



Acute nursing care of the older adult with fragility hip fracture: An international perspective (Part 1)

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Summary This paper provides those who care for orthopaedic patients with evidence-supported international perspectives about acute nursing care of the older adult with fragility hip fracture. Developed by an international group of nurse experts and guided by a range of information from research and clinical practice,

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it focuses on nurse sensitive quality indicators during the acute hospitalisation for fragility hip fracture. Optimal care for the patient who has experienced such a fracture is the focus here. This includes in this part:

Pain
Delirium
and in the second, subsequent, part

Pressure Ulcers
Fluid Balance/Nutrition
Constipation/Catheter Associated Urinary Tract Infection

Vigilant nursing assessment and prompt intervention may prevent the development of the complications we discuss. If they do occur and are identified early on, they may resolve with appropriate and timely nursing management.

This "tool kit" has been developed under the auspices of the International Collaboration of Orthopaedic Nursing (ICON) a coalition of national associations of orthopaedic nursing (www.orthopaedicnursing.org).

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Editor's comments

We are proud to announce the publication of this important international document that provides a clinical review for the care of the older person with a fracture of the hip. This important and ground-breaking clinical review document is published online at: <http://dx.doi.org/10.1016/j.ijotn.2012.09.001> and in two parts in print format – the first part here and the second part in a subsequent edition of the International Journal of Orthopaedic and Trauma Nursing.

In many countries hip fracture is the most important issue facing trauma services in the 21st century and this document will help to provide those caring for this vulnerable group of older people with sound, evidence-based advice on the best ways to ensure that care is as sensitive and effective as possible. It is our fervent hope that the clinical review will be used around the globe to ensure care is sensitive to the complex needs of this group of patients.

JS-T.

Introduction

Hip fracture is a devastating injury for both patient and family – often resulting in impaired mobility, increased reliance on others, diminished health and sometimes death. Approximately 1.6 million hip fractures occur worldwide each year. By the year 2050 the worldwide incidence is projected to increase by 310% for men and by 240% for women with estimated totals reaching between 4.5 and 6.3 million hip fractures per year. As many as 28% of older hip fracture patients die within one year of fracture and, of those that survive, it is estimated that between 24% and 75% will not return to their pre-fracture level of independence (International Osteoporosis Foundation, 2012). As the global incidence of hip fractures continues to rise, health care systems around the world struggle to meet the demands for service in the face of increasing economic constraints.

Purpose/scope

This paper provides nurses who care for orthopaedic patients with evidence-supported international perspectives about acute nursing care of the older adult with fragility hip fracture. Guided by a range of information from research and clinical practice, as well as reviews from international nursing experts in each content area, we focus on nurse sensitive quality indicators during the acute hospitalisation for fragility hip fracture. These include:

Pain
Delirium
Pressure Ulcers
Fluid Balance/Nutrition
Constipation/Catheter Associated Urinary Tract Infection.

The group acknowledges that the optimal approach to addressing the increasing number of fragility hip fractures is to focus attention on prevention. Bone density and quality are reduced with ageing and complicated by a range of risk factors leading to osteoporosis in both women and men over 50 years old. A substantial number of these individuals will sustain a fragility fracture linked directly to osteoporotic bone with the highest risk related to falling (Järvinen et al., 2008). However, a complete discussion of fracture prevention and reduction of fracture risk due to osteoporosis is beyond the scope of this paper. Rather, providing optimal care for the patient who has experienced such a fracture is the focus here.

Vigilant nursing assessment and prompt intervention may prevent the development of the complications we discuss. If they do occur and are identified early on, they may resolve with appropriate and timely nursing management.

This "tool kit" has been developed under the auspices of the International Collaboration of Orthopaedic Nursing (ICON) a coalition of national associations of orthopaedic nursing (www.orthopaedicnursing.org). The project grew out of ongoing discussions among ICON leaders about the growing number of older adults with fragility hip fracture being treated in each of their respective countries. The work group that developed this paper includes orthopaedic and gerontological nurses representing nine countries: Australia/New Zealand, Canada, Denmark, Great Britain, Hong Kong, Ireland, Malta, Sweden, and the USA. The Hip Fracture Group that wrote this paper first met in Dublin, Ireland in June 2010 and worked via SKYPE and email with one more face to face meeting in Bristol, England in September 2011.

Mobility considerations

The primary goal of nursing care for the older adult with fragility hip fracture remains to maximise mobility and to preserve optimal function. Toward that end, mobilisation is a major component of postoperative care and rehabilitation. The individual patient goal will partly be determined by pre-admission mobility and functional status. If the patient was bed or chair bound prior to surgery, pain and symptom management as well as preservation of that baseline may be the primary goal of postoperative care. For the individual who was mobile pre-fracture, postoperative mobility is critical to recovery.

There is currently insufficient evidence from randomised controlled trials (RCTs) to determine

the effects of any particular mobilisation strategy or programme. However, demonstrational studies and non-randomised trials generally indicate that it is possible to enhance mobility (Handoll et al., 2011) and improve functional status (Healee et al., 2011) post hip fracture. Stenvall et al. (2007) found that a multidisciplinary postoperative intervention programme enhances activities of daily living performance and mobility after hip fracture, from both a short term and long term perspective. More recently, Stenvall et al. (2012) demonstrated that patients with dementia who suffer a hip fracture can benefit from multidisciplinary geriatric assessment and rehabilitation and should not be excluded from rehabilitation programmes.

Some recommendations from the Canadian National Hip Fracture Tool Kit (Waddell, 2011) to maximise mobility include:

- Patients should be mobilised as soon as medically stable (i.e. within 12–24 h of surgery).
- Mobility can start with sitting/dangling legs over the side of the bed in very frail patients, but should progress to standing within 24 h of surgery.
- Weight-bearing status should be 'as tolerated'; if not, discuss with surgeon regarding ambulation prognosis.
- Patients who were mobile pre-surgery should be mobilised at least twice daily, regardless of cognitive status.
- The focus is on gait quality, walking endurance, transfers, activities of daily living and safety.
- Treatment goals to progress the patient's ambulation, transfer and ADL status should be set daily based on their pre-fracture capacity.
- Patients should be up in a chair for meals whenever possible and should spend as much of the day as tolerated out of bed to encourage cognitive alertness and promote activity and independent self-care.
- Independence in self-care and hygiene should be encouraged to the degree possible with assistance provided as necessary.
- All care staff should be involved in encouraging mobility/independence in toileting and transfers, not just nursing staff.
- A high protein diet and adequate hydration should be encouraged so that patients can tolerate mobilisation and activity.
- Mobilisation and pain management should be coordinated to maximise the patient's ability to participate in rehabilitation.
- There should be daily assessments of patients' progress to determine needs for post-acute

rehabilitation and prevent delays in transfers to rehabilitation/home or other care environments.

