

## What Are We Doing In Our Study?

- This study is a prospective, observational research study of patients aged 3-18 with enlarged tonsils referred by dentists
- The children's tonsils will also be categorized by one paediatrician (a member of the research team) at the Youthdale Child and Adolescent Sleep Centre
- The children will be asked to undergo 2 overnight studies (polysomnography) with a collection of respiratory variables to diagnose sleep apnea
- In addition, the patients over the age of 6 will be asked to stay for a day of testing (following the first or second night) to test their daytime sleepiness, memory, and concentration
- There are no potential harms to participating in this study
- The child may benefit from this study if they are found to have OSA

**If you have any additional questions feel free to contact:**

Dr. Colin Shapiro - 416-703-0505  
Email: youthdalesleepcentre@bellnet.ca

Alternatively, you can ask your dentist or doctor to refer you to the Youthdale Child and Adolescent Sleep Centre

## REFERRAL FORM

Youthdale Child and Adolescent Sleep Centre  
227 Victoria St. Lower Level 2  
Toronto, Ontario M5B 1T8  
Phone: (416) 703-0505 Fax: (416) 703-0507

### Patient Information:

Name: \_\_\_\_\_

DOB: \_\_\_\_\_

Contact Phone #: \_\_\_\_\_

Age: \_\_\_\_\_  Male  Female

Height: \_\_\_\_\_ Weight: \_\_\_\_\_

### Referring Dentist/Doctor:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

### Reason For Referral: (Please Circle All Relevant)

#### Anatomical

- Large tonsils
- Large adenoids

#### Nighttime Complaints:

- Insomnia
- Snoring, Breathing problems
- Sleep apnea
- Other: \_\_\_\_\_

#### Daytime Complaints:

- Difficulty waking up
- Excessive sleepiness
- Tiredness
- Irritability
- Hyperactivity
- Behavioural problems in school
- Other: \_\_\_\_\_

### History and Medical Information:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Referring Dentist/Doctor Signature: \_\_\_\_\_

Date \_\_\_\_\_

# Large Tonsils and Sleep Apnea

*Information about our research  
study and the answers to  
commonly asked questions*

**Youthdale  
Child and  
Adolescent  
Sleep Centre**

**The Youthdale Child and  
Adolescent Sleep Centre**

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## What Is Obstructive Sleep Apnea (OSA) And How Common Is It?

- Characterized by repeated episodes of airway obstructions resulting in breathing interruptions
- Measured via the Apnea Hypopnea Index (AHI)
- May result from large tonsils/adenoids
- Puts increasing strain on the heart
- 2-4% of the general population (18 million individuals), including 1-10% of children, have OSA

## What Are The Risk Factors For Developing OSA?

- Family history of snoring or OSA
- History of mouth-breathing
- Any condition which may cause narrowing of the upper airway - eg. enlarged tonsils
- Abnormalities of face or throat
- Down's Syndrome
- Sickle Cell Anemia
- Obesity
- Chronic nasal congestion



## What Happens If My Child Has OSA?

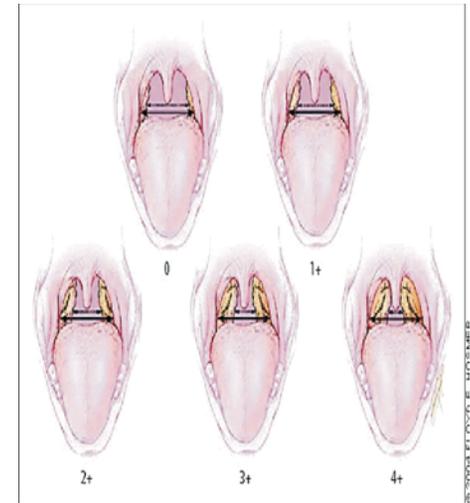
- The child may have symptoms which include:
  - Snoring
  - Pauses in breathing while asleep
  - Restless sleep
  - Bizarre sleeping positions (see figure)
  - Bedwetting
  - Hyperactivity
  - Stunted growth
  - Disruptive behaviour in school
  - Excessive daytime sleepiness
- In Adults, the symptoms extend to include:
  - Hypertension
  - Decreased job performance
  - Increased rate of automotive accidents

## What Are The Consequences Of OSA?

- The Consequences of OSA in children are:
  - Failure to thrive
  - Chronic bedwetting
  - Attention Deficit Disorder
  - Behavioural problems
  - Poor academic performance
  - Cardiopulmonary disease
  - Learning problems – one study in particular showed that children with Sleep Disordered Breathing had significantly lower mean IQ-scores
  - Poor concentration
  - Difficulties with attention
  - Difficulty waking up in the morning
- And, a large percentage of children diagnosed with Attention Deficit Hyperactive Disorder (ADHD) actually had underlying sleep problems leading to the disruptive behaviour.

## What Are Tonsils and How Do They Affect Sleep?

- A physical examination of children with OSA showed that a large proportion of them had enlarged tonsils
- Tonsils are small oral masses of lymphoid tissue embedded in the walls of the opening between the mouth and the pharynx
- Their function is still uncertain
- The tonsils and adenoids represent the most common area of enlargement that contributes to airway obstruction
- In adults, the narrowing of the airway by pharyngeal walls had the highest association (of all airway obstructions) with OSA, followed by tonsillar enlargement



Standardized tonsillar hypertrophy grading scale.

(0) Tonsils are entirely within the tonsillar fossa.

(1+) Tonsils occupy less than 25% of the lateral dimension of the oropharynx as measured between the anterior tonsillar pillars.

(2+) Tonsils occupy less than 50% of the lateral dimension of the oropharynx.

(3+) Tonsils occupy less than 75% of the lateral dimension of the oropharynx.

(4+) Tonsils occupy 75% or more of the lateral dimension of the oropharynx