

Physical Activity Counseling

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Every year in the United States, at least 250,000 deaths are attributed to lack of physical activity. Because of the health benefits of physical activity, national guidelines recommend participation in 30 minutes of accumulated moderate-intensity physical activity such as walking fast on five or more days of the week. However, most Americans fail to achieve this goal and report that their physicians have not counseled them to increase physical activity. Because 84 percent of Americans consult a physician each year, even brief physician counseling that leads to modest activity changes could affect the population's health. Some physicians report that they do not deliver physical activity counseling because of limitations in time, reimbursement, knowledge, confidence, and practical tools. The five A's (Assess, Advise, Agree, Assist, Arrange) model can help physicians deliver brief, individually tailored physical activity messages to patients. (*Am Fam Physician*. 2008;77(8):1029-1136, 1138. Copyright © 2008 American Academy of Family Physicians.)

► **Patient information:** A handout on physical activity, written by the authors of this article, is provided on page 1138.



The online version of this article includes supplemental content at <http://www.aafp.org/afp>.

Physical inactivity leads to at least 250,000 deaths annually in the United States,¹ and more than one half of Americans fail to meet recommended physical activity levels.² Regular physical activity decreases total mortality rates as well as the incidence and mortality of cardiovascular disease, diabetes, and some cancers.^{3,4} Physical activity improves mental health and control of diabetes, hypertension, and lipid levels; prevents osteoporosis; and, especially in older patients, sustains mobility, reduces disability, and decreases the risk of falls.^{3,4}

The Centers for Disease Control and Prevention, American College of Sports Medicine, U.S. Surgeon General, and American College of Preventive Medicine recommend that adults participate in at least 30 minutes of accumulated moderate-intensity physical activity (i.e., walking fast [3 to 4 miles per hour] or the equivalent) on five or more days of the week.³⁻⁵ The following are key principles for physical activity: (1) the more activity the better, (2) accumulated time is more important than intensity, (3) activity can be accumulated in 10-minute increments,³⁻⁵ and (4) lifestyle activities (e.g., substituting walking or biking for short car rides, using a push rather than a riding lawn mower) are more likely to be sustained than structured activities (e.g., exercising at a gym).⁶

Evidence

Although physical activity clearly improves health,^{3,4} the U.S. Preventive Services Task Force (USPSTF) found insufficient evidence that physician counseling leads to sustained changes in patient behavior.⁷ Nevertheless, in many patients, physician advice is associated with short-term increases in physical activity.⁷⁻⁹ In one study, the number of patients who improved their physical activity level increased by 50 percent after receiving physician advice.¹⁰

Each year, 84 percent of Americans consult a physician, with an average of 2.1 visits each.¹¹ Because primary care physicians can potentially reach many patients, the cumulative health impact of even modestly effective physician interventions may surpass that of other interventions.^{5,8,12} Tailored counseling that incorporates shared decision making, a written prescription, printed supportive materials, and follow-up has been shown to increase the likelihood of success.^{5,9,12} Recognizing and addressing barriers to physical activity counseling is also essential.

Studies show that family physicians spend one and one half to three minutes providing health education and counseling during a typical visit.^{8,13} Barriers to physical activity counseling include limited time; reimbursement problems; lack of practical tools; and insufficient physician knowledge, skills, and

SORT: KEY RECOMMENDATIONS FOR PRACTICE

<i>Clinical recommendation</i>	<i>Evidence rating</i>	<i>References</i>	<i>Comments</i>
Adults should participate in at least 30 minutes of accumulated moderate-intensity physical activity (e.g., walking fast) on five or more days of the week.	B	3-5	Recommendation based on systematic reviews of evidence from observational studies; quality, quantity, and consistency of the evidence are strong.
Physicians should counsel patients to meet recommended levels of physical activity.	C	5, 8-9, 12	Recommendation based on RCTs of varying quality and with short follow-up periods.
Physicians should use the five A's (Assess, Advise, Agree, Assist, Arrange) model when counseling patients about physical activity.	C	8, 12	Recommendation based on theory, observational studies, and RCTs of physical activity and smoking cessation counseling.
Expert advice is conflicting about medical clearance before patients with risk factors initiate exercise programs.	C	3-5, 23-25	ACC and AHA: Exercise stress testing should be performed before high-risk patients initiate vigorous physical activity. ²³ ACSM: Exercise stress testing should be performed before high-risk patients initiate physical activity. ²⁴ CDC, ACPM, and U.S. Surgeon General: Most patients can participate in moderate physical activity without medical clearance. ³⁻⁵ USPSTF: Insufficient evidence to recommend for or against exercise stress testing. ²⁵

