

Exercise Considerations for Older Adults

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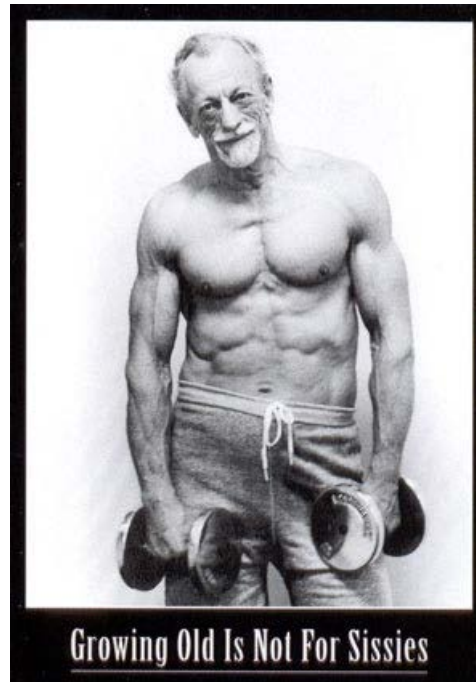
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Exercise Considerations for Older Adults



The Amazing Willie Murphy

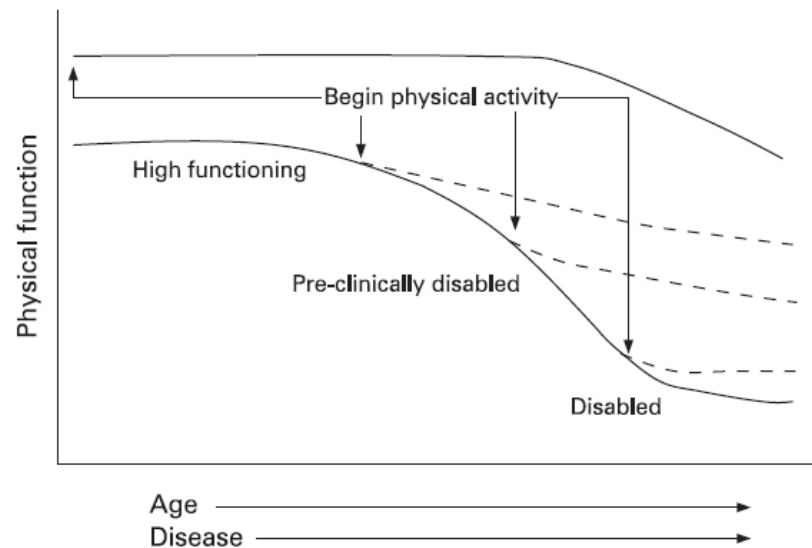


Exercise and Aging

- Research has shown that even among frail and very old adults, mobility and functioning can be improved through physical activity
- Regular physical activity can reduce:
 - Age-related functional decline
 - Risk for chronic diseases:
 - coronary heart disease
 - hypertension
 - colon cancer
 - diabetes

(Older Americans 2010: Key Indicators of Well-Being)

Physical Activity, Function and Reserve



(Manini TM, Pahor M 2009)

How Active Are Older Americans?

- In 2014, 12% of people age 65 and over reported participating in leisure-time aerobic and muscle-strengthening activities
 - Aerobic physical activity: 150 minutes/week of moderate-intensity, or 75 minutes/week of vigorous-intensity
 - Muscle-strengthening activities: moderate or high intensity and involve all major muscle groups on two or more days a week

(Older Americans 2016: Key Indicators of Well-Being)

Reality Check!



“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”

THE ACTIVITY PYRAMID

EACH WEEK, TRY TO INCREASE YOUR PHYSICAL ACTIVITY USING THIS GUIDE. HERE'S HOW TO START...

