Physical activity is anything that moves bodies & burns calories such as walking, climbing stairs, & stretching. Only about 1 in 5 adults & teens get enough exercise to maintain good health, & being active helps to live longer, healthier lives.

**EXERCISE SCREENING OR COUNSELING:**
- Patients with known or suspected CV, Respiratory, Metabolic, Orthopedic, or Neurological disorders should be encouraged to consult their PCP before beginning or significantly increasing physical activity.
- The AHA published a statement in 2014 that doctors should prescribe exercise to Stroke patients since there is strong evidence that physical activity & exercise after stroke can improve CV fitness, walking ability, & upper arm strength.
- Some people are afraid to exercise after a heart attack, however regular physical activity can help reduce chances of having another heart attack.

**BENEFITS of REGULAR PHYSICAL ACTIVITY INCLUDE:**
- **Lowers The Risk Of:**
  - Heart Disease (lowers BP, boosts levels of good cholesterol, improves circulation)
  - Stroke
  - T2DM
  - Dementia
  - Alzheimer’s
  - Several types of CA
  - Some complications of pregnancy
  - Early Death
- Better sleep (helps to fall asleep faster & sleep more soundly) & OSA.
- Improved cognition, including memory, attention, & processing speed.
- Less weight gain, obesity, & related chronic health conditions.
- Helping to prevent bone loss that can lead to Osteoporosis.
- Helping with balance, with less risk of injury from falls.
- Fewer s/s of Depression & Anxiety.
- Relief from stress, improving mood & energy.
- Helping to quit smoking & stay tobacco-free.
FOUR TYPES OF EXERCISE:

- **Balance:**
  - Important for many activities done every day including walking or going up & down stairs.
  - Can help prevent falls, a common problem in older adults & stroke patients.
  - Can benefit those who are obese since weight is not always carried or distributed evenly throughout the body.

- **Endurance (Aerobic Exercise):**
  - Helps keep heart, lungs, & circulatory system healthy & improves overall fitness.
  - Helps to carry out everyday activities.

- **Flexibility:**
  - Stretches muscles & can help a body stay flexible.
  - Gives patients more freedom of movement for other exercise as well as for everyday activities.
  - May help avoid discomfort when confined in a space for a longer period of time (ex. a meeting or a plane).

- **Strength:**
  - Strengthening muscles, tendons, ligaments & bones help with the ability to perform everyday activities & protects a body from injury.
  - Stronger muscles boost metabolism making it easier for a body to burn calories, helping to maintain a healthy weight.

WARMING UP BEFORE A WORKOUT:

- Dilates blood vessels, ensuring that muscles are well supplied with oxygen.
- Raises muscles’ temperature for optimal flexibility & efficiency.
- Raises the HR which helps minimize stress on the heart.
- Done before a moderate or vigorous intensity aerobic activity allows a gradual increase in HR & breathing at the start of the activity.

**What to do for a warm up & for how long:**

- Warm up for 5 to 10 minutes.
- Do whatever activity is planned at a slower pace.
- Use entire body. For many patients, walking on a treadmill & doing some modified bent-knee push-ups will suffice.
- Stretching allows for greater range of motion & eases the stress on the joints & tendons, which could potentially prevent injury.

*Warming up is critical for preventing injury & prepping the body.*

COOLING DOWN AFTER A WORKOUT:

- Keeps the blood flowing throughout the body.
- After physical activity, the heart is still beating faster than normal, body temperature is higher & blood vessels are dilated.
- Stopping suddenly can cause light-headedness, a HR & BP to drop rapidly making a person feel sick or pass out.
- A cool-down after physical activity allows a gradual decrease at the end of the episode.
• **What to do for a cool down and for how long:**
  o Walk for about 5 minutes, or until HR gets < 120 bpm.
  o Stretching helps reduce the buildup of lactic acid, which can lead to muscles cramping and stiffness.
    ▪ Hold each stretch 10 to 30 seconds.

