

Asthma and exercise

Asthma is a chronic inflammatory disorder of the airways that is associated with recurrent episodes of wheezing, breathlessness, coughing and tightness of the chest. Narrowing of the airways, which obstructs the airflow is often associated with these episodes, but can be reversed either spontaneously or with treatment.

Three main factors cause the airways to narrow:

- swelling of the inside lining of the airways
- increased mucus production combined with products of inflammation
- tightening of the muscle around the airways (bronchoconstriction).

The causes of asthma are unclear; however research indicates there are links to both:

- genetics (family history); and
- the environment.

Numerous factors can contribute to the development of asthma including substances that cause allergic reactions, air pollutants and obesity. The severity of attacks ranges from breathing discomfort to life-threatening bouts of airways obstruction (1).

How is asthma managed?

Asthma can be managed through the use of an *asthma action plan*. This is a written set of instructions developed for each asthma patient outlining medication requirements, methods for recognising worsening asthma symptoms, and what to do in the event of an attack (2).

Asthma medications can be categorised as:

- **Controllers:** usually taken daily in an effort to reduce the inflammatory processes associated with asthma
- **Relievers:** effective in relieving bronchoconstriction; should be inhaled only when needed and in the lowest dose necessary.
- **Preventers:** may also be used daily to reduce both symptoms and asthma attacks. Preventers can be particularly effective in reducing exercise-induced bronchoconstriction (EIB) in most patients.

How does exercise benefit people with asthma?

Well-controlled asthma should not limit or restrict any patients' ability to participate in physical activity. Regular exercise greatly benefits people with asthma. The exercise improves aerobic fitness, reducing the likelihood of an exercise-induced attack (3). Exercise can also help control asthma and reduce the amount of medication required.

What is important when people with asthma exercise?

By using pre-exercise medication, most people with asthma can participate in physical activity equally with people without asthma.

People with asthma should ideally follow an exercise program lasting between 20 and 60 minutes, 3-5 times per week and consisting of a warm-up, period of aerobic exercise, and warm-down.

The aerobic segment should begin at low intensity (eg. walking) and gradually increase as fitness level improves. An accredited exercise physiologist can create a suitable exercise program for you.

While people with asthma can participate in all types of exercise and physical activity (except scuba diving), swimming is one of the best forms of exercise, because it is less likely to trigger an asthma attack.

People with severe asthma should focus on strength training (e.g. lifting weights), flexibility training and light (aerobic) physical activity.

Exercise programs recommended for people with asthma:

Type of training	Intensity	Frequency (times/week)	Duration
Aerobic (cardio) training	Low	5 or more sessions	At least 30 minutes
	High	3 or more sessions	At least 20 minutes
Strength training	70% of 1 RM*	2 or more sessions	2-3 sets of 8-12 repetitions

*RM = Repetition Maximum. 1 RM corresponds to the maximum weight that can be lifted through the entire exercise movement one time.

References and further information

Exercise is Medicine Australia www.exerciseismedicine.org.au

Find an Accredited Exercise Physiologist www.essa.org.au

Exercise Right www.exerciseright.com.au

1. Morton AR, Fitch KD. Australian Association for Exercise and Sports Science position statement on exercise and asthma. *J Sci Med Sport* 2011; 14: 312-316.
2. National Asthma Council Australia. *Asthma Management Handbook 2006*, South Melbourne. The National Asthma Council of Australia: 2006.
3. Henriksen JM, Neilsen TT. Effect of physical training on exercise-induced bronchoconstriction. *Acta Paediatr Scand* 1983; 72(1):31-6.

For more detailed information, please read the full version of this factsheet at www.exerciseismedicine.org.au

