SNORING AND SLEEP APNEA GUIDELINE

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The College of Dental Surgeons of Saskatchewan

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PREAMBLE

Snoring and Obstructive Sleep Apnea (OSA) are medical disorders that fall under the terminology of Sleep Disordered Breathing. Therefore, the dentist's role is adjunctive and oral appliance therapy is to be provided only after the written request or prescription from the attending physician, preferably a physician with advanced training in sleep disorder medicine. (See Appendix 1). Because of the obvious life-threatening implications of sleep disorders, it is imperative that treatment to stop snoring commence only after the potential presence of other associated medical condition, including sleep apnea, is ascertained.

In excess of 490 oral appliances are currently available for the treatment of snoring and OSA. Dental practitioners should have training in and experience with a variety of appliances so as to provide their patients with a high level of comprehensive therapeutic care. The term “oral appliance” is used as a generic term for devices inserted into the mouth in order to modify the position of the mandible, the tongue, and other structures in the upper airway for the purpose of relieving snoring or sleep apnea.

Combination therapy with other treatments such as weight loss, surgery, and nasal Continuous Positive Airway Pressure (CPAP) may be indicated for some patients and must be coordinated by the attending physician. Certain conditions such as Class III malocclusions as well as patients with craniofacial syndromes such as hemifacial microsomia or Pierre Robin Sequence should be assessed by the appropriate specialist prior to appliance fabrication.

TREATMENT PROTOCOL

The following therapy sequence is suggested for the management of oral appliances in patients who are being treated for snoring or OSA.

1. Medical assessment by the attending physician, preferably a physician with advanced training in sleep disorder medicine.
2. Overnight polysomnogram, as required by a physician with advanced training in sleep disorder medicine.
3. Assessment with a take home sleep test: If these are administered by the dentist then there should be communication with the attending physician or family physician, who can determine if there are other tests required.
4. Written referral or prescription and diagnostic report sent to dentist or dental specialist.

5. Dental Examination
    (a) medical-dental histories
    (b) soft tissue-intraoral assessment
    (c) periodontal evaluation
    (d) temporomandibular joint examination
    (e) occlusal examination
    (f) intraoral habit assessment
    (g) examination of teeth and restorations
    (h) initial dental radiographs if diagnostic films have not been taken in the preceding 12 months
        i. panoramic or full mouth survey as indicated
        ii. cephalometric radiograph as indicated
    (i) diagnostic models as appropriate for the specific dental appliance
6. Trial appliance as indicated
    (a) design, fabrication, fitting, instructions and training
    (b) 3 to 7 night trial and evaluation of subjective symptoms
7. Final appliance design, fabrication, fitting and placement as indicated.
8. Final appliance evaluation during 2 to 3 months of regular use
    (a) Required adjustments to appliance
    (b) Subjective symptoms evaluation
    (c) Cephalometric radiograph (optional)
9. Referral of patient to attending physician for repeat of overnight sleep study when there is a significant reduction in snoring and/or symptoms.
10. Possible modification, redesign or remake of appliances as required.
11. Repeated adjustment and evaluation process.
12. Referral to physician for ongoing evaluation.
13. Recall of appointments and maintenance as requested by patient or physician. Generally, patients should be monitored monthly for the first 12 months and at least annually thereafter as long as the oral appliance is being worn.

TREATMENT OBJECTIVES

1. For patients with primary snoring without features of OSA or upper-airway resistance syndrome, the treatment objective is to reduce the snoring to a subjective acceptable level.

2. For patients with OSA, the desired outcome of treatment includes the medically-supervised resolution of the clinical signs and symptoms of OSA and the normalization of the apnea- hypopnea index and oxyhemoglobin saturation, based on the overnight polysomnographic results obtained after the regular use of the oral appliance.

APPENDIX 1

Excerpt from An American Sleep Disorders Association Review
Practice Parameters for the Treatment of Snoring and Obstructive Sleep Apnea with Oral Appliances
Schmidt-Nowara, W., Lowe, A. i Wiegand, L., Cartwright, R., Perez-Guerra, F., and Menn, S.
Sleep, Vol. 18(6): 512-513 - March 1995

DIAGNOSIS

1. The presence or absence of OSA must be determined before initial treatment with oral appliances to identify those patients at risk to complications of sleep apnea and to provide a baseline to establish the effectiveness of subsequent treatment. Detailed diagnostic criteria for OSA are available and include clinical signs, symptoms and the findings identified by polysomnography.

