

TAILORING COUNSELING ON PHYSICAL ACTIVITY AND INACTIVITY FOR AFRICAN-AMERICAN WOMEN

Physician counseling is one potential avenue to decrease levels of inactivity among African-American (AA) women and, possibly, to decrease the prevalence of adverse health outcomes, which can be reduced through regular participation in physical activity. Physical inactivity has been associated with increased morbidity and mortality, as well as risk for various health outcomes, including cardiovascular disease, stroke, diabetes, and some forms of cancer. The problem of inactivity applies to all US adults, but national data consistently show that levels are highest among AA women. The first section of this brief review provides background information related to the prevalence of physical activity, current physical activity recommendations for various outcomes, and the healthcare provider's role in increasing physical activity. The second section suggests practical approaches for physicians who wish to counsel AA women about increasing physical activity. Many of the approaches are also applicable to AA men and to the general population. (*Ethn Dis.* 2002;12[suppl3]:S3-62-S3-71)

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INTRODUCTION

The high prevalence of morbidity and mortality from diseases that can be reduced with physical activity, and the high prevalence of physical inactivity among African-American women, indicate a significant need for successful strategies to eliminate physical inactivity among this group. One potential approach is to increase efforts within the healthcare community to counsel African-American women about the benefits of, and ways to, increase physical activity. Despite evidence indicating that physical activity counseling can be effective, many physicians do not regularly counsel their patients about increasing physical activity.¹ Barriers to physical activity counseling among physicians include: insufficient time; lack of knowledge about the current physical activity recommendations; lack of counseling skills or materials; and lack of confidence regarding the effectiveness of counseling.² This brief review emphasizes the healthcare provider's role in physical activity counseling, summarizes the current recommendations for physical activity, discusses common barriers to regular participation in physical activity among African Americans, and suggests strategies that may be effective for activity counseling among African-American women.

BACKGROUND: PHYSICAL ACTIVITY AND HEALTH

The benefits of physical activity to improve health and control conditions, such as heart disease, stroke, diabetes, hypertension, and some forms of cancer, have been well documented.³⁻⁵ In 1995,

physical inactivity (defined as the lack of participation in leisure time physical activity) was estimated as being responsible for approximately \$24 billion in healthcare expenditures and, obesity (body mass index [BMI] ≥ 30 kg/m²) was estimated as being responsible for approximately \$70 billion in healthcare expenditures (independent of the costs for physical inactivity).⁶ African-American women are at excess risk for disability and death, which results from many of the health outcomes that can be ameliorated with physical activity. For example, in the NHANES I Epidemiologic Follow up Study (NHEFS), the age-adjusted relative risk for developing coronary heart disease (CHD) among African-American women, ages 25-54 years, was 1.8 times that in White women (relative risk [RR] 1.76).⁷ African-American women, ages 45-59 years, have death rates from heart failure that are approximately 3.7-4.3 times those of White women and are also higher than those found in White men.⁸ The age-adjusted RR of developing hypertension over a 10-year period was 2.33 in African-American compared to White women in NHEFS, and this disparity was greater among African-American women less than 35 years of age.⁹ The years of potential life lost to diabetes before age 75 (a metric that takes into account both the number of deaths and the age at death) is 3 times higher in Black than White women (314 vs 104 per 100,000).¹⁰

The high prevalence of obesity, which is also associated with many of the health conditions that are related to physical inactivity, is well recognized and continues to increase in African-American women.¹¹ Physical inactivity and obesity are directly related: low dis-

