

11-2-2020

## Exercise Prescriptions in Primary Care

Caitlyn Haines, PGY-2  
*Thomas Jefferson University*

Follow this and additional works at: <https://jdc.jefferson.edu/fmlectures>

 Part of the [Family Medicine Commons](#), and the [Primary Care Commons](#)

[Let us know how access to this document benefits you](#)

---

### Recommended Citation

Haines, PGY-2, Caitlyn, "Exercise Prescriptions in Primary Care" (2020). *Department of Family & Community Medicine Presentations and Grand Rounds*. Paper 453.

<https://jdc.jefferson.edu/fmlectures/453>

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Department of Family & Community Medicine Presentations and Grand Rounds by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: [JeffersonDigitalCommons@jefferson.edu](mailto:JeffersonDigitalCommons@jefferson.edu).

# **Exercise Prescriptions in Primary Care**

---

Caitlyn Haines, PGY-2  
TJUH Family Medicine Resident Lecture Series

# Opening survey

Please take the first 5-10 minutes of this presentation to complete a pre-lecture survey.

Link to the survey is in the chat!



# Disclosures

Not-a-one!

# Learning objectives

- Review the health benefits of physical activity.
- Recognize barriers on the part of the provider that limit our discussion of exercise with our patients.
- Understand the current recommendations for physical activity including: time per week, exercise intensity, and recommendations for pregnant patients and those with chronic disease.
- Understand the current recommendations for screening prior to exercise in patients with chronic medical conditions.
- Help patients devise strategies to introduce physical activity into their routine.
- Become familiar with resources to connect our patients with for exercise in their area.

# We've all seen this chart...

While there is certainly a large component of the obesity epidemic in the United States that can be contributed to the diet, this talk will focus more on combating sedentary behaviors. Dietary modification, while extremely important, is outside the scope of this talk.

Food	20 Years Ago	Today
Bagel 	140 calories (3" diameter)	350 calories (6" diameter)
Muffin 	210 calories (1.5 oz)	500 calories (4 oz)
Cheeseburger 	333 calories	590 calories
Pasta (Spaghetti & Meatballs) 	500 calories	1025 calories
French Fries 	210 calories (2.4 oz)	610 calories (6.9 oz)
Soda 	85 calories (6.5 oz)	250 calories (20 oz)
Theater Popcorn 	270 calories (5 cups)	630 calories (1 tub)
Turkey Sandwich 	320 calories	820 calories
Pizza 	500 calories (2 slices)	850 calories (2 calories)

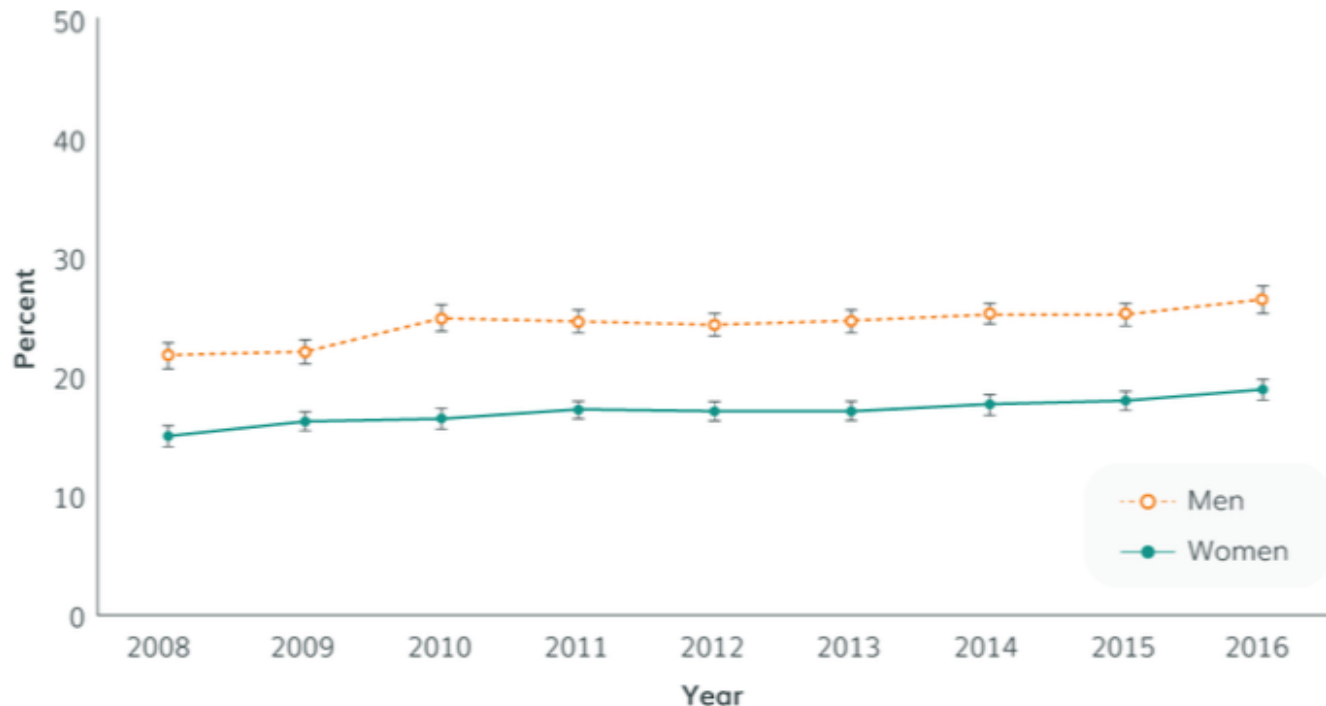
# Case 1

VR is a 20 year old female who comes to the office to establish care. She overall feels well, other than reporting some bothersome heartburn symptoms that she experiences with particular meals. She is feeling self-conscious about her body and is wondering what she can do to lose weight. Her BMI is 34.

