Exercise for Health

Benefits:

- Lowers blood pressure
- Increased elasticity of blood vessels (decreased risk of heart attack/stroke)
- Decreased depression/anxiety
- Improved cognition
- Decreased weight, decreased insulin levels, improved metabolism
- Improved sleep/reduces insomnia
- Improved bone health/improved balance

Guidelines: only ~20% of adults/adolescents meeting the recommendations

First edition: 2008-150-300 minutes of moderate intensity or 75-150 minutes vigorous intensity along with 2 days a week of muscle strengthening exercises (single set of 12-15 reps to fatigue).

For Older Adults: include balance training. Also: recommendation is for older patients to exercise to level of effort relative to level of fitness; stressing safety and exercising to ability (see your doctor)

Second edition: November 2018-updates include evidence related to:

1) A single episode of physical activity can reduce anxiety/blood pressure and improve quality of sleep/insulin sensitivity.
2) Exercise can decrease pain for those with osteoarthritis, new evidence reinforced exercise can reduce symptoms of anxiety/depression, improved cognition for those with dementia, Multiple sclerosis, ADHD, Parkinson's disease
3) Exercise can reduce risk of fall related injuries, improved brain health; a study in JAMA 5/16 demonstrated moderateassociated decreased cancer risk-colon, breast, endometrial, esophageal, liver, stomach, kidney, myeloid leukemia. Strong associated decreased risk with multiple myeloma, head/neck, bladder, rectum and lung cancers.

Moderate intensity: Increase HR, respiratory rate, but can still talk-("sweat/talk" level)

- Brisk walk (2.5 miles an hour)
- Doubles tennis
- Bicycling (10 miles an hour or less)
- Dancing
- Gardening/mowing lawn
- Water aerobics

Vigorous Intensity:

- Running (5 miles an hour)
- Singles tennis
- Aerobics
- Bicycling (greater than 12 miles an hour)

- Jumping rope
- Rowing
- Swimming laps
- Hiking uphill

So what does intensity mean? The recommendation is to stay between 70-85% maximum heart rate, this is calculated by:

220 - Age = theoretic max heart rate for age

Here are some easy to remember HR, rounding to approximately 75% of theoretic max heart rate:

- 50yo: 125
- 60yo: 120

- 70yo: 110
- 80yo: 105

For distance related exercises: **Distance = Rate x Time**

What does this mean? The amount of expenditure of energy (calories) is primarily based on the distance travelled. If you are doing the exercise twice as fast, you get done in half the time. The calorie expenditure is a bit more with higher intensity, but not significantly so.

Very rough approximation of 100 calories of effort:

- 1 mile running
- Moderate rowing for 15 min

- 2-3 miles Bicycling
- Elliptical for 10min

Links:

Exercise Calculator: www.myfitnesspal.com/exercise/lookup

HHS: https://www.hhs.gov/fitness/be-active/physical-activity-guidelines-for-americans/index.html