RCT = randomized controlled trial; ACC = American College of Cardiology; AHA = American Heart Association; ACSM = American College of Sports Medicine; CDC = Centers for Disease Control and Prevention; ACPM = American College of Preventive Medicine; USPSTF = U.S. Preventive Services Task Force.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, see page 1063 or <http://www.aafp.org/afpsort.xml>.

confidence that patients will change their behaviors.^{8,9}

Physical Activity Counseling

The five A's (Assess, Advise, Agree, Assist, Arrange) model, which has been shown to be effective for smoking cessation counseling, is a convenient approach to physical activity counseling in clinical practice^{8,12} (Table 1).



See online Figures A and B for illustrative cases describing patient-oriented physical activity counseling.

ASSESS

Calculating a patient's current physical activity is complex. Eliciting the frequency, intensity, and duration of physical activity from patients is important in determining if the patient meets minimum recommendations.³⁻⁵ The physician may also need to elicit the types of physical activity the patient participates in to determine intensity and to tailor recommendations to patient preferences.

Psychosocial factors such as readiness for change, social support, and self-efficacy (i.e., the patient's self-confidence that he or she

can change behavior) must be assessed.^{9,12,14,15} Physicians are also encouraged to assess the patient's willingness to help family or friends increase physical activity, because some patients may be motivated to increase their own activity to help others. Finally, the physician must determine if there are medical conditions that require diagnostic evaluation or modified management before the patient can safely initiate or increase physical activity.

Several tools have been designed to facilitate physical activity assessment (Table 2).¹⁶⁻²¹ The Physical Activity Assessment Tool (PAAT; Figure 1) is a validated instrument designed to help primary care physicians assess patients quickly; reserve time for counseling; and develop individually tailored, structured counseling messages.¹⁷

ADVISE

The following information may be helpful when advising patients about physical activity:

- Epidemiologic evidence and clinical trials show significant health benefits with 30 minutes of moderate-intensity physical

Table 1. The Five A's Model for Helping Patients Change Physical Activity Behavior**Assess**

Assess current physical activity (type, frequency, intensity, and duration); contraindications to physical activity; the patient's readiness for change; patient-oriented benefits; social support; willingness to help others; self-efficacy (the patient's self-confidence that he or she can change behavior)

See Table 2 for tools to facilitate the physical activity assessment

Advise

Provide a structured, individually tailored counseling message; the national recommendation for physical activity is at least 30 minutes of accumulated moderate-intensity physical activity (i.e., walking fast [3 to 4 miles per hour] or the equivalent) on five or more days of the week

Deliver a structured counseling message based on the patient's stage of change (see Table 3)

National recommendations + patient-oriented benefits + social support + helping others + agree on next steps + assist with printed materials and self-monitoring tools + arrange follow-up and referrals

Agree

Initiate shared decision making based on the patient's stage of change

Precontemplation stage (the patient is not ready for change): ask the patient if you can talk about physical activity in the future

Contemplation stage (the patient is thinking about changing): discuss the next steps

Preparation stage (the patient intends to change soon): help the patient make a plan and set a start date

Action/maintenance stage (the patient is meeting goals): congratulate the patient; ask if the patient is ready to start another healthy behavior

Assist

Provide the patient with a written prescription; printed support materials; self-monitoring tools (e.g., pedometer, calendar); or Internet-based resources (see accompanying patient handout)