- What additional screening should we include in this visit?
- Any additional history you want to know?

Figure 1-1. Percentage of U.S. Adults Ages 18 Years or Older Who Met the Aerobic and Muscle-Strengthening Guidelines, 2008–2016

**B:**



for

)

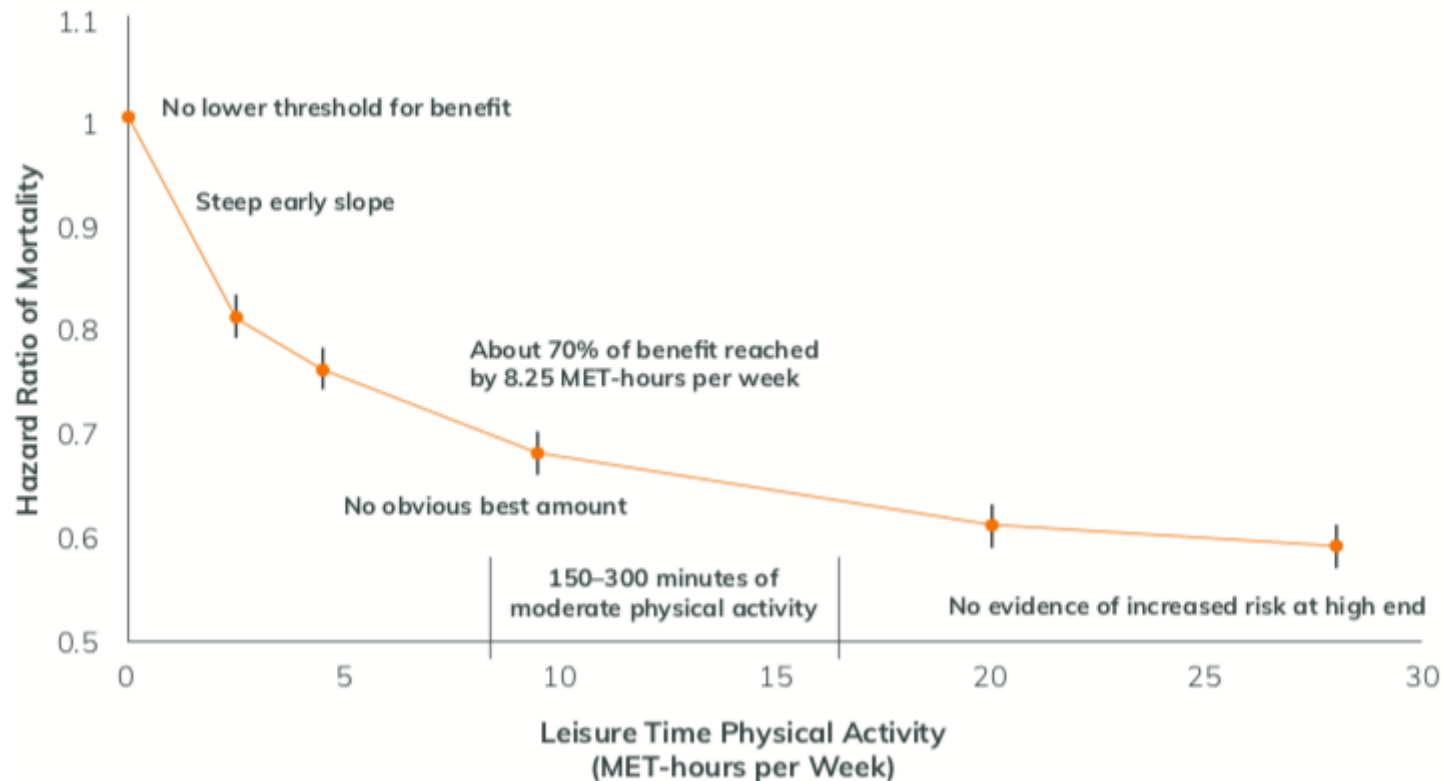
ent

)

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS).



Figure 2-1. Relationship of Moderate-to-Vigorous Physical Activity to All-Cause Mortality



Source: Adapted from data found in Moore SC, Patel AV, Matthews CE. Leisure time physical activity of moderate to vigorous intensity and mortality: a large pooled cohort analysis. PLoS Med. 2012;9(11):e1001335. doi:10.1371/journal.pmed.1001335.

# Exercise is Medicine

- Global initiative launched in 2007, AMA partnered with ACSM promote physical activity assessment & counseling as part of primary care visits
  - Goal for increased primary care screening for physical activity with the EVS
  - Also with goal for merging fitness industry with healthcare industry
  - Encouraging physicians to provide exercise “prescriptions” to patients with recommendations for frequency & intensity of exercise

Exercise  
is Medicine®

AMERICAN COLLEGE  
of SPORTS MEDICINE®

# Screening patients for physical activity

- Only about 40% of physicians regularly engage in discussions of physical activity with their patients (Vanwormer et al, 2009)
  - Survey of patients: 1 in 3 adults reported counseling on physical fitness within the past year (Barnes et al 2012)
  - Discussions mostly focused around aerobic activity, neglecting muscle strengthening (Crump et al 2019)
- Evidence for an effective screening tool may be lacking
  - Number of tools available to start the discussion, but all gather slightly different information
  - More broad physical activity information vs work & leisure related activities