cretionary activity levels contribute to the development of obesity. For example, among a cohort of 64,000 African-American women who completed a mailed survey as a part of the Black Women's Health Study, low levels of physical activity were significantly associated with obesity, independent of other potentially confounding variables, such as age, education, marital status, and number of children.¹² In a study of 209 African-American women and 277 Caucasian women, past sports participation was significantly associated with current low BMI levels, even after controlling for potentially confounding variables, such as age, high school weight status, dietary restraint, and age at first menstrual period.¹³ Finally, a cross-sectional study of 1,040 Black women in South Africa found a significant inverse association between BMI and physical activity levels.¹⁴ Longitudinal data has also shown that low levels of physical activity are associated with increased risk for weight gain. Data for Black and White men and women enrolled in the Coronary Artery Risk Development in Young Adults (CARDIA) Study showed an inverse association between physical activity change and weight change over a 10-year follow-up period.¹⁵ Similarly, a prospective study to evaluate an intervention designed to reduce the risk of weight gain showed that those who lost weight were more likely to have increased high-intensity (men and women) or moderate-intensity physical activity levels (women only) over a 3-year period.¹⁶ Thus, physical inactivity contributes to the development of chronic diseases in African-American women, both directly and through its effect in promoting obesity.

In spite of the evidence that the risk for health outcomes associated with physical inactivity can be reduced with increased activity levels, the prevalence of physical inactivity remains high. In national surveillance data nearly two-thirds of US adults are irregularly active or sedentary and African Americans,

particularly women, report the highest levels of physical inactivity compared with other groups.^{4,17} In the 1992 Behavioral Risk Factor Surveillance System (BRFSS), African-American women reported sedentary behavior (no participation in leisure-time physical activity) more often than did White women (42.7% vs 28.2%, respectively).⁴ In a telephone survey, which included 745 African-American women over 40 years of age, 57% of African-American women, compared to 47% of White women, were classified as inactive.¹⁸ Among African-American women enrolled in the Black Women's Health Study, described previously, 57% of African-American women reported walking for exercise less than one hour per week, 18% reported less than one hour per week of moderate activity, and 61% reported less than one hour per week of strenuous activity.¹⁹ In addition, 19% reported no walking for exercise during the week, 2% reported no moderate activity during the week, and 34% reported no strenuous weekly activity.

THE HEALTHCARE PROVIDER'S ROLE IN PHYSICAL ACTIVITY PROMOTION

Healthcare providers have the opportunity to play a significant role in encouraging increased physical activity among adults. In 1999, 756,700,000 annual office visits were made to physicians, an average of 2.8 visits per person annually.²⁰ Thus, on average, healthcare providers, including physicians, physician's assistants, nurses, and nurse practitioners, may have nearly 3 occasions per year to counsel a given individual about increasing physical activity. The role of the healthcare provider in encouraging physical activity among US adults is so important that it was targeted as one of the Healthy People 2000 goals to improve the health of Americans.²¹ Specifically, the goal was

for at least 50% of all primary care providers to routinely assess and appropriately counsel their patients on physical activity. This would include accurate and appropriate counseling about the frequency, intensity, duration, and types of physical activities tailored to the specific needs of the patient. Appropriate counseling also includes helping individuals learn to solve problems presented by barriers that prevent regular participation in physical activity. Increasing the proportion of persons who are appropriately counseled about health behaviors by healthcare providers has also been named as one of the major objectives for Healthy People 2010.²²

Data from the Centers for Disease Control and Prevention's (CDC) National Ambulatory Medical Care Survey indicate that, in 1995, only 19.1% of 29,273 routine office visits among individuals 20 years of age and older included counseling about physical activity from physicians, and that African Americans and women were less likely to be counseled than other groups.²³ However, among adults over 50 years of age in the 1998 National Health Interview Survey, 52% ($N=6,154$) reported being asked about physical activity or exercise by their physicians during routine checkups.²⁴ Those who were asked by their physicians about physical activity or exercise were 1.7 times more likely to engage in recommended amounts of physical activity than those who were not asked about physical activity (95% CI=1.5–2.0), suggesting that physician behavior has an important influence.

