

# Hip Fracture Care Clinical Care Standard

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**HEALTH QUALITY & SAFETY  
COMMISSION NEW ZEALAND**  
*Kupu Taurangi Hauora o Aotearoa*

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### Disclaimer

The Australian Commission on Safety and Quality in Health Care has produced this Clinical Care Standard to support the delivery of appropriate care for a defined condition. The Clinical Care Standard is based on the best evidence available at the time of development. Healthcare professionals are advised to use clinical discretion and consideration of the circumstances of the individual patient, in consultation with the patient and their carer or guardian when applying information contained within the Clinical Care Standard. Consumers should use the information in the Clinical Care Standard as a guide to inform discussions with their healthcare professional about the applicability of the Clinical Care Standard to their individual condition.

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## Hip Fracture Care Clinical Care Standard



- 1** A patient presenting to hospital with a suspected hip fracture receives care guided by timely assessment and management of medical conditions, including diagnostic imaging, pain assessment and cognitive assessment.



- 2** A patient with a hip fracture is assessed for pain at the time of presentation and regularly throughout their hospital stay, and receives pain management including the use of multimodal analgesia, if clinically appropriate.



- 3** A patient with a hip fracture is offered treatment based on an orthogeriatric model of care as defined in the *Australian and New Zealand Guideline for Hip Fracture Care*.<sup>1</sup>



- 4** A patient presenting to hospital with a hip fracture, or sustaining a hip fracture while in hospital, receives surgery within 48 hours, if no clinical contraindication exists and the patient prefers surgery.



- 5** A patient with a hip fracture is offered mobilisation without restrictions on weight-bearing the day after surgery and at least once a day thereafter, depending on the patient's clinical condition and agreed goals of care.



- 6** Before a patient with a hip fracture leaves hospital, they are offered a falls and bone health assessment, and a management plan based on this assessment, to reduce the risk of another fracture.



- 7** Before a patient leaves hospital, the patient and their carer are involved in the development of an individualised care plan that describes the patient's ongoing care and goals of care after they leave hospital. The plan is developed collaboratively with the patient's general practitioner. The plan identifies any changes in medicines, any new medicines, and equipment and contact details for rehabilitation services they may require. It also describes mobilisation activities, wound care and function post-injury. This plan is provided to the patient before discharge and to their general practitioner and other ongoing clinical providers within 48 hours of discharge.



# Introduction

Clinical Care Standards aim to support the delivery of appropriate clinical care, reduce unwarranted variation in care, and promote shared decision making between patients, carers and clinicians.

A Clinical Care Standard is a small number of quality statements that describe the clinical care that a patient should be offered for a specific clinical condition. It differs from a clinical practice guideline; rather than describing all the components of care for managing a clinical condition, a Clinical Care Standard addresses priority areas for quality improvement.

The Clinical Care Standard supports:

- people to know what care should be offered by their healthcare system, and to make informed treatment decisions in partnership with their clinician
- clinicians to make decisions about appropriate care
- health services to examine the performance of their organisation and make improvements in the care they provide.

This Clinical Care Standard was developed by the Australian Commission on Safety and Quality in Health Care (the Commission) in collaboration with consumers, clinicians, researchers and health organisations.<sup>a</sup> It complements existing efforts that support hip fracture care, such as the Australian and New Zealand Hip Fracture Registry, and state and territory-based initiatives.

For more information about the development of this Clinical Care Standard, visit:

[www.safetyandquality.gov.au/ccs](http://www.safetyandquality.gov.au/ccs)

## Context

A hip fracture is a break occurring at the top of the thigh bone (femur), near the pelvis. In Australia, an estimated 19 000 people over the age of 50 are hospitalised with a hip fracture each year<sup>2</sup>, an event that often signifies underlying ill health.<sup>3</sup> The majority of hip fractures occur in people aged

65 years and over<sup>3</sup>, mostly associated with a fall.<sup>4</sup> There is a higher and increasing rate of hip fracture in the Aboriginal and Torres Strait Islander peoples. Indigenous Australians are also more likely to fracture their hip at a younger age than non-Indigenous Australians.<sup>3</sup> As the Australian population continues to age, the number, and associated burden of people admitted to hospital with a hip fracture, is expected to increase.<sup>5</sup>

