A PALLIATIVE APPROACH TO HIP FRACTURES FOR THOSE WITH LATE DEMENTIA OR FRAILTY

Dr Trevor Janz
Medical Director for LTC, Palliative Care, and MAID
for Interior Health East
trevorjanz@hotmail.com

TABLE OF CONTENTS

HIP FRACTURE CONVERSATIONS

Hip fracture in someone with late dementia or frailty is a life-threatening medical event, with serious negative health impacts with or without surgery. Mortality from hip fracture in our most frail or cognitively impaired long term care population varies from 50-90%.

Selecting which patients are most likely to benefit from operation is complex and multifactorial, depending not only on medical factors and degree of frailty, but also on patient and family values, and the resident's current and expected quality of life. This guide is designed to help doctors and facility teams support families in this decision-making process, manage those residents who choose conservative treatment in facility, and provide excellent pain and symptom management for this very challenging and deserving population.

For long term care residents with a hip fracture, surgery may be indicated if the resident:

- is a sturdy walker
- is stable physiologically, and likely to survive surgery, and even walk again
- has a quality of life they feel is worth trying to preserve, although they will be weaker, and may not walk again

However, for many very frail long term care residents who break a hip,
they fell because they are more rapidly declining in their mobility, feeding, awareness, or quality of life.

These residents are likely in the last months or year of their life

- they may have poor quality of life due to their late dementia or severe frailty
- and are at markedly increased risk of complications, poor outcome, and death following surgery

We can offer residents and families the humane option of comfort care in facility for their hip fracture. We want to identify those patients who are in the rapidly declining phase approaching the natural end of their life. Hip fracture for them means that most are now in the last week of their life, and we should avoid burdensome medical interventions that would only worsen the quality of their dying.

When families are told that their loved one has broken their hip, needs surgery, and may be dying, they're often caught completely unprepared. It's not fair to ask them to make a big decision about surgery when they are in panic mode and terrified of losing their spouse or parent. We need to start preparing them for this possibility while they're calm, can think about their loved one's values, preferences, and quality of life, and have time to consult other family members.

Long before they fall and fracture, we need to start these conversations at admission or first care conference. At this point we should:

- **Review with resident and family:**
  - Medical diagnoses, frailty, and dementia
  - Level of function with ADLs
  - Rate of decline (trajectory)
- **Do advance care planning** about:
  - CPR and ICU. MOST
  - feeding tube in the event of a stroke?
  - hip surgery?
  - use of the hospital ER vs active comfort care in facility (M2 is my preference and families for most frail seniors)

Conversations often take 10+ minutes the first time. This is a good investment in our 'trust' bank account with family, to:

- create a team approach, where we and the family work together as a team to promote best possible quality of life
- introduce the palliative/ comfort care approach
- establish our values and goals for end-of-life care.

Hip fracture conversations are repeated:

- at every care conference
- with new onset of falls
- as the resident is losing their walking, and by then (almost universally) families can see that their loved one is much too frail to benefit from or even survive major surgery and the post-operative delirium
- with the fall and possible fracture. Because we have talked about this at least a couple of times already, this conversation will go much better, and they will have already done some emotional preparation for what's to come.

WHEN SOMEONE FALLS, WE HAVE FOUR JOBS

1. *Decide if the hip is broken, ideally in the facility*
   (by the nurse if obvious, or by the doctor called in, or ER transfer?)
2. *Review the resident's medical frailty and surgical risk*
   (Do we suggest surgery?)
3. *Have a conversation with resident and family, to decide on surgery vs comfort care in facility*
4. *If we decide on comfort care in facility, provide excellent pain and symptom management*

1. DECIDE IF THE HIP IS BROKEN, IDEALLY IN THE FACILITY:

- **Provide Analgesia with sc opiates** as soon as possible after the fall. I advocate for nurse initiated palliative standing orders, which allow the patient to receive analgesia even if the doctor does not call right back.
- Comfort measures start with a doctor or experienced RN most often **diagnosing the fracture at the bedside** and saving the resident a painful trip to the hospital for X-ray confirmation.
- Clearcut **leg shortening and external rotation** in a not previously fractured hip, with marked **pain and limitation to hip flexion** are diagnostic of fracture, and transfer for x-ray may not be necessary if treating for comfort
- If moderate pain but no shortening or external rotation, and patient has some ROM, consider **undisplaced or impacted fracture**
- **Undisplaced fractures** often may be very tender but not clearly shortened or displaced to bedside exam and have a better prognosis. They can sometimes displace catastrophically in the sling of a lift, however, so complete bedrest is key. After their fall, they do need lifting carefully off the floor into bed but try to flex their hip as little as possible in the sling.
- Exam by a doctor is often needed here to decide on x-ray. This can happen the next morning if they fall in the night. Provide analgesia and stabilize the hip.
- When I suspect an undisplaced fracture, I discuss conservative management in facility with resident and family, who often agree. We treat in bed, avoiding the lift as much as possible in the first 3-4 weeks.
- If the leg is shortened or rotated, but the hip is not particularly tender, check for a scar of previous hip fracture surgery. This may be old shortening.