Arrange

Schedule a follow-up visit

Provide telephone or e-mail reminders (e.g., have a staff member call or e-mail the patient on the start date of the behavior change) and Internet-based counseling

Refer the patient for additional assistance (e.g., physical activity counseling from a dietitian; physical therapy if the patient is deconditioned, injured, or has a condition that affects physical activity [arthritis, back pain]; community-based programs)

Table 2. Tools for Assessing Physical Activity

<i>Tool</i>	<i>Description</i>	<i>Web site</i>
Brief physical activity assessment tool ¹⁶	Assesses current physical activity	—
PAAT (see Figure 1) ¹⁷	Assesses current physical activity, potential contraindications, physical activity readiness, patient-oriented benefits, social support, willingness to help others, and self-effectiveness (the patient's self-confidence that he or she can change behavior); available in English and Spanish	—
PACE, PACE+ ^{18,19}	Assesses current physical activity and physical activity readiness; PACE+, which is the electronic version, also assesses diet	http://www.sandiegochi.com/pace_written_materials.html
PARmed-X	Assists in the evaluation of medical problems that may require special consideration before initiation of physical activity	http://www.csep.ca/communities/c574/files/hidden/pdfs/parmedx.pdf
PARmed-X for Pregnancy	Assists in advising pregnant women about physical activity	http://www.csep.ca/communities/c574/files/hidden/pdfs/parmed-xpreg.pdf
PAR-Q and You ²⁰	Self-assessment to determine the need for consulting a physician before initiating or increasing physical activity; includes Canada's Physical Activity Guide to Healthy Active Living	http://www.csep.ca/communities/c574/files/hidden/pdfs/par-q.pdf
RAPA ²¹	Assesses current physical activity in older adults; available in English, Spanish, and Vietnamese	http://depts.washington.edu/hprc/publications/rapa.htm

PAAT = Physical Activity Assessment Tool; PACE = Patient-Centered Assessment and Counseling for Exercise and Nutrition; PARmed-X = Physical Activity Readiness Medical Examination; PAR-Q = Physical Activity Readiness Questionnaire; RAPA = Rapid Assessment of Physical Activity.

Information from references 16 through 21.

Physical Activity

Physical Activity Assessment Tool

Moderate physical activity is any activity that is *somewhat hard* and makes you feel like you do when you walk *fast* (3–4 mph).

Circle activities you did during the last 7 days at a **MODERATE LEVEL nonstop for at least 10 minutes:**

Examples of activities that can be done at a MODERATE LEVEL:

Walking fast, with a purpose

Aerobics, low impact
Baseball, softball
Bicycling (less than 12 mph)
Bowling
Calisthenics, light
Carpentry
Dancing
Fishing, standing
Frisbee

Walking downstairs

Gardening: planting, raking, weeding
Golf
Gymnastics
Horseback riding
Housework: mopping, sweeping, vacuuming
Lifting or carrying moderate loads (5 to 15 lb)
Mowing lawn, power mower
Ping-pong
Playing with children: kneeling, lifting

Rowing, sailing

Skateboarding
Tai chi, qigong
Vigorous stretching
Volleyball
Yoga
Washing car
Water aerobics
Weight lifting
Working on car

During the last 7 days, on how many days did you do a **Moderate physical activity nonstop for at least 10 minutes at a time?** _____ Days

On those days, how much time did you spend on average doing **Moderate physical activities?** _____ Minutes/Day

Vigorous physical activity is any activity that is *hard* and makes you feel like you do when you run or jog.

Circle activities you did during the last 7 days at a **VIGOROUS LEVEL for at least 10 minutes at a time without stopping:**

Examples of activities that can be done at a VIGOROUS LEVEL:

Jogging, running

Aerobics, high impact (Jazzercise)
Basketball
Bicycling, fast (more than 12 mph)
Calisthenics, vigorous

Walking upstairs

Carrying heavy loads
Jumping rope
Judo, karate, kickboxing
Roller skating, rollerblading

Soccer

Ski machine (Nordic Track)
Stair climbing (StairMaster)
Swimming laps
Tennis, racquetball

During the last 7 days, on how many days did you do a **Vigorous physical activity nonstop for at least 10 minutes at a time?** _____ Days

On those days, how much time did you spend on average doing **Vigorous physical activities?** _____ Minutes/Day

Compared with your Usual Physical Activity over the last 3 months, was the last seven days' activity: _____ More
_____ Less
_____ About the same

continued

Figure 1. Tool for assessing patients' physical activity.

