



Guide to training

Before you start exercising, you need to consider your current health and family history. Remember that your program needs to be tailored to you; one size does not fit all. It is highly recommended that you seek advice from your GP before commencing an exercise program and consult an accredited Exercise Physiologist or qualified Personal Trainer to have your own program developed.

Outlined below are the components of a general exercise training program, as well as a fitness framework. The FITT framework (Frequency, Intensity, Time, Type) highlights the frequency, intensity and time for exercise. Those training to become a Brigadesman should be targeting the last category 'High amounts of habitual activity / regular vigorous intensity exercise'.

Components of an exercise program

Warm up: 5 – 10 minutes of low to moderate intensity cardiovascular and/or muscular endurance activities

Conditioning: 20 – 60 minutes of:

- Cardiovascular
- Muscular endurance
- Sport activities (i.e. playing sport/group training sessions)
- Muscular strength

Note: Exercise in 10 minute bouts are fine if you accumulate at least 20 – 60 minutes per day.

Cool down: 5 – 10 minutes of low to moderate intensity cardiovascular and/or muscular endurance activities.

Stretching: 10 minutes of stretching exercises performed after cool down.

FITT fitness framework (taken from ACSM guidelines)

Habitual physical activity / exercise level	Physical fitness classification	Frequency		Intensity		Time			
		kcal per wk	days per week	% heart rate (max)	effort	total duration per day (mins)	total daily steps during exercise	weekly duration (mins)	
Sedentary / no habitual activity / extremely deconditioned	Poor	500 - 1000	3 - 5	57% - 67%	Light - moderate	13 - 30	300 - 60	3000 - 3500	60 - 150
Minimal physical conditioning / no exercise / moderately-highly deconditioned	Poor-fair	1000 - 1500	3 - 5	64% - 74%	Light - moderate	30 - 90		3000 - 4000	150 - 200
Sporadic physical activity / no or suboptimal exercise / moderately - mildly deconditioned	Fair-average	1500 - 2000	3 - 5	74% - 84%	Moderate - hard	30 - 90		≥3000 - 4000	200 - 300
Habitual physical activity / regular moderate to vigorous intensity exercise	Average-good	>2000	3 - 5	80% - 91%	Moderate - hard	30 - 90		≥3000 - 4000	200 - 300
High amounts of habitual activity / regular vigorous intensity exercise	>Good-excellent	>2000	3 - 5	84% - 94%	Somewhat hard - hard	30 - 90		≥3000 - 4000	200 - 300

Note: These recommendations are consistent with the US Department of Health and Human Services Physical Activity Guidelines for Americans, available at www.health.gov/PAGuidelines/pdf/paguide.pdf (October 7, 2008)

- Max heart rate is calculated as 220 minus your age, which equals your maximum heart rate. E.g. if you are 30 years old, you will calculate 220 – 30 = 190 maximum heart rate. To work at a high intensity 84%, you calculate 190 x 0.84 = 159.6.
- Total steps is based on step counts from a pedometer.

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Physical fitness

Physical fitness is not a single element, it is several components combined, including:

- Cardiovascular fitness
- Body composition
- Muscular strength
- Muscular endurance
- Flexibility



To successfully pass the functional assessment, you need to ensure you possess and maintain a high level of both cardiovascular and muscular fitness. Often when regular exercise is performed, only cardiovascular or muscular fitness is focused on. As a result you can be considered as 'physically fit' for one component, but below average in the other. For example, performing high levels of resistance training as a sole form of exercise results in high levels of muscular strength and endurance; however this does not impact on the level of cardiovascular fitness.

Cardiovascular fitness

Cardiovascular fitness is the ability for the circulatory and respiratory systems to supply the body with adequate oxygen during exercise, over a prolonged period of time.

Types of exercise to improve cardiovascular fitness include:

- Swimming
- Jogging or walking
- Cycling



Muscular fitness

Muscular strength is the ability for the muscle to exert a force. Muscular endurance is the continual working of the muscles without fatiguing. Types of exercise to improve muscular fitness include:

- Weight training with resistance machines, dumbbells, barbells
- Body weight exercises, e.g. sit ups, push ups, lunges, squats