In New Zealand, approximately 3 500 people aged 50 and over were hospitalised with a hip fracture in 2013, with the majority being falls related. The rate of hip fracture increased significantly with age, with nearly half of hip fractures occurring in those aged 85 years or older.<sup>6</sup>

Key markers of quality of care such as time to surgery, complication rates, hospital readmission rates and length of stay can vary considerably between hospitals.<sup>7</sup> The quality of care is influenced by, among other factors, the configuration of orthopaedic and geriatric medicine services, hospital protocols and processes, and the degree to which a multidisciplinary approach to care is taken.<sup>8</sup>

The Hip Fracture Care Clinical Care Standard aims to ensure that a patient with a hip fracture receives optimal treatment from presentation to hospital through to the completion of treatment in hospital. This includes timely assessment and management of a hip fracture, timely surgery if indicated, and the early initiation of a tailored care plan aimed at restoring movement and function and minimising the risk of another fracture. Clinicians and health services can use the Clinical Care Standard to support the delivery of high-quality care.

A key reference for this Clinical Care Standard is the *Australian and New Zealand Guideline for Hip Fracture Care*.<sup>1</sup>

Central to the delivery of patient-centred care identified in this Clinical Care Standard is an integrated, systems-based approach supported by health services and networks of services.

a The evidence base for these statements is available at [www.safetyandquality.gov.au/ccs](http://www.safetyandquality.gov.au/ccs)

Key elements of this approach include:

- an understanding of the capacity and limitations of each component of the health system across metropolitan, regional and remote settings, including pre-hospital, within and across hospitals, through to community and other support services
- clear lines of communication across components of the healthcare system
- appropriate coordination so that patients receive timely access to optimal care regardless of how or where they enter the system.

## Scope

This Clinical Care Standard relates to the care that patients with a suspected hip fracture should be offered from presentation to hospital through to completion of treatment in hospital. This also includes patients who sustain a hip fracture while in hospital. The target age for the Clinical Care Standard is 50 years and over.

The care described in this Clinical Care Standard is also appropriate for patients under 50 years with a suspected hip fracture judged to be due to osteoporosis or osteopenia.

## Goal

To improve the assessment and management of patients with a hip fracture to optimise outcomes and reduce their risk of another fracture.

## Patient-centred care

Patient-centred care is health care that is respectful of, and responsive to, the preferences, needs and values of patients and consumers.<sup>9</sup>

Clinical Care Standards support the key principles of patient-centred care, namely<sup>10</sup>:

- treating patients with dignity and respect
- encouraging and supporting patient participation in decision making
- communicating and sharing information with patients about clinical conditions and treatment options
- providing patients with information in a format that they understand so they can participate in decision making.

## Carers and family members

Carers and family members have a central role in the prevention, early recognition, assessment and recovery relating to patients' health conditions. They know the patient very well, and can provide detailed information about the patient's history, routines or symptoms, which may assist in determining treatment and ongoing support.<sup>9</sup>

Each quality statement in the Clinical Care Standard should be understood to mean that carers and family members are involved in clinicians' discussions with patients about their care, if the patient prefers carer involvement.

## Local monitoring

The Commission's work program is driven by the *Australian Safety and Quality Framework for Health Care* principles, which state that health care delivery should be consumer-centred, driven by information and organised for safety.

The Commission has developed a set of indicators to assist in the optimal local implementation of the Clinical Care Standard. The indicators can be used by health services to monitor the implementation of the quality statements, and to identify and address areas that require improvement.

Monitoring the implementation of the Clinical Care Standards will assist in meeting some of the requirements of the National Safety and Quality Health Service (NSQHS) Standards. Information about the NSQHS Standards is available at: [www.safetyandquality.gov.au/accreditation](http://www.safetyandquality.gov.au/accreditation)

The specification of the indicators aims to support consistent local collection of data related to the implementation of this Clinical Care Standard.

The name for each indicator is set out, along with the rationale, computation, numerator, denominator, relevant inclusion and exclusion criteria and associated references.