Bachmann et al. (2010) also found that multidisciplinary inpatient rehabilitation provided to both general geriatric and orthopaedic geriatric patients improves physical function and reduces risk of nursing home placement. A systematic review by the Joanna Briggs Institute (Garcia, 2012) found that multidisciplinary interventions, including exercise, reduced length of stay and increased patient return to home rather than to institutional settings. Such evidence underscores the importance of nursing care that encourages patients to perform those activities that they can in the interest of promoting return to optimal function. When the patient is discharged from acute care, share those strategies that have been successfully employed during the acute hospitalisation with appropriate staff in rehabilitation and other transitional care settings.

As the patient transitions to a structured setting or to home for rehabilitation, prevention of future fracture is an important component of the plan. A hip fracture, typically due to osteoporosis, places the patient at the highest risk of recurrent fractures. "One in three hip fracture patients sustain another fracture within the first year of which many involve the contralateral hip; and over one in two patients will suffer another fracture within five years" (Waddell, 2011). Minimising the hip fracture patient's risk for falling as they return to maximum mobility postoperatively is essential. Specific information on falls and fall prevention can be found at (<http://www.stopfalls.org/international/index.shtml>); and (http://americangeriatrics.org/health_care_professionals/clinical_practice/clinical_guidelines_recommendations/2010).

Assessment for osteoporosis in the patient who has sustained a fragility fracture is an equally important part of the postoperative treatment plan. Osteoporosis is amenable to a number of effective treatments (Sanders and Geraci, 2011). The patient's and caregiver's understanding of this disease, its risk factors and the importance of their participation in the treatment plan is essential to secondary fracture prevention. Ascertaining the patient's/caregiver's understanding of the relationship between osteoporosis and the fracture underlies successful patient participation (Giangregorio et al., 2008; Meadows et al. 2007). Information about osteoporosis for both professionals and patients can be found at many websites including the International Osteoporosis Foundation (www.

[iof.org](http://www.iof.org)), National Osteoporosis Foundation (www.nof.org/professionals/clinical-guidelines), National Institutes of Health in the US (www.niams.nih.gov) and The National Institute for Health and Clinical Excellence in the UK (www.nice.org.uk).

In partnership with the patient and family, orthopaedic nurses can be advocates for treatment protocols and post discharge programs that support patients' wishes and focus on realistic goals to return to optimal function. This partnership begins on admission and extends through transition to the post discharge phase. Recent research by Boltz et al. (2012) "suggests that nursing interventions that support functional independence and physical activity may mitigate risk for hospital-acquired functional decline". Patients and their families can be part of this initiative. Nurses Improving Care for Healthsystems Elders (NICHE) (2010) has published a helpful brochure focused on preventing functional decline (http://nicheprogram.org/need_to_know); click on Need to Know: Functional Decline.

Pain

Significance – prevalence

Pain following a fall, hip fracture and surgical repair is distressing for the older patient with the potential for serious adverse consequences. Older patients with hip fractures are at high risk of under-managed acute pain after surgery which can result in impeded mobility, functional impairment and prolonged hospital stay resulting in increased healthcare costs (Morrison et al., 2003; Björkelund et al., 2009; American Geriatrics Society, 2009). Pain may also contribute to the development of delirium, depression and sleep and appetite disturbances (American Geriatrics Society, 2009; Vaurio et al., 2006).

Pain-related conditions and injuries increase with age so patients may have a combination of acute pain related to the fracture and subsequent surgical repair as well as chronic pain related to a pre-existing condition. Among institutionalised people over age 65, up to 80 percent suffer significant persistent pain and, in the community, up to 50 percent report persistent pain (Ramage-Morin, 2008). Osteoarthritis, osteoporotic fractures, degenerative spine disease, cancer and diabetic or vascular neuralgias are some of the painful conditions prevalent in the older adult hip fracture population (American Geriatrics Society, 2009).

Pain is often under reported by older patients and health professionals frequently underestimate

and under treat their pain. Older patients tend to under report pain for a variety of reasons including that they:

- Prefer a passive role in pain management, preferring to be asked about pain rather than initiating a pain complaint.
- Fear being a burden to their families or bothersome to staff.
- Assume the nurse knows that they are in pain and is doing all that can be done.
- Believe that pain is inevitable with ageing and be resigned to suffering.
- Fear that admitting pain could result in lost independence.
- Have previously experienced analgesic side effects such as constipation and sedation and want to avoid these medications.
- Fear becoming addicted to opioid pain medications.
- Be unable to communicate clearly due to a dementia, delirium or language barrier.
- Have an illness such as Parkinson's or dementia that masks typical facial or verbal expressions associated with pain.

Healthcare providers may hold common misconceptions or lack knowledge that hampers pain detection and treatment such as:

- Pain is normal, harmless and an inevitable part of ageing.
- Visual signs either physiological (elevated vital signs) or behavioural (grimacing, moaning etc.) must accompany pain.
- A cognitively impaired person is incapable of reliably reporting pain.
- Cognitively impaired patients do not experience as much pain as those that are cognitively intact.
- Older adults experience lower pain intensity
- Patients will become addicted to opioid pain medications.

Identifying, discussing and dispelling misconceptions held by patients and health professionals are essential for improving pain management (Pasero and McCaffery, 2011).

Pain classifications

Understanding pain classification is essential as targeted interventions are more effective in managing specific pain types. Pain is classified based on duration and physiology, as delineated below.

Duration

Acute short term pain, related to an illness or injury with a predictable course of healing. For example, surgical pain that subsides in the weeks following surgery is acute pain.

Persistent/chronic pain lasting at least two weeks or often much longer. Degenerative joint and spine diseases are examples of painful conditions that tend to persist long term.

Physiology

Nociceptive pain, which has two subtypes: 1) **somatic**, involving skin and musculoskeletal structures. Somatic pain tends to be well localised and is typically characterised as aching, sharp or throbbing pain that is intensified by movement. Osteoarthritis and fractures are common forms of somatic pain. 2) **visceral** involving injury or inflammation of organs and the GI tract. It is often characterized by a deep, dull, ache or cramping. Visceral pain tends to be poorly localised and frequently radiates to surrounding structures. Constipation is an example of a common visceral pain in the older adult (Pasero and McCaffery, 2011; Registered Nurses' Association of Ontario, 2007).

