

FRAILITY

AGS Geriatrics Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

From the AMERICAN GERIATRICS SOCIETY

Geriatrics Evaluation & Management Tools

BACKGROUND

- This tool employs the phenotypic definition of frailty, which comprises elements calling only for interview and examination of patients. A variety of other definitions are in use that also include an array of medical diagnoses, laboratory values, and functional assessments.
- Frailty is a clinical syndrome manifested when 3 or more of 5 phenotypic components are present: weakness, slowed walking speed, low physical activity, low energy or exhaustion, and weight loss.
- Frailty develops along a continuum of severity: a latent phase that is not clinically apparent in the absence of stressors, early stages of weakness, slowed gait, or low physical activity that may be most responsive to intervention, and an end-stage with high risk of short-term mortality.
- Frail older adults are at high risk of adverse clinical outcomes: falls, fractures, hospitalization, worsened outcomes from chemotherapy or surgery, hemodialysis, disability and dependency, and mortality.

SCREENING

- Assessing older adults for frailty is appropriate to identify those at risk of adverse outcomes, gauge the severity of risks, identify those who may benefit from prevention or treatment, track change in status over time, help frame care plans, and/or identify those at end-stage who will benefit from a predominantly palliative approach.
- The syndrome of frailty can be diagnosed and its severity staged by determining the number of frailty criteria present (see table below). This approach offers a validated means for diagnosing and staging the syndrome of frailty.
- Some rapid screening/assessment tests have been developed and validated, such as the interview-based FRAIL scale. These may be sensitive in clinical settings but should be followed up using more specific frailty evaluations such as the table below.

Criteria that Define Frailty (≥3 of 5 criteria below indicates frailty syndrome)

Weight Loss Criterion: Criterion met if answer is yes to either question below

- Patient responds yes to "In the last year, have you lost >10 pounds unintentionally (ie, not due to dieting or exercise)?"
- Patient has unintentional weight loss of at least 5% of previous year's body weight.

Exhaustion Criterion: Patient answers "2" or "3" to either of these two questions:

- "How often in the last week did you feel that everything you did was an effort?"
0 = rarely or none of the time (<1 day)
1 = some or a little of the time (1–2 days)
2 = a moderate amount of the time (3–4 days)
3 = most of the time
- "How often in the last week did you feel that you could not get going?"
0 = rarely or none of the time (<1 day)
1 = some or a little of the time (1–2 days)
2 = a moderate amount of the time (3–4 days)
3 = most of the time

Physical Activity Criterion

- Men with <383 Kcals of physical activity per week
- Women with <270 Kcals of physical activity per week

* Based on the short version of the Minnesota Leisure Time Activity questionnaire. Kcals per week expended are calculated using standardized algorithm.

Slowed Walking Speed Criterion

- Time to walk 15 feet (4.57 meters) is:

Men

- ≥7 seconds for height ≤173 cm (68")
- ≥6 seconds for height >173 cm (68")

Women

- ≥7 seconds for height ≤159 cm (63")
- ≥6 seconds for height >159 cm (63")

Equipment: 4-meter course in walkway of ≥4.5 meters, a stopwatch. Participant will walk 15-foot length twice at his or her usual pace. Use average of 2 trials.

Weakness Criterion

- Grip strength (average of 3 trials, dominant hand) is:

Men

- ≤29 kg for BMI ≤24
- ≤30 kg for BMI 24.1–26
- ≤30 kg for BMI 26.1–28
- ≤32 kg for BMI >28

Women

- ≤17 kg for BMI ≤23
- ≤17.3 kg for BMI 23.1–26
- ≤18 kg for BMI 26.1–29
- ≤21 kg for BMI >29

Equipment: Jamar hand dynamometer; participant attempts to squeeze the dynamometer maximally 3 times with the dominant hand.

SOURCE: Data from Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol Med Sci.* 2001;56A:M146–M156.

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| HISTORY OF PRESENT ILLNESS | <ul style="list-style-type: none"> Evaluate the impact of frailty on functional ability (activities of daily living and instrumental activities of daily living). Elicit patient's goals: <ul style="list-style-type: none"> Regain or prevent further loss of independence Treatment of modifiable causes Pursue a more comprehensive palliative course | | |
| POSSIBLE PRECIPITANTS (STRESSORS) | <ul style="list-style-type: none"> Hospitalization Surgery Medications | <ul style="list-style-type: none"> Immobility Acute illness Multiple chronic illnesses | <ul style="list-style-type: none"> Extremes of heat or cold Depression |
| SOCIAL HISTORY | <ul style="list-style-type: none"> Inquire about support system, living situation, caregiver stress, alcohol, tobacco, and physical activity. | | |
| MEDICATIONS | <ul style="list-style-type: none"> Review patient's medications (including prescription, over-the-counter, and herbal) and adverse effect profile to determine if benefits of medications outweigh risks. | | |
| PHYSICAL EXAMINATION | <ul style="list-style-type: none"> Vitals (including orthostatics; trend weights) HEENT: dentition, mucous membranes, vision/hearing Standard cardiovascular, pulmonary, and abdominal examinations Musculoskeletal: Timed Up and Go, walking speed, muscle bulk and strength Psych: affect and mood Neuro: cognition, rigidity | | |
| LABORATORY TESTS | <ul style="list-style-type: none"> According to patient's goals, consider: TSH, CBC, calcium, magnesium, phosphate, B₁₂/folate, 25-hydroxyvitamin D, prealbumin, total cholesterol, albumin. | | |
| PREVENTION AND MANAGEMENT | <ul style="list-style-type: none"> Treatment of a single component, comorbid condition, or deficiency has not been demonstrated to prevent or ameliorate frailty; improving only one system may not be clinically effective. | | |
| | Stage | Clinical | Management |
| | Latent stage or "pre-frail" (1–2 frailty criteria met) | Not clinically apparent in the absence of stressors | <p>Likely most responsive to prevention:</p> <ul style="list-style-type: none"> Minimize and/or treat precipitants. Prevent and minimize immobility, and maintain physical activity. Maintain muscle mass and strength through resistance exercises; this can be supplemented by aerobic and balance training. Prevent nutritional inadequacy (including vitamin D deficiency). Treat depression. Reduce polypharmacy. |
| | Early stage or "frail" (≥3 frailty criteria met) | Clinically apparent; earliest presentations tend to be weakness, slowed walking speed, and/or decreased physical activity. | <p>Likely most responsive to intervention:</p> <ul style="list-style-type: none"> Implement preventive measures (as above). Encourage resistance and strength exercise. Evidence is substantial that resistance or strengthening exercise is effective in increasing muscle mass, strength, and walking speed in frail older adults. Other forms of exercise, including stretching, Tai Chi, and aerobic exercise, are also helpful. Prevent nutritional inadequacy; nutritional supplementation appears to be effective only when added to resistance exercise. Offer "prehabilitation" before surgery. |
| End-stage or "severe frailty" (4–5 frailty criteria met and low cholesterol and albumin levels) | Severely frail older adults appear to be in an irreversible , pre-death phase with high mortality over 6–12 months; associated with high short-term mortality rates and suggest a poor response to treatment. | <p>Consider palliative approaches for these patients.</p> <ul style="list-style-type: none"> Focus on optimizing abilities needed to reach individual patient goals. Compensate for diminished abilities by modification of living environment and/or increased support from caregivers. | |