Studies of this issue have found that counseling by healthcare providers is indeed effective in increasing physical activity participation, particularly among previously sedentary individuals. The Provider-Based Assessment and Counseling for Exercise (PACE) study, designed to promote the adoption and maintenance of physical activity through a 3- to 5-minute structured counseling session from physicians, is one example.²⁵ Patients who received

physician counseling increased their walking by an average of 37 minutes per week, while patients who did not receive physician counseling increased their walking by only 7 minutes per week, on average.

Properly designed written information may enhance the effects of physician counseling. A study of Australian family physicians tested the effectiveness of 2 to 3 minutes of verbal advice about exercise to sedentary patients. The advice was combined with either a standard or a tailored pamphlet about exercise, mailed to the patient's home address.²⁶ Significantly more patients who received the tailored pamphlet reported doing some activity at one and 6 months after the physician consultation, as compared to the participants who received the standard pamphlet. In another study, the effectiveness of a written exercise prescription, compared with verbal advice from general practitioners in New Zealand, was demonstrated by a significant increase in recreational physical activity over a 6-week period among sedentary patients who received the exercise prescription. Those who received a written prescription increased activity levels significantly more than those who received the advice only verbally.²⁷

CURRENT PHYSICAL ACTIVITY RECOMMENDATIONS

Although often used interchangeably, the formal definitions for exercise and physical activity differ. Exercise is "planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness," whereas physical activity is defined as "any bodily movement produced by skeletal muscles that results in energy expenditure."²⁸ Thus, physical activity is a broader, more inclusive term and includes all types of movement,

whether or not undertaken specifically for health reasons. The term "physical activity" will be used to denote all types of movement and activity throughout the remainder of this text.

Though the development of easy-to-understand physical activity guidelines for maximum health benefits is an ongoing challenge, evidence does support the fact that physical inactivity is harmful to health and that increases in physical activity should be recommended, both as a form of treatment for obesity and other health outcomes that are associated with physical inactivity and as a form of preventive health care. Many recommendations exist regarding the appropriate amount of activity necessary to achieve health benefits, and these recommendations are specific to the desired outcome (eg, cardiorespiratory fitness, general health, weight loss) (Table 1).

As shown in Table 1, recommendations are for moderate- or vigorous-intensity activity, and are generally stated in the form of a percentage of the maximal oxygen uptake. These terms may be difficult for most patients to understand; thus easier, more understandable definitions of moderate- and vigorous-intensity activity are necessary. Moderate-intensity activity can be described as activities that increase the heart rate and breathing faster than when at rest, but not "all out." Moderate-intensity activity can be performed for several hours if the individual is fairly fit. Examples of moderate-intensity activity include dancing, brisk walking, riding a bicycle, vacuuming or mopping, and lawn or garden work. Vigorous-intensity activity can be described as activities that can increase the heart rate and breathing well above resting levels. Individuals cannot perform these activities for long periods of time unless they are very physically fit. Examples of vigorous-intensity activities include running or jogging, high impact aerobics, competitive sports, and rigorous hiking or mountain climbing.

BARRIERS TO PHYSICAL ACTIVITY

There is a relatively rich literature base on factors that influence physical activity levels among African-American women. While these barriers are not limited to African-American women, they are mentioned frequently in studies of African-American women. In addition, African-American women may have fewer options for overcoming barriers without counseling, particularly for those in poor socioeconomic areas or those who have extenuating life circumstances. Potential barriers include: a lack of social support or positive community norms and role models for increased physical activity; lack of access to safe and affordable means to be physically active; multiple role obligations, including caregiving responsibilities; a higher priority on caregiving than on self-care; busy schedules and limited time for discretionary physical activity; relatively low priority on self-care; lack (or perceived lack) of energy; attitudes that predispose to resting rather than being physically active as a way of restoring health balance; a significant number of life events and other sources of stress; health problems such as knee pain, foot problems, or extreme obesity that directly increase difficulty and lower self-efficacy for exercise; role expectations or identities (eg, being a grandmother) that may be perceived as making certain types of activities socially inappropriate; limited understanding of, or belief in, the positive benefits (short term or long term) of increasing physical activity, and some negative perceptions of the effects of exercising (eg, raises blood pressure; makes one sweaty, and potentially requires the use of public showers; ruins hair; is boring).^{18,29-35}

