

VIGOR

WHAT QUESTIONS SHOULD I AND MY FAMILY BE ASKING?

- Why do I feel weaker and more tired than usual?
 - Why can't I do the things I used to be able to do such as getting groceries and showering?
 - Why am I ending up in the emergency hospital more so than before?
 - Why am I falling more often?
 - Are all my long-term (chronic) diseases addressed and treated?
 - Do I feel that my hand gripping has become weaker?
 - Have I lost weight that I did not intend to lose?
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WHAT ACTIONS CAN I TAKE FOR THIS AGENDA?

- Exercise has been shown to reduce your risk of becoming more frail
- Occupational therapy is a great way to try and maintain or regain some skills to help you function better. An occupational therapist can help with this and is a part of a healthcare team that you can be referred to. They help with things like your ability to walk, eat, use equipment, shower, take medications, and much more
- Nutritional supplements and a great diet have also been shown to be helpful against frailty. Maintaining a normal weight and making sure you are not deficient in key vitamins is important. A dietician can help with this. Refer to our "[nutrition](#)" agenda for details
- Medication reviews are important. They help make sure you are not taking non-essential medicines. They also make sure you are taking them correctly with as few side effects as possible. A pharmacist can help with this. Refer to our "[medications](#)" agenda for detail
- See a geriatrician or care of the elderly physician for a detailed assessment of frailty. This will help assess your risks and ways to decrease them
- Evaluate and think about the procedures you need or surgeries you might need to go through. Knowing the details about their risks, benefits, complications, and alternatives can help you make better decisions
- Know your "goals of care." It is important for you to know what your values are and what you want your doctor and team to focus on. Refer to our "[end of life](#)" agenda for details

WHAT ARE VIGOR AND FRAILITY?

- Vigor is overall good health, physical strength, and mental well-being
 - The opposite of vigor is “frailty”
 - Frailty is difficult to define and is an important topic in geriatric health
 - Generally, it is a collection of symptoms and diseases that cause weakening later in life. This causes increased sensitivity to other health problems
 - Being frail makes you weaker to fight off body stressors, illness, or tolerate procedures
 - Older age alone does not necessarily mean you are frail. Although age increases the risk for being frail
 - There are those who are 90 years old but are not frail whereas there are some who are 60 but are
 - 5% of those aged 65 and older are frail whereas that number goes up to 25% for those aged 85 and older
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DOES BEING FRAIL MEAN HAVING LOW STRENGTH AND BEING WEAK?

- Being frail is not just about being physically weak
 - You can also be mentally frail, thinking (cognitively) frail, socially frail, financially frail, and so on
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BEING ROBUST AND HAVING VIGOR IS THE OPPOSITE OF BEING FRAIL

WHY IS FRAILITY A BURDEN?

- Frailty can increase the risk for falling, disability, needing to change your environment, and even death
- Frailty reduces your quality of life and makes it harder for your body to tolerate stressors such as diseases or procedures

- Frailty can also make you less functional. This means not being able to do the daily tasks you wish to do
 - Frailty can also increase your risk of staying in hospital longer, be more difficult to rehab, and even needing to go to a nursing home
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HOW IS FRAILITY DIAGNOSED AND WHY SHOULD I CARE?

- There is no specific test to diagnose frailty. However, there are screening tools doctors use to look for it
 - We assess for frailty to know how much of a risk you are when it comes to your day-to-day living and function
 - We can also know your risk for having problems from surgery or your risk for getting confusion (delirium) when your body is stressed. Refer to the "[confusion](#)" agenda for more details
 - We assess for it to look for ways to reduce those risks and try to keep you from becoming more frail
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GETTING OLDER BY ITSELF DOES NOT NECESSARILY MEAN YOU WILL BE FRAIL. AGE IS A RISK BUT THERE ARE OTHER RISKS TOO

FRAILITY IS NOT A SINGLE SYMPTOM OR DISEASE. WE ASSESS FOR IT TO REDUCE YOUR RISK OF BECOMING MORE FRAIL

WHAT FACTORS INCREASE THE RISK OF FRAILITY?

- Older age (but not necessarily)
- Lower educational level
- Currently smoking
- Current use of hormone therapy
- Not married
- Depression
- Dementia

WHAT TYPES OF FRAILTY ARE THERE?

