QUALITY STANDARDS

Hip Fracture

Care for People With Fragility Fractures

2024 UPDATE

Ontario Health

Scope of This Quality Standard

This quality standard focuses on adults aged 50 years and older undergoing surgery for fragility hip fractures and the care delivered from the point at which they present to the emergency department until 3 months following surgery. Fragility hip fractures are fractures of the femur caused by low-energy trauma, such as falls from a standing height. This quality standard does not apply to people with hip fractures resulting from high-energy trauma or people with fragility fractures who are not candidates for surgery.

What Is a Quality Standard?

Quality standards outline what high-quality care looks like for conditions or processes where there are large variations in how care is delivered, or where there are gaps between the care provided in Ontario and the care people should receive. They:

- Help patients, families, and care partners know what to ask for in their care
- Help health care professionals know what care they should be offering, based on evidence and expert consensus
- Help health care organizations measure, assess, and improve their performance in caring for patients

Quality standards and their accompanying patient guides are developed by Ontario Health, in collaboration with health care professionals, patients, and care partners across Ontario.

For more information, contact QualityStandards@OntarioHealth.ca.

Quality Statements to Improve Care: Summary

These quality statements describe what high-quality care looks like for people undergoing surgery for a fragility hip fracture.

Quality Statement 1: Emergency Department Management

People with suspected hip fracture are diagnosed within 1 hour of arriving at hospital. Preparation for surgery is initiated, and they are admitted and transferred to a bed in an inpatient ward within 8 hours of arriving at hospital.

Quality Statement 2: Surgery Within 48 Hours

People with hip fracture receive surgery as soon as possible, within 48 hours of their first arrival at any hospital (including any time spent in a nonsurgical hospital).

Quality Statement 3: Multimodal Analgesia

People with suspected hip fracture have their pain assessed within 30 minutes of arriving at hospital and managed using a multimodal approach, including consideration of nonopioid systemic analgesics and peripheral nerve blocks.

Quality Statement 4: Surgery for Stable Intertrochanteric Fractures

People diagnosed with a stable intertrochanteric fracture are treated surgically with a sliding hip screw or cephalomedullary nail.

Quality Statement 5: Surgery for Subtrochanteric or Unstable Intertrochanteric Fractures

People diagnosed with a subtrochanteric fracture or unstable intertrochanteric fracture are treated surgically with an intramedullary nail.

Quality Statement 6: Surgery for Displaced Intracapsular Fractures

People diagnosed with a displaced intracapsular fracture are treated surgically with arthroplasty.

Quality Statement 7: Postoperative Blood Transfusions

People with hip fracture do not receive blood transfusions if they are asymptomatic and have a postoperative hemoglobin level equal to or higher than 80 g/L.

Quality Statement 8: Weight-Bearing as Tolerated

People with hip fracture are mobilized to weight-bearing as tolerated within 24 hours following surgery.

Quality Statement 9: Daily Mobilization

After surgery, people with hip fracture are mobilized on a daily basis to increase their functional tolerance.

Quality Statement 10: Screening for and Managing Delirium

People with hip fracture are screened for delirium using a standardized, validated tool as part of their initial assessment and then at least once every 12 hours while in hospital, after transitions between settings, and after any change in medical status. They receive interventions to prevent delirium and to promote recovery if delirium is present.

Quality Statement 11: Postoperative Management

People with hip fracture receive postoperative care from an interprofessional team in accordance with principles of geriatric care.

Quality Statement 12: Information for Patients, Families, and Care Partners

People with hip fracture and their families and care partners are given information on patient care that is tailored to meet their needs and delivered at appropriate times in the care continuum.

Quality Statement 13: Rehabilitation

People with hip fracture participate in an interprofessional rehabilitation program (in an inpatient setting, a community setting, or a combination of both) with the goal of returning to their prefracture functional status.

Quality Statement 14: Osteoporosis Management

While in hospital, people with hip fracture undergo a fracture risk assessment from a clinician with osteoporosis expertise and, when appropriate, are offered medications for osteoporosis.

Quality Statement 15: Follow-Up Care

People with hip fracture are discharged from inpatient care with a scheduled follow-up appointment with a primary care provider within 2 weeks of discharge and a scheduled follow-up appointment with the orthopaedic service within 12 weeks of their surgery.

Table of Contents

2024 Summary of Updates

In 2023, we completed a review of the evidence to capture new or updated clinical practice guidelines and health technology assessments published since the original release of this quality standard in 2017. This update aligns the quality standard with the most recent clinical evidence and with current practice in Ontario.

Below is a summary of changes to the overall quality standard:

- Added links to related quality standards where applicable
- Updated links, secondary references, and data sources where applicable
- Updated the formatting to align with current Ontario Health design and branding
- Revised the accompanying resources (i.e., patient guide, placemat, case for improvement slide deck, technical specifications) to reflect changes to the quality standard and align with current Ontario Health design and branding
- Updated the data in the case for improvement slide deck
- Updated terminology throughout where applicable, including:
  - *Patients* changed to *people with hip fracture*
  - *Caregiver* changed to *care partner* to align with Ontario Health's preferred terminology
  - *Interdisciplinary* changed to *interprofessional* to align with advancement of the literature on interprofessional education and collaborative practice from the World Health Organization[1] and the Registered Nurses' Association of Ontario,[2] and with the need for common terminology in the interprofessional field[3]

Below is a summary of changes to specific quality statements:

- Quality statement 4: Revised the quality statement to include an additional surgical option
- Quality statement 6: Revised the rationale to address recent evidence related to the use of cemented femoral stems in people undergoing arthroplasty for femoral neck fractures
- Quality statement 14: Revised the rationale, audience statements, and 1 indicator to align with current evidence

Why This Quality Standard Is Needed

People who experience fragility hip fractures are typically older and living with osteoporosis and a variety of other comorbidities. For these frail individuals, a hip fracture can be a catastrophic event that precipitates a steep decline in health and independence.[4]

About 12,000 people living in Ontario experience a hip fracture every year (Discharge Abstract Database, 2022/23). Roughly 20% of these people will die within a year of their fracture; another 20% who had been independent before their fracture will be admitted to long-term care; and less than half of those who had previously been living independently will be able to walk without aids following the fracture.[5] The health care expenditures associated with hip fracture are substantial, accounting for nearly $500 million of health care spending per year in Ontario.[5]

There is considerable variation in the quality of hip fracture care in Ontario. In the 2022/23 fiscal year, about 25% of people presenting with hip fracture in Ontario waited longer than the recommended 48 hours for surgery (this ranged from 3% to 69% across hospitals in Ontario). Outcomes also varied widely, with 30-day mortality rates in 2022/23 ranging from 2% to 12% across hospitals (Discharge Abstract Database and National Ambulatory Care Reporting System, 2023).

Relationship With the *Hip Fracture Quality-Based Procedures Clinical Handbook*

This quality standard is informed by Health Quality Ontario and the Ministry of Health and Long-Term Care's 2013 *Quality-Based Procedures: Clinical Handbook for Hip Fracture*,[5] in addition to other guidance sources. This quality standard does not attempt to provide guidance for all topic areas addressed in the 2013 *Clinical Handbook*; the quality statements in this standard focus on areas that have been prioritized for having the greatest opportunity for improvement in how hip fracture care in Ontario is currently provided.

It should also be noted that this quality standard does not contain guidance related to the hospital funding component of the 2013 *Clinical Handbook*; the scope and statements of this quality standard focus on clinical practice.

Measurement to Support Improvement

The Hip Fracture Quality Standard Advisory Committee identified 5 overarching indicators to monitor the progress being made toward improving care for people with hip fracture in Ontario.

Indicators That Can Be Measured Using Provincial Data

- Percentage of people who undergo hip fracture surgery who die within 30 days or within 90 days of surgery
- Percentage of people who undergo hip fracture surgery who are readmitted to hospital within 30 days or within 90 days of surgery
- Percentage of previously community-dwelling people who undergo hip fracture surgery who return to the community

Indicators That Can Be Measured Using Only Local Data

- Percentage of people who undergo hip fracture surgery who achieve weight-bearing as tolerated within 24 hours of surgery
- Percentage of people who undergo hip fracture surgery who return to their prefracture functional status within 90 days or within 6 months of surgery

Quality Statement 1: Emergency Department Management

People with suspected hip fracture are diagnosed within 1 hour of arriving at hospital. Preparation for surgery is initiated, and they are admitted and transferred to a bed in an inpatient ward within 8 hours of arriving at hospital.

Source: Advisory committee consensus

Definitions

Hip fracture diagnosis: Hip fracture diagnosis requires a clinical assessment by a physician, imaging (typically x-ray; rarely computerized tomography [CT] or magnetic resonance imaging [MRI]), and subsequent imaging interpretation to confirm the diagnosis (advisory committee consensus).

Preparation for surgery is initiated: Further assessments may be needed once the person is transferred out of the emergency department. Initial preparation for surgery involves the following, which should occur within 8 hours of arrival at hospital (advisory committee consensus):

- Baseline information and history, including prefracture functional status, cognitive status, and delirium screen
- Bloodwork
- Consultations as needed
- Electrocardiography (ECG)
- Medication adjustment or discontinuation as needed
- Preparation for transfer if the person is to be transferred to another hospital for surgery

Rationale

To reduce delays to surgery, people with suspected hip fracture should be rapidly assessed, diagnosed, and prepared for surgery upon arrival at hospital.[5] Once a hip fracture is diagnosed, the person should receive a preoperative assessment, including admission and transfer to an inpatient bed within 8 hours. If a person is to be transferred to another hospital for surgery, preparations for their transfer should begin after diagnosis (advisory committee consensus).

What This Quality Statement Means

For People With Hip Fracture

You should be seen by a doctor within 1 hour of arriving at the hospital so you can be diagnosed and receive treatment as quickly as possible. You should be transferred to an inpatient bed within 8 hours of arriving at the hospital.

For Clinicians

If you suspect that a person has a hip fracture, ensure that they are diagnosed, that preparation for surgery is initiated, and that the person is transferred to an inpatient bed within 8 hours.

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to assist clinicians with the assessment of people with suspected hip fracture. This includes ensuring access to validated assessment tools, laboratory testing, necessary imaging, and areas for physical examination; providing the time required for a full assessment; and ensuring the availability of trained professionals.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with suspected hip fracture who have imaging (typically x-ray) and who are seen by a physician within 1 hour of arrival at hospital
- Percentage of people with a confirmed hip fracture who are transferred to an inpatient bed within 8 hours of arrival at hospital
- Percentage of people with hip fracture who receive initial preparation for surgery within 8 hours of arrival at hospital
- Percentage of surgical hospitals that have a protocol, including a standardized order set, to prioritize the admission process for people with hip fracture such that they are admitted and transferred to an inpatient bed within 8 hours of arrival at hospital

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 2: Surgery Within 48 Hours

People with hip fracture receive surgery as soon as possible, within 48 hours of their first arrival at any hospital (including any time spent in a nonsurgical hospital).