SUGGESTED APPROACHES FOR PHYSICAL ACTIVITY COUNSELING

Perhaps the most effective counseling approach to increasing physical ac-

Table 1. Current physical activity recommendations as stated for various health-related outcomes in adults

Outcome	Recommendation		
	Frequency	Duration	Intensity
Cardiorespiratory fitness ³⁸	3–5 days/week	20–60 min/session, continuous activity	Vigorous*
Overall health ³⁹	≥5 days/week	≥30 min/day, continuous or accumulated in 3 or 4 8–10 minute bouts	Moderate†
General health ⁴	Daily	Not specified	150 kilocalories/day or 1,000 kilocalories/week over <i>sedentary levels</i>
Weight loss ⁴⁰	≥5 days/week	40–60 min/day, continuous or accumulated in 20–30 minute bouts	Moderate-vigorous

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tivity among African-American women is to provide assistance with learning to negotiate common barriers and incorporate physical activity into the daily routine. As mentioned above, these barriers are not limited to African-American women, and the approaches to negotiating barriers may extend to additional ethnic minority groups, or even to men. Yet, because these barriers are commonly identified in literature related to physical activity levels among African-American women, it may be appropriate to mention and address the barriers during counseling. Table 2 provides a list of suggested approaches that may be effective in assisting individuals to overcome these common barriers. Each approach is explained below.

Recommend Activities Based on the Patient’s Stage of Change

One of the most important aspects of effective behavior change is to target counseling strategies based on the patient’s stage of change. The Transtheoretical Model of behavior change is the model most commonly used in physical activity research.³⁶ The stages of change described in the Transtheoretical Model relate to the various stages through which patients progress while attempting to make a behavior change. The 5 stages of change are precontemplation,

contemplation, preparation, action, and maintenance (Table 3). Stage of change can be assessed quickly and easily in the office setting simply by inquiring about current physical activity participation habits and classifying the individual based on the response. Those who indicate that they are not currently engaging in regular physical activity and have no plans to begin a regular physical activity program would be classified as “precontemplators.” Those who are not currently engaging in a regular physical activity program but have started to think about engaging in regular activity would be classified as “contemplators.” Those who have started to think about engaging in regular activity and have taken some steps to begin a program (eg, purchased walking shoes, joined a gym, located nearby walking areas) are considered to be in the preparation stage. Those individuals who are cur-

rently engaged in a regular physical activity program, but have participated in the program for less than 6 months are considered to be in the action stage. Those who have been involved in a regular physical activity program and have participated in the program for ≥6 months are in the maintenance stage.

The individual’s stage of change should always be taken into account when counseling about physical activity because it indicates her level of readiness to change behavior, and counseling approaches should be matched to readiness. An individual who is in precontemplation requires a counseling message that is different from one given to a patient who is in the action or maintenance stage of change. For example, the precontemplator might respond best to messages related to: the benefits of physical activity; the types of physical activity that achieve specific health ben-

Table 2. Tailored approaches to physical activity counseling

- Recommend activities based on the patient’s stage of change.
- Educate about patient-specific benefits of physical activity.
- Determine activity recommendation based on desired outcome(s).
- Give credit for current activities.
- Cater to personal physical activity preferences.
- Promote increases in routine daily activity.
- Make suggestions that are feasible based on patient’s life style.
- Incorporate family into activity suggestions.
- Encourage gradual changes in activity levels.

