

Exercise Guidelines for Physical Fitness

The 1990 recommendations by the American College of Sports Medicine for developing or maintaining aerobic physical fitness are designed to help structure exercise programs for individuals with specific physical fitness goals.

Exercise for AEROBIC FITNESS				
FREQUENCY	MODE	DURATION	INTENSITY	
3-5 days per week, alternating	Fitness walking, jogging, running, biking, swimming, aerobic dance, step classes, rowing machines, etc.	20 to 60 minutes of continuous, rhythmical activity	Target HR Range = 50 to 85% Max HR Reserve	Rating of Perceived Exertion (RPE)** 6 7 Very, very light 8 9 Very light 10 11 Fairly light 12 13 Somewhat hard 14 15 Hard 16 17 Very Hard 18 19 Very, very hard 20
YOUR PLAN: _____ _____	YOUR PLAN: _____ _____	YOUR PLAN: _____ _____	$220 - \text{_____ (age)} - \text{_____ (resting HR)}^* =$ HR Reserve _____ $[\text{.5 x HR Reserve } \text{_____}] + \text{resting HR } \text{_____} =$ 50% Max HR Reserve _____ $[\text{.85 x HR Reserve } \text{_____}] + \text{resting HR } \text{_____} =$ 85% Max HR Reserve _____	

*Resting HR should be taken upon rising in the morning. Starting with zero, count your pulse for 30 seconds and multiply by 2 to get the HR per minute. Average over 3 days for best results.

**RPE is a subjective measurement which can be used to determine the intensity of an aerobic workout. Rating workouts 12 to 16 (somewhat hard to hard) correlates very well with the target HR range of 50 to 85% Max HR Reserve. To determine your RPE, utilize cues such as the increased rate of breathing, a "sense" that the HR is faster, tiredness or burning in the working muscles, etc., and ask yourself "How hard does it feel like I'm working?" Don't focus on just one of the cues, but rate the overall feeling of work intensity.

The relationship between DURATION and INTENSITY is important - if you work out at higher intensities, decrease exercise duration; if you work at lower intensities, increase exercise duration.

Aerobic exercise is exercise that utilizes large muscle groups (i.e. legs) or large groups of muscles (i.e. legs, arms, and trunk), is rhythmical in nature, and is something that can be performed continuously over a period of time. Sports such as handball and racquetball can be included in these activities even though they are not 100% aerobic. If played vigorously for an hour or so you will get similar results.

PROGRESSION of your program is also very important. Start your program with activities that you can do at a moderate intensity for 20 to 30 minutes; if you have time, increase the duration to 35, 40, 45 minutes over a period of 2 to 6 weeks. If you need to stay with the minimum duration 20 to 30 minutes, very gradually increase the intensity of your work by increasing resistance on machines or increasing your pace as you walk or jog. As you become more and more fit, you will gradually need to work at higher intensities or faster paces to get your RPE or HR up to the desired level. If you want to increase the frequency of exercise, always take one day of rest per week and alternate hard and easy training days so that you reduce your risk of overuse injuries and reduce the likelihood of 'burnout.'" Once you attain the fitness level you desire, you no longer need to increase the frequency, duration, or intensity of your work.

The 1990 ACSM recommendations included, for the first time, guidelines for resistance training in addition to the aerobic training.

Resistance Exercise for MUSCULAR STRENGTH and ENDURANCE						
PROGRAM GOAL	SETS	REPETITIONS	RESISTANCE	REST BETWEEN SETS	DAYS/WEEK	PROGRESSION
Health/Fitness (ACSM) guidelines)	1	8 to 15	60 to 80% of 1 RM*	60 seconds	2 to 3 non- consecutive	^ sets to 2, then 3 when > 15 reps can be done; when you can complete 3 sets of 15 reps, ^ weight and repeat cycle; you may choose to continue with one set if you make sure the muscles are exhausted at the end of the set.
Endurance	1	15 to 25	50 to 65% of 1 RM*	30 to 60 seconds	3 non- consecutive	^ sets to 2, then 3 when >25 reps can be done; when you can complete 3 sets of 25 reps, ^ weight and repeat cycle
Strength	3	4 to 8	80 to 90% of 1RM*	90 seconds	2 to 3 non- consecutive	^ sets to 4, 5 then 6 when >8 reps can be done; when you can complete 6

