



## POST INFECTIOUS COUGH

### Introduction

Cough due to viral respiratory infections is the most common cause of acute cough. Adults suffer from 2-5 upper respiratory tract infections per year. There are 200 identified viruses that can cause the “common cold.” Around 15% of affected individuals will present with post-infectious cough syndrome persisting from 3-8 weeks post-viral upper respiratory infection. This is known as a sub-acute cough. An acute cough is defined as a cough lasting less than 3 weeks.

### 1. Medical Condition

The etiology of the post-infectious cough is thought to be an inflammatory response triggered by the original viral upper respiratory infection. This post-viral inflammatory response may include bronchial hyper-responsiveness, mucus hypersecretion and impaired mucociliary clearance. Post-infectious cough is a self-limiting condition which usually will dissipate within 2 months with no treatment. The cough symptoms, however, are significant enough that treatment is often necessary for symptom control.

### 2. Diagnosis

#### A. Medical History

Post-infectious cough is a diagnosis of exclusion. Other causes of cough to be considered include:

- Asthma
- Smoking
- Environmental exposures
- Sinusitis
- Allergic rhinitis
- Viral infections, such as infectious mononucleosis
- GERD (gastroesophageal reflux disease)

- Bronchitis (acute and chronic)
- Medication induced
  - ACE inhibitor
  - Beta blocker in the asthmatic
- Chronic obstructive lung disease
- Pertussis
- Other uncommon causes such as pulmonary embolism, cardiac, neoplasm, cystic fibrosis

#### B. Diagnosis Criteria

The cough should follow symptoms of an acute respiratory infection for at least 3 weeks, but not more than 8 weeks.

Clinical examination is completed to ascertain the presence of other causes of chronic cough listed above.

Radiological evaluation will be normal.

Other diagnostic testing to rule out causes of cough listed above will also be negative in the post-infectious cough syndrome.

### **3. Medical Best Practice Treatment**

#### A. Name of Prohibited Substance:

Oral decongestant (pseudoephedrine) (PSE) and 1<sup>st</sup> generation (sedating) anti-histamine combination (if available). Please note that PSE is prohibited "in-competition" ONLY. A TUE is not required for out of competition use.

- Route: Oral
- Frequency: As indicated on the manufacturer's label.
- Antihistamine preparations are not prohibited
- Although each case must be judged individually, it would be rare for a TUE to be granted for suprathreshold dosages of PSE as other reasonable treatment alternative exist.
- Recommended duration: Up to 8 weeks as needed for symptom control.

- **CAUTION:** Pseudoephedrine is prohibited in-competition at a urinary concentration above the threshold of 150ng/mL (as of January 1, 2010). The threshold level has been established based on the intake of therapeutic doses of PSE, defined as a maximum daily dose of 240mg PSE taken either as:
  - 4 daily administrations (one every 4-6 hours) of a 60mg pill (or 2x30mg pills), or
  - 2 daily administrations (one every 12 hours) of a 120mg pill (extended release), or
  - 1 daily administration of a 240mg pill (extended release). The TUE application should demonstrate the presence of the condition as evidenced by history and physical examination in addition to failed trials of other non-prohibited substances.

Although rare, it is possible that the established threshold level may be reached by some individuals taking therapeutic dosages, particularly 6-20 hours after the extended release pill. **Therefore WADA advises that athletes stop taking PSE pills 24 hours before the in-competition period.**

B. Name of Prohibited Substance:

Oral preparations of glucocorticoids: (eg. prednisone 30-40 mg). Oral glucocorticoids may be necessary in severe cases where inhaled glucocorticoid therapy has been in-effective. Oral glucocorticoids are prohibited in-competition only.

- Route: Oral
- Frequency: OD
- Recommended duration: short finite period of time such as 4-5 days.
- TUE requirements: A TUE is required for use of oral glucocorticoids in-competition. The application should demonstrate a failed trial of inhaled glucocorticoids.

#### **4. Other Non-Prohibited Alternative Treatments**

- Ensure adequate hydration.
- Antibiotics are not effective in the treatment of post-infectious cough unless in the presence of bacterial sinusitis.

- Ipratropium inhaled/nasal spray may be necessary if cough is associated with rhinitis.
- As of January 1, 2011, inhaled glucocorticoids are permitted for use in sport. i.e. no longer require a Declaration of Use
- A randomized placebo controlled study found that NSAIDS may be helpful.

## **5. Consequences to Health if not treated**

Although this condition is self-limiting and not life threatening, the cough may cause significant impairment to quality of life, causing both physical and emotional distress, and sleep disturbance. Treatment is often necessary for symptom control.

## **6. Treatment Monitoring**

Treatment is monitored by the treating physician to ensure efficacy of the treatment regimen.

For an athlete with a persistent cough greater than 8 weeks, referral to a respiratory specialist is recommended to investigate for other underlying conditions.

## **7. Duration of Therapy and Recommended Review Process**

Therapy should be continued until symptoms dissipate. This may last up to 2 months.

## **8. Any Appropriate Cautionary Matters**

If the cough persists beyond 8 weeks, a work up for chronic cough should ensue.

## **9. References**

Irwin RS, Bauman MH, Bolser DG, Boulet LP, et.al. Diagnosis & Management of Cough Executive Summary: ACCP (American College of Chest Physicians) Evidence-Based Clinical Practice Guidelines. Chest. 2006; 129:1S-23S.

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## **10. Experts Consulted**

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