- Patients who refuse to weight bear after a fall, but have a normal hip exam, and often tenderness over the pubic ramus on one side, likely have a **pelvic or pubic ramus fracture**. These universally heal well with bedrest for 3-6 weeks and the patients almost always survives and walks again.
- **X-ray may be warranted** in unclear cases
- suspected undisplaced or impacted fractures
- peri-prosthetic fractures after previous fixation (bone cracked around metal hardware). These are often treated with bedrest and do well.
- pelvic/pubic ramus fractures, if no local tenderness but will not WB. X-ray is not essential, and does not alter management, but sometimes family want to be sure. We treat them all with bedrest, and those who take 3-6 weeks to start walking again were probably fractured rather than sprained.

2. REVIEW THE RESIDENT'S MEDICAL FRAILTY AND SURGICAL RISK:

We do this much better than ER docs and orthopaedic surgeons at the hospital, who do not have the information needed to correctly assess their frailty risk for surgery, or where they are in their end-of-life trajectory. Whoever is making the decision about surgery with family needs to include this information as an essential part of the discussion.

Indicators of Frailty and Higher Surgical Risk:

These are cumulative; the more you have the higher your mortality (50-90%).

- **Medical diagnoses of end stage disease**
    - CHF on maximal Rx (Lasix >20mg/day, spironolactone, bisoprolol, ACEI)
    - Ejection fraction <35%
    - Edema, SOB, or CP at rest despite maximal Rx (NYHA class 4)
    - Fatigue; mostly in chair or bedbound
- **COPD** on MDIs/steroids/home oxygen. SOB at rest. Recurrent infections
- **End stage kidney disease** GFR<30 anemia
- **Diabetes**
- **HT, CAD** (MI, stent)
- **Peripheral Vascular Disease**
- **Prednisone** use for RA, PMR, COPD, SLE
- **Weight loss with any of the above markedly increases risk.** This is the cachexia of late disease; a marker for approaching end-of-life. (cont.…)

- **History of post-op delirium** or poor previous surgical recovery
- **Frailty** Rockwood scale 1-9:
    - **Severe** (7) unsafe walking; needs help with basic ADLs; some incontinence; middle dementia (if other co-morbidities)
    - **Very Severe** (8) bed or chair-bound; lift transfers; total care; incontinent
- **Recent decline in function?**
    - loss of abilities or cognition
    - sleeping more than 60-70% of the day
    - mostly chair-bound or in bed now
    - Not getting up for meals some days
- **Feeding changes?**
    - Less interested in eating. Eating <50% of meals
    - Refusing meds or meals
    - Weight loss
- **Poor resident quality of life?**
    - Significant dementia with anxiety or distress, and no pleasure or joy
    - Medical frailty or stroke with very limited function or enjoyment
    - limited ability to recognize or connect with family
    - unable to participate in previously enjoyable activities
    - recent or more rapid loss of function, with more decline expected
- **Resident preferences?**
    - Known values of not wanting to prolong life if progressive dementia or poor quality of life

3. HAVE A CONVERSATION WITH RESIDENT AND FAMILY, TO DECIDE ON SURGERY VS COMFORT CARE IN FACILITY

Review current status and any recent changes:

- medical diagnoses
- cognitive impairment
- degree of frailty
- previous hospital or surgical experience. Delirium?
- any recent changes in function, feeding, or energy level?
- resident's quality of life
- if resident unable to speak for themselves, their known values and preferences

Review surgical risks and quote possible mortality (50-90%):

- anaesthetic problems, pneumonia, wound infection
- heart attack, stroke, blood clot

- post-operative delirium
- delayed or incomplete recovery to a much lower level of function

Key Questions for resident or family about quality of life:

“Is your Dad having any fun?”

“Would he ever have wanted to live like this?” *(Wheelchair, incontinent, not recognizing family, needing feeding?)*

“Would he want this to go on for longer, or would he be happy to be done, and slip away quietly and comfortably?”

