Exercise Tips

INTRODUCTION: Beginners and even some more experienced exercisers should find a few useful nuggets herein. It is a work in progress, similar to a Frequently Asked Questions list.

1. Every exercise program should incorporate three major aspects: strength/resistance training, building aerobic capacity, and flexibility. A singular activity will rarely accomplish all three.

2. Effective resistance training relies on four principles. Three are; overload muscles to failure, add more resistance over time and work the large muscle groups first. The fourth principle, specificity, recognizes that the benefits from training are very movement specific. If you want to improve your soccer kick, weight train in a manner very close to that movement. Many weight machines result in training patterns very unrelated to any real life movements and taskings. Mix in free weights and functional training approaches, next paragraph.

3. Functional exercises, incorporating total body core movements are better for obtaining useful strength as well as balance. Many weight machines are best for isolated muscle development only. Take for example, the biceps curl machine. You rest your upper arm on a pad to isolate the bicep muscle. This will help you isolate and build a bigger bicep. However, if you find yourself lifting a real world heavy object, the supporting muscles in the shoulder, trunk and legs will not be trained and coordinated to work with the bicep effectively. In contrast, functional exercises help you perform everyday life tasks.

4. Know your Heart Rate Maximum (HR Max) beats per minute (bpm) and training zone. Fit individuals should aim for 55-90 percent of your HR Max bpm during aerobic exercise. A common calculation for HR Max = 220 - Age. For a 50 year old the calculation would be: 220 – 50 = **170 HR Max**. Your training zone will then be between 94 – 153 bpm. Check your pulse or spend $50 for a monitor. Studies show exercisers using a monitor showed greater aerobic improvement.

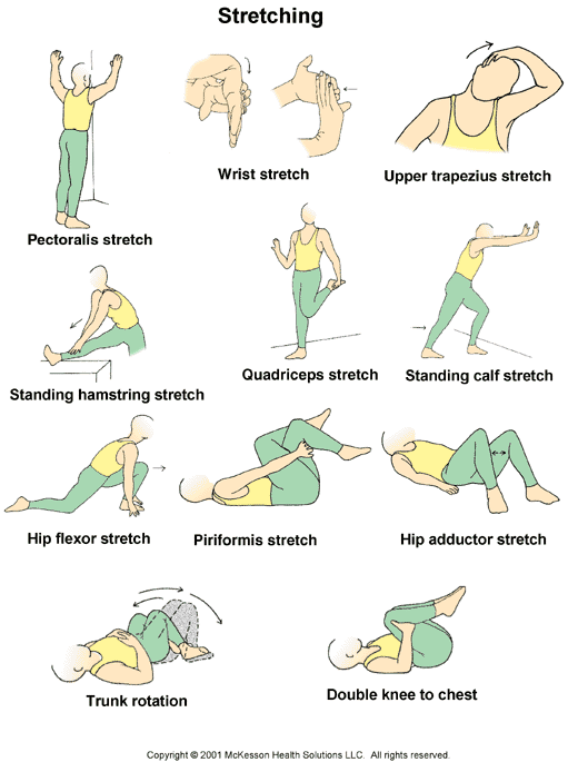
Based upon a Meta analysis of 351 studies, a slight variation in the calculation of HR Max is gaining acceptance. HR Max = 208 – (.7 x Age). For a 50 year old the calculation would be: HR Max = 208 – (.7 x 50) = 173 HR Max. This formula slightly raises the HR Max for older adults and slightly lowers it for younger adults. (J Am Coll Cardiol. 2001 Jan;37(1):153-6)

5. Know your heart rate recovery time. One of the most accurate predictions of mortality is your heart rate recovery (drop) in beats per minute (bpm) after you cease strenuous exercise. After reaching HR Max (or 85% in some tests) the average person's will drop 49 bpm after 2 minutes.

A reduction of 42 bpm or less is considered abnormal (Ann Intern Med April 4, 2000). If you have not undergone a medical screening and are over 35 you should check with your physician. Have him/her perform a graduated maximal exercise test to establish a baseline of your cardiovascular fitness. Ask them to track your heart rate recovery.

6. Vary your workout WITHIN your activity. Don't keep the same monotonous intensity during each bout of aerobic exercise activity. Mix in short 2-3 minute bursts of high activity followed by a short recovery. For example: swim 2 hard laps, then 1 easy lap with a different stroke. When running, mix in wind sprints and running backwards, sideways or up and down bleachers. Walk between bursts. You'll achieve new aerobic gains making your heart reach several peaks than staying constant at just the low end of your training zone. Racket sports often achieve this pacing with the intense volleys and pauses between serves. See my piece on High Intensity Interval Training (HIIT).

7. Vary your exercises or cross train. Related to (6). Avoid repetitive pursuits that tear down rather than build up. Marathon runners sustain a lucrative lifestyle for the orthopedic surgeons of America. An hour every day on the same stair stepper in a fixed position, no matter how vigorous, is not good for the long term. Rotate between power walking, bicycling, running, swimming, elliptical trainers, stair steppers or racket sports. Make sure any equipment you buy for home use allows variation in the height of the ramp or angle of resistance.



8. Stretching to increase flexibility is widely recommended, but results are mixed. Some studies have actually shown stretching BEFORE activity increased injuries. Gentle bouncing or ballistic stretching techniques can be useful as part of a warm-up but do not result in any permanent lengthening to connective tissue. Static stretching is most widely prescribed; you ease into a stretched position and hold for 15-30 seconds, repeat 2-3 times. Stretching should be done after your workout and when the body temperature is elevated.

9. Know your limits, few are of us are world class athletes. Too much exercise relative to your level of fitness can be harmful. Recovery time is where the body rebuilds tissues; the older you are the longer the recovery. Besides the risk of repetitive or acute injury, over training can lead to chronic fatigue and lowered immunity. Injuries often lead to the cessation of all exercise and are very discouraging to beginners. Note that the longest living people are almost always active, but rarely elite athletes.

10. Exception of sorts to (7). Walk a good amount every day. Incorporate it into your everyday activities. Try to never take more than 1 day completely off. Many benefits of exercise cannot be stored up, for example the healthy insulin sensitivity you build from exercise drops off dramatically after 2 days. If you could only do one activity – walk. Barring some sort of injury, we are designed to walk for the long term. Power walking offers almost all the aerobic benefits of running minus 90% of the injuries.