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Rationale

People with hip fracture requiring surgery should receive surgical intervention as soon as possible, within a maximum of 48 hours of their first presentation to a hospital, regardless of whether they are subsequently transferred to another hospital for surgery.[5] Increased time to surgery causes prolongation of pain and extended hospital stays and is associated with increased morbidity and mortality.[4,6]

What This Quality Statement Means

For People With Hip Fracture

You should have surgery on your hip fracture within 48 hours of arriving at the hospital, even if you need to be transferred to a different hospital to have your surgery.

For Clinicians

If you know that a person has a hip fracture and requires surgery, ensure that they are operated on as soon as possible, no more than 48 hours after arrival at any hospital.

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to ensure rapid surgical intervention for people with hip fracture. This includes having protocols, hip fracture pathways, medical directives, and standardized order sets in place to ensure that the 48-hour target is met.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery who had surgery within 48 hours of first arrival at any hospital
- Median and 90th percentile number of hours people wait to receive hip fracture surgery following first arrival at any hospital

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 3: Multimodal Analgesia

People with suspected hip fracture have their pain assessed within 30 minutes of arriving at hospital and managed using a multimodal approach, including consideration of nonopioid systemic analgesics and peripheral nerve blocks.

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Multimodal approach: Opioids are effective at relieving acute pain; however, they are associated with side effects including confusion, vomiting, constipation, sedation, and respiratory depression.[3] It is important to consider the use of multimodal analgesia to reduce dose-dependent opioid-related side effects.[4] Nonnarcotic systemic analgesics, such as acetaminophen and nonsteroidal anti-inflammatory drugs (if not contraindicated), and peripheral nerve blocks, such as a fascia iliaca or femoral nerve block, can improve pain control, reduce postoperative delirium, and reduce overall opioid requirements.[1-3] Peripheral nerve blockade should be performed by medical practitioners with appropriate training, with consideration of the benefits and risks of the procedure, and with an explanation of the procedure provided to the person receiving the blockade.

Rationale

For people who have experienced a hip fracture, pain is one of the main physiological and psychological stresses.[4] A person's pre–hip fracture pain medications should be reviewed (as applicable) to assess the need for continuation or substitution while in hospital.[5]

People undergoing hip fracture surgery receive either neuraxial or general anaesthesia. As current evidence suggests that the 2 modalities are equivalent for most outcomes, the choice of anaesthesia should be made based on the person's characteristics and, where possible, in consultation with the individual and their family or care partners. Neuraxial anaesthesia may be contraindicated for people on anticoagulation medication. Surgery should not be delayed if general anaesthesia is an acceptable option.[6]

Further information on the use of opioids is available in the *Opioid Prescribing for Acute Pain* and *Opioid Use Disorder* quality standards.

What This Quality Statement Means

For People With Hip Fracture

Your pain should be assessed and treated promptly upon arriving at the emergency department. Various pain relief treatments should be considered, including nonopioid treatments.

For Clinicians

If you suspect that a person has a hip fracture, ensure that their pain is immediately assessed and managed. If they need opioids, consider augmentation with nonopioid systemic analgesics and/or a peripheral nerve block to reduce the opioid dosage needed to manage their pain.

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to assist clinicians with the rapid assessment of pain in the emergency department. Ensure that appropriate training and resources are available for clinicians such that all can become competent at inserting and initiating peripheral nerve blocks.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with suspected hip fracture whose pain is assessed within 30 minutes of arrival at hospital
- Percentage of people with hip fracture who have an order for opioids who do not also receive nonopioid systemic analgesia or a nerve block

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 4: Surgery for Stable Intertrochanteric Fractures

People diagnosed with a stable intertrochanteric fracture are treated surgically with a sliding hip screw or cephalomedullary nail.

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | Surgeon advisory subcommittee consensus

Rationale

Stable fractures of the upper femur can be repaired with either a sliding hip screw or cephalomedullary nail.[6] The 2 implants are similarly effective, and studies show similar clinical outcomes in walking ability, fracture collapse rate, and mortality.[6]

Information on the prevention and management of surgical site infections is available in the *Surgical Site Infections* quality standard.

What This Quality Statement Means

For People With Hip Fracture

Your surgeon should explain which type of surgery is most appropriate for your type of hip fracture.

For Clinicians

If the person you are treating has a stable intertrochanteric fracture, use a sliding hip screw or cephalomedullary nail to treat the fracture.

For Organizations and Health Services Planners

Ensure that surgeons have access to all resources necessary to perform appropriately selected procedures.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people diagnosed with a stable intertrochanteric fracture who are treated surgically with a sliding hip screw or cephalomedullary nail

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 5: Surgery for Subtrochanteric or Unstable Intertrochanteric Fractures

People diagnosed with a subtrochanteric fracture or unstable intertrochanteric fracture are treated surgically with an intramedullary nail.

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4] |Surgeon advisory subcommittee consensus

Rationale

Lower complication rates are associated with the use of intramedullary nails versus sliding hip screws in the treatment of subtrochanteric and unstable intertrochanteric fractures.[6] When used to treat subtrochanteric fractures, intramedullary nails have been shown to result in fewer cases of fracture fixation failure than sliding hip screws.[4] Further, the use of intramedullary nails in surgery for unstable intertrochanteric fractures has been shown to result in improved mobility and decreased limb shortening when compared to sliding hip screws.[6]

Information on the prevention and management of surgical site infections is available in the *Surgical Site Infections* quality standard.

