

Geriatric Failure to Thrive

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In elderly patients, failure to thrive describes a state of decline that is multifactorial and may be caused by chronic concurrent diseases and functional impairments. Manifestations of this condition include weight loss, decreased appetite, poor nutrition, and inactivity. Four syndromes are prevalent and predictive of adverse outcomes in patients with failure to thrive: impaired physical function, malnutrition, depression, and cognitive impairment. Initial assessments should include information on physical and psychologic health, functional ability, socioenvironmental factors, and nutrition. Laboratory and radiologic evaluations initially are limited to a complete blood count, chemistry panel, thyroid-stimulating hormone level, urinalysis, and other studies that are appropriate for an individual patient. A medication review should ensure that side effects or drug interactions are not a contributing factor to failure to thrive. The impact of existing chronic diseases should be assessed. Interventions should be directed toward easily treatable causes of failure to thrive, with the goal of maintaining or improving overall functional status. Physicians should recognize the diagnosis of failure to thrive as a key decision point in the care of an elderly person. The diagnosis should prompt discussion of end-of-life care options to prevent needless interventions that may prolong suffering. (*Am Fam Physician* 2004;70:343-50. Copyright© 2004 American Academy of Family Physicians.)

► **Editorial:** page 248.

ACE This article exemplifies the AAFP 2004 Annual Clinical Focus on caring for America's aging population.

See page 231 for definitions of strength-of-recommendation labels.

The elderly patient with declining health poses significant challenges for attending physicians. Often, the cause or causes of the deterioration are not identifiable or are irreversible. Some elderly patients, including those who do not have acute illness or severe chronic disease, eventually undergo a process of functional decline, progressive apathy, and a loss of willingness to eat and drink that culminates in death.¹

Various terms have been used to describe this decline in vitality, the most encompassing of which is failure to thrive. The Institute of Medicine defined failure to thrive late in life as a syndrome manifested by weight loss greater than 5 percent of baseline, decreased appetite, poor nutrition, and inactivity, often accompanied by dehydration, depressive symptoms, impaired immune function, and low cholesterol levels.² The prevalence of failure to thrive increases with age and is associated with increased costs of medical care and high morbidity and mortality rates.^{3,4} In elderly patients, failure to thrive is associated with increased infection rates,

diminished cell-mediated immunity, hip fractures, decubitus ulcers, and increased surgical mortality rates.²⁻⁵

The condition affects 5 to 35 percent of community-dwelling older adults, 25 to 40 percent of nursing home residents, and 50 to 60 percent of hospitalized veterans.^{6,7,8} One study found that the in-hospital mortality rate in patients with failure to thrive was 15.9 percent.⁹ Failure to thrive should not be considered a normal consequence of aging, a synonym for dementia, the inevitable result of a chronic disease, or a descriptor of the later stages of a terminal disease.³

Initial Evaluation

Four syndromes are prevalent and predictive of adverse outcomes in persons who may have failure to thrive: (1) impaired physical function, (2) malnutrition, (3) depression, (4) and cognitive impairment.¹⁰ A comprehensive initial assessment should include information about physical and psychologic health, functional ability, and socioenvironmental factors.

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The medical assessment includes a thorough history and physical examination, a comprehensive review of medications (prescription and nonprescription), and laboratory and diagnostic testing (Table 1).⁵ This assessment should assist the physician in identifying common medical conditions associated with failure to thrive (Table 2).⁵ Any medical condition present in a patient with failure to thrive merits an assessment of its severity and susceptibility to remediation.

