

# Exercise is Medicine



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# What's New In the Physical Activity Guidelines for Americans



**ODPHP**

Office of Disease Prevention  
and Health Promotion

# What's New: *Physical Activity Guidelines for Americans*, 2<sup>nd</sup> edition

- Expanded science base
- New to this edition:
  - Guidance for preschool-aged children (3-5 years)
  - Discussion of sedentary behavior
  - Removal of 10-minute bout length requirement
  - Evidence for even more health benefits – including immediate effects
  - Tested strategies for physical activity promotion





# NEW: Guidelines for Children Ages 3 Through 5



- ✓ Preschool-aged children (ages 3 through 5 years) should be physically active throughout the day to enhance growth and development.
  - ✓ **Structured and unstructured play: throwing and tricycle**
  - ✓ **Bone health: hop, skip, jump, tumble**
- ✓ Adult caregivers of preschool-aged children should encourage active play that includes a variety of activity types.



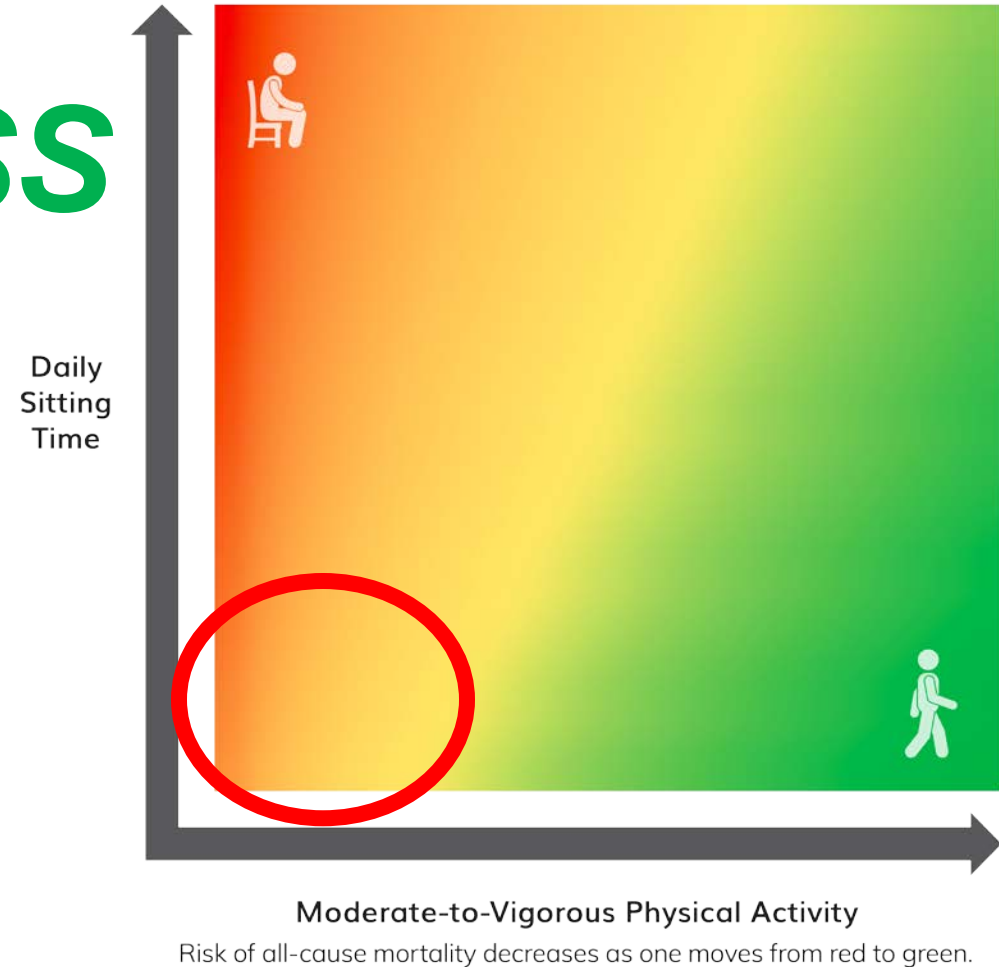
## Move More and Sit Less

# ***MOVE MORE SIT LESS***

Sedentary behavior increases risk of:

- All-cause mortality
- Cardiovascular disease mortality
- Cardiovascular disease
- Type 2 diabetes
- Colon, endometrial, and lung cancers

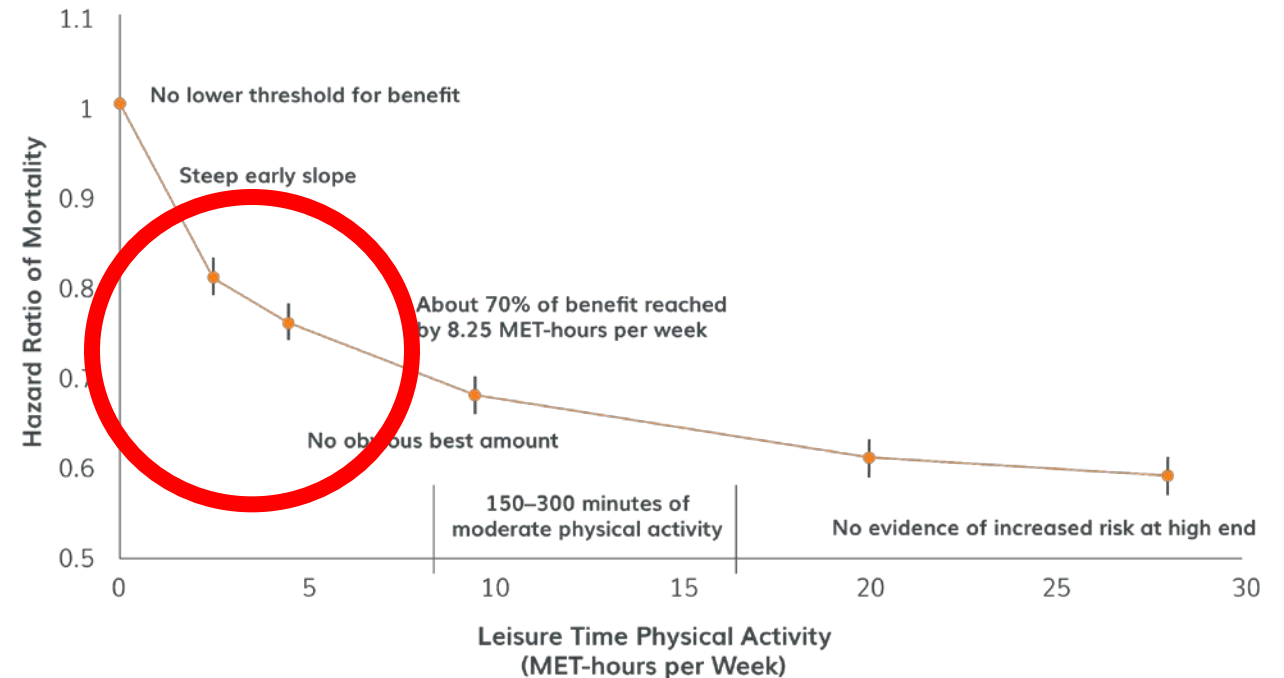
Relationship Among Moderate-to-Vigorous Physical Activity, Sitting Time, and Risk of All-Cause Mortality in Adults



# Any Activity Counts

- No lower threshold for benefits from physical activity
- Most benefits are attained with at least 150-300 minutes of moderate physical activity per week
- Some health benefits are immediate