Figure courtesy of Rebecca A. Meriwether, MD, MPH.

Physical Activity Assessment Tool *(continued)*

Medical Problems

Please answer the next 7 questions by circling "Y" for "Yes" and "N" for "No".

- Y N 1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?
 Y N 2. Do you feel pain in your chest when you do physical activity?
 Y N 3. In the past month, have you had chest pain when you were not doing physical activity?
 Y N 4. Do you lose your balance because of dizziness, or do you ever lose consciousness?
 Y N 5. Do you have a bone or joint problem that could be made worse by a change in your physical activity?
 Y N 6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?
 Y N 7. Do you know of any other reason why you should not do physical activity?
-

Physical Activity Plans

Please check the ONE answer that best describes your physical activity plans for the next 6 months:

- A. I do not plan to become physically active in the next 6 months.
 B. I am thinking about becoming more physically active.
 C. I intend to become more physically active in the next 6 months.
 D. I have been regularly physically active for the last 1–5 months.
 E. I have been regularly physically active for the past 6 months or more.
-

Benefits of Physical Activity Important to You

Please circle the 3 benefits of physical activity that are *Most Important to You*:

- | | |
|---|------------------------------------|
| 1. For my health | 9. Have time for me |
| 2. Control my weight | 10. Lower my stress |
| 3. Look better | 11. Improve my fitness |
| 4. Feel better | 12. Lower my risk of heart disease |
| 5. Feel good about taking care of myself | 13. Lower my blood pressure |
| 6. Set a good example for my family or friends | 14. Lower my cholesterol |
| 7. Get my partner, child, friend to be more active with me | 15. Control my diabetes |
| 8. Teach my family, friends the importance of physical activity | 16. Other: _____ |
-

Getting Help from Others

Is there someone who would encourage you or help you with some of your responsibilities so you could get regular physical activity? **Yes No**

Who is that? _____ How could they help? _____

Helping Others

Is there a friend or family member you think should get more physical activity? **Yes No**

Who is that? _____ How could you help them? _____

Confidence

How confident are you that you could increase your physical activity if you decided to do so?
 (Circle the best answer)

Very Confident Fairly Confident A Little Confident Not at all Confident

Table 3: Counseling Approach to Physical Activity Based on the Stages of Change

Stage	Approach	Recommendations
Precontemplation (patient is not ready to change behavior)	Offer nonjudgmental advice, express intention to revisit the topic in the future	Tell the patient, "As your physician, it's my responsibility to recommend that you get at least 30 minutes of moderate-intensity physical activity, such as walking fast on at least five days of the week; I hope you don't mind if I ask you about physical activity in the future"
Contemplation (patient is thinking about changing behavior)	Increase the "pros" of changing	Emphasize benefits that the patient cares about Associate the benefits with increased physical activity Suggest that the patient help someone he or she cares about get physically active for health (to increase self-motivation)
Preparation (patient intends to change behavior in the next six months and is taking steps toward becoming more active)	Decrease the "cons" of changing	Help the patient overcome barriers Make a plan for the patient to start changing behavior Suggest that the patient help someone he or she cares about get physically active for health
Action/maintenance (patient has met the recommended physical activity goals for more than one month [action] or more than six months [maintenance])	Congratulate and reinforce the patient's behavior change	Tell the patient, "Congratulations, you are doing one of the most important things you can for your health" Reinforce the benefits by asking the patient to consider other activities he or she enjoys for variety Have the patient plan for times when it might be more difficult to be physically active (e.g., vacations, travel, holidays) If the patient has a lapse, encourage the patient to start the plan again as soon as possible Suggest that the patient help someone he or she cares about get physically active for health

Information from references 9 and 14.

activity on five or more days of the week or with 20 minutes of vigorous activity on three or more days of the week.