IF YOU ARE INACTIVE
(Rarely do activity)

Increase daily activities at the base of the Activity Pyramid by

- taking the stairs instead of the elevator
- hiding the TV remote control
- making extra trips around the house or yard
- stretching while standing in line
- walking whenever you can

CUT DOWN ON

WATCHING TV
COMPUTER GAMES
SITTING FOR MORE THAN 30 MINUTES AT A TIME

IF YOU ARE SPORADIC
(Active some of the time, but not regularly)

Become consistent with activity by increasing activity in the middle of the pyramid by

- finding activities you enjoy
- planning activities in your day
- setting realistic goals

2-3 TIMES A WEEK

LEISURE ACTIVITIES
GOLF
BOWLING
SOFTBALL
YARDWORK

FLEXIBILITY AND STRENGTH
STRETCHING/YOGA
PUSH-UPS/CURL-UPS
WEIGHT LIFTING

IF YOU ARE CONSISTENT
(Active most of the time, or at least four days each week)

Choose activities from the whole pyramid by

- changing your routine if you start to get bored
- exploring new activities

3-5 TIMES A WEEK

AEROBIC EXERCISE
(30+ MINUTES)
BRISK WALKING
CROSS-COUNTRY SKIING
BICYCLING
SWIMMING

RECREATIONAL
(30+ MINUTES)
SOCCER
HIKING
BASKETBALL
TENNIS
MARTIAL ARTS/DANCING

ABOVE ALL... HAVE FUN AND GOOD LUCK!

EVERYDAY
(AS MUCH AS POSSIBLE)

WALK THE DOG
TAKE LONGER ROUTES
TAKE THE STAIRS INSTEAD OF THE ELEVATOR

WALK TO THE STORE OR THE MAILBOX
WORK IN YOUR GARDEN
PARK YOUR CAR FARTHER AWAY
MAKE EXTRA STEPS IN YOUR DAY

BE CREATIVE IN FINDING A VARIETY OF WAYS TO STAY ACTIVE

Types of Exercise

- Aerobic
- Resistance (Strength training)
- Flexibility
- Neuromotor (Balance)

American College of Sports Medicine (ACSM): *Older Adults and Aerobic Exercise*

Frequency:

- ≥ 5 days/wk for moderately intense activity (MIA)
- ≥ 3 days/wk for vigorous intense activity (VIA)
- 3-5 days/wk for combination of MIA and VIA

Intensity (physical exertion):

- 5-6/10 for moderately intense activity
- 7-8/10 for vigorous intense activity

Time:

- 30-60 min/day (bouts of at least 10 min) for MIA
- 20-30 min/day for VIA

Type: Walking, stationary cycle, aquatic exercise

(ACSM Guidelines, Tenth Edition)