2. The severity of sleep-related respiratory problems must be established in order to make an appropriate treatment decision.

INDICATIONS

(a) **Oral appliances are indicated for use in patients with primary snoring or mild OSA who do not respond to or are not appropriate candidates for treatment with behavioral measures such as weight loss or sleep-position change**. Oral appliances may also be useful during the period of weight loss or adaptation to sleep-position changes.

(b) **Patients with moderate to severe OSA should have an initial trial of nasal CPAP because greater effectiveness has been shown with this intervention than with the use of oral appliances**. Upper- airway surgery (including tonsillectomy and adenoidectomy) may also be indicated for patients for whom these operations are predicted to be highly effective in treating sleep apnea.

(c) **Oral appliances are indicated for patients with moderate to severe OSA who are intolerant of or refuse treatment with CPAP. Oral appliances are also indicated for patients who refuse or are not candidates for tonsillectomy and adenoidectomy, craniofacial operations or tracheostomy.** The choice of treatment options which include medical management and uvulopalatopharyngoplasty, should then be based upon the severity of the OSA, the patient's medical condition, the degree of urgency in treating the apnea and patient's preference.

FOLLOW-UP

(a) **"...At the call of the attending sleep physician, "follow-up polysomnography" may not be...Indicated for patients with either primary snoring or mild OSA unless symptoms worsen or do not resolve"**

(b) **To ensure satisfactory therapeutic benefit, patients with moderate to severe OSA should undergo polysomnography, or another objective measure of respiration during sleep, with oral appliance in place after final adjustments of fit have been performed.**

(c) **Patients with moderate to severe OSA who are treated with oral appliances should return for follow up visits with both the referring clinician and the dentist. These visits should occur at regular intervals to monitor patient compliance, evaluate device deterioration or maladjustment, evaluate the health of the oral structures and integrity of the occlusion, and assess the patient for signs and symptoms of worsening of OSA. Oral appliances may cause a worsening of OSA in some patients and appropriate follow-up care is therefore essential.**

Intolerance and improper use of the device are potential problems for patients using oral appliances, which require patient effort to use properly. In addition, oral appliances can be rendered ineffective by patient alteration of the device. An objective revaluation of respiration during sleep is indicated if signs or symptoms of OSA reoccur.

(d) **Oral appliances may aggravate temporomandibular joint disease and may cause dental misalignment and discomforts that are unique to each device. Follow-up care by a dentist is necessary to assess the development of any of these complications.**

The use of a consent form is recommended. The consent form should confirm the patient being treated:

- Has been assessed and diagnosed by a licensed medical physician who is aware of and has recommended treatment with a mandibular advancement device.
- Is aware that mandibular advancement devices are not considered first line treatment for obstructive sleep apnea.
- Is aware that, although unlikely, appliance use could result in aggravation of temporomandibular disorders and that strategies for minimizing this risk have been discussed as part of the treatment plan.
- Is aware that in the majority of patients long-term appliance use will result in movement of teeth and/or remodeling of the periodontium and/or facial bones and that these changes could result in a need for additional treatment including, but not limited to, periodontal surgery, orthodontics, prosthodontic rehabilitation and oral surgery.

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RESOURCES

- Canadian Sleep Society:
  https://css-scs.ca/

- American Academy of Sleep Medicine:
  https://aasm.org/

- American Academy of Dental Sleep Medicine:
  https://www.aadsm.org/

- CDA Position on Oral Appliance Therapy for Snoring and Obstructive Sleep Apnea:
  https://www.cda-adc.ca/en/about/position_statements/oralappliance/

- CDSBC Obstructive Sleep Apnea Guidelines:
  https://oralhealthbc.ca/wp-content/uploads/2022/08/03.02.019-Sleep-Apnea.pdf

- CDSA Non-surgical Management for Sleep Disordered Breathing Standard:
  https://www.cdsab.ca/wp-content/uploads/2020/01/CDSA-SoP-Non-surgical-Management-for-Sleep-Disordered-Breathing.pdf