ANNEX 1

Eucapnic Voluntary Hyperpnea Test

N.B: Please note that only 1 positive test is required. If the test is negative another test may be attempted.
Please include the flow/volume loops and the print out from the spirometry unit with the data.

This Annexe provides a list of available bronchoprovocation tests. This template provides a guide for completing the tests; the particular procedures of the testing are up to the clinician/scientist/technician involved. Please respect the criteria outlined in WADA's "Medical Information to support the decisions of TUECs – ASTHMA".

The eucapnic voluntary hyperpnea test is considered positive when a fall in FEV 1 of 10% or more from baseline is recorded after a 6 minutes period of hyperpnea in dry air. To overcome the problem of any post-test respiratory muscle fatigue, the FEV 1 should first be recorded at least 3 minutes after challenge. It is usual for the reduction to be sustained over the next five minutes to be consistent with the hyperpnea-induced bronchoconstriction.

Important recommendations

Date of test: _____

Make & Model of spirometer: _____

Duration of test* (minutes): _____

Target Ventilation _____

Ventilation achieved (L, BTPS) _____

Average Ventilation (L/min, BTPS) _____

Bronchodilator, if given post-challenge: ❑ Formoterol ❑ Salmeterol ❑ Salbutamol ❑ Terbutaline

Dose (µg): _____

Spirometry (BTPS)	Baseline before challenge	% predicted	Lowest value after challenge	% fall from Baseline[1]
FEV1 (L)				
FVC (L)				
FEV1 / FVC %				
FEF 25-75 (L/sec)				

1 $\frac{\text{(Baseline before challenge – Lowest value after challenge)}}{\text{Baseline before challenge}} \times 100$

Date: _____ Physician/Technician Name: _____

Contact details: _____

Comments (optional):

ANNEX 1

Laboratory exercises or field exercise

N.B: Please note that only 1 positive test is required. If the test is negative another test may be attempted.
Please include the flow/volume loops and the print out from the spirometry unit with the data.

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The response to the exercise challenge is considered positive when there is a fall in FEV1 of 10% or more compared to baseline during the first 30 minutes post exercise. To maximise the opportunity for a positive test, the exercise test should be performed breathing dry air for 8 minutes with the intensity of exercise close to maximal for the last 4 minutes. To overcome the problem of any post-test respiratory muscle fatigue, the FEV1 should first be recorded at least 3 minutes after challenge. It is usual for the reduction to be sustained over the next 5 minutes to be consistent with exercise-induced bronchoconstriction (EIB).

Important recommendations

Date of test: _____

Make & Model of spirometer: _____

Type of test (e.g. running, cycling, etc): _____

Test conditions ❑ Field ❑ Laboratory

Duration of test* (minutes): _____

Heart rate (bpm) and/or Average Ventilation during test (L/min, BTPS) _____ ❑ bpm ❑ L/min

Inhaled air temperature _____ ❑ ℃ ❑ ℉

Inhaled air humidity _____ ❑ % ❑ mg/L

Bronchodilator, if given post-challenge: ❑ Formoterol ❑ Salmeterol ❑ Salbutamol ❑ Terbutaline

Dose (µg): _____

Spirometry (BTPS)	Baseline before challenge	% predicted	Lowest value after challenge	% fall from Baseline[1]
FEV1 (L)				
FVC (L)				
FEV1 / FVC %				
FEF 25-75 (L/sec)				

1 $\frac{\text{(Baseline before challenge – Lowest value after challenge)}}{\text{Baseline before challenge}} \times 100$

Date: _____ Physician/Technician Name: _____

Contact details: _____

Comments (optional):

ANNEX 1

4.5 % Saline Test

N.B: Please note that only 1 positive test is required. If the test is negative another test may be attempted.
Please include the flow/volume loops and the print out from the spirometry unit with the data.

This Annexe provides a list of available bronchoprovocation tests. This template provides a guide for completing the tests; the particular procedures of the testing are up to the clinician/scientist/technician involved. Please respect the criteria outlined in WADA's "Medical Information to support the decisions of TUECs – ASTHMA".

A fall in FEV1 of 15% or more from baseline after inhaling 22.5 ml of 4.5 gm% saline (e.g. 4.5 g NaCl / 100ml water) is a positive response and is consistent with a diagnosis of currently active asthma or EIA/EIB. The response to 4.5% saline is usually reported and the dose required to provoke a 15% fall FEV1 (PD15) but should also be reported as the maximum fall after the final dose of aerosol.

Important recommendations

Date of test: _____

Make & Model of spirometer: _____

Bronchodilator, if given post-challenge: ❑ Formoterol ❑ Salmeterol ❑ Salbutamol ❑ Terbutaline

Dose (µg): _____

Spirometry (BTPS)	Baseline before challenge	% predicted	Lowest value after challenge	% fall from Baseline[1]
FEV1 (L)				
FVC (L)				
FEV1 / FVC %				
FEF 25-75 (L/sec)				

1 $\frac{(\text{Baseline before challenge} - \text{Lowest value after challenge})}{\text{Baseline before challenge}} \times 100$

PD15 FEV1 (ml)* (in the case of a negative result, please insert N/A): _____

Rate of delivery (ml/min): _____

Date: _____ Physician/Technician Name: _____

Contact details: _____

Comments (optional):

ANNEX 1

Mannitol Test

N.B: Please note that only 1 positive test is required. If the test is negative another test may be attempted.
Please include the flow/volume loops and the print out from the spirometry unit with the data.

This Annexe provides a list of available bronchoprovocation tests. This template provides a guide for completing the tests; the particular procedures of the testing are up to the clinician/scientist/technician involved. Please respect the criteria outlined in WADA's "Medical Information to support the decisions of TUECs – ASTHMA".

A fall in FEVl1 of 15% or more from baseline FEV1 (i.e., FEV1 reading after administration of the Omg capsule) alter inhaling a dose of 635 mg of dry powdered mannitol is a positive response and is consistent with a diagnosis of currently active asthma or EIA/EIB. The response to mannitol is usually reported as the dose required to provoke a 15% fall in FEV1 (PD15) but: should also be reported as the maximum fall after the final dose of mannitol.

Important recommendations

Date of test: _____

Make & Model of spirometer: _____

Bronchodilator, if given post-challenge: ❑ Formoterol ❑ Salmeterol ❑ Salbutamol ❑ Terbutaline

Dose (µg): _____

Spirometry (BTPS)	Baseline before challenge	% predicted	Lowest value after challenge	% fall from Baseline[1]
FEV1 (L)				
FVC (L)				
FEV1 / FVC %				
FEF 25-75 (L/sec)				

1 $\frac{\text{(Baseline before challenge – Lowest value after challenge)}}{\text{Baseline before challenge}} \times 100$

PD15 FEV1 (ml)* (in the case of a negative result, please insert N/A): _____

Cumulative dose delivered (mg): _____

Date: _____ Physician/Technician Name: _____

Contact details: _____

Comments (optional):

ANNEX 1

Methacholine Test

N.B: Please note that only 1 positive test is required. If the test is negative another test may be attempted. Please include the flow/volume loops and the print out from the spirometry unit with the data.

This Annexe provides a list of available bronchoprovocation tests. This template provides a guide for completing the tests; the particular procedures of the testing are up to the clinician/scientist/technician involved. Please respect the criteria outlined in WADA's "Medical Information to support the decisions of TUECs – ASTHMA".

A test is considered positive if there is a fall in FEV1 of 20% or more from baseline at a dose (PD20) less than or equal to 400 micrograms / 2 micromoles (cumulative dose) or 200 micrograms / 1 micromole (non cumulative dose) or a concentration (PC20) less than or equal to 4mg/ml (tidal breathing technique ATS guidelines 1999) **when the subject is not taking inhaled corticosteroids or has taken them for less than one month.**

For applicants taking inhaled corticosteroids for at least one month, the PD20 should be less than or equal to 16.0mg/ml (tidal breathing ATS guidelines 1999) to be accepted as proof or airway hyperresponsiveness (AHR).

It should be noted that a negative response to methacholine does not exclude exercise-induced asthma/bronchoconstriction in an athlete and in the event of a negative response, an alternative bronchial provocation test is recommended. The method of delivery of methacholine may influence the outcome.

Important recommendations

Date of test: _____

Make & Model of spirometer: _____

Bronchodilator, if given post-challenge: ❑ Formoterol ❑ Salmeterol ❑ Salbutamol ❑ Terbutaline

Dose (µg): _____

It is compulsory to complete both following tables.
In this table, note only the best value of two or three FEV1 values, with less than 5% variation, at each time point.

Methacholine	FEV1 (L)	FVC (L)	% Fall in FEV1 from baseline [1]
Baseline before challenge			
Dose or concentration of methacholine			

1 $\frac{(\text{Baseline before challenge} - \text{Lowest value after challenge})}{\text{Baseline before challenge}} \times 100$

ANNEX 1

Methacholine Test

Spirometry (BTPS)	Baseline before challenge	% predicted	Lowest value after challenge	% fall from Baseline[1]
FEV1 (L)				
FVC (L)				
FEV1 / FVC %				
FEF 25-75 (L/sec)				

1 $\frac{(\text{Baseline before challenge} - \text{Lowest value after challenge})}{\text{Baseline before challenge}} \times 100$

Select unit PD20, FEV1, PC20 FEV1* (in the case of a negative result, please insert N/A): _____

Date: _____ Physician/Technician Name: _____

Comments (optional):