Table 3. Transtheoretical model stages of change

	Description	Counseling Strategy
Precontemplation	Has no intention to take action within the next 6 months.	Discuss the types of activity that patient might engage in and the outcomes that the patient and physician wish to achieve through participation in physical activity.
Contemplation	Intends to take action within the next 6 months.	Discuss the types of activity that patient might engage in and the outcomes that the patient and physician wish to achieve through participation in physical activity.
Preparation	Intends to take action within the next 30 days and has taken some behavioral steps in this direction.	Continue to discuss types of activity, along with the recommended amount of activity, that patient will engage in. Discuss current activity level and ways to increase the level to obtain the recommended amount of activity.
Action	Has changed overt behavior for less than 6 months.	Encourage the patient to continue participating in regular physical activity. Assess goal attainment and discuss barriers to activity as well as successes.
Maintenance	Has changed overt behavior for more than 6 months.	Encourage patient to continue positive behavior.

efits; the recommended amount of physical activity in order to encourage engaging in a regular physical activity program. Individuals in action or maintenance, on the other hand, may only need to be encouraged to continue with their regular physical activity program and to continue to increase the intensity and duration of their activities. In addition, several visits may be required to move an individual from the precontemplation stage to a stage where she is ready to begin a regular physical activity program (eg, action). Table 3 also includes suggested counseling strategies for each stage of change.

Educate About Patient-Specific Benefits of Physical Activity

Nies et al,³⁷ from an assessment of African-American women’s experiences with physical activity in their daily lives, noted that lack of knowledge about the benefits of exercise and physical activity was a barrier to participation. Airhihenbuwa et al³⁴ reported that, in focus groups that explored perceptions and beliefs toward exercise, rest, and health, some African-American participants felt that adequate amounts of exercise were obtained during routine and occupational activities. Many also considered rest to be more important than, and perhaps necessary for, participation in regular physical activity. In addition, these respondents were less likely to

consider exercise as a beneficial treatment for high blood pressure, and more likely to consider it a cause of high blood pressure. Taking time to clear up misconceptions (eg, belief that exercise causes high blood pressure or sudden death), and to explain the benefits of regular participation in physical activity (eg, decreased risk for heart disease and stroke, decreased blood pressure levels among hypertensive patients and decreased risk of high blood pressure among normotensive patients, improved glycemic control in diabetic patients, and increased weight loss/weight control) may increase the expectation of the positive long-term benefits from regular participation in physical activity.

Determine Activity Recommendation Based on Desired Outcome(s)

Several physical activity recommendations exist (Table 1). All are valid, but the types and amounts of activity recommended vary for different health outcomes (eg, fitness, weight loss, or general health). The activity level recommended should fit the expected health outcomes that are desired by both the patient and the healthcare practitioner. For example, if the agreed upon goal is to improve cardiorespiratory fitness, then the American College of Sports Medicine’s (ACSM) fitness recommendation to achieve 60%–90%

of the maximal heart rate for 15–60 minutes per session and for 3–5 days per week is appropriate.³⁸ However, if the physician’s main concern is to simply encourage the patient to engage in physical activity as a preventive measure to reduce the risk for health outcomes that are associated with physical inactivity, then the CDC/ACSM recommendation of moderate physical activity for health benefits (≥ 5 days/week for ≥ 30 minutes/day) is more appropriate.^{4,39}

It is important to note that a higher level of physical activity is needed to promote weight loss/weight control than for other general health benefits. Healthcare providers who are counseling on activity for weight loss should encourage moderate to vigorous intensity activities on at least 5 days per week for at least 40–60 minutes per day (may be accumulated in bouts lasting 20–30 minutes).⁴⁰ Ideally, patients who are counseled to become physically active for weight loss should increase activity levels up to 60 minutes of moderate- to vigorous-intensity per day. The recommendation for weight loss is a combination of the cardiorespiratory fitness and health-related benefits recommendations. Individuals who are able to work up to 60 minutes per day of moderate- to vigorous-intensity activity are likely to see health-related and cardiorespiratory benefits, as well as weight loss.

