Sleep Apnea from a Dental Perspective

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Sleep Apnea is a hot topic today in medicine. We all know someone who has it or has been treated for it.

It has been estimated that the annual indirect costs of sleep disorders are over $41 billion from lost productivity, $17 to $27 billion related to motor vehicle accidents, $7 billion in work-related accidents and $2 to 4 billion in home and public accidents. Clearly this is a major national problem that needs to be dealt with in an appropriate fashion.

The gold standard for treatment of obstructive sleep apnea (OSA) is CPAP (continuous positive airway pressure). As with many circumstances in life there is good news and bad. The good news is that CPAP is almost a 100% cure. The bad news is that compliance for CPAP is not what it should be. Hence the medical community (American Academy of Sleep Medicine) in 2006 approved the option of an oral dental appliance for mild to moderate cases of OSA.

The role of the dentist in sleep apnea is similar to that of a pharmacist. Dentists are not allowed to diagnose Sleep Apnea because they are not trained in the requisite diagnostic procedures. The dentist receives his referrals from physicians. In the case of the outside referrals or referrals within his own office, the dentist must direct those patients to the proper physician for sleep studies and diagnosis. Protocol for both physician and dentist is prescribed by their respective academies of sleep medicine.

Snoring can be a huge problem. Many couples are not sleeping together in the same conjugal bed because of second-hand snoring. In fact, estimates run as high as 23% of all couples are experiencing this problem. Nine per cent of men and four per cent of women show both signs and symptoms of Sleep Apnea. Dentists who make appliances for patients with snoring problems must request a sleep study to differentiate between an apneic snorer and a non-apneic snorer.

ALL PEOPLE WHO SNORE DO NOT HAVE SLEEP APNEA; HOWEVER, 96% OF ALL SLEEP APNEA PEOPLE SNORE.

Twenty percent of patients with snoring problems have potentially very severe cases of Sleep Apnea and should not be treated with a simple dental appliance. Therefore, evaluation is needed to correctly diagnose and properly treat the patient. All patients with snoring problems should be medically diagnosed before the proper treatment can be prescribed.

Some of the signs and symptoms patients with this disorder may exhibit are as follows:

- Heavy snoring
- Gasping or choking during the night
- Excessive day time sleepiness
- Frequent arousal during sleep (fragmented sleep)
- Non-refreshed sleep
- Morning headaches
- Nausea
- Personality changes such as becoming irritable or temperamental
- Anxiety or depression
- Poor job performance
- Clouded memory
- Intellectual deterioration
- Occupational accidents
- Impotence
- Decreased sex drive
- Bruxing
- Dry mouth upon awakening
- Scratchy throat
Sleep disorders can at times be correlated with pain syndromes or other associated conditions. Examples include: fibromyalgia, chronic fatigue syndrome, headaches, low back pain, bruxism, and TMJ symptoms (Temporomandibular Joint Disorder).

Especially noteworthy is the prevalence of an often unrecognized underlying sleep apnea syndrome in patients who present with circumstances such as drug resistant hypertension, obesity, an indication for cardiac pacemaker placement, congestive heart failure, atrial fibrillation, diabetes, coronary artery disease, or even treatment-responsive hypertension (see accompanying graphic).

<table>
<thead>
<tr>
<th><strong>Prevalence of Sleep Apnea</strong></th>
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<tr>
<td><strong>Drug-Resistant Hypertension</strong> 80%</td>
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<tr>
<td><strong>Obesity</strong> 77%</td>
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<td><strong>Pacemakers</strong> 59%</td>
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<td><strong>Congestive Heart Failure</strong> 50%</td>
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<td><strong>Atrial Fibrillation</strong> 50%</td>
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<tr>
<td><strong>Diabetes</strong> 50%</td>
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<tr>
<td><strong>All Hypertension</strong> 35%</td>
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<tr>
<td><strong>Coronary Artery Disease</strong> 30%</td>
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There can be side effects to wearing an oral appliance. One of the most frequent is TMD (Temporomandibular Joint Disorder). Before an appliance is fabricated, a thorough examination of the head, neck and necessary x-rays will give the dentist an indication of the problems which could be encountered with the treatment.

Also, the proper occlusion must be determined for the patient so he can get his teeth together in the morning. Patients must be seen on a regular recall so problems can be prevented. Fortunately, the side effects are few and be treated by the attending dentist.

There are other treatments besides CPAP for Sleep Apnea. Surgery is also a possibility, and in selected patients can be very effective. There are also available new CPAP adaptations. Custom masks with no straps can now be made which can improve patient compliance with CPAP. An oral appliance can also be used in conjunction with CPAP to reduce the amount of air pressure required for effective CPAP use.

All in all, Sleep Apnea has many dimensions, and optimum treatment outcomes for the patient are best realized with a multidisciplinary approach involving both the medical and dental fields.