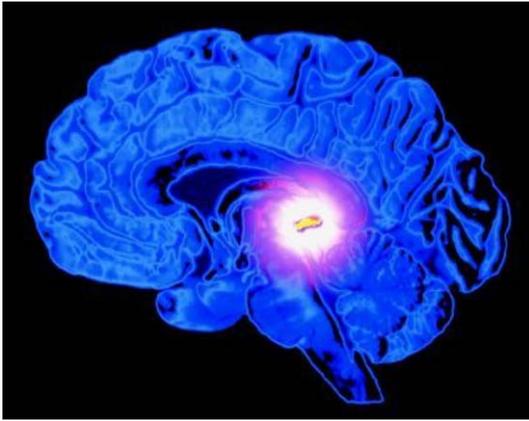


## What is Melatonin?

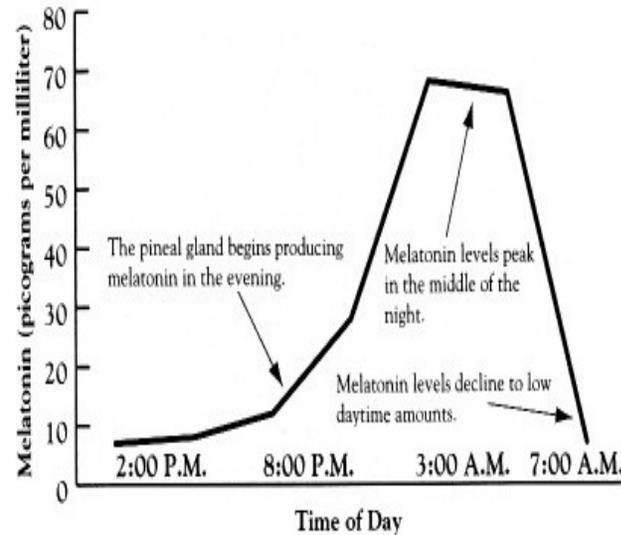
Melatonin is a hormone found in all living creatures from algae to humans. In higher animals melatonin is produced by pinealocytes in the pineal gland in the brain which is about the size of a pea and is located in the centre of the brain:



Melatonin helps regulate the circadian rhythm. It is naturally synthesized from the amino acid tryptophan. Production of melatonin by the pineal gland is under the influence of the suprachiasmatic nucleus of the hypothalamus (SCN) which receives information from the retina about the daily pattern of light and darkness.

Melatonin is also synthesized by various plants, such as rice.

The Melatonin levels in a normal person go through this 24-hour cycle:



Normally, the production of melatonin is inhibited by light and permitted by darkness. For this reason melatonin has been called: the hormone of darkness. The secretion of melatonin peaks in the middle of the night and gradually falls during the second half of the night. Even low light levels can diminish melatonin production to some extent.

Ingested melatonin has almost similar effect as the melatonin produced in the body.

## Dim Light Melatonin Onset (DLMO):

The human body produces its own melatonin starting two hours before bedtime, provided the lighting is dim. This natural action is known as "dim light melatonin onset" (DLMO) and helps keep the body on a regular sleep-wake schedule. Today, DLMO is considered the best test available, a "gold standard", for measuring Melatonin levels and Circadian Rhythm Disorders.

Therefore, taking the DLMO test is very helpful for discovering and understanding disturbances in the human biological clock.

DLMO is useful for determining whether an individual is entrained (synchronized) to a 24-h light/dark cycle or is in a free-running state. DLMO is also useful for assessing phase delays or advances of rhythms in entrained individuals. DLMO marker is also useful for identifying optimal application times for therapies such as bright light or external melatonin treatment.



## DLMO Test Procedure:

DLMO test is done at the sleep lab centre and usually takes place from 8pm until 3am. During the test patients are asked to stay in dim lighting and every hour samples of saliva, in the form of chewed on cotton balls, are collected.

Afterwards, the melatonin concentration of the samples is measured. During the test the patient cannot eat or drink 30 minutes before each sample is collected. Also, permission must be sought from lab staff members before any electronic devices are used, as these devices could alter the outcome of the test. (It would be disappointing if, for example, the lighted screen from an iPod were to affect the test results. All the time and money spent on the test would have been wasted.)

For the entire study, patients are not allowed to have orange juice, bananas or caffeinated beverages. Be sure to consult the lab technician present during the study for advice regarding this issue. It is important to note the possible discontinuation of certain drugs a few days to two weeks before taking the test. Please consult our physicians regarding this issue as it is of important concern. If you have any questions, please contact us at the sleep clinic office.

For more copies of this pamphlet please visit:  
[www.youthdalesleep.com](http://www.youthdalesleep.com)

## REFERRAL FORM



Youthdale Child and Adolescent Sleep Centre  
227 Victoria Street, 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:

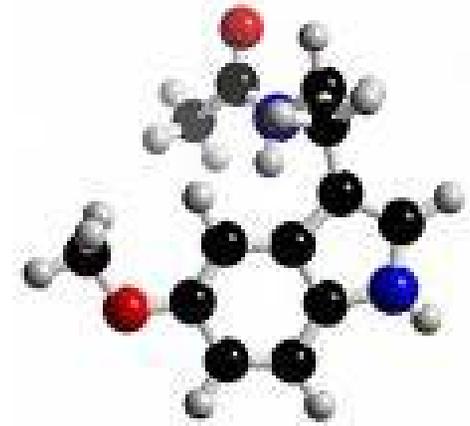
- Difficulty waking up
- Excessive sleepiness
- Tiredness
- Irritability
- Hyperactivity
- Behavioral problems in school
- Other: \_\_\_\_\_

### History and Medical Information:

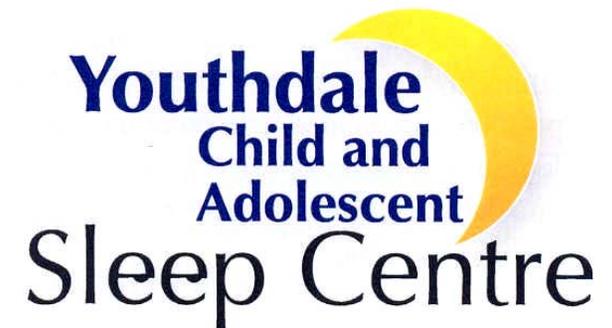
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Referring Dentist / Doctor Signature:

\_\_\_\_\_ Date: \_\_\_\_\_



## MELATONIN AND DIM LIGHT MELATONIN ONSET (DLMO) TEST



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