SAMPLE SCRIPT A *(with family, resident not able to speak or understand)*

- quote mortality 50-90% depending on frailty

“I’m very sorry this has happened to your Mom. Hip fracture is a very serious thing at her age. She’s very frail, with her heart failure and shortness of breath, and her blood pressure, and diabetes. She’s really slowed down in this last two months. She’s barely walking now. The nurses tell me she’s sleeping at least half of the day, and often they don’t even get her up for breakfast until 10 or 11 because she s still sleeping. For seniors as frail and tired as your mom, about 80 or 90% die after breaking their hip.

Major surgery would be quite hard for her. She’s at high risk for complications like a heart attack, stroke, blood clot, or pneumonia. She could also have a delirium where she gets very restless, seeing scary things and trying to climb out of bed, pulling out her IV or bladder catheter, and taking off her oxygen mask.

Many seniors just stop eating and drinking after surgery, and wind up dying in an unfamiliar hospital, with no peace or privacy in a four-bed ward, with different nurses every day, who don’t know her or what she needs.

I’d like to keep her here at Jubilee Manor in her own room, with all the nurses who know her well, and know what she needs. We can keep her very comfortable, with small doses of pain medication trickled into a tiny needle under her skin.

If she wants to keep going, and keeps eating and drinking, she can get better and survive this. I don’t think she would walk again, and would be in a wheelchair, and much weaker than before.

My experience, though, is that most people as frail as your mom are too tired to keep going. They just stop eating within a couple days, then drinking, and go to sleep. They wake up less and less, then slip away quietly, after a few days to a week.

Your mom doesn't need to suffer. We can keep her very comfortable right here at Jubilee Manor, right to her last breath. Her dying can be as peaceful and quiet as just going to sleep."

SAMPLE SCRIPT B *(with resident able to speak and understand)*

- quote mortality 50-90% depending on frailty

Doctor: "*John, can you hear me alright? Yes? I've got some bad news. When you fell, you broke your right hip.*

Yes, you broke the bone. For someone your age, this is very serious, and you might even die in this next week or two.

I'm sorry John. This is hard. I need to talk with you and your family about what we do now. Mary is here, and I've got your son Wayne on the phone from Winnipeg. We need to talk about whether we should be sending you to the hospital for surgery, or just making you comfortable here at the Manor.

I'm worried, John, that because of your heart trouble; your heart attacks and your congestive heart failure, with the fluid in your lungs, and in your legs. And your breathing troubles, with that last chest infection. I'm worried that this might be the end for you, John. That you might not make it through surgery. Most people with your degree of heart troubles have about a 70-90% chance of dying after hip surgery.

Do you think you're strong enough to make it through surgery, John? Or should we just make you comfortable right here at Jubilee Manor? We can splint your leg up snug, and give you tiny doses of pain medicine, just to keep you comfortable. If you keep on eating and drinking, you could get through this, John. You wouldn't be able to walk again. You'd be in a wheelchair, and you'd likely be quite a bit weaker than you are now.

John: *No, Doctor. No surgery for me. I don't think I would get through that.*

Wayne: *Last time Dad was in the hospital, he had what they called a delirium, and I don't think we should go anywhere near that again.*

Mary: *But what would happen to him, doctor, without surgery?*

Doctor: *Well, John, that depends on you. If you want to stick around and keep eating and drinking, you could survive and get through this. But if you're too tired, and just want to go to sleep, we can keep you comfortable, and you would just slip away peacefully. You would die very quietly in your sleep. What do you think?*

John: *Oh, yes Doctor. I want to keep eating. I'm not ready to go yet.*

When I ask the resident, the vast majority say "Oh yes, I can get through this. I want to keep eating." However, they are almost all too tired to eat, and within a day or two they refuse food, but take sips. By day 3 or 4, they often become less responsive, but will still rouse when turned. They slip away quietly on day 3-7, rarely as long as day 10. Dehydration is a very comfortable way to drift off, and die in your sleep. I tell families that dehydration is God's gift to the dying, to help them leave their body, quietly and peacefully.

4. IF WE DECIDE ON COMFORT CARE IN FACILITY, PROVIDE EXCELLENT PAIN AND SYMPTOM MANAGEMENT

- I often get a **Foley cathete**r placed in the first hour or two if possible, to minimize uncomfortable wet brief changes. After a few hours the hip seizes up and is much more painful to move to place the Foley.
- **Immobilization** is easily done with a pillow between the knees and wide Velcro or Tensor bandages binding the legs together at the knees and ankles. The resident is log rolled for occasional brief changes for BM, and
- **Repositioning q2-3h** (shifted from side to side 15 degrees each way) to prevent skin breakdown. Avoid rolling onto broken hip side more than 15 degrees. Repositioning is very important, and can be done very gently.

