

## **MANAGEMENT OF SLEEP APNOEA AND SNORING SUGGESTED GUIDELINES FOR GENERAL PRACTITIONERS and OTHER INTERESTED MEDICAL PROFESSIONALS**

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The recent recognition of obstructive sleep apnoea as a cause of considerable morbidity and mortality has produced much interest in upper airway function during sleep. Our understanding of sleep apnoea and snoring has increased enormously in the last ten years so that often much can be done to help both these conditions. As a result there has been an extraordinary rise in the number of referrals for these conditions. The purpose of this website is to explain what ENT, the sleep clinic and dentists can do (and thus which patients are the most appropriate for which service) and what managements can be tried in general practice first, prior to referral.

### **Background**

During sleep the pharyngeal airway narrows in everyone, due to a reduction in dilator muscle tone. Snoring is simply vibratory noise generated from the pharynx and soft palate when this phenomenon goes beyond a certain point. Further narrowing produces not only louder snoring, but also laboured inspiration. Finally, yet further narrowing can cause complete obstruction, so called sleep apnoea. There comes a point where the increased inspiratory effort is sensed by the sleeping brain and a transient arousal provoked. A few of these arousals do not matter, but when there are many (sometimes hundreds) then sleep is seriously fragmented with consequent daytime symptoms of excessive sleepiness. Thus snoring and sleep apnoea are part of a spectrum extending from 'benign' or 'simple' snoring with no sleep disturbance, through to obstructive sleep apnoea with severe daytime symptoms and the physiological consequences of recurrent asphyxia.

### **Is treatment really necessary?**

Both ends of the spectrum deserve treatment. 'Benign' snoring can be far from benign. The social consequences can be extremely distressing: banishment from the bedroom, marital disharmony, no holidays because of the enforced sleep disruption when sharing a hotel room, fear of travelling falling asleep during long journeys on public transport and the consequent ridicule and embarrassment. Many of the stories we both hear are very sad and not worthy of the music hall joke approach to snoring.

Obstructive sleep apnoea, through the gross sleep disruption, produces greatly impaired performance at work, at home, and on the road. Car accidents are much more common in this group. One in four RTAs in the UK are sleep related. The response to therapy is extraordinarily dramatic with a return to a state of alertness and vitality often not previously experienced for years or even decades. There is no doubt in our minds that treatment is essential for sleep apnoea and extremely appropriate for some snorers.

### **Initial assessment**

First of all decide if the problem is likely to be just snoring or whether there may be some evidence of sleep apnoea (table 1).

**Table 1**

<p>Is the problem severe snoring only?</p> <p>If so then referral to ENT (or a dentist for a mandibular advancement device) may be appropriate.</p> <p>Are any of these features of sleep apnoea present?</p> <p>Daytime sleepiness (not tiredness) e.g. nodding off during less stimulating activities: reading, watching TV, meetings, etc, .</p> <p>Best assessed with the Epworth Sleepiness Scale (see last page), normal score &lt;10</p> <p>Spouse has noticed episodes of stopping breathing (although any snorer will have occasional such events, especially supine).</p> <p>Patient experiences waking with choking/obstructed episodes (although he will only recognise a tiny proportion of the number actually occurring).</p> <p>Regularly waking unrefreshed in the morning.</p> <p>Neck circumference over 17½" (thus usually, but not always, overweight).</p> <p>Small Pharynx on visual inspection.</p>
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If there are, then referral to a Sleep Clinic may be appropriate.

**Why is it present?**

The commonest causes of snoring (and indeed sleep apnoea) are shown in table 2.

**Table 2**

<p>Commonest contributory causes of snoring and sleep apnoea</p> <ul style="list-style-type: none"><li>• Overweight</li><li>• Nasal stuffiness</li><li>• Evening alcohol</li><li>• Residual tonsils</li><li>• Smoking</li><li>• Receding lower jaw</li><li>• Hypothyroidism</li><li>• Menopause</li></ul>
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One or more of these are usually present and may be amenable to simple therapy. Sometimes none of these are present and the reason for snoring is not clear. One catch here is that sometimes the

complaint of snoring by the spouse is used as an excuse to leave the marital bed and may actually be trivial or absent. Suggesting the couple bring along a cassette recording of the offending noise can be quite useful in assessing this point and their motivation. Operations for snoring should not be done unless there is good evidence of a significant problem.

Table 3 is a list of advice/investigations that can be tried in practice before considering referral.

Table 3

Initial approaches worth trying in snorers.

Weight reduction (especially if neck circumference >16")

Stop smoking

Keep the nose as clear as possible

Beconase aqueous/Flixonase (instilled head down) b.d. & Rinattec (nocté)

Sleep with head of bed elevated (this reduces nocturnal nasal congestion) use pillows under the head end of the mattress for example. Use only two thin or one thick on top of the mattress to maximise pharyngeal size.)

