

An FP's guide to exercise counseling for older adults

At what intensity and frequency should older patients exercise? This review offers guidance and resources to help you get your patients moving.

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PRACTICE RECOMMENDATIONS

➤ *Encourage older adults to engage in at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, OR at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week, OR an equivalent combination of moderate- and vigorous-intensity activity. (A)*

➤ *Recommend older adults perform muscle-strengthening activities involving major muscle groups on 2 or more days per week. (A)*

➤ *Encourage older adults to be as physically active as possible, even when their health conditions and abilities prevent them from reaching their minimum levels of physical activity. (B)*

Strength of recommendation (SOR)

- (A) Good-quality patient-oriented evidence
- (B) Inconsistent or limited-quality patient-oriented evidence
- (C) Consensus, usual practice, opinion, disease-oriented evidence, case series

The health benefits of maintaining a physically active lifestyle are vast and irrefutable.¹ Physical activity is an important modifiable behavior demonstrated to reduce the risk for many chronic diseases while improving physical function (TABLE 1²).³ Physical inactivity increases with age, making older adults (ages ≥ 65 years) the least active age group and the group at greatest risk for inactivity-related health consequences.⁴⁻⁶ Engaging in a physically active lifestyle is especially important for older adults to maintain independence,⁷ quality of life,⁸ and the ability to perform activities of daily living.^{3,9}

Prescribe physical activity for older adults

■ **The 2018 Physical Activity Guidelines for Americans** recommend that all healthy adults (including healthy older adults) ideally should perform muscle-strengthening activities of moderate or greater intensity that involve all major muscle groups on 2 or more days per week and either (a) 150 to 300 minutes per week of moderate-intensity aerobic physical activity, (b) 75 to 150 minutes per week of vigorous-intensity aerobic physical activity, or (c) an equivalent combination, if possible (TABLE 2³).³ It is recommended that older adults specifically follow a multicomponent physical activity program that includes balance training, as well as aerobic and muscle-strengthening activities.³ Unfortunately, nearly 80% of older adults do not meet the recommended guidelines for aerobic or muscle-strengthening exercise.³

Identify barriers to exercise

Older adults report several barriers that limit physical activity. Some of the most commonly reported barriers include a lack of motivation, low self-efficacy for being active, physical limitations due to health conditions, inconvenient physical activity locations, boredom with physical activity, and lack of guidance from profes-

TABLE 1

Health benefits of exercise in older adults^{2a}

<p>Decreased risk of:</p> <ul style="list-style-type: none"> • all-cause mortality • cardiovascular mortality and cardiovascular disease (including heart disease and stroke) • hypertension, type 2 diabetes, and adverse blood lipid profile results • bladder, breast, colon, endometrium, esophagus, kidney, lung, and stomach cancers • dementia (including Alzheimer disease) • anxiety and depression • falls and fall-related injuries <p>Improved:</p> <ul style="list-style-type: none"> • cognition • sleep quality • weight loss, decreased or slowed weight gain, and prevention of weight regain following initial weight loss • bone health • physical function and quality of life

^a Age ≥ 65 years.

TABLE 2

Physical activity recommendations for healthy older adults from the US Department of Health and Human Services^{2a}

<p>Muscle-strengthening activities of moderate or greater intensity that involve all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms) at least 2 days/wk</p> <p>AND</p> <p>Moderate-intensity aerobic physical activity 150-300 min/wk</p> <p>OR</p> <p>Vigorous-intensity aerobic physical activity 75-150 min/wk</p> <p>OR</p> <p>Combination of moderate- and vigorous-intensity exercise equivalent to the recommendations above</p>
<p>In addition:</p> <ul style="list-style-type: none"> • Multicomponent physical activity should include balance training as well as aerobic and muscle-strengthening activities. • Older adults should be as physically active as possible, even if unable to meet the above recommendations. Any amount of exercise is better than none. • Older adults should determine their level of effort for physical activity relative to their level of fitness.

^a Age ≥ 65 years.

sionals.¹⁰⁻¹² Physical activity programs designed for older adults should specifically target these barriers for maximum effectiveness.

