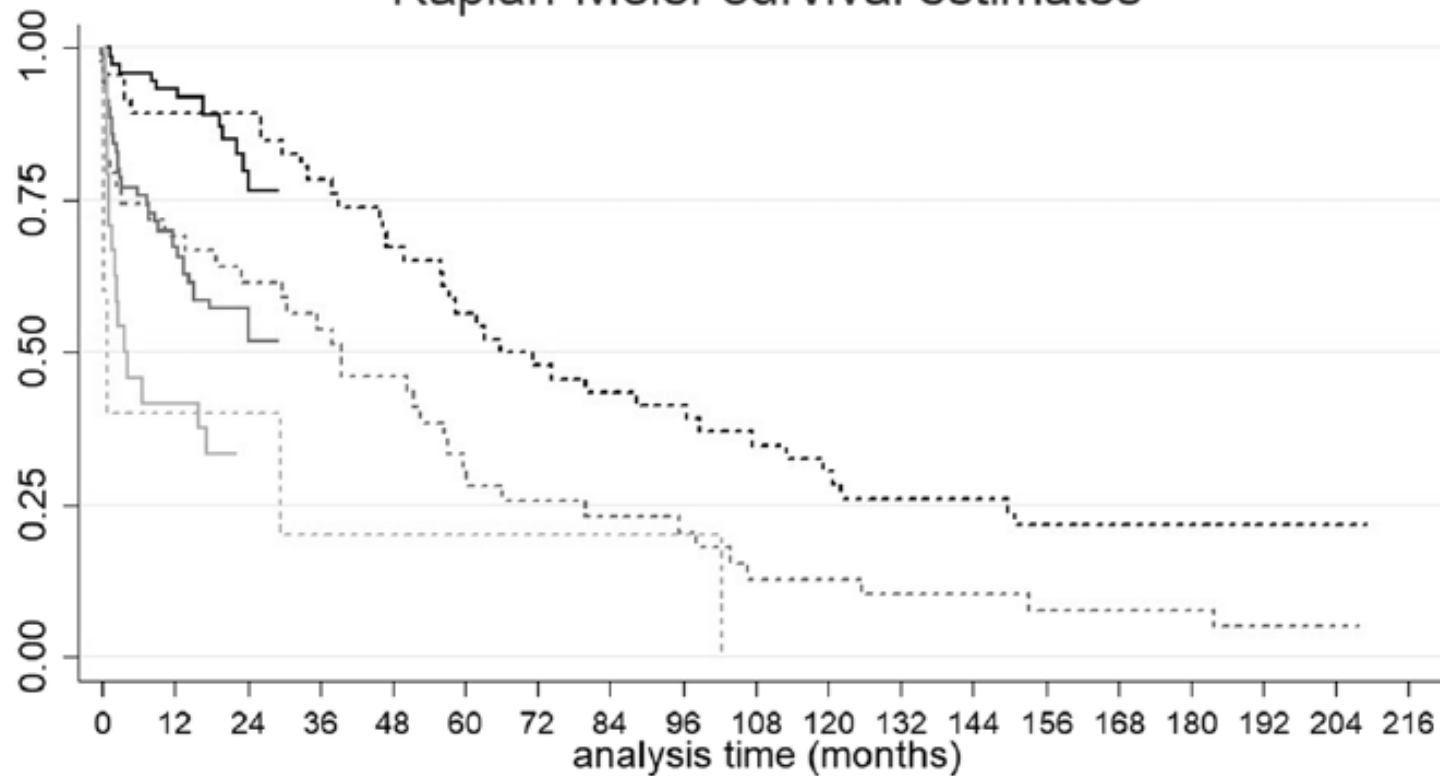
	<b>2000</b>	<b>2015</b>	
	n=90	n=167	<i>p</i>
Length of Stay (days, mean $\pm$ SD)	13.0 $\pm$ 5.5	9.8 $\pm$ 3.6	<0.01
Weightbearing after Treatment (n,%)			<0.01
prohibited	40 (51.9%)	5 (3.0%)	
partial	19 (24.7%)	21 (12.8%)	
allowed	18 (23.4%)	138 (84.1%)	
not available	13	3	

Student t-test, Pearson  $\chi^2$





## Kaplan-Meier survival estimates





## mito o realta'?

- dalla LG:
  - chiara indicazione alla mobilitazione precoce
  - non restrizione del carico
- nella pratica:
  - molte difficoltà da superare
  - preconcetti culturali
  - limitazioni organizzative
  - casi speciali?