Relationship of Moderate-to-Vigorous Physical Activity to All-Cause Mortality





# Consistency Over Time Leads to MORE Benefits of Physical Activity for Adults and Older Adults

- Lower risk of all-cause mortality
- Lower risk of cardiovascular disease mortality
- Lower risk of cardiovascular disease (including heart disease and stroke)
- Lower risk of hypertension
- Lower risk of type 2 diabetes
- Lower risk of adverse blood lipid profile
- **Lower risk of cancers of the bladder,\* breast, colon, endometrium,\* esophagus,\* kidney,\* lung,\* and stomach\***
- **Improved cognition\***
- **Reduced risk of dementia (including Alzheimer's disease)\***
- **Lowers postpartum depression\***
- Improved quality of life
- Reduced anxiety
- Reduced risk of depression
- Improved sleep
- Slowed or reduced weight gain
- Weight loss, particularly when combined with reduced calorie intake
- Prevention of weight regain following initial weight loss
- Improved bone health
- Improved physical function
- Lower risk of falls (older adults)
- **Lower risk of fall-related injuries (older adults)\***

*\*New health benefit*



# Benefits of Physical Activity for Youth

- Improved **bone health** (ages 3 through 17 years)
- Improved **weight status** (ages 3 through 17 years)
- Improved **cardiorespiratory and muscular fitness** (ages 6 through 17 years)
- Improved **cardiometabolic health** (ages 6 through 17 years)
- Improved **cognition** (ages 6 to 13 years)
- Reduced **risk of depression** (ages 6 to 13 years)





# New Health Benefits

## Short Term Benefits

- Improve quality of life
- Reduce anxiety
- Reduce blood pressure
- Improve insulin sensitivity
- Improve sleep outcomes

## Long Term Benefits

- For youth, improve cognition
- For adults, prevent 8 types of cancer (previously 2)
- For adults, reduce risk of dementia, including Alzheimer's disease
- For older adults, lowers risk of injuries from falls
- For pregnant women, reduces the risk of postpartum depression.
- For all groups, reduces the risk of excessive weight gain

## Disease Management

- Decrease pain of osteoarthritis
- Reduce disease progression for hypertension
- Reduce disease progression for type 2 diabetes
- Reduce symptoms of anxiety and depression
- Improve cognition for those with dementia, multiple sclerosis, ADHD, and Parkinson's disease



# Brain Health

Outcome	Population	Benefit	Acute	Habitual
Cognition	Children ages 6 to 13 years	Improved cognition (performance on academic achievement tests, executive function, processing speed, memory)	●	●
	Adults	Reduced risk of dementia (including Alzheimer’s disease)		●
	Adults older than age 50 years	Improve cognition (executive function, attention memory, crystallized intelligence,* processing speed)		●
Quality of life	Adults	Improved quality of life		●



# Brain Health, cont.

Outcome	Population	Benefit	Acute	Habitual
Depressed mood and depression	Children ages 6 to 17 years and adults	Reduced risk of depression Reduced depressed mood		●
Anxiety	Adults	Reduced short-term feeling of anxiety (state anxiety)	●	
	Adults	Reduced long-term feeling and signs of anxiety disorders		●
Sleep	Adults	Improved sleep outcomes (increased sleep efficiency, sleep quality, deep sleep; reduced daytime sleepiness frequency of use of medication to aid sleep)		●
	Adults	Improved sleep outcomes that increase with duration of acute episode	●	

# What Works to Increase Physical Activity?

## For Individuals or Small Groups

- Guidance from peers or professionals
- Support from others
- Technology

## For Communities

- Point of decision prompts
- School policies and practices
- Access to indoor or outdoor recreation facilities or outlets
- Community-wide campaigns
- Community design

# Exercise Prescription: What to Include?

- SIG:
  - **F:** Frequency
    - Daily
  - **I:** Intensity
    - Moderate to vigorous
  - **T:** Type
    - ?????????
  - **T:** Time
    - 60 minutes

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# Being Active as a Teen

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Your teen years are a time to discover who you are and who you want to become. That includes learning to feel joy and energy and confidence in your body. Make friends and express YOU through dance, sports and outdoor activities such as skateboarding or hiking.

Did you know that immediately after physical activity you can focus better, think more quickly and be a better problem solver? Being active also helps you sleep better, feel happier, build stronger bones and stay at a healthy weight. Health experts make the following recommendations for teens.