Table 3⁵ outlines medications that can contribute to the development of failure to thrive. Patients also should be screened for alcohol and substance abuse. A nutritional assessment is mandatory.¹¹

FUNCTIONAL ASSESSMENT

The assessment of physical function should include documentation of a patient's ability to perform activities of daily living (ADL)

and instrumental activities of daily living (IADL). The Katz ADL scale¹² assesses a patient's ability to perform six related functions: bathing, dressing, toileting, transferring, continence, and eating. The Lawton IADL scale¹³ examines a patient's ability in such tasks as telephone use, shopping, transportation, budget management, adhering to medication regimens, cooking, housekeeping, and laundry. Approximately 23 percent of older community-dwelling people have health-related difficulties with at least one element of the ADL, while as many as 28 percent have difficulty with at least one element of the IADL.¹¹

The "Up & Go" test¹⁴ is a performance-based measure that can be administered easily in the office setting. The patient is asked to rise from a sitting position, walk 10 feet, turn, and return to the chair to sit.^{5,15} Performance on this test correlates with the patient's functional mobility skills and ability to safely leave the house unattended. Patients who complete the test in less than 20 seconds are generally independent for basic transfers. Patients who take more than 30 seconds to complete the test tend to be more dependent and at a higher risk for falls.¹⁵ Patients also should be screened for contributors to functional disability such as specific neurologic disorders, visual conditions, musculoskeletal disorders, podiatric problems, and environmental obstacles.¹⁰

COGNITIVE STATUS

Evaluation of psychosocial function should include an assessment of the patient's cognitive status, mood, and social setting. The Mini-Mental State Examination is a valid screening tool for cognitive disorders in community and hospital settings.¹⁵ Information on the patient's social network, relationships, family support, living situation, financial resources, abuse, neglect, and recent loss are important aspects of the assessment of failure to thrive.⁵ In some patients with failure to thrive, cognitive status changes because of delirium-induced effects of chronic illnesses. Various medications can trigger depression, functional incapacity, and nutritional deficiency. A patient's cognitive status can change

TABLE 1
Evaluating Elderly Patients for Failure to Thrive

Test	Target conditions
Blood culture	Infection
Chest radiography	Infection, malignancy
Complete blood count	Anemia, infection
Computed tomography, MRI	Malignancy, abscess
ESR, C-reactive protein levels	Inflammation
Growth hormone, testosterone (men)	Endocrine deficiency
HIV, RPR test	Infection
PPD	Tuberculosis
Serum albumin and cholesterol levels	Malnutrition
Serum BUN and creatinine levels	Dehydration, renal failure
Serum electrolyte levels	Electrolyte imbalance
Serum glucose level	Diabetes
Thyroid-stimulating hormone level	Thyroid disease
Urinalysis	Infection, renal failure, dehydration

MRI = magnetic resonance imaging; ESR = erythrocyte sedimentation rate; HIV = human immunodeficiency virus; RPR = reactive plasma reagin; PPD = purified protein derivative; BUN = blood urea nitrogen.

Adapted with permission from Verdery RB. Clinical evaluation of failure to thrive in older people. Clin Geriatr Med 1997;13:769-78.

TABLE 2
Common Medical Conditions Associated with Failure to Thrive in Elderly Patients

<i>Medical condition</i>	<i>Cause of failure to thrive</i>
Cancer	Metastases, malnutrition, cancer cachexia
Chronic lung disease	Respiratory failure
Chronic renal insufficiency	Renal failure
Chronic steroid use	Steroid myopathy, diabetes, osteoporosis, vision loss
Cirrhosis, history of hepatitis	Hepatic failure
Depression, other psychiatric disorders	Major depression, psychosis, poor functional status, cognitive loss
Diabetes	Malabsorption, poor glucose homeostasis, end-organ damage
Hip or other large-bone fracture	Functional impairment
Inflammatory bowel disease	Malabsorption, malnutrition
Myocardial infarction, congestive heart failure	Cardiac failure
Previous gastrointestinal surgery	Malabsorption, malnutrition
Recurrent urinary infections or pneumonia	Chronic infection, functional impairment
Rheumatologic disease (e.g., temporal arteritis, rheumatoid arthritis, lupus erythematosus)	Chronic inflammation
Stroke	Dysphagia, depression, cognitive loss, functional impairment
Tuberculosis, other systemic infection	Chronic infection

Adapted with permission from Verdery RB. Clinical evaluation of failure to thrive in older people. Clin Geriatr Med 1997;13:769-78.

