

IAAF BETA-2-AGONISTS EXEMPTION PROCEDURE

Under IAAF Rules, the administration of the beta-2-agonists salbutamol, formoterol, salmeterol or terbutaline may be permitted by inhalation where prescribed for therapeutic purposes by properly qualified medical personnel and where prior clearance has been given for such administration.

In response to a generally recognised increase in the use of beta-2-agonists by athletes, the IAAF Council has recently endorsed a recommendation from the IAAF Medical Committee to require more detailed information from applicants who seek an exemption for the use of beta-2-agonists for asthma and/or exercise-induced broncho-constriction.

The IAAF will now require applicants to provide an accompanying letter to their exemption applications, signed by a Respiratory Specialist or a National Federation Team Physician, including the following documentation:

1. Detailed Medical Records

Medical records should include:

- A precise diagnosis of the individual's condition requiring the use of beta-2-agonists.
- All relevant information concerning the individual concerned and his condition:
 - age of onset
 - symptoms suggesting airway obstruction following exercise, upper respiratory infection at rest and at night and/or during the pollen season.
 - identified triggering factors
 - past history of atopic disorders and/or childhood asthma
 - past physical examinations
 - results of skin prick tests or RAST to document the presence of allergic hypersensitivity.
- Any specific information concerning the individual's coughing during or post-exercise, dyspnoea, shortness of breath, wheezing, chest tightness or excess sputum.
- Details of all consultations with physicians qualified in the treatment of asthma and details of any attendance in hospital emergency departments for treatment or admission to hospital for treatment of acute exacerbation of asthma.
- Details of the individual's currently prescribed medication and any other medication prescribed in the last 6 months. Details of medication in the 3 months prior to provocation tests (see below) must also be notified.

2. Resting Spirometry Test Results

Athletes must present the results of a Spirometry Test (resting) together with the following data: FEV₁, FVC, FEV₁ / FVC presented both as an actual and % predicted value. Graphic evidence (spirometry of flow volume tracings) must also be submitted.

3. Provocation Test Results

Athletes must also present a positive test result from one of the following recognised provocation tests:

a) Bronchodilator test:

A positive test result shall be defined as:

- a 15 % or greater increase in FEV₁ calculated as a percentage of the baseline FEV₁

OR

- a 12 % or greater increase in FEV₁ on predicted FEV₁

in either case, after the administration of an inhaled permitted beta-2-agonist. Graphic evidence (spirometry of flow volume tracings) must be submitted in support of the result.

b) Bronchial provocation test:

A Bronchial provocation test will take the form of an exercise test in the laboratory or in the field or a eucapnic voluntary hyperpnoea test (EVH).

A positive test result will be obtained if Airway Hyper-Responsiveness (AHR) is confirmed with a fall of 10% or more in FEV₁ in the post-test period. Graphic evidence (spirometry of flow volume tracings) must be submitted in support of the result.

c) Bronchial provocation test with inhaled methacholine:

A positive test result will be obtained if AHR is confirmed with:

- a PC₂₀ FEV₁ equal to or less than 2 mg/ml;

OR

- a PD₂₀ FEV₁ equal to or less than a cumulative dose of 1 micromol or 200 micrograms or 20 breath units in steroid-naïve subjects.

In the case of individuals on daily inhaled corticosteroid treatment of more than 3 months duration, a positive test result will be obtained if AHR is confirmed with:

- a PC₂₀ FEV₁ equal to or less than 13.2 mg/ml;

OR

- a PD₂₀ FEV₁ equal to or less than a cumulative dose of 6.6 micromol, or equal to or less than 1320 micrograms or 130 breath units.

d) Broncho-constrictor test:

A positive test result for a Broncho-constriction test is defined as a fall of 15 % or more in FEV₁ after the subject inhaling a hypertonic aerosol (4,5 % saline commonly used).

Note: Peak Expiratory Flow Rate (PEFR) measurements will not be accepted.

Abbreviations

FEV₁ = Forced expired volume in one second.

FVC = Forced Vital Capacity

MEF25-75 = Mid-expiratory Flow from 25% to 75%.

FEV₁ / FVC = Ratio of FEV₁ to FVC expressed as a percentage.

PC₂₀ FEV₁ = Is the provocative concentration of methacholine causing a 20% fall in FEV₁

PD₂₀ FEV₁ = Is the provocative dose of methacholine causing a 20% fall in FEV₁

References:

1. Anderson SD. Pulmonary function testing and bronchial provocation. In: Altman LC (ed) Allergy in Primary Care. W.B. Saunders Ltd, 2000: 49-64.
2. Anderson D, Argyros G J, Magnussen H, Holzer K. Provocation by eucapnic voluntary hyperpnoea to identify exercise induced bronchoconstriction. Br J Sports Med 2001; 35: 344-347.
3. Crapo RO, Casaburi R, Coates AL, et al. Guidelines for methacoline and exercise challenge testing-1999. Am J Respir Crit Care Med, 2000; 161:309-29.
4. Gold WM. Pulmonary function testing. IN. Murray JF, Nadel JA, (eds.) Textbook of Respiratory Medicine. 2nd ed. WB Saunders Co, Philadelphia 1994: 798-893.
5. Medical Commission. International Olympic Committee. Beta₂ adrenoceptor agonists and the Olympic Winter Games in Salt Lake City. http://multimedia.olympic.org/pdf/en_report_20.pdf. Accessed on 15th april 2003.
6. Quanjer PH, Tammeling JE, Cotes OF, Pedersen R, Peslin R, Yemault JC. Lung volumes and forced ventilatory flows. Eur Respir J 1993; 6:5-40.
7. Sterk PJ, Fabri LM, Quanjer PH, et al. Airway responsiveness: Standardized challenge testing with pharmacological, physical and sensitizing stimuli in adults. Eur Respir J, 1993 ; 6 (Suppl 16) :53-83.