**RECOMMENDATIONS FOR PHYSICAL ACTIVITY IN ADULTS**

**FIT IN 150+:**

• **Moderate Intensity Aerobic Activity:**
  o Get at least 150 minutes/week.
  o Increases a HR and breathing, however a patient will still be able to talk.
  o **Examples include:**
    ▪ Brisk walking (at least 2.5 miles per hour)
    ▪ Water aerobics
    ▪ Dancing (ballroom or social)
    ▪ Gardening
    ▪ Tennis (doubles)
    ▪ Biking slower than 10 miles per hour
  o *Stretch after exercising.*
  *OR*

• **Vigorous Intensity Aerobic Activity:**
  o Get at least 75 minutes/week.
  o Will require a higher amount of effort, making a patient warm & begin to sweat.
  o Patient won’t be able to talk much without getting out of breath.
  o **Examples include:**
    ▪ Hiking uphill or with a heavy backpack
    ▪ Running
    ▪ Swimming laps
    ▪ Aerobic dancing
    ▪ Heavy yardwork like continuous digging or hoeing
    ▪ Tennis (singles)
    ▪ Cycling 10 miles per hour or faster
    ▪ Jumping rope
    ▪ Climbing stairs
  o *Stretch after exercising.*
  *OR*

• A combination of BOTH moderate and vigorous intensity aerobic activity, preferably spread throughout the week.

*For maximum benefits, include both moderate & vigorous intensity activity along with strengthening & stretching exercises.*

*Gain more benefits by being active at least 300 minutes (5 hours)/week.*
TYPES OF EXERCISE TO HELP WITH BALANCE AND HOW OFTEN:

- Tai Chi or Yoga
- Preferably, older adults at risk of falls should do balance training 3 or more days a week & do standardized exercises from a program demonstrated to reduce falls.

TYPES OF EXERCISE TO HELP WITH FLEXIBILITY AND HOW OFTEN:

- Pilates or Yoga
- If only doing stretching, warm up with a few minutes of easy walking first to warm up muscles.
- Good to do 3-5 times per week.

TYPES OF EXERCISE TO HELP WITH STRENGTH AND HOW OFTEN:

- Yoga
- Simple, weight bearing exercises that use free weights, machines or a body’s own resistance is the focus.
- 1 set of 8 to 12 repetitions, working the muscles to the point of fatigue, is usually sufficient for each muscle group.
- These workouts can be done separate from cardio activity or resistance may be added on to an existing workout.
- AHA recommends to do at least 2 times per week with a minimum of 2 days of rest between workouts.
- Training more frequently or adding more sets may lead to slightly greater gains, however the minimal added benefit may not be worth the extra time and effort not to mention the added risk of injury.
- A certified fitness professional may need to be consulted to learn safe techniques before beginning a strength-training program.

MOVE MORE, SIT LESS:

- Get up and move throughout the day.
- Light weight intensity activity can offset some of the risks of being sedentary.

JUST STARTING TO GET ACTIVE:

- Set a reachable goal for TODAY based on health & abilities.
- Small steps can add up to huge strides in physical & mental health, stress levels, sleep, productivity, relationships & more.
- Start out with 10-15 minutes at a time & then increase time &/or intensity gradually.
- The simplest way to get moving & improve health is to start walking.
  - It’s free, easy & can be done just about anywhere, even in place.
- Can be broken up into short bouts of activity throughout the day.
- Taking a brisk walk for 5-10 minutes a few times per day will add up.
• **Examples:**
  o 10 minutes of stretching is similar to walking the length of a football field.
  o 2.5 hours of walking every week for a year is similar to walking across the state of Wyoming.
  o 30 minutes of singles tennis is similar to walking a 5K.
  o 1 hour of dancing every week for a year is similar to walking from Chicago to Indianapolis.
  o 20 minutes of vacuuming is similar to walking 1 mile.
  o 30 minutes of grocery shopping every other week for a year is similar to walking a marathon.