Titrating Opiates for Acute Pain

- **Subcutaneous opiates** are required to provide adequate analgesia and titrate doses even when the resident is asleep or not swallowing well. Oral opiates are too slow for acute pain, and too many doses are late or missed once the resident gets sleepy.
- **Get good pain control in the first 1-3 hours.** Start with frequent small doses every 20-40 minutes until pain is controlled, "stacking" doses.
- Use morphine (MS) 2.5mg SC or hydromorphone (HM) 0.5mg SC for the opiate naive, or morphine 5mg SC/ hydromorphone 1mg SC for larger or opiate tolerant

residents. (For patients already on large doses of opiate, the doctor will need to do a dose calculation.)

- "Stack" the dose; repeating it every 20-40 minutes as needed, until the pain is well controlled.
- Repeat the dose as needed in the first 3 hours to manage pain well.
- **After 3 hours,** assess how much medication it took to control the pain, and **decide how much you're going to give regularly** every 3-4 hours from now on:
- **Add up the total amount of morphine or HM you've given,** and try that same amount every 4 hours. Give this first regular dose as soon as they're awake and starting to show any distress.
- **We will constantly be titrating the dose**, watching for symptoms of over or under dosing, to find the right regular dose to provide good pain control for around 4 hours. If it wears off in less than 4 hours, or the pain is poorly controlled, turn the next dose up a little. If it lasts more than 4-5 hours or they are over sedated, turn the next dose down.
- We want to find the sweet spot, with just enough medication to allow comfortable care and repositioning, but not so much that the resident is too sedated to eat and drink if they want.

Overdose- If the resident is difficult to rouse, and respiratory rate is less than 10-12, we've given too much. We need to wait until they begin to wake up before giving another, smaller dose. Don't skip doses and bring on a pain crisis; just decrease the dose a little. We want regular doses with no gaps.

Underdose- If the resident has pain in three hours or less, give another slightly larger dose right away, and make sure they get good relief. Never make them wait when they have pain. This larger dose is now their regular dose every 4 hours.

- Most residents wind up on morphine 2.5-7.5mg SC q4h, or hydromorphone 0.5-1.5mg SC q4h.
- Less experienced nurses should always talk through dose changes with another RN for safety.
- Beware hydromorphone doses vs morphine. Decimal errors can accidentally give the patient 10 times more opiate!
- Doctors need to give the nurses a dose range to titrate within. We count on you to titrate well, and consult us if we need to adjust the dose range, or symptoms are poorly managed. Ask if you're not sure.
- We need to communicate very effectively as a team to provide seamless pain and symptom control. This often means frequent calls in the first days, and careful attention to communication within the care team.

- Nurses need to chart doses and times clearly, and hand over their dose, how long it's lasting, and when the next dose is due to the next nurse.
- All nurses must give doses regularly. Decrease the dose if the patient is too sedated. Skipped or late doses on one shift lead to pain crisis on the next shift, the nurse needing to stack doses to catch up, and poor pain control results.
- Time care to happen about 30-60 minutes after a dose, or give the dose a little early to ensure minimal pain with moving the patient.
- Aim for good analgesia when the resident is lying motionless in bed. There will always be some discomfort with movement, but if it only lasts a minute and then they're comfortable again, try not to over sedate them. We want them awake enough to try to drink, and eat if they're interested.
- Arrange family visits around med times so that the resident is more likely to be awake but not having pain when family come, to try to connect.

Comfort Care

Start bowel meds the first day and don't get behind. Use suppositories if not taking oral meds. Agitation can often be pain from bowel cramps from constipation, and can make dying a rocky and painful experience for both resident and family. When in doubt, do a gentle rectal exam to ensure the rectum is empty. If stool is present, tuck in a suppository. If impacted with a hard cannonball, and showing restlessness or poor pain control, disimpact them manually, even if they are less responsive. Consider giving them more medication prior to this.

I have seen a number of people near death who are tossing, restless, and agitated from undiagnosed constipation, with repeat doses of opiates not helping, and family suffering at their distress. Palpate their abdomen, and if it is full, tender, or you can palpate hard stool in the descending colon or sigmoid on the lower left side of their belly, check their rectum for fecal impaction. Disimpaction brings immediate relief, and the resident is able to slip away very peacefully, almost blissfully, in many cases.

