

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

This guideline provides an evidence-based summary of the acute management and rehabilitation of older people after they have sustained a hip fracture.

The consequences of hip fractures in older people create a significant and increasing burden of illness in the community, and can precipitate a dramatic decline in physical function. Twenty percent of older people who sustain a hip fracture die within a year. Two years after the fracture, survivors are more than four times more likely to have limited mobility than people of similar age without a fracture, and more than twice as likely to be functionally dependent.

Evidence shows that the early treatment of older people with hip fracture is effective. The guideline team has thoroughly researched the evidence and makes recommendations in the following areas:

- pre-hospital care
- emergency department care
- ward care
- surgical management
- immediate rehabilitation.

A second guideline has been developed for *Prevention of Hip Fracture Amongst People Aged 65 Years and Over* and is available from the New Zealand Guideline Group's website ([www.nzgg.org.nz](http://www.nzgg.org.nz)).

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# RECOMMENDATIONS FOR HIP FRACTURE MANAGEMENT

## PRE-HOSPITAL CARE

### Pre-hospital Care

- In isolated areas, fluid replacement and catheterisation prior to transport to hospital may be indicated.

## EMERGENCY DEPARTMENT CARE

### Emergency Department Management

- Hospitals treating hip fracture should have formal 'fast track' protocols for assessment and admission of people aged 65 years and over.

### Fluid Management

- After hip fracture, there is a risk of dehydration because of inability to gain access to sufficient fluids. Careful fluid management is required, as there is also risk of fluid overload when fluid replacement is given intravenously.

### Pre-operative Traction

- Routine use of temporary leg traction appears to be unnecessary.

### Pain Relief

- Use of systematic pain assessment tools helps to avoid undertreatment or overtreatment of pain.
- As frail older people tolerate narcotics poorly, multiple modalities should be considered for analgesia.
- Narcotic use must be carefully titrated and supervised.
- Paracetamol should be preferred to aspirin as their effects are similar milligram for milligram, but paracetamol has fewer side effects.
- Ibuprofen is an NSAID effective in post-operative pain, and appears to have lower incidence of adverse effects than other NSAIDs.
- Propoxyphene-containing compounds are not recommended in people aged 65 years and over with hip fracture.
- The use of local analgesic nerve blocks reduces the need for parenteral or oral analgesia.

### Oxygen Therapy

- Oxygen should be administered to maintain adequate tissue oxygenation, as indicated by oximetry and clinical status.

## WARD CARE

### Prophylaxis Against Venous Thromboembolism

- Adequate fluid balance and early post-operative mobilisation lower the risk of post-operative venous thromboembolism (VTE).
- Administration of either aspirin or low molecular weight heparin is associated with reduced risk of VTE, but some increase in adverse bleeding events.
- Foot or calf pumps reduce the incidence of VTE, but have some adverse skin effects and compliance problems.
- There is insufficient evidence to confirm the effectiveness of thromboembolism stockings after hip fracture.

### Antibiotic Prophylaxis

- Antibiotic prophylaxis is effective in reducing wound infection after hip fracture surgery.

### Preventing Pressure Sores

- The use of high specification foam bed mattresses and pressure relieving mattresses on operating tables reduces the incidence of pressure sores.

### Nutritional Supplementation

- Oral multinutrient feeds reduce unfavourable outcomes (death or post-operative complication) after hip fracture.

### Urinary Tract Management

- Routine catheterisation after hip fracture is not recommended.
- When urinary retention occurs, intermittent catheterisation results in quicker restoration of normal voiding than indwelling catheterisation.

### Managing Dementia/ Delirium

- Initial admission data should include a formal measure of cognitive function.
- Early involvement of a geriatric medical team in hip fracture care has been associated with a significant reduction in the incidence of post-operative delirium.
- Active re-orientation by provision of clock, calendar, radio, television and telephone does not appear to reduce post-operative cognitive deterioration.
- Continuity in nursing care may reduce post-operative cognitive deterioration.

## GUIDELINE DEVELOPMENT TEAM

This guideline was developed by William Gillespie (Convenor), John Campbell, Melinda Gardner, Lesley Gillespie, Jan Jackson, Clare Robertson, Jean-Claude Theis and Raymond Jones. The consultation group included Marion Robinson, Heather Thomson and Jim Reid.

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An electronic copy of the full guideline is available for download from [www.nzgg.org.nz](http://www.nzgg.org.nz) or a printed copy is available from [info@nzgg.org.nz](mailto:info@nzgg.org.nz), phone 64-4-471 4180 or Box 10-665, Wellington, New Zealand.

## SURGICAL MANAGEMENT

### Delay Before Surgery

- Early operation (within 24 hours) for people aged 65 years and over with hip fracture is associated with shorter hospital stay and decrease mortality/morbidity.

### Anaesthesia

- Regional anaesthesia for hip fracture surgery is associated with a lower rate of deep venous thrombosis than general anaesthesia, but no significant differences in mortality or other measures of morbidity.

### Surgical Management of Undisplaced Intracapsular Fractures

- Screws appear to provide better fixation and fracture healing than unthreaded pins.

### Surgical Management of Displaced Intracapsular Fractures

- Arthroplasty is associated with a lower re-operation rate than internal fixation.
- In arthroplasty after hip fracture, the use of bone cement may be associated with less late pain in the limb.
- Unipolar hemi-arthroplasty appears as effective as bipolar hemi-arthroplasty, and is less expensive.
- There is insufficient evidence to identify whether the use of total hip replacement is superior to the use of hemi-arthroplasty in displaced fracture of the femoral neck.

### Surgical Management of Extracapsular Fractures

- Fixation with a sliding hip screw gives superior results to fixed nail plate devices, or intramedullary devices.

### Surgical (Suction) Wound Drains

- The usefulness of surgical suction wound drains after hip fracture surgery is unproven.

### Post-operative Mobilisation

- People with hip fracture should be mobilised, weight bearing with support as tolerated, as soon as possible after surgery.

## IMMEDIATE REHABILITATION

### Early Rehabilitation

- Hospitals providing treatment for people aged 65 years and over with hip fracture should provide formal hip fracture programmes which include early multidisciplinary assessment by a geriatric team.
- Early Supported Discharge Programmes reduce mean hospital stay, and are associated with a higher rate of effective return to previous residential status.