# Screening tools for physical activity

Screening Tool	Number of questions	Pros	Cons
EVS/PAVS	2	Improvements in key health outcomes	Poor correlation with accelerometer
SNAP	1	Takes <1 minute, written at 5th grade literacy level	Weak agreement with health outcomes
GPPAQ	7	Takes ~1 minute	Only moderate sensitivity/specificity
SBAS	2	Takes <5 minutes	Poor-moderate sensitivity
PAAT	>20	Comprehensive evaluation of body image, physical activity	Longer screening process

# EVS/PAVS

- Supported by *Exercise is Medicine* effort in the US
- Assesses average time spent exercising using two self-reported questions:
  - On average, how many days per week do you engage in moderate to strenuous exercise?
  - On average, how many minutes per day do you engage in exercise at this level?
- Implementation of an EVS associated with greater exercise-related progress  
note documentation and referrals
  - Increase in frequency of physician exercise counseling, relative weight loss among overweight patients , reduction in HbA1c
  - Favorable cardiometabolic factors (men & women with lower diastolic pressure, women with lower systolic)

**Days per week** × **Minutes per day** = **Minutes per week**

# Physical Activity Assessment Tool (PAAT)

## 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 (PAAT)

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

# Benefits of screening

- **NEJM (2002) - comparing lifestyle intervention program with metformin in diabetes prevention/delay of diagnosis (n = 3234)**
  - Randomized non-diabetic patients with elevated fasting glucose to placebo, metformin, or lifestyle-modification program with 3 year follow up
  - Goal of lifestyle-modification program was 7% weight loss, at least 150 minutes moderate-intensity physical activity per week
- **Incidence of diabetes was 11.0, 7.8, and 4.8 cases per 100 person-years**
  - Lifestyle intervention reduced incidence by **58%**, significantly more effective than metformin
- **Details about the program: 16-lesson individualized curriculum covering diet, exercise, and behavior modification**
  - Continued reinforcement and follow up with patients to encourage lifestyle modification can delay chronic disease



# So, why aren't we screening?

- Provider survey (2017) of barriers to counseling patients on physical activity
  - Competing demands for limited time with the patient
  - Lack of exercise knowledge/where to refer for more information
  - Lack of tools/resources to recommend for programs fitting the patients' needs
  - Lack of incentives
- Recommendation: need for education, environmental restructuring, enablement

## Case 2

KF is a 62 year old male with PMHx of HTN, HLD, recent bilateral inguinal hernia repair who presents to his PCP's office for routine follow up after his surgery. Family history of an MI in his father at age 52, who eventually required CABG. KF is wondering if he can resume his regular physical activity, which includes daily walks in his neighborhood and weekly spin classes - or whether he needs additional precautions.

- Assuming he is cleared by his surgeon, what do you tell KF about his recommendations for exercise?

# Current recommendations on physical activity

- Adults should move more and sit less throughout the day
- For substantial health benefits, adults should do at least 150 - 300 minutes per week of moderate intensity, or 75 - 150 minutes per week of vigorous intensity physical activity
- Additional health benefits are gained by engaging in physical activity beyond the equivalent of 300 minutes of moderate intensity physical activity per week
- Adults should also do muscle-strengthening activities of moderate or greater intensity, and that should involve all major muscle groups on 2 or more days per week



# PHYSICAL ACTIVITY RECOMMENDATIONS FOR DIFFERENT AGE GROUPS



## PRESCHOOL-AGED CHILDREN (3-5 YEARS)

Physical activity **every day throughout the day**

**Active play** through a **variety** of enjoyable physical activities



## CHILDREN AND ADOLESCENTS (6-17 YEARS)

**60 mins (1 hour)** or more of moderate-to-vigorous intensity physical activity daily

**A variety** of enjoyable physical activities

**As part of the 60 minutes, on at least 3 days a week, children and adolescents need:**

- **Vigorous activity** such as running or soccer
- Activity that **strengthens muscles** such as climbing or push ups
- Activity that **strengthens bones** such as gymnastics or jumping rope



## ADULTS (AGES 18-64 YEARS)\*

At least **150 minutes a week** of moderate intensity activity such as **brisk walking**

At least **2 days a week** of activities that **strengthen muscles**

\*Aim for the recommended activity level but be as active as one is able



## OLDER ADULTS (65 YEARS AND OLDER)\*

At least **150 minutes a week** of moderate intensity activity such as **brisk walking**

At least **2 days a week** of activities that **strengthen muscles**

Activities to **improve balance** such as standing on one foot

\*Aim for the recommended activity level but be as active as one is able

# What “counts” as aerobic activity?

## Moderate

- Working hard enough to raise your heart rate and break a sweat - should be able to talk but not sing
  - Walking fast
  - Water aerobics
  - Riding a bike on a level ground or few hills
  - Playing tennis
  - Pushing a lawn mower

## Vigorous

- Breathing hard & fast, cannot carry on a conversation
  - Jogging/running
  - Swimming laps
  - Riding a bike on hills/fast
  - Playing basketball
  - High-intensity interval training (HIIT)
  - Kickboxing/exercise classes
  - Heavy yard work (digging, shoveling)

**As a rule of thumb, about 1 minute of vigorous activity equals 2 minutes of moderate activity**

# What “counts” as muscle-strengthening?

- For health benefits, should complete exercises to the point where it is hard to do another repetition without assistance
  - Try to do 8-12 reps per activity, with 2-3 sets
- Options include:
  - Lifting weights
  - Working with resistance bands
  - Using body-weight for resistance (push-ups, sit-ups)
  - Yoga