What This Quality Statement Means

For People With Hip Fracture

Your surgeon should explain which type of surgery is most appropriate for your type of hip fracture.

For Clinicians

If the person you are treating has a subtrochanteric fracture, use an intramedullary nail. If they were ambulatory before their hip fracture and have an unstable intertrochanteric fracture, use an intramedullary nail. If they were not ambulatory before their hip fracture and have an unstable intertrochanteric fracture, use a sliding hip screw.

For Organizations and Health Services Planners

Ensure that surgeons have access to all resources necessary to perform appropriately selected procedures.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people diagnosed with a subtrochanteric or unstable intertrochanteric fracture who are treated surgically with an intramedullary nail

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 6: Surgery for Displaced Intracapsular Fractures

People diagnosed with a displaced intracapsular fracture are treated surgically with arthroplasty.

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4] | Surgeon advisory subcommittee consensus

Rationale

Most people with a displaced intracapsular fracture should receive surgical arthroplasty because it is associated with lower reoperation rates, fewer reports of pain, and better functional and quality-of-life scores compared with internal fixation.[4,7] Where possible, individuals undergoing arthroplasty for femoral neck fractures should receive cemented femoral stems.[4,6]

In rare cases in which the clinician feels that the person may benefit from preservation of the hip joint (e.g., people who are 60 years of age or younger and very active), reduction and fixation may be considered. Younger people diagnosed with a displaced femoral neck fracture who undergo internal fixation may also benefit from expedited surgery (i.e., within 6 hours) due to the potential risk of avascular necrosis (surgeon advisory subcommittee consensus).

Information on the prevention and management of surgical site infections is available in the *Surgical Site Infections* quality standard.

What This Quality Statement Means

For People With Hip Fracture

Your surgeon should explain which type of surgery is most appropriate for your type of hip fracture.

For Clinicians

If the person you are treating has a displaced intracapsular fracture, they should almost always receive arthroplasty (total arthroplasty or hemiarthroplasty). In rare cases of younger and very active people, you may consider reduction and fixation to preserve the hip joint.

For Organizations and Health Services Planners

Ensure that surgeons have access to all resources necessary to perform appropriately selected procedures.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people diagnosed with a displaced intracapsular fracture who undergo arthroplasty (total arthroplasty or hemiarthroplasty)

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 7: Postoperative Blood Transfusions

People with hip fracture do not receive blood transfusions if they are asymptomatic and have a postoperative hemoglobin level equal to or higher than 80 g/L.

Source: American Academy of Orthopaedic Surgeons, 2021[6]

Rationale

A restrictive blood transfusion strategy for people with hip fracture, in which asymptomatic people with a hemoglobin level equal to or higher than 80 g/L do not receive transfusions, has been found to be safe compared to less restrictive transfusion thresholds.[6]

People who do not show signs or symptoms of anemia should not be considered for blood transfusion following hip fracture surgery. Signs and symptoms of anemia include cardiac chest pain, congestive heart failure, unexplained tachycardia, and hypotension unresponsive to fluid replacement.[6]

What This Quality Statement Means

For People With Hip Fracture

You should receive a blood transfusion after hip fracture surgery only if your hemoglobin is very low (below 80 g/L).

For Clinicians

Do not routinely perform postoperative blood transfusions for people with hip fracture if they have a hemoglobin level equal to or higher than 80 g/L.

For Organizations and Health Services Planners

Ensure that protocols, hip fracture pathways, medical directives, and standardized order sets include reference to restrictive blood transfusion recommendations for people following hip fracture surgery.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery with a postoperative hemoglobin level equal to or higher than 80 g/L who receive a blood transfusion

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 8: Weight-Bearing as Tolerated

People with hip fracture are mobilized to weight-bearing as tolerated within 24 hours following surgery.

Sources: Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Weight-bearing as tolerated: Weight-bearing as tolerated involves putting as much weight as is comfortable on the leg that is on the same side as the injured hip.[4,5]

Rationale

Hip fracture surgery should be planned to allow people to achieve weight-bearing as tolerated, without restriction, within 24 hours following surgery. Full weight-bearing enables early mobilization, supports people's return to their prefracture level of mobility, and reduces the risk of adverse events associated with restricted weight-bearing and prolonged immobility. All modern hip fracture implants are designed to facilitate full weight-bearing.[4,5]

In rare situations in which younger people experience a displaced femoral neck fracture and undergo reduction and fixation, a period of toe-touch weight-bearing may be appropriate.[4,5]

In any situation in which a person with hip fracture is discharged from hospital without being capable of full weight-bearing, detailed orders, including the rationale for and duration of the person's weight-bearing status, should be clearly documented and communicated to the person's post–acute care providers.[4,5]

What This Quality Statement Means

For People With Hip Fracture

You should be able to put as much weight as is comfortable on the leg that is on the same side as your injured hip within 24 hours after your surgery.

For Clinicians

Plan surgery with the aim of enabling people to achieve weight-bearing as tolerated within 24 hours following surgery.