Neuropathic pain is associated with injury or disease of the peripheral or central nervous system (Macintyre and Schug, 2007). It can be caused by degeneration, pressure, inflammation, trauma, metabolic disorders, tumours, primary neurological disease or infection. The intensity of nerve pain varies from mild to severe and is described as any one or a combination of the following: 1) dysesthetic, pins and needles, burning or freezing, 2) lancinating, "sharp, shooting, shock like" or 3) allodynia, pain in response to non-painful stimuli. Examples of neuropathic pain include spine compression fractures and diabetic neuralgia (Registered Nurses' Association of Ontario, 2007; Macintyre and Schug, 2007; Dworkin et al., 2003).

The patient with a hip fracture may have several overlapping pain types. For examples, they will have pain at the injury/surgical site but may also have chronic constipation and an osteoporotic spine fracture with nerve compression. Identifying all presenting pain types is necessary as effective management strategies vary depending on the pain type.

Assessment/detection

Pain is a multidimensional experience influenced by physical, emotional, psychological and social

factors. The most accurate and reliable method of determining the presence and severity of pain in the cognitively intact patient is self-report (Pasero and McCaffery, 2011; American Geriatrics Society, 2002).

Frequent evidence-based pain assessment is the foundation for effective pain management in hip fracture patients. Standards for pain assessment include using an evidence-based tool to conduct an admission interview, a screen of health records to detect pre-existing painful conditions. Several validated assessment tools are available on the following website <http://ltctoolkit.rnao.ca/resources/pain#Assessment->.

An initial assessment usually includes:

- location of pain(s), pain descriptors/characteristics of both new acute and existing persistent pain
- pain intensity rating at rest and during activity
- pain management history – current and past both pharmacological and non-pharmacological strategies, their relative effectiveness and any adverse effects experienced by the patient

Pain intensity rating scales identify the intensity of the pain and serve as a measure for the effectiveness of the pain intervention in relation to the individual's pain goal. In studies of long term care residents, individual preference and ability to respond varied by scale. The most commonly preferred tools include the: numerical rating scale (0–10), faces pain scale, verbal descriptor scale and IOWA Pain Thermometer (Pasero and McCaffery, 2011; Herr et al., 2007; Hadjistavropoulos et al., 2007). Identification and consistent use of the patient's preferred pain rating tool is recommended when a range of acceptable options is available.

For ongoing pain assessment the following mnemonic is easy to remember and may be useful:

- O** – onset and duration of pain
- P** – provoking – what make it worse or **palliating** – what makes it better
- Q** – quality what does the pain feel like e.g. discomfort, aching, burning etc.
- R** – radiation and region
- S** – severity or pain intensity measured on a validated scale
- T** – timing
- U** – understanding: Patient or family beliefs or concerns about the pain
- V** – values: What is the patient's goal for pain relief? (American Geriatrics Society, 2002; Registered Nurses' Association of Ontario, 2002).

Not all older adults will use or respond to the term 'pain' when assessed. The use of other descriptors such as discomfort, aching or hurting may assist in revealing the presence of pain (American Geriatrics Society, 2009; Pasero and McCaffery, 2011; Herr et al., 2011; Hadjistavropoulos et al., 2007).

Special considerations

Older adults frequently have vision and hearing deficits and may be slow to comprehend information. Addressing any sensory impairment (hearing aids and glasses in place, enlarged pain rating tools, adequate lighting) and providing sufficient time for older adults to process and respond to questions is vital (Pasero and McCaffery, 2011).

Even in the presence of mild to moderate dementia or delirium, patients can reliably report pain through simple questions and valid assessment tools developed specifically for this population (Herr et al. 2011).

Patients with advanced cognitive impairment will require systematic assessment using a validated behavioural scale. Zwakhalen et al's (2006) systematic review of behavioural pain assessment tools can be accessed through the following link: <http://www.biomedcentral.com/1471-2318/6/3>.

Validated behavioural pain scales typically involve observing the patient at rest and movement to note changes in behaviours that may indicate pain (see Table 1).

Evaluation of changes in usual behaviours such as increased agitation, aggression, guarding or withdrawal includes pain as a potential cause. When signs of distress are evident, sources other than pain are also assessed and addressed. These may include positioning, hunger, thirst, heat, cold, over or under stimulation, toileting needs etc. Family/care providers are an important resource to provide insights into patient behaviours or responses indicative of pain or discomfort (American Geriatrics Society, 2002; Herr and Garand, 2001).

Patients who manifest pain with agitation or combativeness may be at risk for inappropriate treatment with psychotropics for behaviour management rather than adequate analgesia for the breakthrough pain. Rule out pain as the cause of unsettled behaviours prior to administering psychotropic medications.

If the patient has a pre-existing condition such as spinal osteoporosis that increases the risk for neuropathic pain or when pain is not responding to usual analgesics, assessment using a validated neuropathic pain scale is recommended. Validated

Table 1 Common pain behaviours in cognitively impaired older persons.

Pain behaviour	Description
Facial expressions	Slight frown; sad frightened face Grimacing, wrinkled forehead, closed or tightened eyes Any distorted expression Rapid blinking
Verbalisations and vocalisations	Sighing, moaning, groaning Grunting, chanting calling out Noisy breathing Asking for help
Body movements	Verbally abusive Rigid, tense body posture Guarding, fidgeting Increased pacing, rocking Restricted movement
Changes in interpersonal interactions	Gait or mobility changes Refusing food, appetite changes Increase in rest periods or changes in sleep patterns Sudden cessation of common routines
Mental status changes	Increased wandering Crying or tears Increased confusion Irritability or distress

American Geriatrics Society Clinical Practice Guideline (2002): The Management of Persistent Pain in Older Persons. Reproduced with permission from the American Geriatrics Society.

neuropathic pain assessment tools can be found at http://consultgerirn.org/uploads/File/trythis/try_this_sp1.pdf.

As depression frequently co-exists with persistent pain (American Geriatrics Society, 2002) using a validated screening tool may assist in its diagnosis and management where concern exists. Identifying and managing untreated depression is important as pain contributes to depression and depression makes pain more difficult to bear. A depression screening tool can be found at <http://www.fpnotebook.com/psych/exam/DprsnScrngTls>. Refer also to the section on Delirium in this paper for some additional information on depression.

Management strategies

Effective pain management is dependent upon accurate assessment of pain and the development of a holistic approach to pain that includes non-pharmacological and pharmacological methods for treatment (Registered Nurses' Association of Ontario, 2007). Partnering with the patient and family is vital to managing the patient's pain. Understanding and addressing the patient's preferences, goals, fears and biases is essential in crafting a care plan with which the patient can successfully participate (Gordon et al., 2005). The patient may have

firmly held beliefs based on personal or family experience. For example, a patient may fear and refuse analgesics because of severe side effects experienced previously.