# Evidence for shorter 'bout' duration

- A single session of moderate-to-vigorous physical activity has health benefits
- Bouts of any length contribute to health benefits associated with the accumulated volume of physical activity (taking the stairs)
- Systematic review (2018) - bouts of activity <10 minutes at a time likely accumulate over the course of a day, but overall do have health-enhancing effects
  - May be helpful in those patients who are unable or unwilling to participate for >10 minutes

# Physical activity in adults with chronic health conditions

- Adults with chronic conditions, who are able, should do at least 150 - 300 minutes of moderate-intensity aerobic activity, or 75 - 150 minutes per week of vigorous-intensity aerobic activity
- When able, should also do muscle-strengthening activities of moderate or greater intensity, and that should involve all major muscle groups on 2 or more days per week
- When they are not able to meet the above guidelines, they should engage in regular physical activity according to abilities and avoid inactivity
  - Should consult with health care provider about whether/how to adjust their exercise routine



# Screening in Chronic Disease

- American College of Sports Medicine (ACSM) with updated screening guidelines prior to exercise initiation
  - Current level of physical activity
  - Known cardiovascular, metabolic or renal disease
  - Presence of signs/symptoms suggestive of CVD
  - Anticipated exercise intensity
- “Medical clearance” reserved for inactive, asymptomatic individuals who have known cardiovascular, metabolic or renal disease
  - Screening with PAR-Q+
- Recommend slow increase in patients especially when first starting
  - “Start low and go slow”
- Impossible to eliminate all risk

# Screening in Chronic Disease

Table 2

Definitions in the updated ACSM guidelines (28)

---

**Individuals current level of activity**

- “Active” defined as performing planned, structured moderate-to-vigorous physical activity  $\geq 30$  min at least 3 days per week.

**Presence of signs and symptoms suggestive of CVD**

Includes:

- pain or discomfort at rest or with exertion in the chest, neck, jaw, arms or other areas that may result from myocardial ischemia;
- unusual breathlessness;
- dizziness;
- fainting or blackouts;
- ankle swelling;
- unpleasant awareness of a forceful, rapid or irregular heart rate;
- burning or cramping sensations in lower extremities when walking short distances.

**Known CVD, metabolic or renal disease**

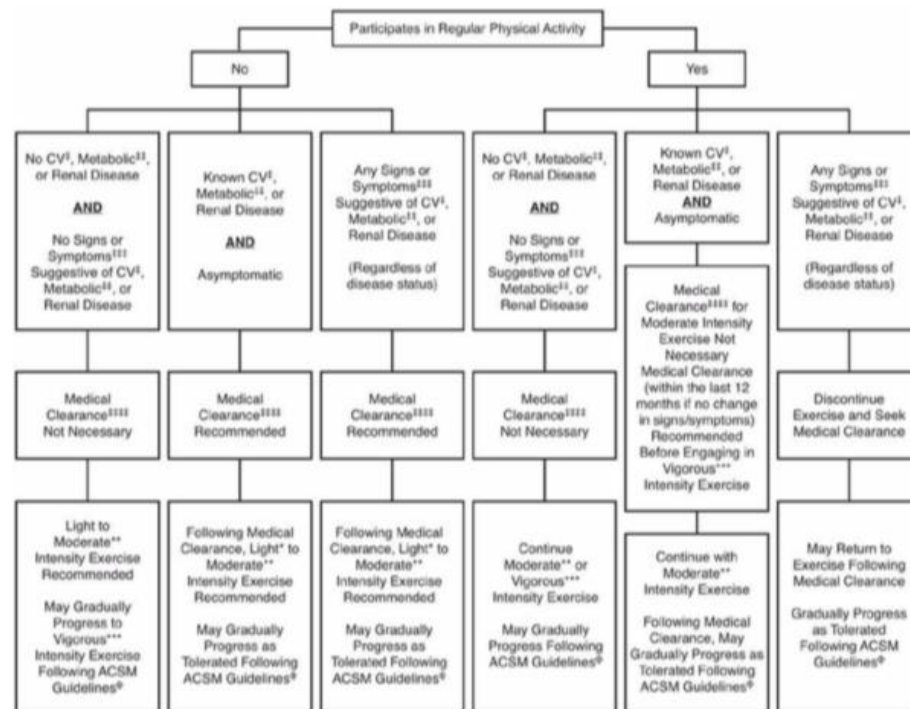
Defined as:

- diabetes (type 1 and type 2 diabetes mellitus);
- renal disease;
- CVD such as a previous myocardial infarction, heart surgery, pacemaker, valve disease, heart failure or structural heart disease.

**Desired exercise intensity**

- Light: an intensity that evokes slight increases in heart rate and breathing (2 to 2.9 METs).
  - Moderate: an intensity that evokes noticeable increases in heart rate and breathing (3 to 5.9 METs).
  - Vigorous: an intensity that evokes substantial increases in heart rate and breathing ( $\geq 6$  METs)
-

## ACSM Preparticipation Screening Guidelines



<sup>1</sup>Exercise Participation

Performing planned, structured physical activity at least 30 min at moderate intensity on at least 3 d · wk<sup>-1</sup> for at least the last 3 months

\*Light Intensity Exercise

30–40% HRR or VO<sub>2</sub>R, 2–3 METS, RPE 9–11, an intensity that causes slight increases in HR and breathing

\*\*Moderate Intensity Exercise

40–60% HRR or VO<sub>2</sub>R, 3–6 METS, RPE 12–13, an intensity that causes noticeable increases in HR and breathing

111Vigorous Intensity Exercise

≥60% HRR or VO<sub>2</sub>R, ≥6 METS, RPE ≥14, an intensity that causes substantial increases in HR and breathing

<sup>1</sup>Cardiovascular (CV) Disease

Cardiac, peripheral vascular, or cerebrovascular disease

<sup>11</sup>Metabolic Disease

Type 1 and 2 diabetes mellitus

<sup>111</sup>Signs and Symptoms

At rest or during activity, includes pain, discomfort in the chest, neck, jaw, arms, or other areas that may result from ischemia; shortness of breath at rest or with mild exertion; dizziness or syncope; orthopnea or paroxysmal nocturnal dyspnea; ankle edema; palpitations or tachycardia; intermittent claudication; known heart murmur; unusual fatigue or shortness of breath with usual activities.