For Organizations and Health Services Planners

Ensure that protocols, hip fracture pathways, medical directives, and standardized order sets are in place to facilitate people achieving weight-bearing as tolerated within 24 hours following surgery.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people with hip fracture who achieve weight-bearing as tolerated within 24 hours following surgery

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 9: Daily Mobilization

After surgery, people with hip fracture are mobilized on a daily basis to increase their functional tolerance.

Sources: Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Mobilized: Mobilization involves progression through a continuum of functional activities with the goal of returning people to their prefracture level of mobility[4,5]:

1. Sitting at bedside
2. Transferring to a chair with assistance
3. Transferring to a chair independently
4. Walking with assistance (e.g., walker, crutches)

Rationale

The goal of postoperative mobilization is to help people return to their prefracture level of functioning as soon as possible. The benefits of early mobilization include decreased length of hospital stay and fewer complications associated with prolonged time spent in bed.[4] Following surgery, people should receive assistance with mobilization at least once each day – more often whenever possible – from members of the health care staff, including nurses.[5] Where safe and appropriate, family members or care partners should also be encouraged to assist with daily mobilization.

What This Quality Statement Means

For People With Hip Fracture

You should receive help to stand and move the day after your surgery and every day after that while you're in the hospital. If you have family members or care partners helping you, your health care team may also show them how to help you with this. Moving every day will help you recover more quickly.

For Clinicians

Following surgery, ensure people with hip fracture are mobilized at least once daily by a member of the health care staff. Where possible, family members or care partners should be encouraged to assist with mobilization once the health care team deems it safe and appropriate.

For Organizations and Health Services Planners

Ensure that the appropriate protocols and human resources are in place to help people with hip fracture mobilize daily after surgery to progressively increase their functional tolerance.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery who are mobilized at least once daily postoperatively while in hospital

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 10: Screening for and Managing Delirium

People with hip fracture are screened for delirium using a standardized, validated tool as part of their initial assessment and then at least once every 12 hours while in hospital, after transitions between settings, and after any change in medical status. They receive interventions to prevent delirium and to promote recovery if delirium is present.

Sources: Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Interventions to prevent delirium and to promote recovery: These interventions include orienting the individual to person, place, and time (involving family, care partners, and friends when possible); creating an environment that provides context (e.g., with a window or clock) and contains familiar items, such as pictures or personal belongings; ensuring people are using their glasses or hearing aids as appropriate; speaking to people in a calm, reassuring voice; and considering alternatives to or the more judicious use of drugs that may either cause or exacerbate delirium.[8,9]

Rationale

People who have experienced a hip fracture are at risk of developing delirium.[8] People with hip fracture who also have delirium are more likely to have a longer hospital stay, fall, develop pressure injuries, and die than those without delirium.[8] If delirium develops, it is important to identify and manage the underlying cause or combination of causes and to attempt to treat the delirium.[9]

Further information on screening for delirium and caring for people at risk of delirium or experiencing symptoms of delirium is available in the *Delirium* quality standard.

Further information on preventing and treating pressure injuries is available in the *Pressure Injuries* quality standard.

What This Quality Statement Means

For People With Hip Fracture

You should be assessed for delirium (confused thinking and reduced awareness) while you're in the emergency department and then twice a day while you're in the hospital, after any move to a new medical setting, and if there is a change in your medical status.

For Clinicians

Screen the person you are treating for hip fracture for delirium during their initial assessment and prior to the administration of pain medication and surgery. Perform subsequent delirium screenings at least once every 12 hours while the person is in hospital, after transitions between settings, and upon any change in medical status. It is important to attempt to prevent delirium by orienting the individual to person, place, and time (involving family, care partners, and friends when possible); creating an environment that provides context (e.g., with a window or clock) and contains familiar items, such as pictures or personal belongings; ensuring that people are using their glasses or hearing aids as appropriate; speaking to people in a calm, reassuring voice; and considering alternatives to or the more judicious use of drugs associated with delirium.

For Organizations and Health Services Planners

Ensure that your facility has standardized, validated delirium assessment tools and a policy or protocol in place for preventing and managing delirium.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hip fracture who are assessed for delirium with a standardized, validated tool within 8 hours of arrival at hospital
- Percentage of people with hip fracture who are assessed for delirium with a standardized, validated tool every 12 hours while in hospital
- Percentage of people with hip fracture who are assessed for delirium with a standardized, validated tool after transitioning to a new medical setting
- Percentage of people with hip fracture who are assessed for delirium with a standardized, validated tool after a change in medical status
- Percentage of hospitals that have a policy or protocol in place to prevent and manage delirium

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 11: Postoperative Management

People with hip fracture receive postoperative care from an interprofessional team in accordance with principles of geriatric care.

Sources: American Academy of Orthopaedic Surgeons, 2021[6] | Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Postoperative care: Managing people following hip fracture surgery should include, at a minimum, the following clinical interventions and considerations for older people:

- Nutritional intake should be assessed and protein and high-energy supplements provided if required[5,6]
- A risk assessment for pressure injuries should be performed using the Braden Scale or another validated instrument.[10] Precautions should be taken, including proper turning and repositioning, to prevent the development of pressure injuries[5]
- If postoperative catheterization is necessary, an intermittent catheter should be used rather than an indwelling catheter[5]
- Appropriate hydration should be provided to help prevent delirium while carefully balancing the risk of fluid overload; for example, with intravascular or oral fluids[5]
- Venous thromboembolisms should be prevented using medical rather than mechanical strategies (unless medications are contraindicated)[5,6]
- A fall risk assessment should be performed
- A comprehensive medication review and reconciliation should be performed

Rationale

Care for people with hip fracture should be guided by an orthopaedic surgeon in collaboration with a clinician familiar with the principles of geriatric care.[11] For example, an orthopaedic surgeon may partner with a geriatrician, clinical nurse specialist, nurse practitioner, hospitalist, or internal medicine practitioner to coordinate care for people with hip fracture. This care partnership ensures that geriatric considerations regarding surgical and medical decisions are addressed from the time of admission throughout the continuum of care.[4]

Further information about postoperative management is available in the *Delirium*, *Medication Safety*, and *Pressure Injuries* quality standards.