A pain management plan is based on achieving a goal mutually established by the patient and healthcare provider. This goal enables the person to mobilise, improve function and achieve an acceptable quality of life (American Geriatrics Society, 2009). Pain management following hip fracture may employ a combination of non-pharmacological and pharmacological interventions.

Non-pharmacological interventions

Non-pharmacological therapies are an integral part of the treatment plan. A variety of non-pharmacological interventions for pain have been effective as stand alone treatments or in combination with appropriate medications. Selecting strategies the patient believes in will enhance the effectiveness of pain management. Recommended therapies include, but are not limited to:

- Applying ice packs to the hip for fifteen minutes at a time.
- Warm blankets and gentle massage provide a sense of caring and security.

Table 2 Pharmacological changes with ageing.

Pharmacology concern	Change with normal ageing	Clinical implication
Gastrointestinal absorption or function	Slowing of GI transit time may prolong effects of continuous release enteral drugs. Opioid-related bowel dysmotility may be enhanced in older patients.	Monitor for effectiveness. Prolong the interval between doses as analgesic effects may last longer. Use constipation prevention strategies.
Distribution	Increased fat to lean body weight ratio may increase volume of distribution for fat soluble drugs.	Start with a lower analgesic dose. Prolong the interval between doses Do not use the intramuscular route.
Liver metabolism	Oxidation is variable and may decrease resulting in prolonged drug half-life. Conjugation usually preserved. First-pass effect usually unchanged. Genetic enzyme polymorphisms may affect some cytochrome enzymes.	Start with a lower analgesic dose. Prolong the interval between doses Use a lower dose of acetaminophen.
Renal excretion	Glomerular filtration rate decrease with advancing age in many patients which results in decreased excretion.	Avoid NSAIDs and meperidine. Start with a lower analgesic dose. Prolong the interval between doses
Active metabolite	Reduced renal clearance will prolong effects of metabolites.	Avoid meperidine. Select opioids with minimal metabolites: e.g. hydromorphone, and oxycodone. Morphine is not a first line opioid choice due to metabolite.
Anticholinergic side effects	Increased confusion, constipation, incontinence, movement disorders.	Avoid anticholinergic drugs.

* Adapted with permission from the American Geriatrics Society Guideline: The Pharmacological Management of Persistent Pain in Older Persons (2009).

- Cognitive-behavioural strategies: breathing exercises, relaxation therapy, humour, music therapy and socialisation/distraction.
- Reposition regularly with supportive pillows.
- Use an interdisciplinary approach. Occupational therapists may provide custom seating, splints or adaptive devices. Physiotherapists will assist in individual mobility, exercise and strengthening programs.
- Physical activity to improve range of motion, mobility and strength. (American Geriatrics Society, 2009).

Pharmacological strategies

The pharmacological approach includes the use of multimodal analgesia to maximise the positive effect of the selected medications while at the same time limiting the associated adverse effects (Kehlet and Dahl, 2003). Older adults are generally more susceptible to adverse medication reactions. However, analgesics can be used safely and effectively in the older adult population when considerations of age related differences in

absorption and distributions of these medications, as well as individual risk factors, are considered (American Geriatrics Society, 2002, 2009). See Table 2 for specific changes with ageing that affect the individual's response to drugs and related clinical implications.

Opioid analgesia is a key component in managing hip fracture pain, but there remains wide variability in individual patient need. Opioid requirements decrease with ageing and side effects can impede mobility, impair cognition and interfere with recovery. Opioid requirements decrease with ageing, there remains but wide variability in individual patient needs. Analgesic names and their availability vary by country so there will be differences among countries regarding specific analgesics used. Pure opioid agonists with short half-lives such as hydromorphone and oxycodone are the usual choice for the older adult (Pasero and McCaffery, 2011; Macintyre and Schug, 2007). Morphine has a potent active metabolite and therefore is not the first choice for older patients with decreased renal function (Pasero and McCaffery, 2011; Jovey, 2008). Meperidine is contraindicated due to active, toxic metabolites (Pasero and McCaffery, 2011).

Other medications such as sedatives, antiemetics and neuroleptics to manage agitation may potentiate opioid sedation and the added potential for adverse effects needs to be considered when dosing and titrating opioids (Jarzyna et al., 2011).

Multimodal analgesia

A major principle in multimodal analgesia (the use of more than one drug classification) is to reduce dose requirements of each individual drug and thus minimise side effects. The use of peripheral or regional anaesthetic techniques and a combination of opioid and non-opioid analgesic agents for breakthrough pain result in superior pain control and attenuation of the stress response, besides decreasing the need for opioids (Kehlet and Dahl, 2003).

Specific multimodal analgesic recommendations for older adults in the immediate postoperative period include:

1. Regular administration of low dose opioids titrated to effect, using the least invasive method for administration, for the first 48–72 h post operatively, then as needed (Registered Nurses' Association of Ontario, 2002).
2. Regular administration of acetaminophen, for 48–72 h postoperatively then as needed. The maximum 24 h dose for a healthy adult is 4 Gms. For those with diminished renal or hepatic function, the suggested decrease in acetaminophen dosage is 50–75% of the adult dose (American Geriatrics Society, 2009).

While COX-2-selective and traditional non-steroidal anti-inflammatory drugs (NSAIDs) are effective agents in postoperative musculoskeletal pain management, older adults are at high risk for associated cardiovascular and gastrointestinal adverse events. People with diminished renal function, dehydration, congestive heart failure and/or a history of peptic ulcers or gastrointestinal bleeds should not take these medications. Traditional NSAIDs can enhance the anticoagulant action and increase the risk of bleeding due to their effects on platelet function. Therefore, NSAIDs are used with extreme caution and only if benefits outweigh risks and generally are not recommended for the older adult (American Geriatrics Society, 2009).

For neuropathic pain, adjuvant medications including antidepressants, anticonvulsants and other pain modulating medications are recom-

mended with selection and titration based on the pain condition, severity and response to treatment.

The American Geriatric Society Panel Pharmacological Management of Persistent Pain in Older Person 2009 (American Geriatrics Society, 2009) can be found at: http://www.americangeriatrics.org/files/documents/2009_Guideline.pdf.

Prevention and management of side effects

Anticipate and monitor for common side effects such as sedation, constipation, nausea and vomiting and institute preventive treatment as appropriate (Registered Nurses' Association of Ontario, 2002). The older adult has an increased risk of respiratory depression with opioids due to age related changes and coexisting diseases. Regularly monitoring sedation levels is recommended as sedation generally precedes respiratory depression (Jarzyna et al., 2011; Pasero and McCaffery, 2011). The ASPMN Nursing Guidelines on Monitoring for Opioid Induced Sedation and Respiratory Depression (Jarzyna et al., 2011) can be found at: <http://www.aspmn.org/Organization/documents/GuidelinesonMonitoringforOpioid-InducedSedationandRespiratoryDepression.pdf>.