- One difficulty in defining frailty is that there is no agreed on definition
 - The most accepted types are the “Phenotype” and “Index” types:
 1. Phenotype frailty: Results from different functions in our body failing. This leads to specific poor outcomes such as weight loss, weakness, and low walking speed
 2. Index frailty: Combining many diseases together causes frailty to get worse. Having five long-term (chronic) diseases or health issues makes you more frail than someone who only has two. For example, if you only have diabetes and high blood pressure, you are considered less frail than someone with them and also has heart disease and asthma
 - Defining frailty in these two types has its strengths and weaknesses. They both have different purposes for assessment
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FRAILTY IS DIFFICULT TO DEFINE AND IS NOT ONE SINGLE DISEASE OR SYMPTOM

IS THERE TREATMENT FOR FRAILTY?

- Frailty is not one single disease or symptom
- We assess for factors that cause frailty and try to reduce them
- Some studies show that having a detailed assessment from a geriatrician helps in reducing those risks
- This detailed assessment is called a “Comprehensive Geriatric Assessment” (CGA) and is usually done in clinics. Refer to the [“clinic visit”](#) agenda for more details
- Other studies found that exercise is the best way to improve frailty and stop it from becoming worse
- Refer to the [“exercise”](#) agenda for more details
- Some treatments have not shown to be effective in treating frailty
- Examples are anti-inflammatory medicines and hormone supplements such as testosterone or growth hormone

THERE ARE MANY TOOLS TO SCREEN FOR FRAILTY. STUDIES HAVE FOUND THAT HAVING A GERIATRIC ASSESSMENT AND EXERCISING HELP THE MOST

WHY DO OUR BODIES BECOME FRAIL ANYWAY?

- There are many theories and reasons why our bodies become frail
 - A worsening immune system, hormone system, and stress are examples
 - There are also thoughts that our genes in our cells over time become “exhausted” and that makes our organs less robust over time
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MAINTAINING YOUR NORMAL WEIGHT AND TREATING YOUR LONG-TERM DISEASES ARE KEY TO REDUCE YOUR FRAILTY RISK

LEARN THE RISKS AND BENEFITS OF ANY MEDICAL INTERVENTION YOU WILL UNDERGO AS FRAILTY CAN MAKE YOU MORE SENSITIVE TO THEIR HARMS

References

1. Robert L Kane et al. Essentials of Clinical Geriatrics 8th edition (2018)
2. Jeffrey B. Halter et al. Hazzard's Geriatric Medicine and Gerontology 7th edition (2016)
3. Jayna Holroyd-Leduc et al. Evidence Based Geriatric Medicine (2012)
4. Clegg A, Young J, Iliffe S, et al. Frailty in elderly people. Lancet 2013; 381:752.
5. Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci 2001; 56:M146.
6. Cawthon PM, Marshall LM, Michael Y, et al. Frailty in older men: prevalence, progression, and relationship with mortality. J Am Geriatr Soc 2007; 55:1216.
7. Handforth C, Clegg A, Young C, et al. The prevalence and outcomes of frailty in older cancer patients: a systematic review. Ann Oncol 2015; 26:1091.