TABLE 3
Medications Commonly Associated with Failure to Thrive in Elderly Patients

<i>Medication class</i>	<i>Possible effect</i>
Anticholinergic drugs	Cognition changes, dysgeusia, dry mouth
Antiepileptic drugs	Cognition changes, anorexia
Benzodiazepines	Anorexia, depression, cognition changes
Beta blockers	Cognition changes, depression
Central alpha antagonists	Cognition changes, anorexia, depression
Diuretics (high-potency combinations)	Dehydration, electrolyte abnormalities
Glucocorticoids	Steroid myopathy, diabetes, osteoporosis
More than four prescription medications	Drug interactions, adverse effects
Neuroleptics	Anorexia, parkinsonism
Opioids	Anorexia, cognition changes
SSRIs	Anorexia
Tricyclic antidepressants	Dysgeusia, dry mouth, cognition changes

SSRI = selective serotonin reuptake inhibitors.

Adapted with permission from Verdery RB. Clinical evaluation of failure to thrive in older people. Clin Geriatr Med 1997;13:773.

because of overall health and in response to interventions and, therefore, requires frequent reassessment.⁵

DEPRESSION

The most common psychiatric condition in older persons is depression.¹⁶ Depression can be a cause and a consequence of failure to thrive. Therefore, screening for depression is necessary for all patients who exhibit characteristics of failure to thrive.¹³ Elderly patients who are depressed are more likely to complain of physical problems than to mention conventional depressive symptoms (such as mood changes) and may manifest depression as weight loss.

Traditional signs of depression in young persons, such as changes in attention span, concentration, and memory, are often misdiagnosed in elderly persons as dementia.¹⁶

Depression that occurs for the first time late in life is frequent in patients with significant chronic disease; the impact of these medical conditions is increased by depression.¹⁷ A delay in the diagnosis and treatment of depression in elderly patients may accelerate the decline associated with

failure to thrive and increase morbidity and mortality. The Geriatric Depression Scale (*Figure 1*)¹⁸ and the Cornell Scale for Depression in Dementia¹⁹ are useful tools for assessing this dynamic in patients with failure to thrive.²⁰

MALNUTRITION

Malnutrition is an independent predictor of mortality in older adults. The most accurate evidence of malnutrition in an elderly patient is hypocholesterolemia and hypoalbuminemia.^{9,21} Assessment of malnutrition involves a dietary history that includes daily caloric intake, the availability of food, the use of nutritional or herbal supplements, and the adequacy of the patient's diet as quantified through the amount of food intake, the number of meals, and the balance of nutrients. Body weight, weight trend, and muscle wasting that is found on physical examination and confirmed by laboratory data (such as serum albumin and total cholesterol levels, and lymphocyte count) should be included.²² The Mini Nutritional Assessment, a validated tool for measuring nutritional risk in elderly persons that combines anthropometric measures and dietary history, is easy to use in the office setting.²³ Patients also should be assessed for oral pathology, ill-fitting dentures, problems with speech or swallowing, medication use that might cause anorexia or dysgeusia, and financial and social problems that may be contributors to malnutrition.²²

Treatment

Treatment of failure to thrive should focus on identifiable diseases and be limited to interventions that have few risks for these frail patients. Failure to thrive commonly occurs near the end of a person's life, so the potential benefits of treatment should be considered before evaluations and treatments are undertaken.⁵ Initially, treatment involves efforts to modify possible causes. A team approach that includes a dietitian, a speech therapist, a social worker, a mental health professional, and a physical therapist may be helpful.³ *Figure 2*²⁴ offers an algorithmic approach to the diagnosis and

A comprehensive initial assessment should include information about physical and psychological health, functional ability, and socioenvironmental factors.

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Geriatric Depression Scale (Short Form)

For each question, choose the answer that best describes how you felt over the past week.

1. Are you basically satisfied with your life? Yes/NO
2. Have you dropped many of your activities and interests? YES/No
3. Do you feel that your life is empty? YES/No
4. Do you often get bored? YES/No
5. Are you in good spirits most of the time? Yes/NO
6. Are you afraid that something bad is going to happen to you? YES/No
7. Do you feel happy most of the time? Yes/NO
8. Do you often feel helpless? YES/No
9. Do you prefer to stay at home, rather than going out and doing new things? YES/No
10. Do you feel you have more problems with memory than most people? YES/No
11. Do you think it is wonderful to be alive now? Yes/NO
12. Do you feel pretty worthless the way you are now? YES/No
13. Do you feel full of energy? YES/No
14. Do you feel that your situation is hopeless? YES/No
15. Do you think that most people are better off than you are? YES/No

NOTE: The scale is scored as follows: 1 point for each response in capital letters. A score of 0 to 5 is normal; a score above 5 suggests depression and warrants a follow-up interview; a score above 10 almost always indicates depression.

Figure 1. Geriatric depression scale (short form).

Adapted with permission from Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. *Clin Gerontol* 1986;5:165-73.

management of elderly patients with failure to thrive.

Resistive and strength testing have shown promise in patients with nearly all physical conditions and resulted in increased muscle strength even in elderly, deconditioned patients living in nursing homes. High-intensity resistance exercise training counteracts muscle weakness and physical frailty in very elderly people.²⁵ In patients with confirmed cognitive impairment, treating the underlying conditions and optimizing the patient's living conditions may improve functional ability. The diagnosis of Alzheimer's-type dementia requires treatment consistent with current guidelines.

Nutritional supplementation is one of the most important interventions in patients with failure to thrive.²⁶ Because the goal of dietary supplements is to provide adequate energy and protein intake, almost anything the patient eats is suitable.^{5,27} In elderly

patients, the administration of dietary supplements between meals rather than with meals may be more effective in increasing energy consumption.²⁸

Insufficient food intake in elderly patients may be corrected or ameliorated by manipulation of nonphysiologic factors, such as the number of people present at meals, the palatability of meals, and the time of day and location of meals.²⁹ Because elderly persons with Alzheimer's disease tend to eat more food in the morning, it is recommended that they be given more food at breakfast.³⁰ Increasing the palatability of meals also improves food intake and body weight in elderly nursing home residents.³¹ There is some evidence that megestrol (Megace) and dronabinol (Marinol) are helpful in prompting appetite, but they are associated with significant side effects; patients should be monitored closely while receiving these medications.^{32,33}