Self-management strategies

Engaging patients and families in developing the capacity to manage their pain is vital for effective pain treatment and an improved quality of life. Consider education and coaching to develop self-care knowledge and skills in the following areas:

- Importance of pain management for rest, activity and healing.
- Early warning signs of pain signifying complications: e.g. infection, venous thrombo embolism, hip dislocation etc.
- How to use non medication strategies: e.g. cold packs, positioning, breathing exercises, distraction etc.
- Preventing pain with appropriate selection, dose and timing of pain management strategies e.g. analgesics and or cold packs before exercise.
- Safe and appropriate use of analgesics: e.g. what medication to take, when and how to take them and any activity precautions.
- Prevention strategies to mitigate analgesic side effects: e.g. constipation, delirium. (Pasero and McCaffery, 2011)

PAIN - QUICK REFERENCE

ASSESSMENT/DETECTION

Pain is often under reported by patients and undetected by staff. Frequent appropriate pain assessment is essential. Assessment of pain is multi-dimensional including:

- Onset and duration of pain
- Pain locations
- Predisposing factors
- Pain type or quality
- Beliefs about treatments and effectiveness
- Co-existing painful conditions
- Prior to admission treatment type, dose & effect
- Pain intensity using a valid scale preferred by the patient. e.g. IOWA Pain thermometer, verbal descriptor scale

Severely impaired patients can respond to verbal assessments simply stated and focused on the present. For those unable to respond verbally, use a valid behavioural scale e.g.. Pain AD. A change in baseline such as agitation, aggression or withdrawal is indicative of pain. Family/care providers are an important resource.

TYPES OF PAIN

Older people may have both nociceptive and neuropathic pain types. Effective treatment is predicated on targeting the specific pain type.

Nociceptive

Visceral — organ

- Deep dull ache
- Radiates to surrounding areas

Somatic — musculoskeletal

- Well localized
- Aching or sharp
- Intensified by movement.

Neuropathic — Nerve: Notify MD: Requires a specialized approach

- Dysesthetic, pins and needles, burning or freezing
- Lancinating, "sharp, shooting, shock like"
- Allodynia - pain in response to non-painful stimuli.

NONPHARMACOLOGICAL MEASURES

- Reposition regularly with supportive pillows.
- Warm blankets & gentle massage for a sense of caring and security.
- Apply cold packs to the site for fifteen minutes at a time.
- Breathing exercises, socialization / distraction.
- Identify & use what the person believes will be effective.
- Consult OT/PT for seating/mobility/exercise.

PHARMACOLOGICAL STRATEGIES

Use a multimodal approach: nonpharmacological, opioids, acetaminophen .

Immediate postoperative recommendations:

- 1) Regular dosing of low dose opioids for 48-72 hrs post op, then as needed. Appropriate opioids include: hydromorphone, oxycodone, & morphine (less preferred due to active metabolites).
- 2) Regular dosing of acetaminophen up to 4 Grams for 48-72 hours. Use lower doses for patients with decreased renal or hepatic function.

NSAIDS and COXIBS are often contraindicated due to susceptibility to adverse effects.

Principles of Analgesic Administration

- Begin with a low dose. Titrate slowly to effect.
- Assess sedation scale before & after dosing. Reduce/ withhold dose if sedation occurs.
- Select appropriate medication with lowest potential for toxicity or adverse effects.
- Individualize dosing. Ensure baseline opioid dosing is factored into treatment plans, when opioids have been regularly used prior to admit.
- Use a step wise approach (WHO)
 - Step 1: Mild pain: acetaminophen/ comfort measures.
 - Step 2 Moderate pain: Step 1 plus low dose Opioid
 - Step 3: Step 1 plus Opioid titrated to effect.
- Prevent constipation: bowel protocol with laxatives if opioids used.
- If delirium, assess for underlying cause. If analgesic related, reduce dose or use alternate medication.
- Use low dose anti-emetics only if significant nausea or vomiting. Investigate /address underlying cause of N/V e.g. obstruction.

Self Care: Patient Education & Coaching

- Importance of pain management for rest, activity and healing
- Early warning signs of pain signifying complications: e.g. infection, venous thrombo embolism, hip dislocation etc.
- Comfort measures: e.g. cold packs, positioning, breathing exercises, distraction etc.
- Preventing pain with appropriate selection, dose and timing of pain management strategies e.g. analgesics and or cold packs before exercise.
- Safe and appropriate use of analgesics: e.g. what medication to take, when.
- How to safely manage activities.
- Prevention of side effects: e.g. constipation, delirium, sedation.

Delirium

Delirium is one of the most prevalent cognitive disturbances in older adults with rates ranging between 16% and 62% after hip fracture (Bitsch et al. 2004; White et al., 2011). Delirium is defined as a sudden alteration in baseline mental function characterised by rapid development of fluctuating disturbances of consciousness, attention and perception (American Psychiatric Association, 2000). Delirium is independently associated with a variety of adverse outcomes including pressure ulcers, functional decline, institutionalisation, and death (McAvay et al., 2006; Andrew et al., 2005). Krogsaeth and colleagues (2011) conducted a prospective 6-month follow-up study of 106 elderly hip fracture patients, free from dementia prior to fracture, and found the development of delirium in the acute phase to be a strong predictor of dementia 6 months later. Patients with persistent delirium

are 2.9 times more likely to die within one year than those whose delirium resolves (Kiely et al., 2009). In addition to increased morbidity and mortality, there is significant added monetary cost per case to treat and care for patients with delirium compared to those without. This is in part due to longer hospital stays and the need for increased post discharge services (Leslie et al., 2008).

Despite its prevalence, significant cost and negative outcomes, delirium is often overlooked or misdiagnosed by both physicians and nurses (Lemengre et al., 2006; Inouye et al., 2001). Nurses often miss delirium, especially when dementia or the hypoactive form of delirium is present (Fick et al., 2007; Steis and Fick, 2008). The ability to differentiate between dementia and delirium is important because unlike dementia, the cognitive changes in delirium are potentially preventable, are likely reversible and may be the only presenting symptom of an acute health crisis.

