

Frailty is a dynamic condition experienced by many older adults. It is a vulnerability to adverse outcomes resulting from an interaction of physical, socio-economic and co-morbidity factors. Major adverse events are more common among frail older adults in comparison to non-frail older adults. ⁽¹⁾

Frailty is strongly linked to mortality, long term care home admission and falls. Frailty prevalence increases with age, although it can occur independently from chronological age. ⁽²⁾ Inactivity, poor nutrition, and social isolation or loneliness, and multiple medications contribute to frailty.

Common Causes

- Frailty has a strong biological component, resulting from cumulative cellular damage over the life-course. The specific pathophysiological pathways underpinning frailty are not known although there is evidence that both malnutrition and sarcopenia (muscle wastage) may have similar causal pathways. Inflammation is one pathway and is well established as a causal factor for frailty. Frailty occurs when multiple physiological systems decline.
- Pre-frailty (latent frailty) is thought to be the silent precursor to frailty, manifesting as frailty when external stressors, such as acute illness, injury or psychological stress occur.
- Other factors linked with frailty development include:
 - Sociodemographic influences such as: poverty, living alone, low education level
 - Psychological factors, including depression
 - Nutritional issues such as malnutrition and poor oral health
 - Polypharmacy
 - Diseases (cancer, endocrine disorders, dementia) and their associated complications
 - Low physical activity. ⁽²⁾

Frailty Prevention

- Frailty can be reversible in the early stages but over time a frail individual will likely have gradual but constant loss in function.
- The AVOID abbreviation helps a person organize a plan or strategy that can be undertaken to reduce or prevent frailty. They are:
 - Activity
 - Vaccinate
 - Optimize medications
 - Interact
 - Diet and nutrition
- **Activity** and exercise can slow and sometimes reverse frailty.
 - Accumulate 150 minutes of aerobic activity per week that is moderate intensity (i.e. makes a person sweat and breathe harder) to vigorous intensity (i.e. makes a person out of breath). Aim for 30 minutes a day, 5 days a week. You can start by doing 10-minute increments.
 - Add muscle and bone strengthening activities using major muscle groups at least 2 days per week.
 - Perform physical activities to enhance balance and prevent falls.
- **Vaccinate**
 - Infectious diseases are more likely to cause negative health outcomes in older adults living with frailty. Negative health outcomes include:
 - Hospitalization

- Prolonged bed rest
- Cardiovascular events
- Death
- Recommended vaccines include:
 - Influenza vaccine (annual, high dose is usually given to individuals over 65.)
 - Shingles vaccine (one-time vaccine)
 - Pneumococcal vaccine (one-time vaccine)
- **Optimize Medications**
 - As the number of medications including over the counter and herbal preparations increase, the risk of harmful effects, drug interactions and hospitalizations increases.
- **Interact**
 - Loneliness and social isolation in older adults may lead to frailty, functional decline, malnutrition, depression and premature death.
- **Diet & Nutrition**
 - Maintaining good nutrition can become a challenge with aging.
 - Screen for nutritional wellness.
 - Follow the 2020 Canada Food Guide.
 - Add calcium and vitamin D as needed.

Key Considerations

- Use an assessment such as Clinical Frailty Scale to classify the severity of frailty.
- Commonly performed tests include:
 - Gait Speed Test: measures walking and mobility and can predict advancing frailty.
 - Timed Up and Go: identifies falls risk, gait and balance abnormalities.
 - Short Physical Performance Battery: monitors functional ability by watching how a person stands when their feet are side by side, then with one foot ahead of the other and finally heel to toe.
- Focus on:
 - Identifying onset and acute illness early, optimizing sensory inputs, assessing cognition/mood, reviewing medications and promoting regular exercise and nutrition supplementation.
 - Optimizing chronic disease management strategies and modify geriatric syndromes (e.g. falls, immobility, confusion, depression, incontinence).
 - Suggesting necessary environmental changes/adaptations, maximization of community and socio-economic supports.
 - Encouraging activity, socialization and assistance for addressing poverty.

References

1. Bagshaw, S.M., et al. (2014). Association between frailty and short and long-term outcomes among critically ill patients: a multicenter prospective cohort study. *CMAJ*, 186 (2), doi: 10.1503/cmaj.130639. Retrieved May 5, 2020, from <http://www.cmaj.ca/content/186/2/E95>
2. Dent, E., et al. (2016). Frailty measurement in research and clinical practice: A review. *European Journal of Internal Medicine*, 31 (2016) 3–10. Retrieved May 5, 2020, from [https://www.ejinme.com/article/S0953-6205\(16\)30027-9/pdf](https://www.ejinme.com/article/S0953-6205(16)30027-9/pdf)