Full specification of these indicators can be found in the Indicator Specification: Hip Fracture Care Clinical Care Standard available at:

<http://meteor.aihw.gov.au/content/index.phtml/itemId/628043>

## Supporting documents

The following resources supporting this Clinical Care Standard are available from the Commission's website at: [www.safetyandquality.gov.au/ccs](http://www.safetyandquality.gov.au/ccs)

- a consumer fact sheet
- a clinician fact sheet
- an indicator specification.

## Quality statement 1

### Care at presentation

A patient presenting to hospital with a suspected hip fracture receives care guided by timely assessment and management of medical conditions, including diagnostic imaging, pain assessment and cognitive assessment.

#### Purpose

To ensure patients presenting with a suspected hip fracture receive timely diagnostic imaging, effective pain management and cognitive assessment.

#### What the quality statement means

- **For patients.** When you arrive at hospital, the clinical team assesses you to see if you have a hip fracture, so that there is no delay in having an operation if clinically needed. They also ensure your pain is controlled, and identify any underlying reasons for your fall or difficulties with your memory, thinking and communication.
- **For clinicians.** Undertake timely diagnostic imaging on all patients with a suspected hip fracture. Provide pain relief, assess medical reasons for the fall and exclude other injuries. In addition, screen for cognitive impairment and risk factors for delirium and put in place interventions to prevent delirium based on this assessment.
- **For health services.** Ensure systems are in place to support clinicians to provide timely and effective management for pain, diagnostic imaging and cognitive assessment for patients with a suspected hip fracture.

#### Indicators: Quality statement 1

- **1a:** Evidence of local arrangements for the management of patients with hip fracture in the emergency department.
- **1b:** Proportion of patients with a hip fracture who have had their preoperative cognitive status assessed.



## Quality statement 2

### Pain management

A patient with a hip fracture is assessed for pain at the time of presentation and regularly throughout their hospital stay, and receives pain management including the use of multimodal analgesia, if clinically appropriate.

#### Purpose

To provide patients with a hip fracture effective and timely pain management throughout their hospital stay.

- **For health services.** Ensure pain management protocols, aligned with current guidelines<sup>1</sup>, are in place and that clinicians use them to provide pain assessment and management for patients with a hip fracture.

#### What the quality statement means

- **For patients.** If you are in pain on arrival to the hospital as a result of a hip fracture, a doctor, nurse or other clinician assesses your pain immediately and then regularly throughout your hospital stay. You receive the medicines you need to relieve pain at all times, based on these assessments.
- **For clinicians.** Assess the level of pain in patients with a hip fracture on presentation to hospital and regularly throughout their stay, and provide pain management, which may include the use of multimodal analgesia. Assess patients' pain:
  - immediately upon presentation to hospital, and
  - within 30 minutes of administering initial analgesia, and
  - hourly until the patient is settled on the ward, and
  - regularly as part of routine nursing and other clinicians' observations throughout the admission.<sup>1</sup>

#### Indicators: Quality statement 2

- **2a:** Evidence of local arrangements for timely and effective pain management for hip fracture.
- **2b:** Proportion of patients with a hip fracture who have documented assessment of pain within 30 minutes of presentation to the emergency department and either receive analgesia within this time or do not require it according to the assessment.