Clinicians also face potential barriers for promoting physical activity among older

adults. Screening patients for physical inactivity can be a challenge, given the robust number of clinical preventive services and conversations that are already recommended for older adults. Additionally, screening for

physical activity is not a reimbursable service. In July, the US Preventive Services Task Force (USPSTF) reaffirmed its 2017 recommendation to individualize the decision to offer or refer adults without obesity, hypertension, dyslipidemia, or abnormal blood glucose levels or diabetes to behavioral counseling to promote a healthy diet and physical activity (Grade **C** rating).¹³

Treat physical activity as a vital sign

■ **The Exercise is Medicine (EIM) model** is based on the principle that physical activity should be treated as a vital sign and discussed during all health care visits. Health care professionals have a unique opportunity to promote physical activity, since more than 80% of US adults see a physician annually. Evidence also suggests clinician advice is associated with patients' healthy lifestyle behaviors.^{14,15}

EIM is a global health initiative that was established in 2007 and is managed by the American College of Sports Medicine (ACSM). The primary objective of the EIM model is to treat physical activity behavior as a vital sign and include physical activity promotion as a standard of clinical care. In order to achieve this objective, the EIM model recommends health care systems follow 3 simple rules: (1) treat physical activity as a vital sign by measuring physical activity of every patient at every visit, (2) prescribe exercise to those patients who report not meeting the physical activity guidelines, and/or (3) refer inactive patients to evidence-based physical activity resources to receive exercise counseling.^{16,17}

Screen for physical activity using this 2-question self-report

■ **Clinicians may employ multiple tactics** to screen patients for their current levels of physical activity. Physical Activity Vital Sign (PAVS) is a 2-item self-report measure developed to briefly assess a patient's level of physical activity; results can be entered into the patient's electronic medical record and used to begin a process of referring inactive patients for behavioral counseling.^{17,18} The PAVS can be administered in less than 1 minute by a medical assistant and/or nurs-

ing staff during rooming or intake of patients. The PAVS questions include, "On average, how many days per week do you engage in moderate-to-vigorous physical activity?" and "On average, how many minutes do you engage in physical activity at this level?" The clinician can then multiply the 2 numbers to calculate the patient's total minutes of moderate-to-vigorous physical activity per week to determine whether a patient is meeting the recommended physical activity guidelines.¹⁶ (For more on the PAVS and other resources, see **TABLE 3**.)

The PAVS has been established as a valid instrument for detecting patients who may need counseling on physical activity for chronic disease recognition, management, and prevention.¹⁷ Furthermore, there is a strong association between PAVS, elevated body mass index, and chronic disease burden.¹⁹ Therefore, we recommend that primary care physicians screen their patients for physical activity levels. It has been demonstrated, however, that many primary care visits for older individuals include discussions of diet and physical activity but do not provide recommendations for lifestyle change.¹⁹ Thus, exploring ways to counsel patients on lifestyle change in an efficient manner is recommended. It has been demonstrated that counseling and referral from primary care centers can promote increased adherence to physical activity practices.^{20,21}

Determine physical activity readiness

Prior to recommending a physical activity regimen, it is important to evaluate the patient's readiness to make a change. Various questionnaires—such as the Physical Activity Readiness Questionnaire—have been developed to determine a patient's level of readiness, evaluating both psychological and physical factors (www.nasm.org/docs/pdf/parqplus-2020.pdf?sfvrsn=401bf1af_24). Questionnaires also help you to determine whether further medical evaluation prior to beginning an exercise regimen is necessary. It's important to note that, as is true with any office intervention, patients may be in a precontemplation or contemplation phase and may not be prepared to immediately make changes.



Approximately 80% of older adults do not meet the recommended guidelines for aerobic or muscle-strengthening exercise.