## Getting Started

### Start Simple

Sit less and move around more! Walk the dog. Dance in your room. Walk or bike to school. Take the stairs. Find opportunities to move throughout your day.



### Do SIXTY

Do 60 total minutes of activity every day. This includes activities for your heart, muscles and bones. Exercise should be vigorous on three days of the week. Fit in 5 or 10 minutes when you can. Or go for 30-45 minutes. It's all good!



### Find What's Fun

If you love it, you'll do it! Are you interested in soccer? Dance? Shooting hoops? Weight-lifting? Neighborhood rec center? Get a friend to be active with you. You'll be more likely to stick with it.



### Less Screen Time

Spend no more than 2 hours sitting in front of the TV or computer at home each day. Seriously. After you're done with homework, take an active break.



Start where you are. Use what you have. Do what you can.

### Teen Tips for Physical Activity

Variety is more fun and prevents physical and mental burnout. Try a mix of individual and team activities.

During your growth years your bones may grow faster than your muscles. Stretch your calves, front hip and back of your thighs. Hold 30 seconds to a point of tightness.

Use the right equipment to do your activity safely, for example, supportive running shoes, bike helmets, face guards, etc.

Teenagers need 8-10 hours of sleep each night! Avoid screen time at least 1 hour before bed and keep your room dark, quiet and cool. You'll perform better all day.

Share an active selfie! #ExerciseisMedicine



## Aerobic Activity



Aerobic activity increases your heart rate and breathing and will improve your stamina. Find fun ways to do moderate-intensity activity (like a brisk walk, biking, active video games) or vigorous activity (like soccer, basketball, running, hip hop dancing, karate).

### What?

Any rhythmic, continuous activity



### How often?

Every day (vigorous activity on at least 3 of those days)



### How hard?

Fairly light to somewhat hard



### How much?

As part of 60 minutes of daily activity



**Remember:** Be active however and wherever you can. To lose weight, do twice as much activity. Don't forget to warm up and cool down. Gradually increase your pace and time.

## Muscle Strengthening



Exercises that challenge your muscles include weight-lifting using hand weights, resistance bands, weight machines or your own body (for example, push-ups, chair squats, planks). You can also get stronger through activities like climbing, wrestling, yoga and games like tug of war. Why not be healthier and stronger for everything you want to do?

### What?

Strength training or muscle-challenging activities



### How often?

3 or more days/week  
\*Rest day in between



### How hard?

Start with light effort. Build up to medium or hard effort.



### How much?

8-15 repetitions using good form



**Remember:** Get help from a certified athletic trainer, strength coach, or exercise professional. They can teach you the right way to do exercises and how to breathe properly.

## Bone Building



Do activities (below) that challenge your bones at least 3 days/week. Bone is most sensitive to loading during this time in your life. NOW is your opportunity to build strong bones to protect you from developing osteoporosis later.

Weight-bearing activity (you're on your feet) like running, tennis, jump rope

Jumping and hopping

Using fast movements and changing direction like soccer, basketball, dance

Muscle strengthening exercises

How will I get started **this week?** \_\_\_\_\_



# Being Active with Your Young Child

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Encourage your child to be active to get them started on a lifetime of health. Play and movement activities help children develop important physical abilities, teaching confidence and motivation. Physical activity should be FUN and something they want to do on their own. Early activity is the stepping stone to an active life.

Experts now say that every minute adds up, so keep your child moving throughout the day! Being active as a child can actually decrease their future risk of cancer, stroke, obesity and disability

## Ages 0-2 Years



### Play

Do plenty of floor play to get your child's arms and legs moving. Tummy time with toys helps babies to develop strong neck and shoulder muscles.

### Explore

Take your child out of their car seat unless you're in a car. Carry your infant around in a front carrier or on a hip to build head control and trunk strength. Limit their time in swings, strollers and bouncy seats — let them explore.

### No Screen Time

This age group should have NO screen time. The more you play with them, the more they understand how to move their bodies. And you'll develop a stronger bond with your child instead of them being hypnotized by images on a screen.