<sup>1111</sup>Medical Clearance

Approval from a healthcare professional to engage in exercise


<sup>9</sup>ACSM Guidelines





See ACSM's Guidelines for Exercise Testing and Prescription, 10th edition, 2018

# PAR-Q+


- Assists with risk stratification based on score of questionnaire
- Three groups of questions asking about past medical history, provides instructions for next steps
- There is also an ePARmed-X+ for additional screening and physical activity recommendations




## 2020 PAR-Q+

 **If you answered NO to all of the FOLLOW-UP questions (pgs. 2-3) about your medical condition, you are ready to become more physically active - sign the PARTICIPANT DECLARATION below:**

-  It is advised that you consult a qualified exercise professional to help you develop a safe and effective physical activity plan to meet your health needs.
-  You are encouraged to start slowly and build up gradually - 20 to 60 minutes of low to moderate intensity exercise, 3-5 days per week including aerobic and muscle strengthening exercises.
-  As you progress, you should aim to accumulate 150 minutes or more of moderate intensity physical activity per week.
-  If you are over the age of 45 yr and **NOT** accustomed to regular vigorous to maximal effort exercise, consult a qualified exercise professional before engaging in this intensity of exercise.

 **If you answered YES to one or more of the follow-up questions about your medical condition:** You should seek further information before becoming more physically active or engaging in a fitness appraisal. You should complete the specially designed online screening and exercise recommendations program - the ePARmed-X+ at [www.eparmedx.com](http://www.eparmedx.com) and/or visit a qualified exercise professional to work through the ePARmed-X+ and for further information.

 **Delay becoming more active if:**

-  You have a temporary illness such as a cold or fever; it is best to wait until you feel better.
-  You are pregnant - talk to your health care practitioner, your physician, a qualified exercise professional, and/or complete the ePARmed-X+ at [www.eparmedx.com](http://www.eparmedx.com) before becoming more physically active.
-  Your health changes - talk to your doctor or qualified exercise professional before continuing with any physical activity program.

# EIM handouts on chronic disease

- Exercise is Medicine website has a list of patient handouts for a list of chronic medical conditions
- Some similarities in text of handouts, but also have specific tips/precautions for chronic conditions

Being **Active**  
When You Have  
**Heart Valve**  
**Disease**

## Exercise Rx for Medical Conditions

- [Alzheimer's Spanish Version](#)
- [Aneurysm Spanish Version](#)
- [Asthma Spanish Version](#)
- [Atrial Fibrillation Spanish Version](#)
- [Bleeding Disorder Spanish Version](#)
- [Blood Lipid Disorders Spanish Version](#)
- [Cancer Spanish Version](#)
- [Chronic Kidney Disease Spanish Version](#)
- [Chronic Liver Disease Spanish Version](#)
- [Chronic Obstructive Pulmonary Disorder \(COPD\) Spanish Version](#)
- [Depression and Anxiety Spanish Version](#)
- [Heart Failure Spanish Version](#)
- [Heart Valve Disease Spanish Version](#)
- [HIV/AIDS Spanish Version](#)
- [Hypertension Spanish Version](#)
- [Fibromyalgia Spanish Version](#)
- [Inflammatory Bowel Disease \(IBD\)](#)
- [Low Back Pain Spanish Version](#)
- [Mobility Limitations Spanish Version](#)
- [Nonalcoholic Fatty Liver Disease \(NAFLD\) Spanish Version](#)
- [Osteoarthritis Spanish Version](#)
- [Osteoporosis](#)
- [Overweight/Obesity Spanish Version](#)
- [Pacemaker](#)
- [Parkinson's Disease](#)
- [Peripheral Arterial Disease Spanish Version](#)
- [Prediabetes Spanish Version](#)
- [Pregnancy Spanish Version](#)
- [Rheumatoid Arthritis Spanish Version](#)
- [Type 2 Diabetes Spanish Version](#)

# EIM handouts on chronic disease

## High Blood Pressure Tips and Cautions

If possible, measure your blood pressure before activity. Do not exercise if your resting systolic blood pressure (the top number) is greater than 220 or your diastolic blood pressure (the bottom number) is greater than 105. Ask your health care provider if you need to modify your medication.

Drink plenty of fluids before, during and after activity, especially on a hot day or if you'll be going for a long time. Some medications (beta-blockers and diuretics) may affect your body's ability to handle hot, humid weather.



## Strength Training Caution

- If you have moderate or severe mitral regurgitation, avoid high-intensity strength training. If you have moderate or severe aortic stenosis, stick to low-intensity programs. Ask your health care provider if these restrictions apply to you.

# Physical activity in pregnancy

- Women should do at least 150 minutes of moderate-intensity aerobic activity per week during pregnancy and the post-partum period
- Women who regularly participated in vigorous-intensity aerobic activity or who were physically active before pregnancy can continue these activities during pregnancy and the post-partum period
  - Can consult with their physician about whether/how to adjust physical activity during pregnancy
- Precaution with exercise in pregnancy: avoid activities that put you at risk for falls (skiing, horseback riding, gymnastics, etc.)
  - Avoid laying on your back for long periods of time

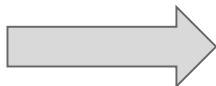
# Physical activity in pregnancy

- ACOG: safe to exercise in pregnancy, as long as your pregnancy is normal and you are healthy
  - Does not increase risk of miscarriage, premature birth, or low birth weight
- Counseling: being pregnant may affect your balance (shifted center of gravity), joints during pregnancy are hypermobile, may not be able to perform strenuous exercise (increased oxygen needs)
- Women who should not exercise in pregnancy: cerclage, severe anemia, preeclampsia, placenta previa, preterm labor/PPROM, heart/lung disease



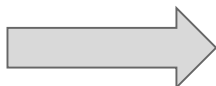
# Strategies for Counseling - 5 A's

## Assess



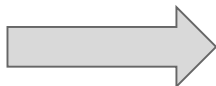
- Stages of change: precontemplative, contemplative, preparation, & action/maintenance
- Psychosocial factors including patient confidence and readiness to change
- Changes to be made to routine given comorbidities

## Advise



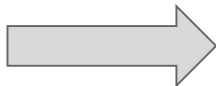
- Physical activity duration more important than intensity, 10 minute increments can provide health benefits (notes from earlier in the talk)

## Agree



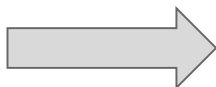
- Support them with a non-judgemental approach during their journey

## Assist



- Written prescription, support materials, self-monitoring tools (pedometer)

## Arrange



- Follow up (telephone, MyChart messages)
- Referral to nutritionist, PT

# Additional Counseling

- Weekly training amounts should be increased 5-10% at a time to avoid pain flare-ups
- Reassure patients that it is essential to push through some discomfort when ramping up exercise
  - Soreness is expected consequence of tissue overload necessary for strengthening
  - Pain levels <5/10 are more likely adaptation, >5/10 may be damaging overload
  - If increase in activity can be repeated after 2-4 days with no worsening of pain, suggests healthy tissue adaptation

## Case 3

DJ is a 56 year old female with PMHx of bilateral knee osteoarthritis, diet-controlled T2DM, HLD who presents to your office for her yearly physical. She was scheduled for a knee replacement in March 2020, which was cancelled due to the COVID-19 pandemic and has not yet been rescheduled. She reports some weight gain during the pandemic, but because of her knee discomfort she struggles with exercise. She does not have access to a gym and is wondering about other resources in her area.

- What would you tell DJ?

# Exercise is Medicine

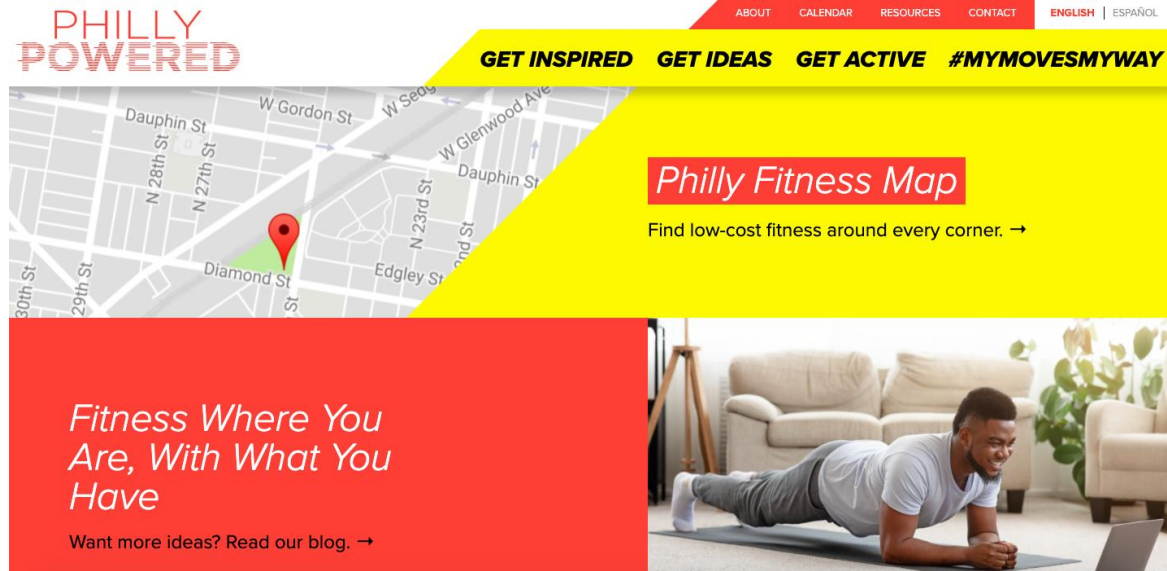
- Website with up-to-date physical activity resources
  - [www.exerciseismedicine.org](http://www.exerciseismedicine.org)
- Also with resources to connect with other exercise professionals
  - Health care professionals can refer to these exercise physiologists & personal trainers for additional support in starting exercise programs

# Resources in Philadelphia

- **Philly Powered**
  - Promoting everyday physical activity particularly in adults
- **Nature PHL - local parks and outdoor events happening nearby**
- **Health Partners/YMCA Partnership/Weight Watchers**
  - Free gym membership to adolescents <18 years of age
- **Keystone First Gym Memberships - Together We Move**
  - Group of participating gyms with free membership, no age limit
- **Food Fit Philly**
  - List of resources with at-home workout videos/instructions during COVID-19
  - Physical activity after-school programs for structured kids activities
- **Philadelphia Corporation for Aging**
  - Free remote health/wellness programs during COVID

# Philly Powered

- Features stories of adults being active in day-to-day lives
- Philly Fitness Map
  - Low cost fitness in your neighborhood
- Events calendar
- Describes “exercise” events, but also activities to promote physical activity