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TABLE 3

Online physical activity resources for physicians and patients

Resource	URL
Exercise is Medicine Physical Activity Vital Sign (PAVS) screening form	https://www.exercisemedicine.org/assets/page_documents/EIM%20Physical%20Activity%20Vital%20Sign.pdf
Exercise is Medicine Health Care Providers' Action Guide	www.exercisemedicine.org/wp-content/uploads/2021/02/EIM-Health-Care-Providers-Action-Guide-clickable-links.pdf
<i>Physical Activity Guidelines for Americans</i> , 2nd edition	health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf
US Department of Health and Human Services Move Your Way Activity Planner	health.gov/moveyourway/activity-planner

Evaluate risk level

■ Assess cardiovascular risk. Physicians and patients are often concerned about cardiovascular risk or injury risk during physical activity counseling, which may lead to fewer exercise prescriptions. As a physician, it is important to remember that for most adults, the benefits of exercise will outweigh any potential risks,³ and there is generally a low risk of cardiovascular events related to light to moderate-intensity exercise regimens.² Additionally, it has been demonstrated that exercise and cardiovascular rehabilitation are highly beneficial for primary and secondary prevention of cardiovascular disease.²² Given that cardiovascular comorbidities are relatively common in older adults, some older adults will need to undergo risk stratification evaluation prior to initiating an exercise regimen.

Review preparticipation screening guidelines and recommendations

Guidelines can be contradictory regarding the ideal pre-exercise evaluation. In general, the USPSTF recommends against screening with resting or exercise electrocardiography (EKG) to prevent cardiovascular disease events in asymptomatic adults who are at low risk. It also finds insufficient evidence to assess the balance of benefits and harms of screening with resting or exercise EKG to prevent cardiovascular disease events in asymptomatic adults who are at intermediate or high risk.²²

Similarly, the 2020 ACSM Guidelines for Exercise Testing and Prescription reflect that routine exercise testing is not recommended for all older adult patients prior to starting an

exercise regimen.¹⁷ However, the ACSM does recommend all patients with signs or symptoms of a cardiovascular, renal, or metabolic disease consult with a clinician for medical risk stratification and potential subsequent testing prior to starting an exercise regimen. If an individual already exercises and is having new/worsening signs or symptoms of a cardiovascular, renal, or metabolic disease, that patient should cease exercise until medical evaluation is performed. Additionally, ACSM recommends that asymptomatic patients who do not exercise but who have known cardiovascular, renal, or metabolic disease receive medical evaluation prior to starting an exercise regimen.¹⁷

Is there evidence of cardiovascular, renal, or metabolic disease?

Initial screening can be completed by obtaining the patient's history and conducting a physical examination. Patients reporting chest pain or discomfort (or any anginal equivalent), dyspnea, syncope, orthopnea, lower extremity edema, signs of tachyarrhythmia/bradyarrhythmia, intermittent claudication, exertional fatigue, or new exertional symptoms should all be considered for cardiovascular stress testing. Patients with a diagnosis of renal disease or either type 1 or type 2 diabetes should also be considered for cardiovascular stress testing.

Ready to prescribe exercise?

Cover these 4 points

When prescribing any exercise plan for older adults, it is important for clinicians to specify 4 key components: frequency, inten-

sity, time, and type (this can be remembered using the acronym “FITT”).²³ A sedentary adult should be encouraged to engage in moderate-intensity exercise, such as walking, for 15 minutes 3 times per week. The key with a sedentary adult is appropriate follow-up to monitor progression and modify activity to help ensure the patient can achieve the goal number of minutes per week. It can be helpful to share the “next step” with the patient, as well (eg, increase to 4 times per week after 2 weeks, or increase by 5 minutes every week). For the intermittent exerciser, a program of moderate exercise, such as using an elliptical, for 30 to 40 minutes 5 times per week is a recommended prescription. FITT components can be tailored to meet individual patient physical readiness.²³

■ **Frequency.** While the 2018 *Physical Activity Guidelines for Americans* recommend a specific frequency of physical activity throughout the week, it is important to remember that some older adults will be unable to meet these recommendations, particularly in the setting of frailty and comorbidities (TABLE 2²). In these cases, the guidelines simply recommend that older adults should be as physically active as their abilities and comorbidities allow. Some exercise is better than none, and generally moving more and sitting less will yield health benefits for older adult patients.