**HYDRATION:**
• Keeping the body hydrated helps the heart more easily pump blood through the blood vessels to the muscles which helps the muscles work efficiently.
• **Dehydration can be a serious condition that can lead to problems including:**
  o Fatigue or Muscle Weakness
  o Dark yellow urine or Minimally Urinating
  o **Heat Exhaustion which may include:**
    ▪ Fainting or dizzy
    ▪ Excessive sweating with cool, pale, clammy skin
    ▪ Rapid, weak pulse
    ▪ Muscle cramps
    ▪ **Urgent treatment includes:**
      • Getting to a cool, air conditioned place
      • Drink water if conscious
      • Take a cool shower or use a cold compress
  o **Heat Stroke which may include:**
    ▪ Throbbing HA
    ▪ Not sweating with red, hot, dry skin.
    ▪ Rapid, strong pulse
    ▪ May lose consciousness
    ▪ **Urgent treatment includes:**
      • Calling 911
• **The amount of water a person needs depends on:**
  o Climatic conditions
  o Clothing worn
  o Exercise intensity & duration.
• **To determine exactly how much fluid is needed:**
  o Check weight before and after exercise to see how many pounds are lost through sweating
  o For every pound of sweat lost, a pint of water will need to be replenished for each pound.
• **How to stay hydrated:**
  o Water is the best thing to drink to stay hydrated.
  o Sources of water also include fruits and vegetables which contain a high percentage of water.
- Sports drinks with electrolytes may be useful for people doing high intensity, vigorous exercise in very hot weather, though they tend to be high in added sugars, calories & hard on the stomach if dehydrated.
- It’s best to avoid drinks containing caffeine, which acts as a diuretic & causes more fluids to be lost.
- Drinking water before exercise or going out into the sun is an important 1st step, otherwise, catch-up is being played & the heart is straining.

**TARGET HR CHART:**

- **A resting HR is the number of times a heart bpm when at rest.**
  - A good time to check it is in the AM after a good night’s sleep, before getting out of bed.
  - For most adults a normal resting HR is between 60 & 100 bpm.
  - The rate can be affected by factors including:
    - Stress
    - Anxiety
    - Hormones
    - Medication
    - How physically active a person is.
    - An athlete or more active person may have a resting HR as low as 40bpm.
  - **Lower is better for a resting HR.**
    - It usually means a heart muscle is in better condition & doesn’t have to work as hard to maintain a steady beat.
    - Studies have found that a higher resting HR is linked with lower physical fitness & higher BP & body weight.

- The table below shows averages for **Target HR Zones** for different **Ages**.
- The **Maximum HR** is about 220 minus a person’s age.
- **Target HR** during **Moderate Intensity** activities is about **50-70% of maximum HR**.
- **Target HR** during **Vigorous Intensity** activities is about **70-85% of maximum HR**.

<table>
<thead>
<tr>
<th>Age</th>
<th>Target HR Zone 50-85%</th>
<th>Average Maximum Heart Rate, 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 years</td>
<td>100-170 beats per minute (bpm)</td>
<td>200 bpm</td>
</tr>
<tr>
<td>30 years</td>
<td>95-162 bpm</td>
<td>190 bpm</td>
</tr>
<tr>
<td>35 years</td>
<td>93-157 bpm</td>
<td>185 bpm</td>
</tr>
<tr>
<td>40 years</td>
<td>90-153 bpm</td>
<td>180 bpm</td>
</tr>
<tr>
<td>45 years</td>
<td>88-149 bpm</td>
<td>175 bpm</td>
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<tr>
<td>50 years</td>
<td>85-145 bpm</td>
<td>170 bpm</td>
</tr>
<tr>
<td>55 years</td>
<td>83-140 bpm</td>
<td>165 bpm</td>
</tr>
<tr>
<td>60 years</td>
<td>80-136 bpm</td>
<td>160 bpm</td>
</tr>
<tr>
<td>65 years</td>
<td>78-132 bpm</td>
<td>155 bpm</td>
</tr>
<tr>
<td>70 years</td>
<td>75-128 bpm</td>
<td>150 bpm</td>
</tr>
</tbody>
</table>
• **Important Note:** Some drugs & medications affect HR, meaning a person may have a lower Maximum HR & Target Zone. If a person has a heart condition or takes medication, a healthcare provider should be consulted on what their HR should be.

**REFERENCES:**


AHA written by Editorial Staff & reviewed by Science and Medicine Advisers on the following dates:

- “Staying Hydrated-Staying Healthy” (8/6/2014)
- “Warm Up, Cool Down” (9/1/2014)
- “Why Is Physical Activity So Important for Health & Well Being?” (1/14/2017)
- “Recommendations for Physical Activity in Adults” (4/18/2018)
- “Balance Exercise” (4/18/2018)
- “Endurance Exercise (Aerobic)” (4/18/2018)
- “Flexibility Exercise (Stretching)” (4/18/2018)
- “Make Every Move Count” (4/18/2018)
- “Strength & Resistance Training Exercise” (4/19/2018)
- “Target HR Chart” (3/9/2021)