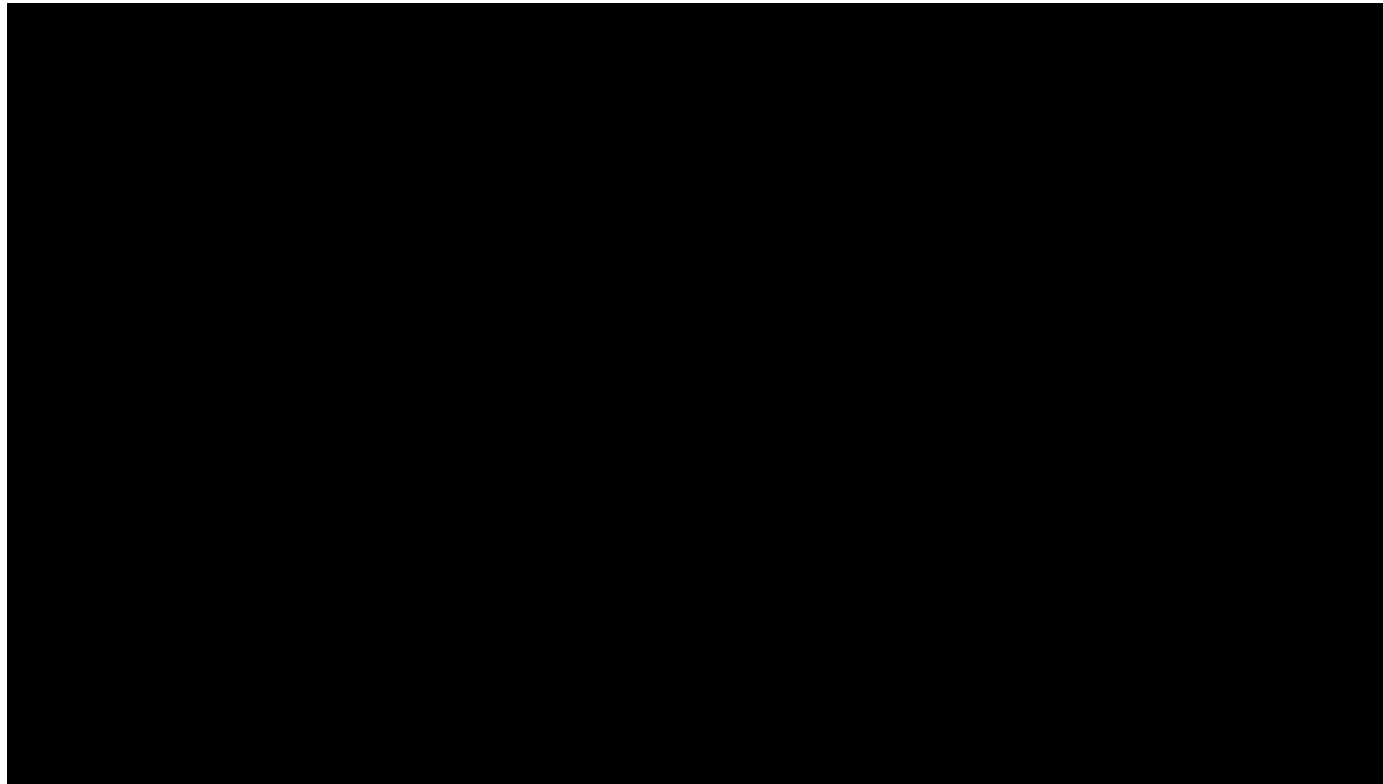
Key Guidelines for Adults

Examples of Different Aerobic Physical Activities and Intensities

Moderate Intensity
<ul style="list-style-type: none">• Walking briskly (3 miles per hour or faster, but not race-walking)• Water aerobics• Bicycling slower than 10 miles per hour• Tennis (doubles)• Ballroom dancing• General gardening
Vigorous Intensity
<ul style="list-style-type: none">• Racewalking, jogging, or running• Swimming laps• Tennis (singles)• Aerobic dancing• Bicycling 10 miles per hour or faster• Jumping rope• Heavy gardening (continuous digging or hoeing, with heart rate increases)• Hiking uphill or with a heavy backpack

Note: This table provides several examples of activities classified as moderate-intensity or vigorous-intensity, based on absolute intensity. This list is not all-inclusive. Instead, the examples are meant to help people make choices.

Step It Up!



ACSM FITT Recommendations: *Older Adults and Resistance Exercise*

Frequency:

- ≥ 2 days/wk

Intensity (physical exertion):

- For beginners, light: 40-50% of 1 rep max
 - 5-6 on 0-10 scale
- Progress to moderate to vigorous: 60-80% of 1 rep max for light intense activity
 - 7-8 on 0-10 scale

(ACSM Guidelines, Tenth Edition)

ACSM FITT Recommendations: *Older Adults and Resistance Exercise*

Time:

- 8-10 exercises involving major muscle groups
- 1-3 sets of 8-12 repetitions each

Type:

- Progressive weight-training program or weight-bearing calisthenics, stair climbing and other strengthening activities that use major muscle groups

(ACSM Guidelines, Tenth Edition)

ACSM: Older Adults and Flexibility Exercise

Frequency:

- ≥ 2 days/wk

Intensity:

- Stretch to the point of feeling tightness or slight discomfort

Time:

- Hold for 30-60 seconds

Type:

- Increase flexibility using slow movements that terminate in sustained stretches for each major muscle group
- Static stretches, not rapid ballistic movements

(ACSM Guidelines, Tenth Edition)

ACSM: Older Adults and Neuromotor (Balance) Exercise

Frequency: 2-3 days/wk

Type:

- Progressively difficult postures that reduce the base of support
 - Two-legged, semi-tandem, tandem, one-legged stance
- Dynamic movements that perturb center of gravity
 - Tandem gait, circle turns
- Stressing postural muscle groups
 - Heel, toe stands
- Reducing sensory input
 - Standing with eyes closed
- Tai chi

(ACSM Guidelines, Tenth Edition)