■ **Intensity** is a description of how hard an individual is working during physical activity. An older adult’s individual capacity for exercise intensity will depend on many factors, including their comorbidities. An activity’s intensity will be relative to a person’s unique level of fitness. Given this heterogeneity, exercise prescriptions should be tailored to the individual. Light-intensity exercise generally causes a slight increase in pulse and respiratory rate, moderate-intensity exercise causes a noticeable increase in pulse and respiratory rate, and vigorous-intensity exercise causes a significant increase in pulse and respiratory rate (TABLE 4^{2,16,17,24}).²

The “talk test” is a simple, practical, and validated test that can help one determine an individual’s capacity for moderate- or vigorous-intensity exercise.²³ In general, a person performing vigorous-intensity exer-

cise will be unable to talk comfortably during activity for more than a few words without pausing for breath. Similarly, a person will be able to talk but not sing comfortably during moderate-intensity exercise.^{3,23}

■ **Time.** The 2018 *Physical Activity Guidelines for Americans* recommend a specific duration of physical activity throughout the week; however, as with frequency, it is important to remember that duration of exercise is individualized (TABLE 2²). Older adults should be as physically active as their abilities and comorbidities allow, and in the setting of frailty, numerous comorbidities, and/or a sedentary lifestyle, it is reasonable to initiate exercise recommendations with shorter durations.

■ **Type of exercise.** As noted in the 2018 *Physical Activity Guidelines for Americans*, recommendations for older adults include multiple types of exercise. In addition to these general exercise recommendations, exercise prescriptions can be individualized to target specific comorbidities (TABLE 2²). Weight-bearing, bone-strengthening exercises can benefit patients with disorders of low bone density and possibly those with osteoarthritis.^{3,23} Patients at increased risk for falls should focus on balance-training options that strengthen the muscles of the back, abdomen, and legs, such as tai chi.^{3,23} Patients with cardiovascular risk can benefit from moderate- to high-intensity aerobic exercise (although exercise should be performed below anginal threshold in patients with known cardiovascular disease). Patients with type 2 diabetes achieve improved glycemic control when engaging in combined moderate-intensity aerobic exercise and resistance training.^{7,23}

Referral to a physical therapist or sport and exercise medicine specialist can always be considered, particularly for patients with significant neurologic disorders, disability secondary to traumatic injury, or health conditions.³

■ **An improved quality of life.** Incorporating physical activity into older adults’ lives can enhance their quality of life. Family physicians are well positioned to counsel older adults on the importance and benefits of exercise and to help them overcome the barriers or resistance to undertaking a change



The PAVS is a 2-item self-report measure used to quickly assess a patient’s level of physical activity.

TABLE 4

Examples of physical activity^{2,16,17,24}

Level/type of activity	METs	Description/examples
Sedentary	≤ 1.5 METs	Sitting, reclining, watching television ^{2,16,17,24}
Light-intensity exercise	1.6-2.9	Nonsedentary activities that do not significantly increase heart rate. Examples include walking slowly (< 2 mph), cooking, and performing light housework. ^{2,17,24}
Moderate-intensity exercise	3.0-5.9	Activities that can be performed while maintaining a conversation but not while singing. Examples include briskly walking, mowing the lawn, raking the yard, and playing doubles tennis. ^{2,17,24}
Vigorous-intensity exercise	≥ 6.0 METs	Activities where conversation cannot be sustained comfortably for more than a few words without pausing for breath. Examples include jogging, running, shoveling heavy snow, or cycling either uphill or on level terrain at ≥ 10 mph. ^{2,17,24}
Balance activities	N/A	Activities that reduce the risk of falling. These activities typically involve lower extremity and core muscle strengthening exercises. Examples include walking heel-to-toe, practicing standing from a sitting position, and using a wobble board. ^{2,17}
Strengthening exercises	N/A	Activities that cause the muscles to work or hold against an applied force or weight. Examples include weightlifting, bodyweight exercising, and resistance band training. ^{2,17}
Bone-strengthening activities	N/A	Activities that produce a force on the bones that promotes bone growth and strength. Examples include jumping jacks, running, brisk walking, and weight-lifting exercises. ^{2,17}
Multicomponent exercises	N/A	Activities that include more than 1 type of physical activity described here. Examples include dancing, gardening, yoga, tai chi, and many sports. ^{2,17}

METs, metabolic equivalents; N/A, not applicable.

in behavior. Guidelines, recommendations, patient history, and resources provide the support needed to prescribe individualized exercise plans for this distinct population. **JFP**

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