Orthopaedic nurses play a pivotal role in ensuring optimal outcomes for patients at risk for or suffering from delirium. Prevention requires clinicians that are knowledgeable of delirium risk factors, are vigilant in screening and documenting their findings and implement evidence-based protocols to reduce the incidence of delirium. In the older adult, delirium is considered a medical emergency requiring prompt attention, ongoing assessment and targeted medical and nursing interventions aimed at addressing the underlying acute medical problem. Targeting identified risk factors has proven to be effective in reducing the incidence, duration and severity of delirium. (Holroyd-Leduc et al., 2010; Mak et al., 2010; Björkelund et al., 2010).

Risk factors

There is no single cause of delirium. Multiple factors including dementia, advanced age, sensory deficits, chronic medical conditions, medications and orthopaedic surgery increase the risk of developing delirium in the older patient with hip fracture. Unfortunately, there is no single laboratory ‘test’ for delirium. Detection depends on knowledgeable care providers who identify the risk factors and maintain a high level of suspicion when sudden behavioural changes occur, including increased somnolence and lethargy. Causative risk factors fall into two categories; predisposing factors – those issues that increase a person’s vulnerability to developing delirium – and precipitating risk factors – those issues that occur as a result of hospitalisation that lower the threshold to trigger delirium (Inouye and Charpentier, 1996). See Table 3 for examples of predisposing and precipitating factors. The more vulnerable the patient, the fewer precipitating factors required to create a delirious state.

When Delirium is suspected, a comprehensive assessment to uncover the root causes should be performed. The acronym PRISM-E was developed by the Vancouver Island Health Authority Hospital to help focus nursing assessment on common risk factors that may be contributing to the delirium.

- P – Pain, poor nutrition
 - R – Retention (urine or stool), restraints
 - I – Infection (urinary, pulmonary, wound), immobility
 - S – Sleep disturbances, sensory deficits (hearing, vision)
 - M – Metabolic imbalance, mental status, medications
 - E – Environmental changes
- http://geropsychiatriceducation.vch.ca/docs/edudownloads/delirium/delirium_screening_PRISME.pdf

Assessment/detection

Determining baseline mental status is a critical and often challenging first step in obtaining an accurate assessment of cognition. The best resource to determine mental status changes, especially for those with dementia, is often the family or in-home care provider. In addition to information from family, ongoing cognitive assessment and documentation of findings is important. Incorporating a cognitive assessment screen into routine nursing documentation may help to ensure ongoing evaluation across shifts, enhancing the opportunity to detect subtle changes. The Abbreviated Mental Test 4 (AMT4) <http://www.ncbi.nlm.nih.gov/pubmed/9360037> and the Short Portable Mental Status Questionnaire http://www.npcrc.org/usr_doc/adhoc/psychosocial/SPMSQ.pdf are examples of valid and reliable tools that can be used to identify cognitive deficits (Schofield et al., 2010).

Table 3 Risk factors.

Predisposing factors	Precipitating factors
History of, delirium, dementia or depression	Orthopaedic surgery – prolonged time to surgery.
Advanced age > than 75 years	Medications: either addition &/or withdrawal especially anticholinergics, benzodiazepines and opioid naivety or sensitivity.
Sensory deficits; Hearing/visual	Immobility/restraint use.
Metabolic/electrolyte disturbances: diabetes, hypothyroid; dehydration	Metabolic/endocrine/electrolyte disturbances, hypoxia; fluid overload, dehydration.
Infection/severity of illness	Pain.
Alcohol/substance abuse	Sleep disturbances; noisy environment, overstimulation.
Dependency on others for ADL	Tethering/immobilising medical devices e.g. IV’s, indwelling urinary catheters.
Incontinence	Constipation.

Screening tools for delirium

There are several delirium assessment and rating scales to assist clinicians to identify delirium. Examples of some commonly used instruments include:

The Confusion Assessment Method (CAM) http://www.consultgerirn.org/uploads/File/trythis/try_this_13.pdf.

The Delirium Observation Screen (DOS) and the NEECHAM confusion assessment scale <http://www.biomedcentral.com/1472-6955/6/3> and the Nurses Delirium Screen (NuDESC) <http://www.caresearch.com.au/Caresearch/LinkClick.aspx?fileticket=jub2P5CbteE%3D&tabid=1179>.

When selecting an assessment instrument it is important to choose one with established validity and reliability and one that was designed for use by nurses at the bedside. Consideration should also be given to the practice setting and patient population for which it will be used, the time required for administration and/or training of staff to use as well as the culture of the organisation.

Identifying cardinal features of delirium

Regardless of the tool chosen, it is important that clinicians are able to identify the cardinal features of delirium. The hallmark features of delirium are sudden onset, developing within hours or days, a fluctuating nature of symptoms and inattention. Fluctuation of symptoms is commonly noted by the family and best captured by consistency of screening and documentation of findings. Inattention can be gauged quickly by simply asking the patient to say the days of the week backward or spell their last name backward. Disorganised thinking – which may or may not be present – can be gauged by asking the patient “What would you do if your house were on fire?” or “Which is heavier: a feather or a rock”?

Another challenge is that delirium presents in several forms or subtypes. The hyperactive form is characterised by high levels of anxiety, distractibility, restlessness and wandering. Patients suffering from this form of delirium are easy to identify because they demand our attention. The hypoactive subtype – characterised by lethargy/sleepiness in a previously engaged person – is the more common form of delirium in older adults and several studies associate hypoactive delirium with poorer outcomes and an overall poorer prognosis (de Rooji et al., 2005). The mixed subtype manifests with fluctuating periods of anxiety and lethargy.

Differentiating delirium from dementia and depression

Delirium is more common in patients with dementia and may coexist with disorders such as depression, a common condition in the elderly (Fick and Foreman, 2000). Cognitive changes, such as increased anxiety, visual hallucinations, delusions and pulling/picking at devices, are often attributed to the dementia rather than an emerging delirium superimposed on the dementia. Patients experiencing hypoactive delirium may be misdiagnosed as sedated, tired or suffering from depression. Differentiating delirium from depression or dementia requires astute clinical assessment skills and an awareness of the distinguishing clinical features of each condition (see Table 4).

“Delirium superimposed on Dementia”, one of the John A. Hartford Foundation Institute for Geriatric Nursing’s “Try This” series, provides valuable information to assist in teasing apart delirium from underlying dementia (Fick and Mion 2008). www.mmc.org/workfiles/mmc_services/geriatrics/Improving_Detection.How_to_try_this_DSD.Fick.pdf.

The Registered Nurses Association of Ontario (RNAO) best practice guidelines for identifying delirium, dementia and depression in the elderly patient and the Vancouver Island Health Authority website are two other excellent resources. http://www.rnao.org/bestpractices/PDF/BPG_DDD.pdf. <http://www.viha.ca/search.htm?q=delirium&ChannelGuid=%7bAB3EE633-0F65-4C25-8C40-6502866E96DF%7d>.

