Injury Prevention: Asthma Management

What is Asthma?

Asthma is the narrowing of the airways due to spasm and/or swelling of the airway walls, making breathing difficult, there may also be an accumulation of mucus and fluid in the airways, contributing to the narrowing of the airways.

Exercise induced asthma (EIA) refers to asthma that is triggered during or shortly after exercise. EIA can vary from a mild cough, to wheezing or to severe breathing difficulties. EIA may occur during exercise, though it is more likely to occur after exercise (up to 30 minutes after exercise).

During exercise, heat and water are lost from the airways and it is this change that is thought to trigger EIA.

What triggers an asthma attack?

Some common triggers include:

- Exercise, especially intensity and duration
- Allergies, such as dust, pollens, grasses, lawn cuttings, cat or dog etc.
- Cigarette smoke
- Cold air
- Certain medications and irritants, such as aspirin
- Emotion, including laughter
- Chest infections
- Stress

Continuous activities such as running usually causes wheezing more that stop/start activities such as football and netball.

Other activities where less EIA occurs include:

- Swimming
- Walking
- Cycling

- Tennis
- Soccer

Cold and/or dry air will also affect an asthmatic; therefore, it is important that precautions such as preventative medications are taken when exercising in such climates.

Being physically fit is also beneficial to the asthmatic.

How to recognise an asthma attack

There is usually a past history of asthma, and the athlete appears:

- Distressed
- Anxious
- Has difficulty breathing
- Short of breath (“I can’t breathe”)
- Noisy breathing, such as coughing or wheezing
- Increased respiratory rate
- Increased heart rate
- Skin is usually pale and sweaty
- If the attack is severe there may be a blue tinge to the face and lips

If the attack is more severe the athlete will become

- Tired
- Exhausted
- Quiet
- Subdued

If the attack is very severe the athlete will become:

- Confused
- Irritable
- Ultimately may become unconscious

How to manage an asthma attack

If an athlete has a minor asthma attack:-

1. Sit the person comfortably upright
2. Calm and reassure the athlete
3. Encourage athlete to use their reliever medication, such as Ventolin, Airomir, Bricanyl or Asmol as directed by their doctor. The aim of this medication is to relax the airways

Do not allow the athlete to return to play until the symptoms have completely subsided.

How to recognise a severe attack

If after four minutes the athlete does not respond to their medication they may be having a severe attack.

If this occurs the National Asthma Council Australia recommends the following first aid advice.

If using a spacer (preferable):

- Shake reliever inhaler and insert mouthpiece into spacer.
- Help place spacer mouthpiece in person's mouth and fire 1 puff
- Ask the person to breathe in and out normally for about 4 breaths.
- Repeat in quick succession until 4 puffs have been given.

If no spacer is available:

- Help place mouthpiece or reliever in the person's mouth.
- Fire 1 puff as the person inhales slowly and steadily
- Ask the athlete to hold that breath for 4 seconds, then take 4 normal breaths.
- Repeat until 4 puffs have been given.

If there is little or no improvement after 4 minutes CALL AN AMBULANCE IMMEDIATLEY and state that the person is having asthma attack. Keep giving 4 puffs in the manner outlined above every 4 minutes until the ambulance arrives.

Children should take no more than 4 puffs in each 4-minute cycle to avoid overdose. Adults may have up to 6-8 puffs every 5 minutes for a severe attack.

Use the DRSABCD approach to ensure that there is no immediate life threatening situations, until the ambulance arrives.

Note – If someone collapses and appears to have difficulty breathing, call an ambulance immediately, whether or not the person is known to have asthma. No harm is likely to result from giving a reliever to someone who does not have asthma.

Medications

There are 2 types of medications prescribed for asthmatics:

Relievers

Taken 5-10 minutes prior to exercise when necessary

- Blue/grey puffers (Bricanyl, Ventolin, Airomin Or Asmol)

Preventers

Taken regularly as directed by the doctor

- White (with blue cap) eg. Intal
- White (with red cap) eg. Intal Forte
- Cream/brown eg. Becotide
- Yellow eg. Becloforte
- Brown turbuhaler eg Pulmicort

Considerations

Well controlled asthma should allow the participant to exercise and play most sports (however, asthmatics should not scuba dive). Every diagnosed asthmatic should have a management plan, which is established in conjunction with their doctor. This plan should be known by the athlete, teammates, coach and the sports first aider. The sports First Aider should also encourage the asthmatic to:

- Know the severity of their asthma
- Exercise safely and regularly to improve fitness and lung function
- Avoid trigger factors where possible

- Perform at their best by using the right medication in the correct manner
- Have their asthma checked regularly

The Sports First Aider and Sports Trainer should identify the athletes in their team that suffer from asthma, and know their asthma management plan.

Pre Exercise

Avoid:

- Allergy triggers, eg. Dust, pollens, grasses etc.
- Exercising in cold air, eg. Early morning or late evening
- Vigorous exercise when the athlete has a viral infection.
- Exercise if the athlete is wheezing or has a chest infection

Always warm up adequately to allow the body to adapt to changes in the weather:

- If advised by the doctor take medication 5-10 minutes before exercise
- Warm-up adequately an indication of an adequate warm-up is a light sweat
- Stretch after warming up

Two different types of warm-up have been shown to be effective in reducing EIA:

- 5-7 x 30 second sprints with 30-60 seconds rest
- Brisk walk/slow jog for 20-30 minutes

During Exercise

- If EIA develops during exercise, stop the athlete and have them take their medication
- DO NOT allow athlete to resume activity until all the symptoms have subsided
- If symptoms recur:
- Use Medication
- DO NOT allow athlete to return to activity
- Refer to their doctor
- Include rest periods throughout training session

- DO NOT encourage an athlete to “run through” and asthma attack

After Exercise

Ensure adequate cool down 5-10 minutes of light activity followed by stretching.

If EIA continues, refer the athlete to their doctor, who may recommend:

- A change in medication
- Regular preventative medication in to overall asthma management plan

Further Information

Please visit the National Asthma Council website