Reduce their other medications to a minimum. Stop when only taking sips. They may be in their last days of life.

Reposition q2-3h (gently shift from side to side 15 degrees each way) to prevent skin breakdown. Avoid rolling onto broken hip side more than 15 degrees. This is very important, and can be done very gently. The resident may live for a number of days, and a painful pressure ulceration can open up after only a few hours of unrelieved pressure.

Anxiety or restlessness not settling with opiates is often better managed with methotrimeprazine (Nozinan) 5-25 mg SC q2-4 hrs. or 12.5-25 mg PO q3-5 hrs. It needs a separate butterfly and can irritate the skin if given in large doses over several days.

Nozinan is a beloved drug in palliative care, because it works for anxiety, restlessness, agitation, delirium, hallucinations, physical aggression, insomnia, nausea, stomach cramps and colic, muscle spasms, itch, hives, and migraine headache. For this reason it's often called "Vitamin N".

Incident Pain with Care

Sufentanil is a rapid acting opiate 1000 times more potent than morphine, with a very short half-life. It can be given sublingually or via a nasal spray, working within 5-10 minutes and wearing off in 15-30 minutes. Vials of 1ml contain 50 micrograms, and doses are 5 mcg (0.1 ml) to 10 mcg (0.2 ml) initially, and eventually up to 50 mcg (1 ml) for very opiate tolerant residents, given up to several times daily for care. Start with the lowest dose and titrate up until effective pain control is achieved. See cautions below.

Used in low doses, this can allow less painful brief changes and movement, without over sedating the resident for hours and preventing eating and drinking. Baseline opiates can often be reduced or even stopped, as some patients with hip fractures have little pain when immobile.

The drawback is that this is a very high risk medication, with high likelihood of respiratory suppression, apnea, and death in accidental overdose. Only very experienced teams with excellent knowledge, skills, communication, physician support, and ability to recognize and treat respiratory failure with bag/valve/mask support and Narcan emergently should be using these potent opiates.

In the current environment in some facilities of unstable staffing with some inexperienced, transient, or poorly supported staff, I'm very cautious about suggesting such a high risk drug for widespread use.

End of Life

I tell families we'll often know within 2-3 days which way it's going to go for their loved one. If they continue to eat and drink, they're likely to survive.

In practice, 90% of my very frail residents stop eating and then drinking shortly after we start the subcutaneous opiates for their comfort. They don't need brief changes because

they're not eating or having BMs. Many don't even need a Foley because they stop drinking and voiding within a day or two. They are mostly sleeping, awaking only with care, then become unrousable, and slip away quietly in their sleep 3-7 days after their fall. Families are grateful and relieved they didn't send their dying mother for surgery, as she was clearly very ready to let go.

I've had a number of frail residents survive displaced fractures without surgery, and be up in a wheelchair comfortably once healed, because they were vigorous enough to keep eating and drinking. I tell the resident it really is up to them if they want to stick around.

Accidental Death and Mandatory Reporting to the Coroner

All accidental deaths in BC must be reported to the coroner by the GP, before the body can be released to the funeral home. The provincial reporting line is **1 (855)207-0637**, and they will have the local coroner call the doctor within 15 minutes. This can happen the next morning after a death in the night. The body cannot be removed by the funeral home until it has been released by the coroner, and catheters, butterflies, and other medical devices inserted should not be removed until released. Oxygen masks and nasal prongs are fine to take off for family.

The coroner will request the patient's full name, DOB, PHN, time of death, time, location, and circumstances of the fall causing hip fracture and death. The coroner will want to know other medical diagnoses, and their severity, trying to determine if the fall was the cause of their death.

If the coroner agrees this is the case, they will complete the Medical Certificate of Death.

The coroner will likely contact the facility, looking for details like whether the fall was witnessed, and presence of walker, fall mat or alarm, footwear, or hip protectors may be sought. They will also need the name and contact information of the next of kin.

The coroner usually talks to the next of kin to review events and confirm details, so I let families know this call is coming, and is just a formality. I reassure them that this is a safeguard in all accidental deaths in BC, to prevent anyone from getting away with murder by making a death look like an accident.

Most Health Authorities have a number of additional reporting requirements for the care home for accidental deaths in facility.

We can reinforce with this reporting that the decision to treat palliatively in the care home was made by the family and resident, was resident-centered and in keeping with their values and wishes, and provided the best possible quality of life for patient and family in the circumstances. Although not yet well known among some physicians and orthopaedic surgeons, **this is a best practice in palliative care, to avoid burdensome and harmful medical interventions at end of life.**