The screenshot displays the Philly Powered website interface. At the top, a navigation bar includes links for ABOUT, CALENDAR, RESOURCES, CONTACT, ENGLISH, and ESPAÑOL. Below this is a yellow banner with the text: GET INSPIRED GET IDEAS GET ACTIVE #MYMOVESMYWAY. The main content area features a map of a Philadelphia neighborhood with a red location pin on Diamond St. To the right of the map, a red box contains the text "Philly Fitness Map" and a sub-headline "Find low-cost fitness around every corner. →". Below the map and text is a red banner with the quote "Fitness Where You Are, With What You Have" and a link "Want more ideas? Read our blog. →". The bottom right of the screenshot shows a man in a white t-shirt and grey pants performing a plank exercise on a mat in a living room, with a laptop open in front of him.

# Resources during COVID

## Staying Active During the Coronavirus Pandemic

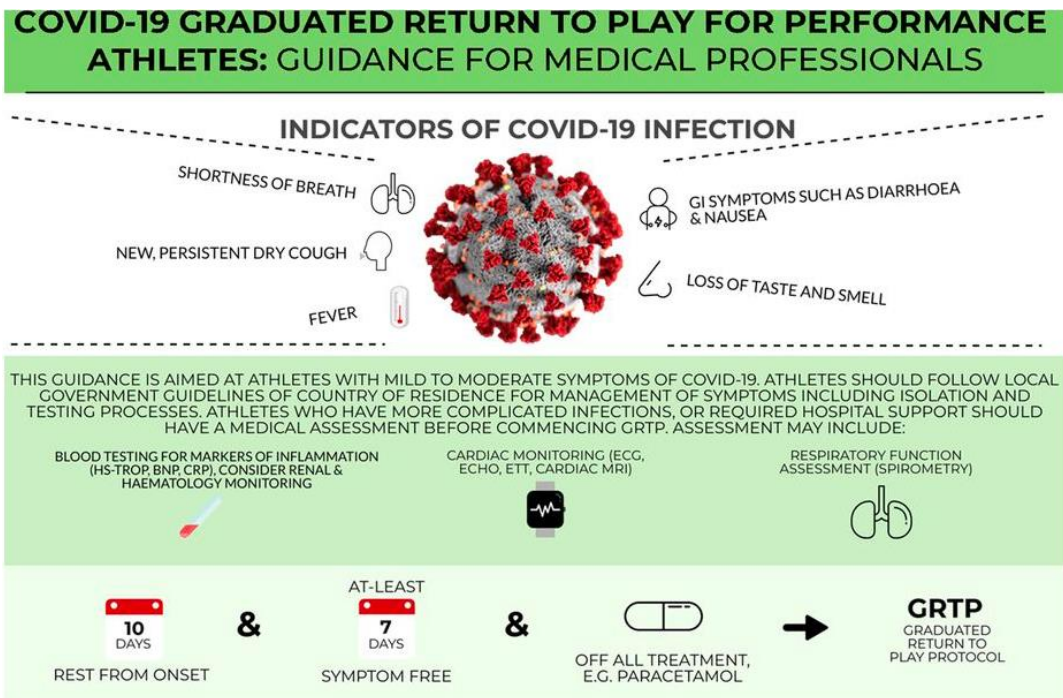
Exercise  
is Medicine

AMERICAN COLLEGE  
of SPORTS MEDICINE

- Exercise is Medicine website provides a handout with recommendations for aerobic & muscle strengthening exercises people can do at home OR how to be safe completing exercises while following social distancing guidelines
- Also answer FAQ regarding COVID and safety for continuing to exercise/adjustments to physical activity routines **That being said...**

# AMSSM & Cardiac Clearance after COVID

- Impact of COVID-19 on the heart is still being explored
  - Association with subsequent development of myocarditis
- Current AMSSM recommendations for athletes (July 2020)
  - Many high schools, colleges, professional teams are requiring screening prior to return to play





# Are there harms to increasing physical activity?

- Overall low risk of exercise-related cardiovascular events
  - Regular participation in moderate-vigorous physical activity associated with decreased risk of acute MI
  - Increased relative risk of sudden cardiac death during vigorous intensity exercise in sedentary individuals with known/occult CVD when activity intensity is quickly increased
- Risk of MSK injury increases with total amount of physical activity
- Bottom line: health benefits of physical activity *far* outweigh the risks of adverse events for almost all patients

# How this should change our practice

- Addition of EIM/Physical Activity Vital Sign (EVS/PAVS) screening tool as part of rooming process at JFMA
  - Drawback: additional component added to the rooming process
  - Include exercise recommendations with AVS
  - Many of the screening tools do not include assessments of patients with arthritis
- Development of a note template for physicals that includes a bullet-point to ask about exercise
  - “Reminder” tool for us to ask about in addition to other health care maintenance we assess during visits
- Providing PAAT to patients with AVS, having them complete at home and discuss at next visit

# How this should change our practice

- Approximately **84%** of people have seen a health care provider in the past year, with **54%** of those made to primary care physicians
  - Primary care physicians have a role to play in combating the obesity epidemic
- High level of physical inactivity in many countries is placing a burden on health care budgets
- **Lack of physical activity linked to approximately \$117 billion in annual health care costs**
  - Consistently lower health care costs shown in people participating in physical activity with a dose-dependent response

# Take home points

- Addressing physical activity with our patients is imperative as part of our role as primary care physicians as we are on the front line of combating the obesity epidemic.
- Physical activity has numerous benefits for physical and mental health, along with helping participants feel more energized and feeling supported by and socializing with others.
- Important to identify barriers to physical activity screening in order to devise strategies to improve exercise counseling in an effective/efficient manner.
- There are many tools for screening at our disposal with different benefits/drawbacks, mixed evidence for efficacy but with most recommending EVS/PAVS.

