

ACUTE MANAGEMENT AND IMMEDIATE REHABILITATION AFTER HIP FRACTURE AMONGST PEOPLE AGED 65 YEARS AND OVER

SEARCH STRATEGY

Scope

The guideline development team established the scope of the guideline in an iterative fashion over a number of meetings. The topics researched for this guideline were:

- pre-hospital care after fracture (first aid, ambulance comfort, splintage)
- temporary traction before surgery for hip fracture
- pre-operative and post-operative analgesia programmes in the elderly
- nerve blocks for pain control before and after hip fracture
- timing of surgery
- general or regional anaesthesia for hip fracture surgery
- internal fixation devices or joint arthroplasty for intracapsular hip fracture
- conservative vs. operative treatment for extracapsular hip fracture
- arthroplasty or internal fixation for extracapsular hip fracture
- fixed or dynamic (sliding) extramedullary fixation for extracapsular hip fracture
- cephalocondylic nails or extramedullary fixation for extracapsular hip fracture
- condylocephalic nails or extramedullary fixation for extracapsular hip fracture
- use of surgical wound drains
- antibiotic prophylaxis in hip fracture surgery
- unfractionated heparin (U heparin) or low molecular weight
- heparin (LMW Heparin) for prophylaxis against venous thrombo-embolism following hip fracture surgery
- anti platelet agents for prophylaxis against venous thrombo-embolism following hip fracture surgery
- graduated elastic compression (thrombo-embolism stockings) for prophylaxis for against venous thrombo-embolism following hip fracture

- surgery
- cyclical compression of the foot or calf for prophylaxis
- against venous thrombo-embolism following hip fracture surgery
- use of beds, mattresses, and cushions for preventing pressure
- sores
- oxygen therapy after hip fracture
- use of nutritional supplementation after hip fracture
- urinary tract infection/incontinence management)
- management of dementia/delirium
- establishment of a Geriatric Hip Fracture Programme (GHFP) within an acute orthopaedic unit
- early Supported Discharge Programme (ESD).

Summary

The scope of the guideline and the topics to be researched were established by consensus within the group, and a search for evidence conducted. Guidelines developed by other countries and other organisations, and relevant medical literature were reviewed. These were identified by searching the Internet, and the electronic databases The Cochrane Library, MEDLINE, EMBASE, and CINAHL, and reviewing references cited in other guidelines and identified papers. Identified references were screened for eligibility according to pre-determined criteria shown below, and the studies considered eligible were retrieved, and underwent critical appraisal using pre-determined templates. Recommendations based on the available scientific literature were constructed, and the strength of the evidence defined using the revised SIGN criteria which is described in the text of the guideline.

Eligibility and Inclusion Criteria

Types of studies

Systematic reviews and meta-analyses, descriptive reviews where no systematic review were found, randomised controlled trials (RCTs), non-randomised controlled clinical trials (CCTs), cohort studies, case-control Studies, and cross-sectional studies. For each topic, a final decision on the level of study admissibility was made following completion of the initial search, according to the algorithm below. For selected topics, qualitative studies were admissible.

Types of study participants

Older people who had sustained a proximal femoral (hip) fracture. Data specifically dealing with hip fractures in children, younger adults, or resulting from metastatic malignancy were excluded.

Types of outcomes

Length of hospital stay, incidence of main hospital complications, proportion of patients returning to previous residential and mobility status, readmission to hospital, reoperation, health –related quality of life measures.

For selected topics, qualitative data were admissible.

Search Strategy

For the original search the Cochrane Musculoskeletal Injuries Group's trial search strategy was run and the citations of that subset of papers relating to hip fractures and falling were screened. The Group's trial search strategy contains the three stage optimal trial search strategy described by Clarke⁶⁰ which was combined with what will be referred to as the hip fracture stem:

1. exp Hip Fractures/
2. ((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$).tw.
3. (1 or 2)

Further topic specific searches were carried out either by combining the topic specific searches with the three major search strategies below, or combining the hip fracture search stem above with detailed topic specific searches.