## Quality statement 3

### Orthogeriatric model of care

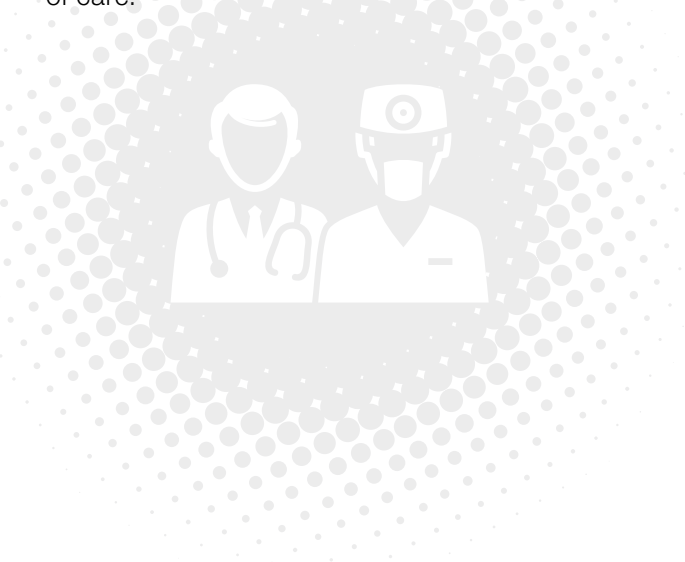
A patient with a hip fracture is offered treatment based on an orthogeriatric model of care as defined in the *Australian and New Zealand Guideline for Hip Fracture Care*.<sup>1</sup>

#### Purpose

To ensure that from the time of admission, the care of patients with a hip fracture includes a shared care approach, and that the goals of care are agreed by patients and clinicians and informed by patient preferences.

#### What the quality statement means

- **For patients.** If you have a hip fracture, you are involved in important decisions about your care from the time you are admitted to hospital. This includes working out what you would like the care to achieve, and the best way to get there. Your care is shared between clinicians with different areas of expertise. This will ensure all your health issues are taken into account, and give you the best chance of recovery.
- **For clinicians.** From the time of admission, offer patients with a hip fracture a formal orthogeriatric model of care that includes:
  - regular orthogeriatrician assessment including medication review
  - managing patient comorbidities
  - optimisation for surgery
  - early identification of the patient's goals and care coordination. If appropriate and clinically indicated, provide multidisciplinary rehabilitation aimed at increasing mobility and independence, facilitating return to pre-fracture residence and supporting long-term wellbeing
- early identification of most appropriate service to deliver rehabilitation, if indicated
- ongoing orthogeriatric and multidisciplinary review including reassessment of cognition after surgery<sup>11</sup>, and discharge planning liaison with primary care, including falls prevention and secondary fracture prevention.<sup>1</sup>
- **For health services.** Ensure systems are in place to offer patients with a hip fracture care that is based on an orthogeriatric model of care as recommended in the *Australian and New Zealand Guideline for Hip Fracture Care*.<sup>1</sup> For hospitals that do not have a geriatric medicine service available, care should be undertaken by an orthopaedic surgeon, an anaesthetist and a physician or, if unavailable in rural and remote settings, another medical practitioner, using the orthogeriatric model of care.



#### Indicator: Quality statement 3

- **3a:** Evidence of orthogeriatric (or alternative physician or medical practitioner) management during an admitted patient's hip fracture episode of care.

## Quality statement 4

### Timing of surgery

A patient presenting to hospital with a hip fracture, or sustaining a hip fracture while in hospital, receives surgery within 48 hours, if no clinical contraindication exists and the patient prefers surgery.

#### Purpose

To ensure patients with a hip fracture undergo surgery, if clinically indicated, in a timely manner. While surgery for patients who sustain a hip fracture in some remote areas may not be feasible within 48 hours of presentation, networks and systems should be in place to ensure patients receive coordinated transfer and timely surgery.

- **For health services.** Ensure systems are in place for clinicians to perform hip fracture surgery within 48 hours of presentation. Surgery within 48 hours of presentation may not be feasible for health services covering some remote areas, however, networks and systems should be in place to ensure coordinated transfer and timely surgery of patients who sustain a hip fracture in these areas.

#### What the quality statement means

- **For patients.** If you go to hospital with a hip fracture or sustain a hip fracture while in hospital, you have surgery within 48 hours. The exceptions are if you do not want to have surgery, or if your doctor advises you that it is better for you to wait or not have surgery at all. If you are in a remote location, you are transferred and receive surgery in a timely manner.
- **For clinicians.** Discuss treatment options with all patients. Explain the goals, benefits, risks and limitations of treatment options, taking into account the patient's medical conditions and prior level of function. If clinically indicated and in accordance with patient preferences, perform surgery within 48 hours of the patient presenting to hospital. If a patient sustains a fracture in hospital, perform surgery within 48 hours of the fracture occurring. For everyone undergoing hip fracture surgery, prescribe surgical antibiotic prophylaxis and thromboprophylaxis according to current guidelines.<sup>12,13</sup>



#### Indicator: Quality statement 4

- **4a:** Proportion of patients with a hip fracture receiving surgery within 48 hours of presentation with the hip fracture.