In addition to increasing physical activity to promote weight loss, patients should also be advised about the link between energy intake and energy expenditure. Energy intake in excess of energy expenditure can result in overweight, since "excess energy intake over expenditure leads to storage of energy in the form of fat."⁴¹ Weight loss from physical activity without concurrent attention to caloric consumption is not likely, and recommendations to increase physical activity go hand-in-hand with recommendations to improve the dietary pattern and control caloric intake for weight control or weight maintenance. The *Dietary Guidelines for Americans* from the United States Department of Agriculture offers additional detailed information regarding recommendations for weight control and physical activity, and is available at <http://www.usda.gov/cnpp/dietgd.pdf>.⁴²

Give Credit for Current Activities

Johnson et al conducted a study of perceived barriers to exercise and weight control among a community sample of Black and White women.⁴³ Women who were not current exercisers and who did not want to begin an exercise program reported that they obtained an adequate amount of exercise during their daily and occupational activities. An important technique is to acknowledge that the current daily routine does provide some activity. Such activities may be beneficial for health if performed at a moderate or greater level of intensity and for a sufficient duration (eg, bouts of 8 minutes or more), although this is often not the case. Nevertheless, acknowledging the individual's existing activity may be the best starting point, particularly with respect to feasibility and credibility. In a study of the perceptions and beliefs about exercise, rest, and health among African Americans (ages 13 to 65+ years), participants reported that they considered work and daily activities to be a form of exercise

and that additional exercise may not be necessary.³⁴ Daily activities can be reviewed with the patient to determine which are light, moderate, or vigorous in intensity (previously described), and to compare with recommended levels. Usually the total amount spent on daily activities will be less than the intensity or duration recommended for health benefits. Encouraging the individual to increase the amount of time per day spent in moderate- and vigorous-intensity activities may lead to a more active lifestyle even before the patient is ready to begin a regular physical activity program.

Cater to Personal Physical Activity Preferences

For all individuals and, particularly for those who are sedentary and may not be thinking of beginning a regular physical activity program, it is especially important to encourage activities in which the individual is likely to participate. Even if the range of such activity is relatively small, preferences may broaden eventually. The goal is to help the individual to determine preferred activities and encourage her to increase the intensity level, frequency, and duration of the activities. The belief that exercise is boring is a common barrier to physical activity. In the Johnson et al⁴³ study mentioned above, the belief that exercise is boring and that there would be a tendency to lose interest in exercising was also listed as a barrier to exercise. Activities the patient enjoys doing on a regular basis, such as dancing, playing with children, or brisk walking, may all gain health benefits if the intensity level is at least moderate and the duration of activity is appropriate for the desired health outcome. There is no one "correct" activity to recommend for physical activity recommendations—rather, the best activity to recommend is the one that the individual will actually perform. Examples of light-, moderate-, and vigorous-intensity activities are included in Appendix A.

Promote Increases in Routine Daily Activity

Several intervention studies have shown that increases in lifestyle or routine daily physical activity, termed "lifestyle activity," leads to health benefits among sedentary populations. For example, Dunn et al conducted Project Active, a 24-month randomized trial comparing a lifestyle physical activity program with a structured exercise program.⁴⁴ The lifestyle activity group was encouraged to accumulate ≥ 30 minutes of moderate-intensity activity on most days of the week. Individuals in the lifestyle group also participated in classes to assist with behavioral change (weekly for 16 weeks and then bi-weekly until week 24). The structured activity group participated in a supervised exercise program at a fitness center 5 days per week for 6 months. Participants in the structured activity group were instructed to exercise at 50%–85% VO_{2max} for 20 to 60 minutes. Results of the intervention after 24 months showed significant increases in total energy expenditure, cardiorespiratory fitness, and increases in participation in moderate physical activity for both the lifestyle activity group and the structured exercise group. Dunn et al also reported reductions in total cholesterol, diastolic blood pressure, and body fat among those who increased lifestyle physical activity. In a separate 16-week randomized trial, Andersen et al compared the effects of a low-fat diet, plus either lifestyle activity or structured aerobic exercise in a group of obese women.⁴⁵ Lifestyle group participants were instructed to participate in moderate-intensity activity for ≥ 30 minutes per day on most days of the week through increases in routine activities (eg, walking instead of driving short distances, taking the stairs instead of the elevator) and incorporating short bouts of activity (eg, ≥ 10 minutes) throughout the day. The structured aerobic exercise program included aerobic classes 3 times per week. At the end of 16 weeks, both groups lost weight; how-

