

# A randomised controlled trial evaluating the effectiveness of heliox in post-extubation stridor

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<b>Registration date</b> 12/09/2003	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 16/03/2016	<b>Condition category</b> Surgery	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<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

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

## Study information

### Scientific Title

A randomised controlled trial evaluating the effectiveness of heliox in post-extubation stridor

### Study objectives

Does heliox have a role to play in the immediate management of post-extubation stridor, in reducing adrenaline requirement and need for re-intubation?

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Not provided at time of registration

### Study design

Randomised controlled trial

### Primary study design

Interventional

### Secondary study design

Randomised controlled trial

### Study setting(s)

Hospital

### Study type(s)

Treatment

### Participant information sheet

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

Intubation

### Interventions

Patients will be extubated initially into 30% FiO<sub>2</sub>, and their SpO<sub>2</sub> recorded when stable for scoring purposes. Higher or lower FiO<sub>2</sub> can then be given if needed. Patients will be entered into the study if they have any stridor at all (ie modified Syracuse score 1 or more) between 5 min and 24 h post extubation. This will be assessed by a doctor who is prepared to immediately randomise, and to start heliox if indicated. If stridor develops earlier than 5 min it should be observed if still present at 5 min then proceed with randomisation. As soon as a patient becomes eligible, he/she will be randomised by coin toss: HEads for HELiox , tails to simply continue on required FiO<sub>2</sub>. Patients randomised to heliox will commence this immediately.

The modified Syracuse score (DEVELOPED FOR THIS STUDY BUT BASED ON A VALIDATED SCORE - see below for details) will be scored:

1. At 5 minutes post-extubation;

2. At the moment that stridor is first recognised;
3. One minute after randomisation;
4. Every thirty minutes after randomisation, until the trial ends; and
5. At the end of any dose of nebulised adrenaline

Any patient with a modified Syracuse score of 3 or more at points 3, 4 or 5 will receive nebulised adrenaline 1:1000 0.5ml/kg (maximum single dose 5ml). If the score remains 3 or more at the completion of a nebuliser, the dose will be immediately repeated; if not, no further dose will be given until the next score (30 minutes after the last, pre-nebuliser score). A modified Syracuse score of 3 or more persisting after three continuous adrenaline nebulisers will be an indication for re-intubation.

Once started, heliox may be stopped if the modified Syracuse score is 0 on three successive occasions (i.e. for one hour). A further two scores should be obtained thereafter: if stridor returns within one hour off heliox, it may be recommenced.

A patient's involvement in the trial will be ended on any of the following:

1. the parent demands withdrawal from the study
2. the clinician feels that the study is compromising patient care
3. the patient is re-intubated
4. the patient is free of stridor for one hour, not being on heliox.

If a patient exits the trial and subsequently develops stridor again (within 24 hours of extubation), he/she may be re-entered and re-randomised. Thus one patient may enter the trial more than once, potentially in different treatment arms, if he/she has more than one episode of stridor separated by at least one hour.

Pre-extubation dexamethasone is neither encouraged nor discouraged by this trial, but should be recorded in either event. The avoidance of steroids would probably increase the numbers of patients eligible for the study; however, it would not be ethical to deny the patient this treatment if the clinician felt it was clinically indicated.

## **Intervention Type**

Procedure/Surgery

## **Phase**

Not Specified

## **Primary outcome measure**

1. Stridor scores analysed by Student's t-test
2. Adrenaline use (directly linked to stridor scores) analysed by Student's t-test
3. Re-intubation rates analysed by Chi-squared test

## **Secondary outcome measures**

Not provided at time of registration

## **Overall study start date**

27/03/2003

## **Completion date**

31/08/2003

# Eligibility

## Key inclusion criteria

All children intubated are eligible for the trial. Parents will be approached and consented at the appropriate time (prior to planned extubation).

## Participant type(s)

Patient

## Age group

Child

## Sex

Both

## Target number of participants

10 (minimum)

## Key exclusion criteria

Patients with undrained pneumothoraces or intracranial air will be excluded.

## Date of first enrolment

27/03/2003

## Date of final enrolment

31/08/2003

# Locations

## Countries of recruitment

England

United Kingdom

## Study participating centre

PICU

London

United Kingdom

W2 1NY

# Sponsor information

## Organisation

Department of Health (UK)

**Sponsor details**

Richmond House  
79 Whitehall  
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**Sponsor type**

Government

**Website**

<http://www.doh.gov.uk>

**Funder(s)****Funder type**

Hospital/treatment centre

**Funder Name**

St Mary's NHS Trust (UK)

**Results and Publications****Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration