

# Effects of carbon monoxide on nasal mucociliary clearance

<b>Submission date</b> 29/09/2006	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 29/09/2006	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 22/09/2014	<b>Condition category</b> Ear, Nose and Throat	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**Protocol serial number**  
N0236169531

## Study information

**Scientific Title**

**Study objectives**

To determine the effects of low concentrations of carbon monoxide gas on the motility of human nasal cilia cells.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Not provided at time of registration

**Study design**

Prospective single-blinded controlled study

**Primary study design**

Interventional

**Study type(s)**

Other

**Health condition(s) or problem(s) studied**

Ear, Nose and Throat

**Interventions**

A steady flow of normal air (100 ml/min) is fed into one nostril; the other nostril is left unblocked so air can escape. Simultaneously, the subject breathes via the mouth into an oxygen mouthpiece so that the soft palate closes the mouth from the nasal cavity, and gas flows from one nostril to the other without being inspired into the lungs. This lasts for 10 minutes. The saccharine test is then used to measure the nasal mucociliary clearance time. A saccharine granule is placed in the nose at the same site in all subjects. The time required for the subject to taste the sweetness is measured. Oral only breathing is maintained during the saccharine test. The test is repeated with a 100 cc/min flow of low concentration CO gas (30 ppm) fed into the nostril. The subject is blinded and does not know which gas is fed into the nostril. The nostril into which the gas is fed into is randomised. The background ambient CO level is measured using a commercially available CO detector.

**Intervention Type**

Other

**Phase**

Not Applicable

**Primary outcome(s)**

The mucociliary clearance time, measured as the time to taste the saccharin

**Key secondary outcome(s)**

No secondary outcome measures

**Completion date**

21/08/2006

# Eligibility

## Key inclusion criteria

Healthy adult volunteers between 18 and 40 years old. Volunteers will be recruited from amongst medical and nursing staff and students at St Georges Hospital, London. They will be personally approached by the principle investigator.

## Participant type(s)

Patient

## Healthy volunteers allowed

No

## Age group

Adult

## Lower age limit

18 years

## Sex

All

## Key exclusion criteria

1. Smokers
2. Subjects with a history of chronic respiratory or nasal disease
3. Symptomatic upper respiratory tract infection during the previous 4 weeks
4. Subjects who have taken systemic or topical steroids or anti-histamine therapy during the previous 4 weeks
5. Presence of significant mechanical intra-nasal deformity such as a septal deviation or bony spur
6. Children under 16 years old
7. Vulnerable groups including those with learning difficulty, mental illness and dementia
8. Pregnancy
9. Other conditions that increase risk are hyperthyroidism, obesity, bronchitis, asthma, pre-existing heart disease and alcoholism

## Date of first enrolment

21/08/2005

## Date of final enrolment

21/08/2006

# Locations

## Countries of recruitment

United Kingdom

England

**Study participating centre**  
**Department of Otolaryngology**  
London  
United Kingdom  
SW17 0QT

## **Sponsor information**

### **Organisation**

Record Provided by the NHSTCT Register - 2006 Update - Department of Health

## **Funder(s)**

### **Funder type**

Government

### **Funder Name**

St George's Healthcare NHS Trust (UK)

### **Funder Name**

NHS R&D Support Funding (UK)

## **Results and Publications**

### **Individual participant data (IPD) sharing plan**

#### **IPD sharing plan summary**

Not provided at time of registration