# Take home points

- Recommendations for physical activity in adults is largely the *same* among healthy adults, adults with chronic conditions, and pregnant women.
- Medical “clearance” prior to initiating exercise program, especially in those with chronic conditions, is not always necessary and we should refer to latest ACSM recommendations prior to ordering unnecessary testing.
- Benefits of physical activity outweigh harms.
- There are many resources in Philadelphia for all our patients to be physically active!
- Future directions: addition of a physical activity screening tool as part of Epic rooming tab, note templates, exercise recommendations in AVS, continued push for merging of fitness industry & healthcare.

# References

- Armstrong M, Paternostro-Bayles M, Conroy MB, Franklin BA, Richardson C, Kriska A. Preparticipation Screening Prior to Physical Activity in Community Lifestyle Interventions. *Transl J Am Coll Sports Med*. 2018 Nov 15;3(22):176-180. doi: 10.1249/TJX.0000000000000073. PMID: 30873436; PMCID: PMC6411298.
- Barnes PM, Schoenborn CA. Trends in adults receiving a recommendation for exercise or other physical activity from a physician or other health professional. *NCHS Data Brief* 2012:1–8.
- Bredin SS, Gledhill N, Jamnik VK, Warburton DE. PAR-Q+ and ePARmed-X+: new risk stratification and physical activity clearance strategy for physicians and patients alike. *Canadian Family Physician*. 2013; 59(3):273–7. [PubMed: 23486800]
- Clark RE, McArthur C, Papaioannou A, Cheung AM, Laprade J, Lee L, Jain R, Giangregorio LM. "I do not have time. Is there a handout I can use?": combining physicians' needs and behavior change theory to put physical activity evidence into practice. *Osteoporos Int*. 2017 Jun;28(6):1953-1963. doi: 10.1007/s00198-017-3975-6. Epub 2017 Apr 17. PMID: 28413842.
- Crump C, Sundquist K, Sundquist J, Winkleby MA. Exercise Is Medicine: Primary Care Counseling on Aerobic Fitness and Muscle Strengthening. *J Am Board Fam Med*. 2019 Jan-Feb;32(1):103-107. doi: 10.3122/jabfm.2019.01.180209. PMID: 30610148; PMCID: PMC6450080.
- "Exercise During Pregnancy." ACOG, [www.acog.org/womens-health/faqs/exercise-during-pregnancy](http://www.acog.org/womens-health/faqs/exercise-during-pregnancy).  
*Exercise Is Medicine*, [www.exerciseismedicine.org/](http://www.exerciseismedicine.org/).
- Golightly YM, Allen KD, Ambrose KR, et al. Physical activity as a vital sign: a systematic review. *Physical Activity as a Vital Sign: A Systematic Review*. *Prev Chronic Dis*. 2017;14:170030. doi: 10.5888/pcd14.170030.
- "Health & Wellness." *Philadelphia Corporation For Aging*, [www.pcacares.org/services-for-seniors/health-wellness/](http://www.pcacares.org/services-for-seniors/health-wellness/).

# References

- Jakicic JM, Kraus WE, Powell KE, Campbell WW, Janz KF, Troiano RP, Sprow K, Torres A, Piercy KL; 2018 PHYSICAL ACTIVITY GUIDELINES ADVISORY COMMITTEE\*. Association between Bout Duration of Physical Activity and Health: Systematic Review. *Med Sci Sports Exerc.* 2019 Jun;51(6):1213-1219. doi: 10.1249/MSS.0000000000001933. PMID: 31095078; PMCID: PMC6527142.
- Knowler W, Barrett-Connor E, Fowler S, Hamman R, Lachin J, Walker E, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002; 346:393– 403. [PubMed: 11832527]
- “Long-Term Effects of COVID-19.” *Centers for Disease Control and Prevention, Centers for Disease Control and Prevention,* [www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html](http://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html).
- Meriwether, Rebecca A., et al. “Physical Activity Counseling.” *American Family Physician,* 15 Apr. 2008, [www.aafp.org/afp/2008/0415/p1129.html](http://www.aafp.org/afp/2008/0415/p1129.html).
- “My Moves. My Way.” *Philly Powered,* 1 Oct. 2020, [phillypowered.org/](http://phillypowered.org/).
- “Nutrition and Physical Activity Program: Department of Public Health.” *City of Philadelphia,* [www.phila.gov/programs/nutrition-and-physical-activity-program/](http://www.phila.gov/programs/nutrition-and-physical-activity-program/).
- Orchard JW. Prescribing and dosing exercise in primary care. *Aust J Gen Pract.* 2020 Apr;49(4):182-186. doi: 10.31128/AJGP-10-19-5110. PMID: 32233343.
- “Physical Activity Guidelines for Americans, 2nd edition.” 2018 U.S. Department of Health and Human Services.
- “Physical Health Resources.” *Philadelphia,* [cap4kids.org/philadelphia/parent-handouts/physical-health-resources/](http://cap4kids.org/philadelphia/parent-handouts/physical-health-resources/).
- “Resources.” *Food Fit Philly,* 30 Apr. 2020, [foodfitphilly.org/resources/](http://foodfitphilly.org/resources/).
- VanWormer JJ, Pronk NP, Kroeninger GJ. Clinical Counseling for Physical Activity: Translation of a Systematic Review Into Care Recommendations. *Diabetes Spectrum* 2009;22:48–55.

**Questions?**