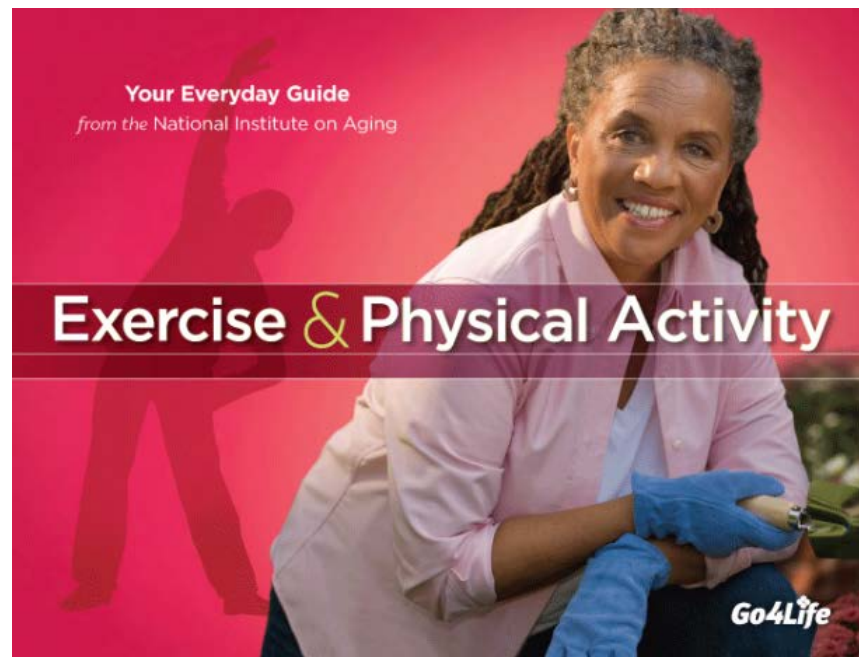
Tai Chi Chengdu, China



How to Motivate Older Adults to Exercise



Free Book from National Institute on Aging



<https://order.nia.nih.gov/publication/exercise-physical-activity-your-everyday-guide-from-the-national-institute-on-aging>

Summary

- “Those who won’t find time to exercise will eventually have to find time for illness”
- Rather than getting approval from their physician to exercise, people should be required to get approval to be sedentary
- Balance “first do no harm” with “work hard enough produce a positive response”

References

- ACSM'S *Guidelines for Exercise Testing and Prescription*. 9th Edition. Philadelphia, PA: Lippincott Williams & Wilkins; 2014.
- Hunter GR, McCarthy JP, Bamman M 2004. Effects of Resistance Training on Older Adults. *Sports Med* 2004; 34: 329-348.
- Kruger J, Carlson SA, Buchner D. How active are older Americans? *Prev Chronic Dis* [serial online] 2007 Jul [03-222-08]. Available from: http://www.cdc.gov/pcd/issues/2007/jul/06_0094.htm.
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Contraindications to Exercise and Physical Activity

Signs	Resting HR	> 100 bpm or < 50 bpm
	Resting SBP	> 200 mmHg or < 90 mmHg
	Resting DBP	> 110 mmHg
	Oxygen Saturation	< 90%
	Other	cyanosis, diaphoresis, bilateral edema in a patient with CHF, pallor, fever, weight gain > 4–6 lbs/day, abnormal change in breath sounds or heart sounds
	Symptoms	SOB, angina, dizziness, severe headache, sudden onset of numbness or weakness, painful calf suggestive of DVT

Indications to Terminate Exercise or Physical Activity

Signs	HR	sudden drop > 15 bpm, change from regular to irregular rhythm, or exceeds HR maximum
	SBP	> 200 mmHg, decreases to < 90 mmHg, drop > 10 mmHg from resting or with increasing exercise
	DBP	> 110 mmHg
	Oxygen Saturation	< 90%
	Other	cyanosis, diaphoresis, bilateral edema in a patient with CHF, pallor, abnormal change in breath sounds or heart sounds, ataxia
Symptoms		SOB, angina, dizziness, severe headache, sudden onset of numbness or weakness

Medications Affecting Responses To Exercise or Physical Activity

Beta Blockers	blunts heart rate and blood pressure responses
Calcium Channel Blockers	decreases resting and exercise blood pressure response; may cause reflex tachycardia, edema, and/or post-exercise hypotension
Digitalis	may cause dysrhythmias and/or tachycardia
Bronchodilators	may increase heart rate and blood pressure; may cause dysrhythmias (if non-selective β agonist)
Diuretics	may cause dysrhythmias; may cause fluid depletion or dehydration
Vasodilators	may increase risk of post-exercise hypotension