Asthma in elite athletes

This factsheet attempts to explain the increased occurrence of asthma and bronchial hyperresponsiveness among elite athletes, and give information about recommended treatment and testing regulations.

Exercise-induced asthma and bronchial hyperresponsiveness (BHR) have become increasingly common in top athletes, particularly those who compete in endurance sports. BHR is a measure of how easily the airways constrict or become narrow in response to different stimuli such as: physical exercise; viral infections; smells and cold or dry air.

![Normal airways](image)

![Bronchial hyperresponsiveness](image)

The widespread use of asthma drugs, particularly inhaled β₂-agonists, among top athletes has led the International Olympic Committee Medical Commission (IOC-MC) and the World Anti-Doping Association (WADA) to restrict their use to athletes who have been diagnosed with asthma and show evidence of BHR.

Elite athletes may have had asthma since childhood or they may have developed asthma and BHR since becoming active in sports. Asthma and BHR occur most often in endurance sports such as cross-country skiing, biathlon and swimming, particularly in older athletes.

Endurance sports require a high level of fitness and stamina to enable the body to keep exercising for a long time. As you exercise, your breathing will get faster to ensure the body has enough oxygen to keep going. Athletes may inhale potentially harmful substances in the air, depending on the environment, which may cause asthma symptoms or damage the lungs directly.

Photo: Marit Bjørgen, asthmatic Olympic gold medallist in cross-country skiing.
The ELF is the public voice of the European Respiratory Society (ERS), a not-for-profit medical organisation with more than 10,000 members in more than 100 countries. The ELF is dedicated to lung health throughout Europe, and draws together the leading European medical experts to provide patient information and raise public awareness about respiratory disease.

This material was compiled with the help of ERS asthma expert, Prof. Kai-Hakon Carlsen.