## Quality statement 5

### Mobilisation and weight-bearing

A patient with a hip fracture is offered mobilisation without restrictions on weight-bearing the day after surgery and at least once a day thereafter, depending on the patient's clinical condition and agreed goals of care.

#### Purpose

To restore movement and function following injury and to reduce post-operative complications.

#### What the quality statement means

- **For patients.** The day after hip fracture surgery, you are encouraged to sit out of bed and start to walk using your full weight, unless there are good reasons for this not to occur.
- **For clinicians.** Mobilise patients the day after hip fracture surgery and at least once a day thereafter unless contraindicated. Allow patients to bear weight as tolerated, but avoid weight-bearing if there is a clinical concern about the fracture, the fixation or the likelihood of healing. Mobilisation can include re-establishing:
  - movement between postures (e.g. moving from lying to sitting and sitting to standing)
  - the ability to maintain the upright posture
  - ambulation with increasing levels of complexity (e.g. speed, direction change and multi-tasking).<sup>14</sup>
- **For health services.** Ensure systems are in place for patients to be mobilised the day after hip fracture surgery and at least once a day thereafter, unless contraindicated.

#### Indicators: Quality statement 5

- **5a:** Proportion of patients with a hip fracture who are mobilised on day one post hip fracture surgery.
- **5b:** Proportion of patients with a hip fracture with unrestricted weight-bearing status immediately post hip fracture surgery.
- **5c:** Proportion of patients with a hip fracture experiencing a new Stage II or higher pressure injury during their hospital stay.
- **5d:** Proportion of patients with a hip fracture returning to pre-fracture mobility.

## Quality statement 6

### Minimising risk of another fracture

Before a patient with a hip fracture leaves hospital, they are offered a falls and bone health assessment, and a management plan based on this assessment, to reduce the risk of another fracture.

#### Purpose

To reduce the risk of another fracture for patients who have sustained a hip fracture.

#### What the quality statement means

- **For patients.** Before you leave hospital, you are assessed for your risk of having another fracture. This assessment will help to identify anything that might make you more likely to fall, and to see if there are things that can be done to help you avoid falling or having another fracture. You are offered bone protection medicines if they benefit you, and are provided with written information and advice on how to reduce your risk of another fracture. You can use this information to help you discuss your care with your general practitioner or ongoing clinical provider.
- **For clinicians.** Assess patients with a hip fracture for their risk of another fracture. Educate them by discussing risk factors for falls and providing written information on specific exercises to improve muscle strength and balance. Provide treatment, such as prescribing medicines for osteoporosis, if clinically indicated.
- **For health services.** Ensure systems are in place so that clinicians can assess patients' risk of another fracture and then educate and treat them, as indicated.

#### Indicators: Quality statement 6

- **6a:** Proportion of patients with a hip fracture receiving bone protection medicine prior to separation from the hospital at which they underwent hip fracture surgery.
- **6b:** Proportion of patients with a hip fracture readmitted to hospital with another femoral fracture within 12 months of admission from initial hip fracture.



## Quality statement 7

### Transition from hospital care

Before a patient leaves hospital, the patient and their carer are involved in the development of an individualised care plan that describes the patient's ongoing care and goals of care after they leave hospital. The plan is developed collaboratively with the patient's general practitioner. The plan identifies any changes in medicines, any new medicines, and equipment and contact details for rehabilitation services they may require. It also describes mobilisation activities, wound care and function post-injury. This plan is provided to the patient before discharge and to their general practitioner and other ongoing clinical providers within 48 hours of discharge.

#### Purpose

To ensure patients have an individualised care plan before they leave the hospital after a hip fracture.

#### What the quality statement means

- **For patients.** Before you leave hospital, your doctor discusses with you your recovery and the ongoing care you will need when you leave hospital. They help develop a plan with you in a format that you understand. The plan describes the ongoing treatment you may need, such as the medicines you may need to take, information on how to prevent future fractures, and any rehabilitation services and equipment you may need. You get a copy of this plan before you leave hospital. Your general practitioner and other ongoing clinical providers get a copy within two days of you leaving hospital.
- **For clinicians.** Develop an individualised care plan with the patient before they leave hospital. The plan should identify any changes in medicines, any new medicines, and equipment and contact details for rehabilitation services they may require. It should describe mobilisation activities, wound care and function post-injury. It should also include information and recommendations for secondary fracture prevention, including the contact details of support services available in the community, as appropriate. Provide the care plan to the patient before they leave hospital, and to their general practitioner and other ongoing clinical providers, within 48 hours of the patient leaving hospital.
- **For health services.** Ensure systems are in place so clinicians can develop an individualised care plan with patients prior to discharge, and refer patients to the relevant services as required. Ensure systems support clinicians in providing the plan to the patient's general practitioner and other ongoing clinical providers within 48 hours of discharge.

#### Indicators: Quality statement 7

- **7a:** Evidence of local arrangements for the development of an individualised care plan for hip fracture patients prior to the patient's separation from hospital.
- **7b:** Proportion of patients with a hip fracture living in a private residence prior to their hip fracture returning to private residence within 120 days post separation from hospital.

## Indicators of effectiveness

Indicators of effectiveness, also known as outcome indicators, provide markers of how close care is to recommended care, support the monitoring and achievement of outcomes, and provide signals to patients and clinicians on quality of care.

Ongoing monitoring and review of a set of indicators can detect significant variance in clinical practice, highlight issues of quality of care, and show how the delivery of care is improving in line with best evidence as outlined in the Clinical Care Standard. High outlier rates should be seen as a prompt to further detailed investigation.

Where routine access to linked hospitalisation and mortality datasets is available, or where individual patient follow-up is authorised for studies and registries, the following endpoints are sometimes used in monitoring patient outcomes:

- 30-day mortality following hip fracture
- discharge to usual place of residence
- 3-month outcome indicators based on survival status, place of residence, living alone status, quality of life. Three-month outcome indicators are best collected via manual case follow-up, or for death and readmission, state-wide or nationally linked datasets.

### Indicators of effectiveness

- **8a:** Re-operation of hip fracture patients within 30-day follow-up.
- **8b:** Survival at 30 days post-admission for hip fracture surgery.

## Glossary

**Assessment:** A clinician's evaluation of the disease or condition based on the patient's subjective report of the symptoms and course of the illness or condition and the clinician's objective findings, including data obtained through tests, physical examination, medical history, and information reported by family members and other healthcare team members.<sup>15</sup>

**Care plan (individualised):** A written agreement between a consumer and health professional (and/or social services) to help manage day-to-day health.<sup>16</sup> This information is identified in a health record.

**Carers:** People who provide care and support to family members and friends who have a disease, disability, mental illness, chronic condition, terminal illness or general frailty. Carers include parents and guardians caring for children.<sup>17</sup>

**Clinical team:** See Clinician.

**Clinician:** A healthcare provider, trained as a health professional. Clinicians include registered and non-registered practitioners and teams of health professionals, who provide direct clinical care. They can be doctors, nurses, allied health professionals, nurses' assistants, Aboriginal health workers and other people who provide direct clinical care.<sup>17,18</sup>

**Cognition:** The mental activities associated with thinking, learning and memory.<sup>19</sup>

**Cognitive impairment:** Deficits in one or more of the areas of memory, communication, attention, thinking and judgement. Dementia and delirium are common forms of cognitive impairment seen in hospitalised older patients.<sup>20</sup>

**Comorbidities:** Coexisting diseases (other than that being studied or treated) in an individual.<sup>1</sup>

**Delirium:** A disturbance of consciousness, attention, cognition and perception that develops over a short period of time (usually hours or days) and tends to fluctuate during the course of the day.<sup>21</sup>

**Fall:** An event that results in a person coming to rest inadvertently on the ground or floor or another lower level.<sup>22</sup>