MEDLINE (OVID WEB)

1. randomized controlled trial.pt.
2. controlled clinical trial.pt.
3. Random Allocation/
4. Double Blind Method/
5. Single Blind Method/
6. exp Cross-Over Studies/
7. or/1-6
8. (((clinical or controlled or comparative or placebo or prospective\$ or randomi#ed) adj3 (trial or study))).tw.
9. (random\$ adj7 (allocat\$ or allot\$ or assign\$ or basis\$ or divid\$ or order\$)).tw.
10. (((singl\$ or doubl\$ or trebl\$ or tripl\$) adj7 (blind\$ or mask\$))).tw.
11. (cross?over\$ or (cross adj1 over\$)).tw.
12. (((allocat\$ or allot\$ or assign\$ or divid\$) adj3 (condition\$ or experiment\$ or intervention\$ or treatment\$ or therap\$ or control\$ or group\$))).tw.
13. or/8-12
14. or/7,13
15. exp Hip Fractures/
16. (((hip\$ or ((femur\$ or femoral\$) adj3 neck))) adj4 fracture\$).tw.
17. or/15-16
18. Accidental Falls/
19. (falls or faller\$1).tw.
20. or/18-19
21. exp Aged/
22. (senior\$1 or elderly or older).tw.
23. or/21-22
24. and/20,23
25. or/17,24
26. limit 25 to human
27. and/14,26

EMBASE (OVID WEB)

1. exp Randomized Controlled trial/
2. exp Double Blind Procedure/
3. exp Single Blind Procedure/
4. exp Crossover Procedure/
5. Controlled Study/
6. 6or/1-5
7. [((clinical or controlled or comparative or placebo or prospective\$ or randomi#ed) adj3 (trial or study))].tw.
8. [(random\$ adj7 (allocat\$ or allot\$ or assign\$ or basis\$ or divid\$ or order\$))].tw.
9. [((singl\$ or doubl\$ or trebl\$ or tripl\$) adj7 (blind\$ or mask\$))].tw.
10. [(cross?over\$ or (cross adj1 over\$))].tw.
11. [((allocat\$ or allot\$ or assign\$ or divid\$) adj3 (condition\$ or experiment\$ or intervention\$ or treatment\$ or therap\$ or control\$ or group\$))].tw.
12. or/7-11
13. or/6,12
14. exp Hip Fracture/
15. Falling/
16. [((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$)].tw.
17. or/14-16
18. and/13,17
19. limit 18 to human

CINAHL (OVID WEB)

1. exp Clinical Trials/
2. exp Evaluation Research/
3. exp Comparative Studies/
4. exp Crossover Design/
5. clinical trial.pt.
6. or/1-5
7. ((clinical or controlled or comparative or placebo or prospective or randomi#ed) adj3 (trial or study)).tw.
8. (random\$ adj7 (allocat\$ or allot\$ or assign\$ or basis\$ or divid\$ or order\$)).tw.
9. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj7 (blind\$ or mask\$)).tw.
10. (cross?over\$ or (cross adj1 over\$)).tw.
11. ((allocat\$ or allot\$ or assign\$ or divid\$) adj3 (condition\$ or experiment\$ or intervention\$ or treatment\$ or therap\$ or control\$ or group\$)).tw.
12. or/7-11
13. or/6,12
14. exp Hip Fractures/
15. ((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$).tw.
16. or/14-17
17. Accidental Falls/
18. (falls or faller\$1).tw.

19. or/17-18
20. exp Aged/
21. (senior\$1 or elderly or older).tw.
22. or/20-21
23. and/19,22
24. or/16,23
25. limit 24 to human
26. and/13,25

Additional searches were run using the following terms in MEDLINE (OVID WEB) combined with topic specific searches:

1. exp Hip Fractures/
2. ((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$).tw.
3. (1 or 2)
 - eg. to identify reviews
 1. meta.ab.
 2. synthesis.ab.
 3. literature.ab.
 4. randomized.hw.
 5. published.ab.
 6. meta-analysis.pt.
 7. extraction.ab.
 8. trials.hw.
 9. controlled.hw.
 10. medline.ab.
 11. selection.ab.
 12. sources.ab.
 13. trials.ab.
 14. review.ab.
 15. review.pt.
 16. articles.ab.
 17. reviewed.ab.
 18. english.ab.
 19. language.ab.
 20. comment.pt.
 21. letter.pt.
 22. editorial.pt.
 23. animal/
 24. human/
 25. 23 not (23 and 24)
 26. ((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$).tw.
 27. exp Hip Fractures/
 28. or/26-27
 29. 28 not (20 or 21 or 22 or 25)

30.or/1-19

31.29 and 30

For delirium, the search in MEDLINE was:

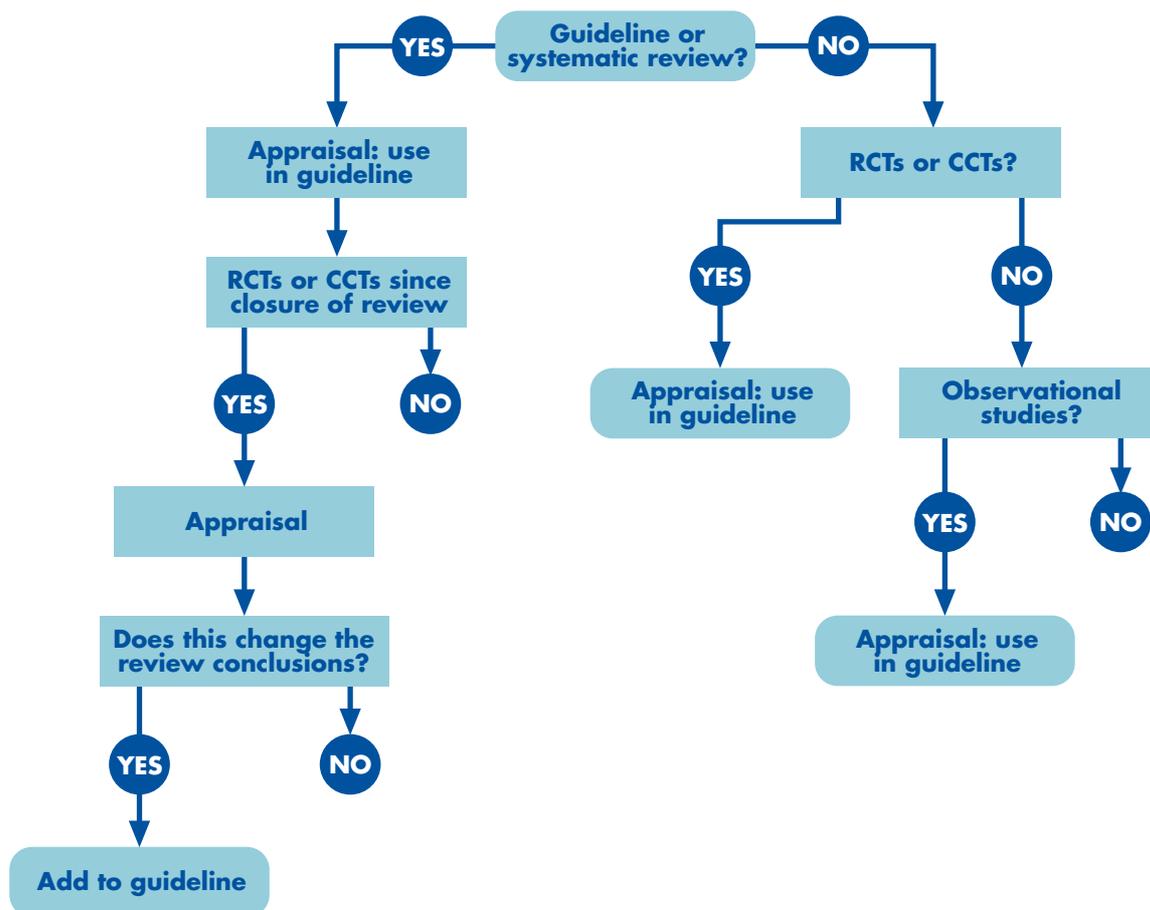
1. exp Hip Fractures/(12821)
2. ((hip\$ or ((femur\$ or femoral\$) adj3 neck)) adj4 fracture\$.tw.
3. (14284)
or/1-2 (19142)
4. (dementia or deliri\$ or ((mental or cognitive) adj deterioration)).tw.
(58748)
plus all 3 levels of the Optimal trial search strategy.

Searches were modified to run in PREMEDLINE, EMBASE, Current contents, CINAHL, and psycINFO. Closure of the search was March 2001, with the exception of the inclusion of reference to the updated version of the SIGN guideline.

Overview of evidence search and appraisal strategy for each question

Retrieved studies were obtained and their content reviewed for relevance to the various topics of the review.

Each topic was assigned to two members of the group who read the retrieved reports, agreed on what would be included in the guideline, and appraised the included material. We used the pathway below to filter the included material.



This search strategy relates to *Acute Management and Immediate Rehabilitation After Hip Fracture Amongst People Aged 65 Years and Over* guideline.

An electronic copy of the full guideline is available for download from the New Zealand Guidelines Group website, www.nzgg.org.nz or a printed copy is available from info@nzgg.org.nz, or Box 10-665, Wellington, New Zealand.