Prevention and management strategies

Studies suggest that it is possible to prevent up to 30% of the cases of delirium (Inouye et al 1999; Marcantonio et al., 2001). Early attention (on admission) to risk factors and implementation of targeted nursing management strategies may avert the development of delirium and/or for those who do develop it these strategies may ameliorate the severity of their symptoms. Table 5 provides some examples of targeted intervention strategies. A comprehensive list of delirium prevention strategies published by the National Institute for Health and Clinical Excellence (NICE, 2010) are available at the following website: <http://www.nice.org.uk/nicemedia/live/13060/49909/49909.pdf>.

Delirium is a frightening experience for the patient, their family and the staff. A number of cognitively intact older adults who experienced a delirium while acutely ill or following surgery

Table 4 Clinical features of depression, dementia and delirium.

	Depression	Dementia	Delirium
Presenting symptoms	Depressed mood, negative self-talk, lethargy, appetite and sleep disturbances.	Difficulty with recent and remote memory, disorientation to time, place and person; disturbances in intellectual reasoning and thinking.	Fluctuating disorientation, mental confusion, emotional lability, manic-like behaviour, visual hallucinations. May be lethargic, sleepy/difficult to awaken. May be delusional
Onset/course	Gradual; typically worse in morning. May be connected to onset of physical illness, loss of family or friends, changes in financial or living situation.	Gradual onset; progression of course depends on cause; typically slow with loss of intellectual functioning; loss of ability to perform familiar tasks; inability to problem solve.	Sudden; may occur during acute illness or surgery; often at twilight or in darkness; function deteriorates quickly.
Cognitive features	Loss of cognitive functioning is rare, but has difficulty concentrating and making decisions and may experience minor memory loss.	Difficulty remembering recent events, (in severe dementia, remote memory impaired as well), words difficult to find. Impaired judgment. In early stages attempts to conceal deficits.	Cognitive changes that occur rapidly. Inattention, Fluctuating levels of awareness; Disorganised thinking may experience hallucinations/illusions/delusion.
Emotional features	Loss of interest or pleasure in favourite activities; persistent sadness, irritability, & hopelessness. Seems lethargic and apathetic or intensely worried.	Passive and withdrawn. May become agitated when confronted about cognitive losses or feels threatened by new people or environment.	Hyper-agitated, erratic mood swings, anxious, uncooperative. aggressive. Hypo-lethargic, difficult to awaken.
Physical features	Vague somatic complaints. Looks sad	Fragmented sleep wake cycle. Looks "lost" and confused. May dress inappropriately or lack self care.	Sleep cycle may be reversed. May have wild-eyed look (anxious); may be disinhibited or disinterested in self care.

vividly recall their feelings while delirious and how frightened they felt. The Vancouver Island Health Authority in Canada developed a video depicting a delirious episode from the patient's perspective. <http://www.youtube.com/watch?v=wcCcS4NiCHU>.

Nursing management strategies to reduce severity of delirium

Once delirium has been identified, the major focus of nursing care should be safety and reduction of

stress. The initial management strategy is to identify and manage any possible underlying cause or combination of causes (British Geriatric Society, 2006; Robinson et al., 2008). The PRISM-E guide described above is also a useful tool in managing delirium. Monitor for the use of potentially inappropriate drugs and consider withdrawing them whenever possible. Critically evaluate the use of benzodiazepines and medications with anticholinergic properties for necessity and dose, especially in the elderly. If the suspected cause of delirium is opiates, it may be possible to reduce the dose or change to an alternative analgesic. However, it

Table 5 Delirium prevention strategies.

Clinical factor	Prevention strategy
Dementia/cognitive impairment/disorientation	Routine screening Encourage visits from family/significant others Environmental cues i.e. clocks, signs, day calendar Reorient/remind of situation as long as not anxiety producing Provide reassurance
Dehydration/constipation	Encourage fluids; offer fluids with each patient visit unless restricted Ensure fluids are accessible and in container easy to manipulate Encourage mobility Laxatives, Suppositories, Enemas based on protocol or provider orders
Hypoxia	Monitor oxygen saturation closely, apply oxygen when indicated according to established protocols
Limited mobility	Avoid prolonged bed rest/encourage mobility Encourage active participation in ADLs Ensure access to necessary assistive devices Avoid restraints Initiate fall precautions
Infection	Monitor for signs and symptoms of infection Avoid devices that increase risk; i.e. urinary catheters Adhere to universal precautions/infection control practices
Medications	Careful medication review Critically evaluate use of benzodiazepines and anticholinergic medications Alert to potential withdrawal from routine medications not reordered on admission, e.g. benzodiazepines Avoid medications that have CNS side effects
Pain	Assess for pain; monitor for signs in non verbal patients (PAINAD assessment) http://consultgerim.org/uploads/File/trythis/try_this_d2.pdf . Initiate and monitor effectiveness of pain management Scheduled, non-opioid analgesics are effective treatment for arthritic pain in elderly patients. (Refer to Pain section)
Poor nutrition	Conduct nutrition screen for all patients Provide nutritional support for all patients with special attention to malnourished older adults. Ensure dentures fit well Assist as needed to ensure oral hygiene is maintained Be alert to swallowing difficulties
Sensory impairment	Assess and resolve any reversible causes; e.g. wax impaction Ensure availability of glasses and hearing aids Display large print accurate signage Avoid glare
Sleep disturbances	Ensure environment is appropriately lit for time of day Limit environmental noise Bundle nursing services to avoid multiple disruptions Time medications to optimize therapeutic effects and maximize sleep Avoid pharmacological interventions unless routine

Source: National Institute for Health and Clinical Excellence. July 2010. Delirium – Clinical Guideline (103).

is important to note that hip fractures are painful and unrelieved pain is a leading contributor to the development of delirium (Schreier, 2010). A review of medications by a clinical pharmacist is often helpful in identifying medication contributors.

Infection is known to cause delirium. Universal precautions must be strictly adhered to prevent infections. Devices that increase risk of infection such as indwelling urinary catheters should be discouraged and if necessary, removed as soon as clinically possible. If urinary retention presents as a post-operative symptom; rather than reinserting an indwelling catheter, direct nursing efforts toward mobilising the patient and consider the use

of bladder scan and intermittent straight catheterisation until normal voiding returns (Palese et al., 2010). Assess for the possibility that an anti-cholinergic drug may be the cause of the retention. In men determine whether an enlarged prostate is the cause and refer for appropriate urological consult.