8. Collard RM, Boter H, Schoevers RA, Oude Voshaar RC. Prevalence of frailty in community-dwelling older persons: a systematic review. *J Am Geriatr Soc* 2012; 60:1487.
9. Theou O, Brothers TD, Mitnitski A, Rockwood K. Operationalization of frailty using eight commonly used scales and comparison of their ability to predict all-cause mortality. *J Am Geriatr Soc* 2013; 61:1537.
10. Lee DR, Kawas CH, Gibbs L, Corrada MM. Prevalence of Frailty and Factors Associated with Frailty in Individuals Aged 90 and Older: The 90+ Study. *J Am Geriatr Soc* 2016; 64:2257.
11. Rodríguez-Mañas L, Féart C, Mann G, et al. Searching for an operational definition of frailty: a Delphi method based consensus statement: the frailty operative definition-consensus conference project. *J Gerontol A Biol Sci Med Sci* 2013; 68:62.
12. Morley JE, Vellas B, van Kan GA, et al. Frailty consensus: a call to action. *J Am Med Dir Assoc* 2013; 14:392.
13. Sternberg SA, Wershof Schwartz A, Karunananthan S, et al. The identification of frailty: a systematic literature review. *J Am Geriatr Soc* 2011; 59:2129.
14. Walston J. Frailty--the search for underlying causes. *Sci Aging Knowledge Environ* 2004; 2004:pe4.
15. Walston JD, Bandeen-Roche K. Frailty: a tale of two concepts. *BMC Med* 2015; 13:185.
16. Rothman MD, Leo-Summers L, Gill TM. Prognostic significance of potential frailty criteria. *J Am Geriatr Soc* 2008; 56:2211.
17. Rockwood K, Mitnitski A. Frailty in relation to the accumulation of deficits. *J Gerontol A Biol Sci Med Sci* 2007; 62:722.
18. Rockwood K, Song X, MacKnight C, et al. A global clinical measure of fitness and frailty in elderly people. *CMAJ* 2005; 173:489.
19. Turner G, Clegg A, British Geriatrics Society, et al. Best practice guidelines for the management of frailty: a British Geriatrics Society, Age UK and Royal College of General Practitioners report. *Age Ageing* 2014; 43:744.
20. Walston J, Hadley EC, Ferrucci L, et al. Research agenda for frailty in older adults: toward a better understanding of physiology and etiology: summary from the American Geriatrics Society/National Institute on Aging Research Conference on Frailty in Older Adults. *J Am Geriatr Soc* 2006; 54:991.
21. Schaap LA, Pluijm SM, Deeg DJ, et al. Higher inflammatory marker levels in older persons: associations with 5-year change in muscle mass and muscle strength. *J Gerontol A Biol Sci Med Sci* 2009; 64:1183.
22. Nass R, Thorner MO. Impact of the GH-cortisol ratio on the age-dependent changes in body composition. *Growth Horm IGF Res* 2002; 12:147.
23. Schmidt M, Naumann H, Weidler C, et al. Inflammation and sex hormone metabolism. *Ann N Y Acad Sci* 2006; 1069:236.

24. Travison TG, Nguyen AH, Naganathan V, et al. Changes in reproductive hormone concentrations predict the prevalence and progression of the frailty syndrome in older men: the concord health and ageing in men project. *J Clin Endocrinol Metab* 2011; 96:2464.
25. Puts MT, Visser M, Twisk JW, et al. Endocrine and inflammatory markers as predictors of frailty. *Clin Endocrinol (Oxf)* 2005; 63:403.
26. Cameron ID, Fairhall N, Langron C, et al. A multifactorial interdisciplinary intervention reduces frailty in older people: randomized trial. *BMC Med* 2013; 11:65.
27. de Souto Barreto P, Rolland Y, Maltais M, et al. Associations of Multidomain Lifestyle Intervention with Frailty: Secondary Analysis of a Randomized Controlled Trial. *Am J Med* 2018; 131:1382.e7.
28. Daley MJ, Spinks WL. Exercise, mobility and aging. *Sports Med* 2000; 29:1.
29. Spirduso WW, Cronin DL. Exercise dose-response effects on quality of life and independent living in older adults. *Med Sci Sports Exerc* 2001; 33:S598.
30. De Coninck L, Bekkering GE, Bouckaert L, et al. Home- and Community-Based Occupational Therapy Improves Functioning in Frail Older People: A Systematic Review. *J Am Geriatr Soc* 2017; 65:1863.
31. Milne AC, Potter J, Vivanti A, Avenell A. Protein and energy supplementation in elderly people at risk from malnutrition. *Cochrane Database Syst Rev* 2009; CD003288.
32. Liu H, Bravata DM, Olkin I, et al. Systematic review: the safety and efficacy of growth hormone in the healthy elderly. *Ann Intern Med* 2007; 146:104.
33. Morley JE, Kim MJ, Haren MT. Frailty and hormones. *Rev Endocr Metab Disord* 2005; 6:101.
34. Ko FC. The clinical care of frail, older adults. *Clin Geriatr Med* 2011; 27:89.
35. Metzelthin SF, van Rossum E, de Witte LP, et al. Effectiveness of interdisciplinary primary care approach to reduce disability in community dwelling frail older people: cluster randomised controlled trial. *BMJ* 2013; 347:f5264.
36. Ganz DA, Fung CH, Sinsky CA, et al. Key elements of high-quality primary care for vulnerable elders. *J Gen Intern Med* 2008; 23:2018.
37. Urdangarin CF. Comprehensive Geriatric Assessment and Management. In: *Assessing Older Persons*, Kane RL, Kane RA (Eds), Oxford University Press, New York 2000.
38. Counsell SR, Holder CM, Liebenauer LL, et al. Effects of a multicomponent intervention on functional outcomes and process of care in hospitalized older patients: a randomized controlled trial of Acute Care for Elders (ACE) in a community hospital. *J Am Geriatr Soc* 2000; 48:1572.