Reduce or stop evening alcohol

Check T4/TSH Consider H.R.T. where appropriate Ear plugs e.g. Muffles or EAR (foam) from chemists

It take 3 nights to get used to wearing ear plugs and young mothers are not usually happy to do so in case they do not hear their children crying at night.

Consider asking a dentist to make a mandibular advancement device to be worn at night.

#### **What has the dentist to offer snorers?**

There is now good evidence that intra-oral devices worn in the mouth at night can greatly help snoring by holding the lower jaw forward and closed during sleep. In their simplest form, mandibular advancement devices consist of two sports-type gum shields, one for the top teeth and one for the bottom teeth. These are then welded together so that when worn the lower jaw is protruded to about 75% of maximum. Newer devices, some adjustable, are now available. Significant forces are imposed on the teeth and t-m joints so that the dentist has to be satisfied that these structures are sound.

#### **What has surgery to offer for snorers?**

When these approaches have failed, then the ENT department may well be able to help. For example, nasal stuffiness can be helped by septal straightening, polypectomy, or turbinate reduction. Sometimes it is worth removing residual tonsils, although in adults this is not a trivial operation. When all else has failed, including trying a mandibular advancement device, and the snorer is desperate for help (and a sleep study has been performed to confirm snoring and exclude significant sleep apnoea) then an operation on the pharynx (uvulopalatopharyngo-plasty, or UPPP)

may be appropriate. This operation removes part of the soft palate, any residual tonsils, and tightens the pharyngeal walls: it is very painful postoperatively and may produce temporary difficulty swallowing (and rarely some subtle changes in the voice). Other surgical operations on the palate, such as laser scarring, are only experimental and do not appear to be very successful.

### **Treatment of sleep apnoea**

If the history suggests there may be sleep apnoea then it is best to refer to a sleep unit as a sleep study will almost always be necessary. A sleep unit's main function is to diagnose this condition and offer treatment to those who are likely to benefit. If the symptoms are fairly disabling, and the diagnosis confirmed by sleep study, then the patients are offered nasal continuous positive airway pressure therapy (NCPAP) during sleep. This is an arduous therapy which involves wearing a mask over the nose at night connected to a quiet blower under the bed: it works by slightly pressurising the upper airway, blowing it open, thus preventing the sleep apnoea (and snoring).

Sometimes surgery on the pharynx can help, although in all but the minor cases the results are not very good and may prejudice successful NCPAP treatment. Large residual tonsils are often worth removing though.

### **Sleep apnoea in Children**

Sleep apnoea with snoring and sleep disturbance is quite common in children aged 2 to 7, particularly at times of upper respiratory tract infection when the tonsils enlarge. This sleep disruption produces a variety of daytime consequences including sleepiness, hyperactivity, poor attention span and bad behaviour. Sometimes the tonsils are big enough to produce this problem every night, even in the absence of current infection. If the history is very convincing, and suggests every night sleep apnoea, then referral directly to ENT for consideration of tonsillectomy is warranted. However, if there is some doubt, then a Sleep Unit would be happy to monitor such children overnight and try and decide if the benefits of tonsillectomy are likely to outweigh the traumas to a young child of hospital admission and an operation.

### **Summary**

When presented with a snorer (without symptoms of sleep apnoea) requesting help, then consider the causes in table 2. Then try appropriate therapies as listed in table 3. If these do not work, then consider referral to the ENT department or dentist as appropriate.

If sleep apnoea is suspected because of symptoms (table 1), then consider referral to a sleep clinic, usually part of the respiratory service.

## THE EPWORTH SLEEPINESS SCALE

Name:..... Date:.....

Your age (Yrs)..... Your sex (Male = M / Female = F).....

How likely are you to doze off or fall asleep in the situations described in the box below, in contrast to feeling just tired? This refers to your usual way of life in recent times.

Even if you haven't done some of these things recently try to work out how they would have affected you.

Use the following scale to choose the most appropriate number for each situation:-

- 0 = would never doze
- 1 = Slight chance of dozing
- 2 = Moderate chance of dozing
- 3 = High chance of dozing

Situation	Score (0 – 3)
Sitting and reading	
Watching TV	
Sitting, inactive in a public place (e.g. a theatre or a meeting)	
As a passenger in a car for an hour without a break	
Lying down to rest in the afternoon when circumstances permit	
Sitting and talking to someone	
Sitting quietly after a lunch without alcohol	
In a car, while stopped for a few minutes in the traffic	

Thank you for your co-operation (Sum for total score out of 24)

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The score is simply the addition of all eight answers. Less than 10 is considered normal.