### Sleep

Children 4-12 months old need 12-16 hours of sleep each day including naps. Kids 1-2 years old need 12-14 total hours of sleep. It's great for their health — and yours too!

## Ages 3-5 Years



### Play

Preschool-aged children should be active for a total of 3 hours each day at a variety of intensities: light, moderate or vigorous. How about 15 minutes every waking hour? Their little bodies WANT to move!

- Outside play is best — in the backyard or on the playground
- Take walks around your neighborhood — go exploring together!
- Look for climbing and swinging equipment
- Find community gyms or swimming pools (YMCA's, Boys & Girls Clubs) that have classes to help develop kids' physical and social skills

### Less Screen Time

Your 3-5-year-old should spend no more than 1 hour/day in front of a screen. Offer ideas to get them up and moving. Do chasing or follow-me types of games, dance to music, play Simon Says. Create new games. Every active moment you spend with your child is an opportunity to make a memory.

### Sleep

Kids 3-5 years old need a total of 10-13 hours of sleep each day including naps.

## Ages 6-12 Years

Do SIXTY: Kids need 60 minutes of physical activity every day. This includes activity for their hearts, muscles and bones. Exercise should be vigorous on 3 days of the week. Fit in 5 or 10 minutes here and there. Or be active for 30-45 minutes. It's all good!

### Keep It Simple

Help your child to sit less and move around more! Ask them to walk the dog. Ride a bike to school. Dance in their rooms. See how fast they can get up the stairs. Find opportunities to encourage activity throughout the day. Make it a game!



### Find What's Fun

If they love it, they'll do it! Are they interested in soccer? Dance? Skateboarding? Shooting hoops? Swimming? Double Dutch? Invite their friends to be active together. They'll get social and active time.



### Less Screen Time

Your child should spend no more than 2 hours sitting in front of the TV or computer each day. Seriously. After they're done with homework, send them outside to play or give them active chores.



### Sleep

Kids ages 6-12 years old need 9-12 hours of sleep each day including naps. Turn off screens at least 1 hour before bedtime. Keep bedrooms cool, dark and quiet. They'll do better in the classroom and on the playground.



### Grade Schoolers — Active THEIR Way

The activities below count towards the recommended daily 60 minutes. Mix it up. Find what works best for your child — before, during or after school. Think about "activity snacks" just like food snacks. Do fun things together as a family. Jump around during TV commercials.

#### Vigorous-Intensity Aerobic Activity

Running, bike riding (faster), soccer, basketball, tag, flag football, jump rope, martial arts, hip hop dancing



#### Moderate-Intensity Aerobic Activity

Brisk walking, bike riding, skateboarding, swimming, catch and throw games like baseball or stickball



#### Muscle Strengthening

Weightlifting (only with trained supervision), climbing, wrestling, tug-of-war



#### Bone Strengthening

Hopping, skipping, jumping, running, sports with jumping, fast movements and changes of direction



# Exercise Vital Sign

1. Days per week of moderate to vigorous exercise?

0 1 2 3 4 5 6 7

2. On average, minutes per day of exercise at this level?

0 10 20 30 40 50 60 90 120 150+

3a. How many activities do you do per week to accomplish this exercise?

(e.g. sports practice, P.E. class, conditioning workout, playing at the park, skateboarding, walking briskly etc.)

0 1 2 3 4 5+

3b. List the activities noted above.

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_



# Limitations

- ❖ Self-report

- ❖ Recall bias

  - ❖ Underestimate Free Play

  - ❖ Underestimate Time Spent in Sports

  - ❖ Differentiation Moderate vs. Vigorous PA

# Future Directions

- ❖ Validity studies
- ❖ Correlate with disease
- ❖ Correlate duration with injury type





# TAKE HOME POINTS

- Exercise can be a vital sign!
- Start talking about this when kids are young!
- Motivational Counseling!
  - Tailor exercise prescription to your patients' individual needs
  - Talk about it
  - Be an active role model

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# Find Out More

- **For health professionals:** <https://health.gov/PAGuidelines>
- **For consumers:** <https://health.gov/MoveYourWay/>