ever, one-year followup showed that the structured exercise group had greater weight regain than the lifestyle group. In addition, both groups decreased mean body fat, and the lifestyle group lost significantly more fat-free mass than the structured exercise group. Both of these studies indicate that participation in lifestyle activity may be as effective for weight loss as structured exercise programs among sedentary individuals, and the Andersen et al⁴⁵ study suggests greater effectiveness of the lifestyle approach over the long term.

Specific suggestions for increasing routine daily activity include: walking to complete errands within a 5-minute drive; walking while waiting to pick a child up from sports team practices; taking a walk around the block during the lunch hour; taking the stairs instead of the elevator; and parking further from work or getting off the train/bus one stop earlier to allow an opportunity for walking. While these activities are not at the level that is suggested in the national physical activity recommendations, individuals who begin to make physical activity a part of the daily routine (ie, those who begin to transition into a physical activity lifestyle) may find it easier to shift to a level of activity that is associated with health benefits.

Make Suggestions that are Feasible Based on Patient's Life Style

Keep your suggestions feasible. Not all recommendations are applicable to everyone. For example, all patients may not have the resources, equipment, or opportunity to join a gym or exercise in their neighborhoods or workplaces. In addition, for individuals who live in unsafe areas, walking in the neighborhood may not be feasible. Data from the Centers for Disease Control and Prevention show a higher prevalence of physical inactivity among people who perceive their neighborhoods to be unsafe.⁴⁶ King et al also noted, in a nationwide telephone survey of 2,912 multi-ethnic

women more than 40 years of age, that lack of a safe place to exercise, high neighborhood crime, and heavy neighborhood traffic were considered to be barriers to physical activity.¹⁸ Physicians or their staff members can assist by identifying alternatives such as: dancing; exercising at home using video tapes; or identifying neighborhood malls, parks, or walking trails that may provide additional safety. If these suggestions are not feasible, it may be necessary to spend a few minutes with the individual in order to determine how she can make simple lifestyle changes to include more activity in her daily lifestyle without having to purchase expensive equipment or exercise in areas that she feels are unsafe. As discussed below, some women will also need to address additional issues (eg, taking the children along, finding an exercise partner, or finding time to exercise) or may need to carefully consider the tradeoffs of using discretionary income to pay for exercising vs other types of recreation or interests.

Incorporate Family into Activity Suggestions

Among women, family and other competing responsibilities often overshadow the importance of taking time out for self. In a cross-sectional study describing physical activity patterns, minority women reported spending large amounts of time engaging in occupational and household activities, and this was correlated with a decrease in the time spent in leisure activities.⁴⁷ In the nationwide survey of 2,912 multi-ethnic women described above, caregiving duties were associated with a lower activity participation among African-American women.¹⁸

Suggestions for women who report barriers associated with child care and other obligations may include engaging in family activities such as outings at a park or simply playing with the children, walking during a child's team practices rather than watching from the sidelines, or enlisting the aid of neighbors or family friends to provide child

care during participation in physical activity. Engaging the family, particularly children, is extremely important, especially considering the recent findings that inactivity levels among children are on the rise, along with a rise of health conditions related to inactivity (eg, obesity and type 2 diabetes, formerly known as adult onset diabetes).⁴⁸ The individual may also consider engaging in physical activity earlier or later in the day when the family is not at hand. If all else fails, encourage the individual to participate in active household chores, which incorporates physical activity into the normal daily routine. Remind the individual, though, that only chores that increase the heart rate and breathing and require movement of the arms and legs will work toward meeting the physical activity recommendations. In addition, the current activity recommendations suggest that moderate activity can be accumulated in 8- to 10-minute bouts.³⁹ The benefits of shorter bout lengths (eg, <8 minutes per session) on health have not been established, so emphasizing that activities should last for at least 8 minutes per session is important.