What This Quality Statement Means

For People With Hip Fracture

You should receive care from a team of health care professionals who understand the health needs of older adults.

For Clinicians

Following hip fracture surgery, ensure the person you are treating continues to receive care from a surgical–medical partnership that considers the unique needs of older people. While the person is still in hospital recovering from surgery, encourage appropriate nutritional intake and hydration, closely monitor and address their risk of developing pressure injuries, and ensure proper venous thromboembolism prophylaxis.

For Organizations and Health Services Planners

Ensure that appropriate human resources are in place such that a medical–surgical partnership is possible for the care of people with hip fracture. Additional resources may include protocols, hip fracture pathways, medical directives, and standardized order sets to facilitate the implementation of principles of geriatric care.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery who are managed by both an orthopaedic surgeon and a clinician with geriatric expertise
- Percentage of people who undergo hip fracture surgery who receive venous thromboembolism prophylaxis while in hospital
- Percentage of people who undergo hip fracture surgery who receive an indwelling catheter postoperatively
- Percentage of hospitals with access to a clinician with geriatric expertise

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 12: Information for Patients, Families, and Care Partners

People with hip fracture and their families and care partners are given information on patient care that is tailored to meet their needs and delivered at appropriate times in the care continuum.

Sources: Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Information on patient care: At a minimum, information on patient care for people with hip fracture and their families and care partners should address the following[4,5]:

- Diagnosis
- Elements of the care plan
- Types of anaesthesia
- Medications
- Health care professionals involved
- Types of surgery
- Possible complications of surgery
- Postoperative care
- Delirium prevention and management
- Discharge plan
- Rehabilitation programs
- Potential long-term outcomes
- Assistive devices that may be needed following surgery
- Nutrition
- Osteoporosis management
- Effect of surgery on activities and travel
- Fall prevention

Rationale

People who have undergone surgery value receiving explanations about their condition and information about their anticipated path to recovery.[4] Early discussion of prognosis, expectations, rehabilitation, and the care pathway may avoid discharge delays, reduce length of hospital stay, and prevent unnecessary readmission to hospital.[4] People who have undergone hip fracture surgery and their family and care partners should be provided with timely information throughout the care continuum verbally and in a printed or multimedia format.

What This Quality Statement Means

For People With Hip Fracture

Throughout your care journey, you and your family and care partners should be given information about your care. This information should be offered to you verbally and either written down or in a video.

For Clinicians

Provide the person you are treating for hip fracture and their family and care partners with information tailored to meet their learning needs in a format and at times that are most appropriate for them.

For Organizations and Health Services Planners

Ensure that appropriate educational resources are available for clinicians. These resources should be available in written and multimedia formats.

Quality Indicator: How to Measure Improvement for This Statement

- Percentage of hospitals that have educational resources on hip fracture care available for people with hip fracture and their families and care partners

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 13: Rehabilitation

People with hip fracture participate in an interprofessional rehabilitation program (in an inpatient setting, a community setting, or a combination of both) with the goal of returning to their prefracture functional status.

Sources: Health Quality Ontario, 2013[5] | National Institute for Health and Care Excellence, 2023[4]

Definition

Rehabilitation program: An effective hip fracture rehabilitation program can be delivered in a variety of settings, including an acute care or rehabilitation hospital, a rehabilitation clinic in the community, and a person's home. Program elements that should be considered include the following[5]:

- Therapies to improve independence in self-care
- Balance, strengthening, and gait assessment and training
- Nutritional supplementation
- Education on safety and fall prevention
- Environmental modifications
- Osteoporosis management and education
- Medication management
- Pain management education
- Positioning education for comfort and pressure relief
- Transfer training
- Stair training
- An ongoing exercise program following completion of formal rehabilitation

Rationale

On discharge from the acute care hospital, all people who have undergone hip fracture surgery – including people with cognitive impairment and those residing in long-term care homes – should have the opportunity to participate in an active interprofessional rehabilitation program.[5] Rehabilitation programs have been shown to improve outcomes in functional status, leg strength, health status, balance, mobility, instrumental activities of daily living, social functioning, and other areas.[4]

What This Quality Statement Means

For People With Hip Fracture

When you leave the hospital, you should be offered a rehabilitation program to help get you back to the activities you were able to do before your fracture.

For Clinicians

Provide a rehabilitation program to people who have undergone hip fracture surgery that includes therapies to improve independence in self-care, balance and gait assessment and training, nutritional supplementation, education on safety and fall prevention, a restorative and/or maintenance exercise program, environmental modifications, osteoporosis management and education, and medication management.

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to allow all people who have undergone hip fracture surgery – regardless of cognitive impairment or setting – to participate in a rehabilitation program following surgery.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery who participate in a postoperative interprofessional rehabilitation program
- Median number of days after surgery that people with hip fracture begin a rehabilitation program

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 14: Osteoporosis Management

While in hospital, people with hip fracture undergo a fracture risk assessment from a clinician with osteoporosis expertise and, when appropriate, are offered medications for osteoporosis.