**Health record:** Information about a patient held in paper or electronic copy. The health record may comprise clinical records (such as medical history, treatment notes, observations, correspondence, investigations, test results, photographs, prescription records and medication charts), administrative records (such as contact and demographic information, legal and occupational health and safety records) and financial records (such as invoices, payments and insurance information).<sup>22</sup>

**Health service:** A service responsible for the clinical governance, administration and financial management of unit(s) providing health care. A service unit involves a grouping of clinicians and others working in a systematic way to deliver health care to patients and can be in any location or setting, including pharmacies, clinics, outpatient facilities, hospitals, patients' homes, community settings, practices and clinicians' rooms.<sup>17</sup>

**Hospital:** A licensed facility providing healthcare services to patients for short periods of acute illness, injury or recovery.<sup>23</sup>

**Individualised care plan:** See Care plan.

**Medical practitioner:** A person whose primary employment role is to diagnose physical and mental illnesses, disorders and injuries and prescribe medications and treatments that promote or restore good health.<sup>24</sup> This could include medical specialists, non-specialists and general practitioners.

**Medication review:** A critical review of all prescribed, over-the-counter and complementary medications undertaken to optimise therapy and minimise medication-related problems.<sup>25</sup>

**Medicine:** A chemical substance given with the intention of preventing, curing, controlling or alleviating disease, or otherwise improving the physical or mental welfare of people. Prescription, non-prescription and complementary medicines, irrespective of their administration route, are included.<sup>17</sup>

**Mobilisation:** Mobilisation is the process of re-establishing the ability to move between postures (for example, moving from seated to standing), maintain an upright posture, and to ambulate with increasing levels of complexity (speed, changes of direction, dual and multi-tasking).<sup>1</sup>

**Model of care:** A configuration of services and staff designed to provide care for a particular health issue. A model of care takes into account the evidence to support an approach to care as well as context in relation to delivery of a service.<sup>1</sup>

**Multimodal analgesia:** Balanced or multimodal analgesia involves the selective use of specific drugs in combination. The concept relies on using multiple analgesic drugs with different modes of action (for example, non-opioid combined with opioid) or by different routes of administration (for example, local anaesthetic block combined with a systemic analgesic).<sup>26</sup> The rationale for this strategy is making use of additive or synergistic effects of different analgesics to achieve sufficient pain control, while minimising dose-related side effects.<sup>27</sup>

**Orthogeriatric model of care:** In Australia and New Zealand, this involves a shared care arrangement of hip fracture patients between the specialties of orthopaedics and geriatric medicine. The geriatrician is involved in the pre-operative optimisation of the patient in preparation for surgery and then takes a lead in the post-operative medical care and coordinates the discharge planning process. Implicit in this role are many of the aspects of basic care including nutrition, hydration,

pressure care, bowel and bladder management and monitoring of cognition.<sup>1</sup>

**Risk factor:** A characteristic, condition or behaviour that increases the possibility of disease or injury.<sup>28</sup>

**Pain management:** The use of pain-controlling agents (e.g. long-acting local anaesthetic agents, opiates and other pain-modulating drug stratagems) to normalise pre-operative, post-operative and ongoing pain states.<sup>29</sup>

**Presentation to hospital:** Care received by patients on entry to the hospital system, including the emergency department, pre-admission clinic, acute assessment unit, ward, or day surgery. For some remote areas, this may include primary health clinics.

**Protocol:** A set of rules for the completion of tasks or a set of tasks.<sup>17</sup>

**Shared care:** See Orthogeriatric model of care.

**System:** The resources, policies, processes and procedures that are organised, integrated, regulated and administered to accomplish the objective of a standard. The system:

- interfaces risk management, governance, operational processes and procedures, including education, training and orientation
- deploys an active implementation plan and feedback mechanisms
- includes agreed protocols and guidelines, decision-support tools and other resource material
- employs a range of incentives and sanctions to influence behaviours and encourage compliance with policy, protocol, regulation and procedures.<sup>17</sup>

**Unrestricted weight-bearing:** When a patient can mobilise with full use of the affected limb to bear weight as pain allows.<sup>30</sup>

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