The mainstay of treatment of major de-

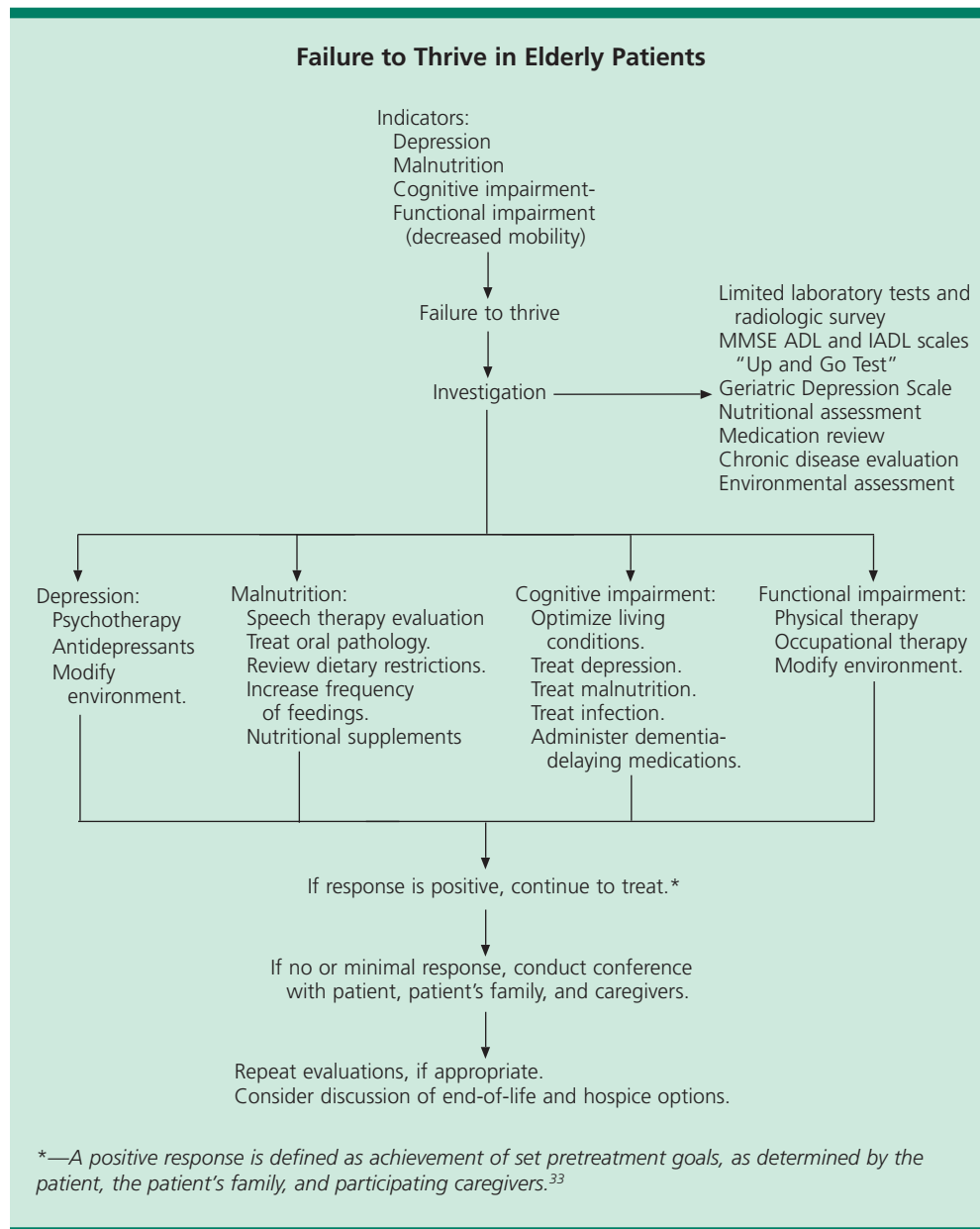


Figure 2. Algorithm for the diagnosis and management of elderly patients with failure to thrive. (MMSE = Mini-Mental State Examination; ADL = activities of daily living; IADL = instrumental activities of daily living)

Information from reference 24.

pression in patients with failure to thrive should be antidepressants, supplemented with structured approaches to psychotherapy, if appropriate. In cases where depression and deterioration are severe enough that the time required for response to antidepressants may endanger the patient, hospitaliza-

tion and use of electroconvulsive therapy may be considered.³⁴

In standard, controlled clinical trials, the selective serotonin reuptake inhibitors (SSRIs) fluoxetine (Prozac), sertraline (Zoloft), and paroxetine (Paxil) appear to be equivalent in efficacy to tricyclic antidepres-

Strength of Recommendations

Key clinical recommendation	SOR labels	References
The Geriatric Depression Scale and the Cornell Scale for Depression in Dementia are useful tools for assessing this dynamic in patients with failure to thrive.	B	18-20
High-intensity resistance exercise training counteracts muscle weakness and physical frailty in very elderly people.	A	25
The goal of dietary supplements is to provide adequate energy and protein intake, so almost anything the patient eats is suitable.	B	5, 27

sants (TCAs), with response rates in elderly patients of 60 to 80 percent.³⁴ Evidence suggests that mirtazapine (Remeron) may be more effective than SSRIs but not as effective as TCAs in promoting weight gain.³⁴⁻³⁶ Newer antidepressants are as effective as older TCAs in the treatment of depression, with the caveat that side effects of the older medications are more prominent, and the newer agents are better tolerated.¹⁶ The benefits of antidepressant therapy can be maximized by ensuring proper dosing and compliance.³⁷

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Geriatric Failure to Thrive

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