Sources: Health Quality Ontario, 2013[5] | Osteoporosis Canada, 2023[12] |Scottish Intercollegiate Guidelines Network, 2021[13]

Rationale

As people age, the risk of fragility fractures increases owing to the higher incidence of osteoporosis in older populations.[13,14] Treatment for osteoporosis leads to a reduction in subsequent fractures.[15] People with fragility hip fractures are at high risk for future fractures, and pharmacologic intervention should be offered to people while in hospital, subject to contraindications.[12]

What This Quality Statement Means

For People With Hip Fracture

A condition called osteoporosis causes bones to become brittle, and people who have osteoporosis are at a higher risk of having a hip fracture. While you are in the hospital, a health care professional should assess you for osteoporosis and offer you the appropriate medication to help reduce your risk of having another fracture in the future.

For Clinicians

While the person you are treating is still in hospital recovering from surgery, perform a fracture risk assessment. Offer the person osteoporosis medication unless they are already on osteoporosis medication or such medications are contraindicated. For guidance on appropriate osteoporosis medications, refer to Osteoporosis Canada's clinical practice guideline.[12]

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to provide people with hip fracture access to clinicians who are qualified to perform fracture risk assessments and prescribe osteoporosis medications. Ensure access to a fracture liaison service to improve the identification of people with osteoporosis and treatment initiation for osteoporosis.[12] The Ontario Osteoporosis Strategy, funded by the Ontario Ministry of Health, is mandated to support this initiative in Ontario.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hip fracture who undergo a fracture risk assessment from a clinician with osteoporosis expertise
- Percentage of people with hip fracture and diagnosed with osteoporosis who are started on an osteoporosis medication while in hospital

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Quality Statement 15: Follow-Up Care

People with hip fracture are discharged from inpatient care with a scheduled follow-up appointment with a primary care provider within 2 weeks of discharge and a scheduled follow-up appointment with the orthopaedic service within 12 weeks of their surgery.

Source: Advisory committee consensus

Definition

Orthopaedic service: A hospital's orthopaedic service consists of a team of health care professionals involved in orthopaedic care; for example, orthopaedic surgeons, nurse practitioners, and physical therapists. At their follow-up appointment with the hospital's orthopaedic service, people with hip fracture may be seen by any member of the orthopaedic service.

Rationale

A follow-up appointment with a primary care provider within 2 weeks of discharge can help ensure that people are recovering well from their hip fracture and that any other medical conditions (including osteoporosis) are being managed so that they can successfully return to their prefracture functional status (advisory committee consensus). In addition to a primary care follow-up, an appointment with the orthopaedic service should be scheduled within 12 weeks of surgery to allow for an assessment of the outcome of surgery and to facilitate a successful recovery (advisory committee consensus).

Further information about transitions from hospital to home is available in the *Transitions Between Hospital and Home* quality standard.

What This Quality Statement Means

For People With Hip Fracture

You should have an appointment with a primary care provider within 2 weeks of returning home from the hospital, as well as a follow-up appointment with the hospital's orthopaedic service within 12 weeks of your surgery.

For Clinicians

Contact the primary care provider of the person you are treating before they are discharged to schedule an appointment within 2 weeks to coordinate transfer of accountability. At discharge, send a summary of the person's hospital stay to the primary care provider.

For Organizations and Health Services Planners

Ensure that systems, processes, and resources are in place to allow people who have undergone hip fracture surgery to access a follow-up appointment with a primary care provider within 2 weeks of discharge and to access a follow-up appointment with the orthopaedic service within 12 weeks of surgery.

Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people who undergo hip fracture surgery whose primary care provider is contacted before discharge to schedule a follow-up appointment (includes primary care providers for long-term care homes)
- Percentage of people who undergo hip fracture surgery whose primary care provider receives a discharge summary prior to or at the follow-up appointment (includes primary care providers for long-term care homes)
- Percentage of people who undergo hip fracture surgery who are seen by a primary care provider within 2 weeks of discharge
- Percentage of people who undergo hip fracture surgery who are seen by the hospital's orthopaedic service within 12 weeks of discharge

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are available in the technical specifications.

Appendix 1: About This Quality Standard

How to Use This Quality Standard

Quality standards inform patients, clinicians, and organizations about what high-quality care looks like for health conditions or processes deemed a priority for quality improvement in Ontario. They are based on the best evidence.

Guidance on how to use quality standards and their associated resources is included below.

For People With Hip Fracture

This quality standard consists of quality statements. These describe what high-quality care looks like for people with hip fracture.

Within each quality statement, we've included information on what these statements mean for you, as a person with hip fracture.

In addition, you may want to download this accompanying patient guide on hip fracture to help you and your family have informed conversations with your health care providers. Inside, you will find information and questions you may want to ask as you work together to make a plan for your care.

For Clinicians and Organizations

The quality statements within this quality standard describe what high-quality care looks like for people with hip fracture. They are based on the best evidence and designed to help you know what to do to reduce gaps and variations in care.

Many clinicians and organizations are already providing high-quality evidence-based care. However, there may be elements of your care that can be improved. This quality standard can serve as a resource to help you prioritize and measure improvement efforts.

Tools and resources to support you in your quality improvement efforts accompany each quality standard. These resources include indicators and their definitions, available in the technical specifications. Measurement is key to quality improvement. Collecting and using data when implementing a quality standard can help you assess the quality of care you are delivering and identify gaps in care and areas for improvement.

