1. Medical Condition

Sinusitis refers to inflammation of the sinuses only while the more clinically relevant term should be Rhinosinusitis which is the inflammation of both the sinus and the nasal mucosa. Rhinosinusitis is a frequently occurring disease, with significant impact on athletic performance in both competition and training. There are two types of rhinosinusitis: acute bacterial rhinosinusitis (ABRS) and chronic rhinosinusitis (CRS).

2. Diagnosis

A. Medical History

ABRS is a clinical diagnosis with upper respiratory tract infection (URTI) signs and symptoms of more than 7 days duration without improvement or improvement followed by worsening. The two main causative agents of ABRS are streptococcus pneumonia and haemophilus influenza. CRS is an inflammatory disease involving the nasal mucosa and paranasal sinuses. Symptoms of CRS are usually of lesser intensity than those of ABRS but their duration exceeds the 4 weeks commonly used as the upper limit for the diagnosis of ABRS. The main causative agents of CRS are streptococcus pneumonia, haemophilus influenzae and anaerobes. A diagnosis of CRS is probable if 2 or more major symptoms are present for at least 8 to 12 weeks along with documented inflammation of the paranasal sinuses or nasal mucosa.

B. Diagnosis Criteria (ref Desrosiers)

ABRS Symptom Table
- Facial Pain/pressure/fullness
- Nasal Obstruction
- Nasal purulence/discolored postnasal Discharge
- Smell: Hyposmia/anosmia

The diagnosis of ABRS requires the presence of ≥ 2 PODS symptoms, one of which must be O or D, and symptom duration of >7 days without improvement.

The diagnosis is based on history and physical examination. Nasal culture and sinus aspirates are not necessary. Radiological imaging is not required for uncomplicated ABRS.
Chronic Rhinosinusitis (CRS)
CRS is diagnosed on clinical grounds but must be confirmed with at least 1 objective finding on endoscopy or computed tomography (CT) scan

**CRS Symptom Control**
- Facial Congestion/fullness
- Facial Pain/pressure/fullness
- Nasal Obstruction
- Nasal purulence/discolored postnasal Discharge
- Smell: Hyposmia/anosmia

A diagnosis requires at least 2 CPODS present for 8-12 weeks, plus documented inflammation of the paranasal sinuses or nasal mucosa. CRS is a clinical diagnosis and must be confirmed with at least 1 objective finding such as nasal purulent nasal polyposis, on endoscopy or sinus opacification on CT scan. Objective testing is necessary to rule out the differential diagnosis of migraine, dental abscesses, allergic rhinitis and atypical facial pain syndromes.

### 3. Medical Best Practice Treatment

**A. Name of Prohibited Substance:**
Oral decongestant (pseudoephedrine) (PSE) and 1st generation (sedating) antihistamine combination (if available). The use of PSE is mainly reserved for bouts of acute exacerbations of sinusitis. An athlete with well-managed CRS should not have a regular need for the administration of PSE. Please note that PSE is effectively prohibited “in-competition” ONLY (see Caution below). 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 highly unlikely for a TUE to ever be granted for supratherapeutic 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. Other Non-Prohibited Alternative Treatments

- Ensure adequate hydration.
• Antibiotics such as amoxicillin / clavulanate. Second line fluoroquinolones may be useful in cases of bacterial resistance or complication. Anaerobe coverage in CRS is recommended.
• Topical intranasal corticoids (INCS) may help improve resolution rates and improve symptoms.
• Analgesics such as acetaminophen or non-steroidal anti-inflammatories may provide symptom relief.
• Saline irrigation and topical nasal decongestant spray or drops (e.g. Xylometazoline) may provide symptom relief.
• Mucolytics, anti-histamines and leukotriene modifiers may be helpful in CRS
• Referral to a specialist should occur if nasal polyps are present.
• Surgery may be beneficial and indicated for athletes who have failed medical therapy
• Allergy testing may be indicated for those athletes with CRS who may have an atopic component.

5. Consequences to Health if not treated

Failure to treat sinusitis or a failed response to treatment can lead to chronic cough, orbital complications or intracranial neurological complications including blindness, ophthalmitis, meningitis, brain abscess, or osteomyelitis.

6. Treatment Monitoring

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

7. TUE Validity and Recommended Review Process

A TUE is required for the use of pseudoephedrine and for oral glucocorticoids in competition only. As treatment of sinusitis tends to be short term, the TUE duration is also short in duration.

8. Any Appropriate Cautionary Matters

An athlete that fails to respond to therapy or with severe symptoms should be referred to an otolaryngologist specialist for investigation of other underlying conditions. Warning symptoms and signs include:
• Unusual severe symptoms
• Systemic toxicity
• Altered mental status
• Severe headache
• Swelling of the orbit or change in visual acuity

9. References