Encourage Gradual Changes in Activity Levels

For previously sedentary patients, it is important to note that the recommendation for health benefits is 30 minutes per day and that the activity can be accumulated in 3 or 4 8- to 10-minute bouts of activity.³⁹ This is particularly important for individuals who have not been previously active since it may be difficult to begin a 30-minute physical activity program immediately. Going from a completely sedentary lifestyle to one involving at least 30 minutes of moderate-intensity activity per day may be a daunting task. In addition, beginning a new physical activity program too intensely may result in stiffness and sore muscles, which could discourage further participation in physical activity. Particularly for sedentary individuals, it is advised to begin the physical activity

program slowly, gradually working up to participation at the desired level of frequency, intensity, and duration.

CONCLUSION

Physical activity has been shown to provide many health benefits that may be particularly beneficial for African-American women, who suffer disproportionately from health outcomes that are associated with low levels of physical activity. Physical activity counseling by physicians has been shown to be effective in some populations and, these strategies may be broadly applicable. Be-

cause of the apparent success of brief physician counseling about the importance of regular physical activity to health, with practical advice on how to increase physical activity levels, much more emphasis on this issue during routine clinical encounters is strongly encouraged.

Appendix A. The Surgeon General's recommendation for general health suggests that U.S. adults should expend 150 calories of energy per day or 1,000 calories per week over sedentary levels. The table on the following page provides an estimate for the number of minutes it would take to expend 150 calories, depending on an individual's weight. Note the importance of the intensity of the activity—the more intense the activity, the less time it takes to expend 150 calories.

	Minutes in Activity				
	150 lbs	170 lbs	200 lbs	230 lbs	250 lbs
LIGHT ACTIVITY					
Watching television; having hair or nails done	126	111	94	82	75
Sitting, reading	97	85	73	63	58
Sitting, talking; sitting in meetings at work; sitting at desk working	84	74	63	55	50
MODERATE ACTIVITY					
Walking (slow walk, stroll); walking slowly at work; cooking	63	55	47	41	38
Ironing, putting away laundry; shopping	55	48	41	36	33
Straightening up around house (dusting, carrying out trash, changing linen)	50	44	38	33	30
Weight lifting; bowling; playing Frisbee; volleyball (non-competitive)	42	37	31	27	25
Walking the dog; walking for pleasure or work breaks; heavy household cleaning (wash windows, wash car, clean garage—vigorous)	42	37	31	27	25
Calisthenics (push ups, sit ups); mopping; vacuuming	36	32	27	23	22
Brisk walking for exercise (level surface); brisk walking at work	33	29	25	22	20
Bicycling for pleasure; Walk/run, play with children (moderate effort); walk/run, play with pets	31	28	24	21	19
Walking to work; water aerobics; Tai Chi; general gardening	31	28	24	21	19
Raking lawn	29	26	22	19	18
Dancing (disco, line dancing, etc); basketball (shooting baskets); golf (walking, carrying clubs)	28	25	21	18	17
Washing and waxing car	28	25	21	18	17
Children's games (hopscotch, 4-square, dodge ball)	25	22	19	16	15
VIGOROUS ACTIVITY					
Health club exercises	23	20	17	15	14
Running (jog/walk combination); brisk walking uphill; swimming (general); mowing lawn with a hand mower	21	18	16	14	13
Stationary bicycling (moderate effort); ski machine; jogging; racquetball; roller skating; tennis	18	16	13	12	11
Elliptical trainer; water jogging; jumping rope; walking up stairs; beach volleyball	16	14	12	10	9
Running 5 mph (12 minutes/mile)	16	14	12	10	9
Stairmaster	14	12	10	9	8
Kick boxing, karate, judo	13	11	9	8	8

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