There are also a number of resources online to help you, including:

- Our patient guide on hip fracture, which you can share with patients and families to help them have conversations with you and their other health care providers. Please make the patient guide available where you provide care
- Our measurement resources, including the technical specifications for the indicators in this quality standard, the "case for improvement" slide deck to help you to share why this standard

was created and the data behind it, and our measurement guide containing supplementary information to support the data collection and measurement process

- Our placemat, which summarizes the quality standard and includes links to helpful resources and tools
- Our *Getting Started Guide*, which includes links to templates and tools to help you put quality standards into practice. This guide shows you how to plan for, implement, and sustain changes in your practice
- Our *Spotlight Report*, which will help you understand what successful quality standard implementation looks like, based on examples from the field
- Quorum, an online community dedicated to improving the quality of care across Ontario. This is a place where health care providers can share information and support each other, and it includes tools and resources to help you implement the quality statements within each standard

How the Health Care System Can Support Implementation

As you work to implement this quality standard, there may be times when you find it challenging to provide the care outlined due to system-level barriers or gaps. These challenges have been identified and documented as part of the development of the quality standard, which included extensive consultation with health care professionals and lived experience advisors and a careful review of available evidence and existing programs. Many of the levers for system change fall within the purview of Ontario Health, and as such we will continue to work to address these barriers to support the implementation of quality standards. We will also engage and support other provincial partners, including the Ministry of Health or other relevant ministries, on policy-level initiatives to help bridge system-level gaps.

In the meantime, there are many actions you can take on your own, so please read the standard and act where you can.

Appendix 2: Glossary

Term	Definition
Adults	In this quality standard, *adults* refers to people aged 50 years and older.
Care partner	An unpaid person who provides care and support in a nonprofessional capacity, such as a parent, other family member, friend, or anyone else identified by the person with hip fracture. Other terms commonly used to describe this role include *caregiver*, *informal caregiver*, *family caregiver*, *carer*, and *primary caregiver*.
Family	The people closest to a person in terms of knowledge, care, and affection; this may include biological family or family of origin, family through marriage, or family of choice and friends. The person defines their family and who will be involved in their care.
Fragility hip fracture	A fracture of the femur caused by low-energy trauma, such as a fall from a standing height.
Home	A person's usual place of residence. This may include personal residences, retirement residences, assisted-living facilities, long-term care facilities, hospices, and shelters.
Long-term care	Care provided in long-term care homes.
Primary care provider	A family physician (also called a primary care physician) or nurse practitioner.

Appendix 3: Values and Guiding Principles

Values That Are the Foundation of This Quality Standard

This quality standard was created, and should be implemented, according to the Patient, Family and Caregiver Declaration of Values for Ontario. This declaration "is a vision that articulates a path toward patient partnership across the health care system in Ontario. It describes a set of foundational principles that are considered from the perspective of Ontario patients, and serves as a guidance document for those involved in our health care system."

These values are:

- Respect and dignity
- Empathy and compassion
- Accountability
- Transparency
- Equity and engagement

A quality health system is one that provides good access, experience, and outcomes for all people in Ontario, no matter where they live, what they have, or who they are.

Guiding Principles

In addition to the above values, this quality standard is guided by the principles outlined below.

Acknowledging the Impact of Colonization

Health care professionals should acknowledge and work toward addressing the historical and present-day impacts of colonization in the context of the lives of Indigenous Peoples throughout Canada. This work involves being sensitive to the impacts of intergenerational and present-day traumas and the physical, mental, emotional, and social harms experienced by Indigenous people, families, and communities, as well as recognizing their strength and resilience. This quality standard uses existing clinical practice guideline sources that may not include culturally relevant care or acknowledge traditional Indigenous beliefs, practices, and models of care.

French Language Services

In Ontario, the *French Language Services Act* guarantees an individual's right to receive services in French from Government of Ontario ministries and agencies in 26 designated areas and at government head offices.[16]

Social Determinants of Health

Homelessness and poverty are 2 examples of economic and social conditions that influence people's health, known as the social determinants of health. Other social determinants of health include employment status and working conditions, ethnicity, food security and nutrition, gender, housing, immigration status, social exclusion, and residing in a rural or urban area. Social determinants of health can have strong effects on individual and population health; they play an important role in understanding the root causes of poorer health.

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Advisory Committee

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About Us

We are an agency created by the Government of Ontario to connect, coordinate, and modernize our province's health care system. We work with partners, providers, and patients to make the health system more efficient so everyone in Ontario has an opportunity for better health and well-being.

Equity, Inclusion, Diversity, and Anti-Racism

Ontario Health is committed to advancing equity, inclusion and diversity and addressing racism in the health care system. As part of this work, Ontario Health has developed an Equity, Inclusion, Diversity and Anti-Racism Framework, which builds on existing legislated commitments and relationships and recognizes the need for an intersectional approach.

Unlike the notion of equality, equity is not about sameness of treatment. It denotes fairness and justice in process and in results. Equitable outcomes often require differential treatment and resource redistribution to achieve a level playing field among all individuals and communities. This requires recognizing and addressing barriers to opportunities for all to thrive in our society.

For more information: OntarioHealth.ca/about-us/our-people

Looking for More Information?

Visit hqontario.ca or contact us at QualityStandards@OntarioHealth.ca if you have any questions or feedback about this quality standard.

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