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## LUNG ALERT .....

### Is there a gold standard test for diagnosing exercise induced asthma in elite athletes?

▲ Dickinson JW, Whyte GP, McConnell AK, Harries MG. Screening elite winter athletes for exercise induced asthma: a comparison of three challenge methods. *Br J Sports Med* 2006;**40**:179–82

**E**xercise induced asthma (EIA) is a common yet often unrecognised condition that occurs in both known asthmatics and otherwise healthy individuals. Misdiagnosis—both over- and under-diagnosis—frequently occurs. In order to diagnose EIA accurately, a bronchoprovocation challenge test must be performed. The provocation tests used to identify subjects with EIA include exercise (laboratory or field), eucapnic voluntary hyperventilation (EVH), and pharmacological agents (hypertonic saline or mannitol powder).

Bronchial provocation using pharmacological agents are less reliable and, while field exercise is more sensitive than laboratory exercise in the diagnosis of EIA, the major limitation of exercise tests is the control of variables such as environmental factors and challenge intensity. EVH is a laboratory based indirect provocation challenge that enables minute ventilation and environmental conditions to be controlled and thus greatly enhances the reliability and validity of the challenge test.

In this study the authors examined whether exercise tests (sport specific and laboratory) are as efficacious as EVH in diagnosing EIA in asymptomatic elite winter athletes. Fourteen athletes were studied, including two known asthmatics. All study participants completed exercise tests as well as EVH. The cut off point for diagnosis of EIA, as recommended by the International Olympic Committee, is a fall of 10% in forced expiratory volume in 1 second (FEV<sub>1</sub>) from baseline. In all, 10 athletes were found to have a positive test. In comparing the three challenge tests, the authors found that EVH was best for diagnosing EIA (10 athletes), followed by sport specific exercise testing (3 athletes) and laboratory exercise testing (0 athletes).

In spite of the small number in the study group, this work complements previous studies in this field and suggests that it is time to adopt EVH as the gold standard test for the diagnosis of EIA in elite athletes.

**A Khan**

Specialist Registrar, Royal Devon and Exeter Foundation NHS Trust, Devon, UK; Ayaz.Khan@rdehc-tr.swest.nhs.uk