- Physical activity duration appears to be more important than intensity.
- Ten-minute increments of moderate-intensity physical activity provides health benefits.^{3,4}
- No more than two days should elapse between episodes of physical activity because metabolic rate and insulin sensitivity return to baseline three days after a single episode.²²
- The greatest health benefits are likely to accrue when inactive persons begin even modest amounts of regular activity.³⁻⁵
- Strength and flexibility training further enhance health and well-being, but should not replace movement or aerobic activity.⁴

Several organizations have issued guidelines for medical clearance before vigorous activity, although they provide conflicting advice.^{3-5,23-25} The USPSTF states that there is insufficient evidence to recommend for or against exercise stress testing before recommending physical activity.²⁵ In general, symptom-limited, moderate physical activity can be safely recommended unless patients

are unstable or have certain uncontrolled medical conditions.³⁻⁵

Musculoskeletal injuries occur in one fourth to one half of adults who become active.²⁶ Serious adverse events such as sudden cardiac death and myocardial infarction are rare, occurring in one out of 1.6 million episodes of vigorous physical activity.²⁷

ASSIST: PROCESSES OF CHANGE

Changing health behaviors is difficult.¹⁴ Evidence suggests that repeated counseling and shared decision making encourage change. Counseling that is patient-centered and nonjudgmental, respects patient autonomy, incorporates patient preferences and motivations, and uses processes of change is more likely to be successful.²⁸

Counseling should be tailored to the individual patient's stage of change (*Table 3*^{9,14}). Physicians who care for several family members may also facilitate social support, motivation, and helping others.

AGREE

Initially setting high goals is a more effective approach to increasing physical activity than

setting a series of incrementally increasing goals.²⁹ With shared decision making and active listening, the physician can determine what steps the patient is willing to take to increase physical activity and can endorse the patient's plans, if appropriate. Understanding the best steps for each stage can help physicians facilitate change while maintaining reasonable expectations.¹⁴

ASSIST: INTERVENTIONS

Printed materials that support verbal counseling messages and written prescriptions appear to increase the effectiveness of health behavior interventions.⁵ Writing a prescription for exercise duration and intensity (e.g., 30 minutes of accumulated moderate-intensity physical activity on five or more days of the week) and that supports lifestyle activities is easier for a patient to follow than an exercise prescription based on heart rate.³⁻⁶

Self-monitoring tools, such as calendars (see  online Figure C) or pedometers may also enhance behavior change and adherence.³⁰

ARRANGE

Finally, the physician should arrange for a follow-up visit and refer the patient to specialists for additional assistance, if the patient is receptive and assistance is available. Patient self-efficacy and social support are strong predictors of successful behavior change.¹²

Follow-up enables physicians to provide ongoing support and maintenance.⁵ When feasible, telephone or e-mail follow-up may also be effective.³¹ Electronic- and chart-based reminders should be used when possible to maximize repeated physical activity counseling, encouragement, and reinforcement at subsequent visits.³²

Telephone counseling has been shown to enhance initiation of and adherence to physical activity.³¹ Telephone counseling services may be available through insurance company case managers, from nurses, or from health care educators.⁸ Individually tailored, Internet-based counseling (see *accompanying patient handout*) and self-monitoring also appear to be effective for some patients.³¹

Some dietitians incorporate physical activity counseling into nutritional services, and

some communities offer classes to assist persons in adopting and maintaining healthier behaviors. Physical therapists can help deconditioned adults and those with chronic musculoskeletal problems improve strength, balance, and flexibility before beginning independent physical activity.

Structured Counseling Message

Using a structured counseling message based on patient answers to the PAAT and incorporating the other elements mentioned in this article can be delivered in the one and one half to three minutes devoted to health education and promotion in a typical primary care visit. The message should include the following: national physical activity recommendations, social support, helping others, printed materials and self-monitoring tools, agreement on next steps, and arrangement of follow-up and referrals.

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