HIP FRACTURES IN FRAIL LONG-TERM CARE RESIDENTS

Surgical vs Non-Surgical Management Guide to Support Decisions

island health

WHAT WE KNOW

01 Frailty is a key indicator for predicting poor outcomes

02 Comparative morbidity/mortality rates range widely

03 Shared decision making with the resident/substitute decision maker is essential

"Surgery is a decisive fix for an isolated problem (the fracture itself) not an intervention that resolves the complex, multifaceted implications of aging and frailty and is not always beneficial."

WHAT TO ANTICIPATE

SURGICAL

- Mortality rate 35-55% - 6 months
- Decreased quality of life and mobility post-op
- High risk of delirium
- Poor rehab potential if underlying dementia
- Need for opioid analgesics, possible sedation

NON-SURGICAL

- Mortality rates up to 87% - 30 days, 99% - 1 year
- Unlikely to walk again
- Potential for terminal delirium
- Increased risk pressure wounds, thromboembolism
- Extended need for opioid analgesics, likely sedation

TOOLS TO ASSIST DECISION-MAKING PROCESS

Clinical Frailty Scale (see reverse)

CLINICAL FRAILTY SCALE

Predicting morbidity and mortality hip fracture surgery (see reverse)

5-FACTOR TOOL

American College of Surgeons Surgical Risk Calculator (code 27236)

SURGICAL RISK CALCULATOR

Orthopedic Hip Frailty Score (predicting 30-day post-op mortality)

OFS SCORE

WHAT TO CONSIDER

Clear understanding of goals of care, previously expressed wishes, beliefs:

- abilities considered essential for adequate quality of life
- interventions/iatrogenic sequelae willing to accept in the hope of life extension
- personal, cultural, religious views on death and dying

Potential tension points:

- family dynamics
- team perceptions/beliefs
- practitioner biases

Ability to achieve symptom control for non-operative option:

- timely access to medications, especially those not commonly stocked in LTC
- providers confidence to prescribe aggressive pain management
- access to palliative care expertise if required
- experience of nursing teams to administer/titrate medications
- availability of OT/PT to assist with positioning/possible splinting
- adequate staffing to meet increased care needs

POINTS TO DISCUSS WITH RESIDENTS OR SUBSTITUTE DECISION MAKERS

- Location/type of fracture (see reverse for image)
- Resident's trajectory over past 6 months, such as increased frailty, worsening mobility/function
- ·Prior discussion around MOST and goals of care, what is most important to resident for quality of life
- Shared decision making about treatment options:
  - transfer to hospital for imaging and return to LTC
  - transfer to hospital for imaging and surgery
  - remain in LTC with focus on comfort

CLINICAL FRAILTY SCALE

	1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
	2	FIT	People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.
	3	MANAGING WELL	People whose **medical problems are well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.
	4	LIVING WITH VERY MILD FRAILTY	Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.
	5	LIVING WITH MILD FRAILTY	People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.
	6	LIVING WITH MODERATE FRAILTY	People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.
	7	LIVING WITH SEVERE FRAILTY	**Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
	8	LIVING WITH VERY SEVERE FRAILTY	Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
	9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty.** (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

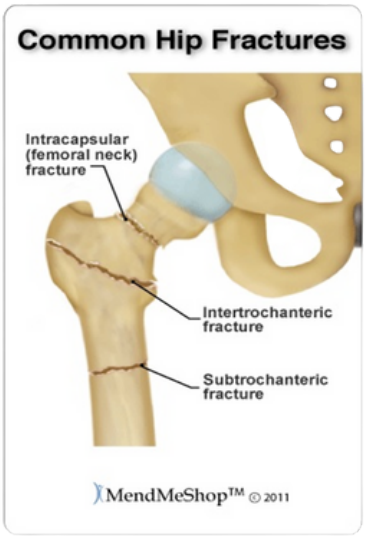
FIVE-FACTOR MODIFIED FRAILTY INDEX PREDICTS MORBIDITY AND MORTALITY IN GERIATRIC HIP FRACTURES (RESULTS)

Strong predictor for total complications, serious medical complications (cardiac arrest, myocardial infarction, septic shock, pulmonary embolism, postoperative dialysis, re-intubation, and prolonged ventilator requirement), surgical site infections, readmission, extended hospital length of stay, and mortality ($P \leq 0.008$).

- +1 Diabetes Mellitus
- +1 COPD or current pneumonia
- +1 Congestive heart failure
- +1 Hypertension requiring medication
- +1 Non-independent functional status

For each point increase:

- risk for any complication increased by 29.8%
- risk for serious medical complications increased by 35.4%
- risk for surgical site infections increased by 14.7%
- risk of readmission increased by 24.6%
- risk of mortality increased by 33.7%



- Loggers, S. A., Willems, H. C., Van Balen, R., Gosens, T., Polinder, S., Ponsen, K. J., ... & FRAIL-HIP Study Group. (2022). Evaluation of quality of life after nonoperative or operative management of proximal femoral fractures in frail institutionalized patients: the FRAIL-HIP study. *JAMA surgery*, *157*(5), 424-434.
- Loggers, S., Willems, H. C., Van Balen, R., Gosens, T., Polinder, S., Ponsen, K. J., Van de Ree, C., Steens, J., Verhofstad, M., Zuurmond, R. G., Van Lieshout, E., Joosse, P., & FRAIL-HIP Study Group (2022). Evaluation of Quality of Life After Nonoperative or Operative Management of Proximal Femoral Fractures In Frail Institutionalized Patients: The FRAIL-HIP Study. *JAMA surgery*, *157*(5), 424–434. https://doi.org/10.1001/jamasurg.2022.0089
- Mosk, C. A., Mus, M., Vroemen, J. P., van der Ploeg, T., Vos, D. I., Elmans, L. H., & van der Laan, L. (2017). Dementia and delirium, the outcomes in elderly hip fracture patients. Clinical interventions in aging, 12, 421–430. https://doi.org/10.2147/CIA.S115945
- Beaupre, L. A., Jones, C. A., Johnston, D. W., Wilson, D. M., & Majumdar, S. R. (2012). Recovery of function following a hip fracture in geriatric ambulatory persons living in nursing homes: prospective cohort study. Journal of the American Geriatrics Society, 60(7), 1268–1273. https://doi.org/10.1111/j.1532-5415.2012.04033.x
- Amarilla-Donoso, F. J., Roncero-Martín, R., Lavado-García, J. M., Toribio-Felipe, R., Moran-García, J. M., & López-Espuela, F. (2020). Quality of life after hip fracture: a 12-month prospective study. *PeerJ*, *8*, e9215. https://doi.org/10.7717/peerj.9215
- Schuetze, K., Eickhoff, A., Rutetzki, K., Richter, P. H., Gebhard, F., & Ehrnthaller, C. (2022). Geriatric patients with dementia show increased mortality and lack of functional recovery after hip fracture treated with hemiprosthesis. *European Journal of Trauma and Emergency Surgery (Munich: 2007)*, *48*(3), 1827-1833.
- Berry, S. D., Rothbaum, R. R., Kiel, D. P., Lee, Y., & Mitchell, S. L. (2018). Association of clinical outcomes with surgical repair of hip fracture vs nonsurgical management in nursing home residents with advanced dementia. *JAMA Internal Medicine*, *178*(6), 774-780. https://doi.org/10.1001/jamainternmed.2018.0743
- Kim S-J, Park H-S, Lee D-W. Outcome of nonoperative treatment for hip fractures in elderly patients: A systematic review of recent literature. Journal of Orthopaedic Surgery. 2020;28(2). doi:10.1177/2309499020936848