Alcohol abuse increases the risk of developing delirium and its occurrence in the elderly population and may be overlooked. Incorporation of a protocol to manage chemical dependency withdrawal, such as the Clinical Institute Withdrawal Assessment (CIWA) http://www.reseaufranco.com/en/assessment_and_treatment_information/

[assessment_tools/clinical%20institute%20withdrawal%20assessment%20for%20alcohol%20\(cywa\).pdf](#) may help ensure symptoms of withdrawal are identified and addressed early. Drug misuse such as benzodiazepines for sleep or anxiety may also be a contributing factor. Failure to renew these medications while hospitalised may lead to withdrawal. Withdrawal is very difficult and assessment by a physician or advanced practice nurse to determine continuance of the drugs while in the hospital may be necessary. Withdrawal from benzodiazepines can take many months and sometimes years.

Effective communication is important. To the extent that it does not enhance agitation, it is important to provide reorientation. For example, explain where the person is and your role. Use of a white board to post date, room number and the names of persons providing care are important reorientation strategies. Invite and encourage participation of family, friends and in-home carers as they bring the element of familiarity. Provide a therapeutic care environment by ensuring adequate lighting, appropriate noise and temperature control and remember to provide reassurance to both the patient and family to allay their fears.

An additional institutional strategy to consider is a program such as the Hospital Elder Life Program (HELP). To learn more see: <http://www.hospitalelderlifeprogram.org/public/public-main.php>.

If delirium does not resolve consider:

- Re-evaluation of underlying causes
- Follow up, referral to appropriate geriatric resources to assess for possible dementia
- Continual provision of supportive care to patient and family
- **Short term** pharmacological management if behaviour interferes with treatment.

Pharmacological management

It is recommended that the use of medications to manage the hyperactive symptoms of delirium be reserved for those occasions where more conservative measures have failed (Campbell et al., 2009). Persons who may benefit from short term medication use tend to be those who are distressed, actively experiencing hallucinations or delusions or considered a risk to themselves or others and for whom verbal and non-verbal de-escalation techniques are ineffective or inappropriate. When medications are warranted, administration of the lowest clinically appropriate dose with cautious titration to manage symptoms while maintaining

wakefulness is recommended. Systematic review of the literature finds that the use of low dose typical (first generation) antipsychotics such as haloperidol (<3.0 mg/day) as well as atypical (second generation) antipsychotics such as olanzapine, quetiapine or risperidone are equally effective for the management of the symptoms of delirium (Campbell et al., 2009). Older adults have an increased sensitivity to antipsychotics and monitoring for adverse events such as extrapyramidal symptoms and neuroleptic malignant syndrome (NMS) is important. NMS is a lethal adverse effect that can be fatal unless quickly recognised and promptly treated. www.uptodate.com/contents/neuroleptic-malignant-syndrome?source=search.

Benzodiazepines, such as lorazepam, are recommended in cases where delirium is a result of alcohol or benzodiazepine withdrawal. The use of benzodiazepines in elderly persons must be critically evaluated due to the known potential to cause paradoxical agitation and falls (Nicholson and Henderson, 2009).

Self-management/transitional care needs

It is important to obtain information on baseline cognitive function on admission. The family is often the best source for this information. Informing the families of patients with dementia to the increased risk for the development of delirium may reduce their fears if symptoms develop. Families should be encouraged and supported to remain at the bedside as long as their presence is calming to the patient. It is important to provide families with information about the nature of delirium and the important role family members play in providing a sense of security and comfort for the patient. Patients who have previously developed delirium are at increased risk for recurrence. It is important to advise families and patients of the value of reporting prior episodes of delirium and strategies that helped to resolve it. Teaching them how to detect and report the early warning signs of delirium is also important. Nurses Improving Care of the Health System Elders (NICHE) has developed information for patients and families related to delirium as part of their "Need to Know Series". This information can be accessed at http://nicheprogram.org/need_to_know. Patients with hip fracture may be transferred to a rehabilitation facility and it is important to include information regarding delirium assessment and effective management strategies in the "handoff" plan of care.

DELIRIUM - QUICK REFERENCE

DEFINITION

Delirium is a reversible change in cognition, occurring over hours or days. Characterized by impaired cognition, a reduced ability to sustain or shift attention and may include perceptual changes as well as a change in level of consciousness.

PREVALENCE

Delirium is a common complication of hip fracture occurring in as many as 61% of older patients resulting in increased morbidity and mortality.

RISK FACTORS

- Older Age
- Dementia
- Sensory impairment
- Depression
- Metabolic disorders
- Cardiopulmonary disorders
- Poor functional status
- ETOH misuse
- Use of indwelling catheters
- Addition of 3 or more medications
- Orthopaedic Surgery
- Discontinuation of medications
- Use of physical restraints

ASSESSMENT/DETECTION

Spectrum of Delirium ranges from:

- Hyperactive: Agitated/hallucinating
- Hypoactive: Lethargy; excessive sleepiness (often overlooked)
- Mixed Type: alternating between both hyper and hypoactive states

SIGNS AND SYMPTOMS

Persons with delirium may display

- Inattention
- Confusion/forgetfulness
- Visual or auditory hallucinations/illusions
- Disorientation to time and place
- Disturbed sleep wake cycle
- Agitation
- Sleepiness/lethargy

Establishing signs and symptoms as a change from baseline is imperative.

COMPARATIVE FEATURES OF DELIRIUM & DEMENTIA

Feature	Delirium	Dementia
Onset	Sudden	Slow
Duration	Hours/days/ weeks	Months/ Years
Attention	Impaired	Normal
Speech	Incoherent, nonsensical	Ordered, anomic, aphasic
Awareness	Reduced	Clear

DIAGNOSTIC SCREENING TOOLS

Evidence based screening tools such as AMT-4, Mini-Cog assess for cognitive changes which need to be compared to baseline function. If a change is identified, further evaluation with an evidence based tool is warranted.

Examples include:

- Confusion Assessment Method (CAM)
- Nurses Delirium Screen (NUDESC)
- Delirium Observation Screen (DOS)
- NEECHAM Delirium Screen

PREVENTION & MANAGEMENT STRATEGIES

- Identify risk factors and address
- Encourage/invite family participation
- Quiet therapeutic environment
- Orientation clues – clock, calendar
- Glasses/working hearing aids
- Assistive devices available
- Consistency of care providers

Disclaimer

This article was developed using a range of literature which included evidence-based research, consensus documents, guideline statements, systematic reviews and peer reviewed publications and also was informed by best practice and content expert commentary. The information presented in this article is to educate and inform the reader about common complications of fragility hip fracture in older adults. The decision to use specific assessment methods and interventions must be made by the individual practitioner/health care organisation relative to the individual patient, available resources and other relevant factors.

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