Asthma Attack

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Illustrated by Sierra Simmons

Asthma attacks are often very frightening for the asthmatic as well as those witnessing the attack. Understanding asthma and how to deal with attacks of varying severity can be helpful and even life-saving. Approximately 1 in 15 people have asthma. Some enjoy sports and a few are even Olympic medalists like Jackie Joyner-Kersee. Odds are you have an asthmatic on your or the opposing team every time you play. This article will discuss the causes, symptoms, and treatment of asthma. This column is not meant to replace medical evaluation for your health problems. Always seek medical help for worrisome or persistent symptoms.

According to the National Asthma Education and Prevention Program, "Asthma is a chronic lung condition with ongoing airway inflammation that results in recurring acute episodes (attacks) of breathing problems such as coughing, wheezing, chest tightness, and shortness of breath." Figure 1 depicts the difference between asthmatic and healthy lungs. During an attack, inflammation causes swelling of the tissue inside the air tube, or bronchiole. The muscles surrounding the bronchioles clamp down as part of the reaction and cause the tube to narrow even more. In addition the air tube becomes clogged with mucus from all the surrounding inflammation. As a result the asthmatic airway has a smaller space for air to pass through during an attack. This makes it difficult for asthmatics to move air within the lungs.

Fortunately with modern asthma treatments asthmatics can fully participate in athletics most of the time. Activities may occasionally need modification when an asthma attack is triggered by one of various causes. The most common causes are shown in Table 1. Asthmatics who know the triggers for their asthma will often take their medication before knowingly exposing themselves to a trigger. For example, someone whose asthma is made worse by exercise (exercise-induced asthma) should take their rescue inhaler (albuterol or Xopenex) 5 – 10 minutes before exercise. Adequate warm-up and cool down periods also help prevent attacks in exercise-induced asthma.

Rescue inhalers should be readily available at all times to prevent progression to a more severe attack while being exposed to a trigger. Children and teenagers may be embarrassed to use these medications. Therefore creating an encouraging and accepting environment is very important in this age group.

The first step in managing an asthma attack is knowing the athlete is an asthmatic. It's a good idea to keep a roster with a list of chronic illnesses, severe allergies, and emergency contacts in your team first aid kit along with appropriate rescue medications. If the asthmatic keeps a card where a physician describes their plan for asthma attacks, a copy of this should definitely be kept with the first aid kit.

The signs of an asthma attack are shown in Table 2. If you are ever unsure of the severity of an attack or are worried for any reason, call for emergency help. Asthma attacks can progress to a more serious, sometimes even life-threatening attack without proper treatment. Treatment recommendations are shown in Table 3. If you notice an athlete getting recurrent attacks or with decreased athletic performance, then their asthma is poorly controlled. With modern medication, optimal control will allow athletes to compete at the highest levels with few and infrequent symptoms. You may be the one to help diagnose a new case of asthma in a teammate, greatly improving their quality of play with proper treatment.

Occasionally other illnesses can have similar symptoms to asthma. Emergency medical evaluation is needed for all of the following conditions. Severe respiratory illness may have additional symptoms like fever or phlegm. Severe allergic reaction usually has facial swelling and/or rash. Object stuck in the airway usually happens in children. Right-sided heart failure usually happens in adults and has additional symptoms like swollen feet and/or bulging neck veins. If you suspect any of these conditions get emergency medical help and while waiting support the athlete sitting up with their hands on their head.

References

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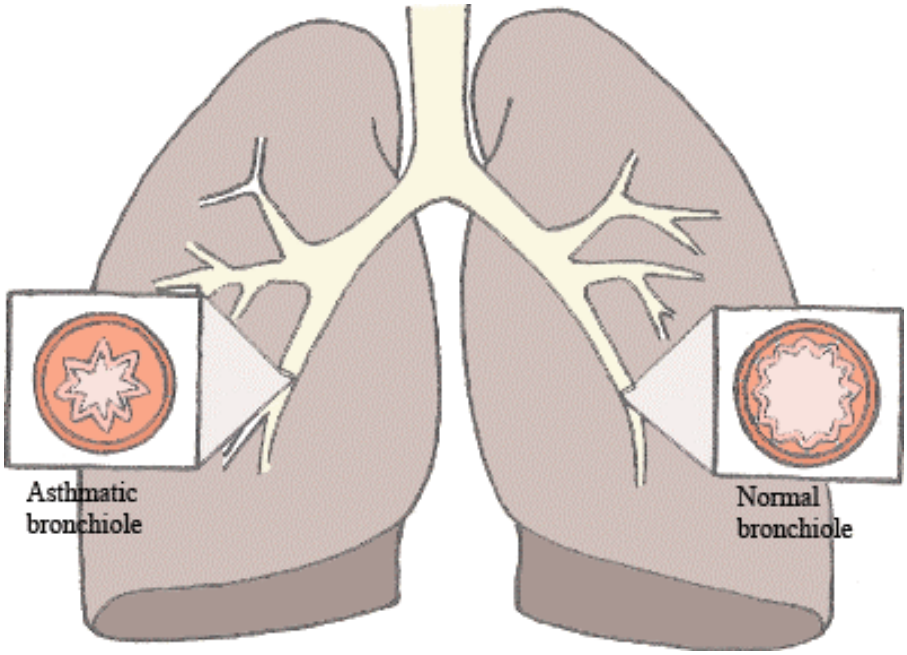

Figure 1: Asthmatic versus healthy lungs

Table 1: Common asthma triggers

- Exercise
- Allergens (pollen, dander, dust, mold)
- Colds/Flu
- Laughing/Crying
- Cold air/weather changes
- Smoke/Strong smells
- Unresolved symptoms of prior attack
- Prior attack 8-12 hours ago

Table 2: Signs of an asthma attack

- Initial symptoms
  - Cough
  - Wheeze
  - Difficulty breathing
  - Chest tightness/pressure
- Severe symptoms
  - Hunched over, shoulders lifted, straining to breathe
  - Cannot complete a sentence
  - Lips or fingernails turn blue

Table 3: Treatment of an asthma attack

1. Stop activity
2. Do not leave the athlete

3. Send someone for rescue medication
4. Support athlete sitting up
5. Support hands above head
6. Follow physician plan if athlete has one
7. Help athlete use medication
8. You may have to puff the medication for the athlete
9. Observe athlete for relief of symptoms
10. Repeat medication as needed
11. **If the symptoms do not improve or severe symptoms are noted. Call for emergency help.**
12. **If the athlete passes out and you know CPR, assess airway and start rescue breathing as needed**