

patients with large tonsils (grade 3 or 4) and favourable tongue size (small – grades 1 or 2), modified uvulopalatopharyngoplasty with bilateral tonsillectomy should be considered, and in my opinion should be considered the gold standard treatment.⁹ Some lesser tonsillar grades and unfavourable tongue sizes may still be considered for modified uvulopalatopharyngoplasty and radiofrequency ablation when device use has failed and where positional snoring manoeuvres and other findings suggest improvement or cure can be achieved.

In patients with less favourable tonsillar size and palatal anatomy, transpalatal advancement with uvulopalatopharyngoplasty has proven efficacious in increasing the size of the retropalatal airway, and reducing critical closing pressure.¹⁰ This will often be combined with multichannel tongue radiofrequency *or* radiofrequency and lingual tonsillectomy *or* tongue reduction (such as submucosal lingualplasty) *or* genioglossus advancement (tongue tensing operation), depending on expert assessment by a specialist trained in contemporary airway reconstruction techniques.

Maxillomandibular advancement, performed by skilled maxillofacial surgeons, remains a surgical option. It may be appropriate in device use failure or rejection where either soft tissue surgical techniques have resulted in incomplete cure *or* significant craniofacial structural anomaly exists precluding soft tissue surgical protocols.

Conclusion

Sleep disordered breathing, including snoring and obstructive sleep apnoea, represents a heterogeneous condition and as such requires multidisciplinary input. It can have significant adverse health consequences and for patients who cannot tolerate CPAP, other treatment options should be offered. Mandibular splints and surgery are valid alternatives.

References

1. Marshall NS, Wong KK, Liu PY, Cullen S, Knuiman MK, Grunstein RR. Sleep apnea as an independent risk factor for all-cause mortality: The Busselton Health Study. *Sleep* 2008;31:1079-85.

2. Peker Y, Carlson J, Hedner J. Increased incidence of coronary artery disease in sleep apnoea: a long-term follow-up. *Eur Resp J* 2006;28:596-602.
3. Weaver EM, Maynard C, Yueh B. Survival of veterans with sleep apnea: continuous positive airway pressure versus surgery. *Otolaryngol Head Neck Surg* 2004;130:659-65.
4. Mehta A, Qian J, Petocz P, Darendeliler MA, Cistulli PA. A randomized, controlled study of a mandibular advancement splint for obstructive sleep apnea. *Am J Respir Crit Care Med* 2001;163:1457-61.
5. American Academy of Sleep Medicine [website]. www.aasmnet.org [cited 2011 May 5]
6. Giles TL, Lasserson TJ, Smith BH, White J, Wright J, Cates CJ. Continuous positive airways pressure for obstructive sleep apnoea in adults. *Cochrane Database Syst Rev* 2006;3:CD001106.
7. Passalacqua G, Canonica GW. Long-lasting clinical efficacy of allergen specific immunotherapy. *Allergy* 2002;57:275-6.
8. Vanderveken OM, Devolder A, Marklund M, Boudewyns AN, Braem MJ, Okkerse W, et al. Comparison of a custom-made and a thermoplastic oral appliance for the treatment of mild sleep apnea. *Am J Respir Crit Care Med* 2008;178:197-202.
9. Friedman M, Ibrahim H, Joseph NJ. Staging of obstructive sleep apnea/hypopnea syndrome: a guide to appropriate treatment. *Laryngoscope* 2004;114:454-9.
10. Woodson BT. Transpalatal advancement pharyngoplasty. In: Fairbanks DN, Mickelson SA, Woodson BT, editors. *Snoring and Obstructive Sleep Apnea*. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003. p. 160-6.

Dr MacKay has attended ArthroCare Coblation conferences paid by ArthroCare.

Self-test questions

The following statements are either true or false (answers on page 91)

5. If tolerated, mandibular advancement splints often relieve mild obstructive sleep apnoea.
6. Continuous positive airway pressure is effective for moderate to severe obstructive sleep apnoea.

Dental notes

Prepared by Michael McCullough, Chair, Therapeutics Committee, Australian Dental Association

Treatments for snoring in adults

There has been a significant rise in the use of intraoral devices for the treatment of snoring and sleep apnoea. Dentists have an increasing choice of mandibular advancement splints to provide for their patients. Currently, no single device has been proven

more effective than another.¹ Success is strongly associated with patient compliance.

Patients with mild to severe sleep apnoea can have good long-term outcomes with these devices. The reduction in the apnoea/hypopnoea index, as measured during sleep studies, can be up to 60%.¹ However, our ability to predict success in any individual patient is limited. Currently there is no individual measure or clinical tool that can be used as a predictor of success. This needs to be clearly outlined to potential users.

Further, the effect on the dentition and the temporomandibular joint after long-term use can occasionally be considerable. Patients therefore need to be carefully followed and fully informed of all potential consequences of these devices.¹

For patients with sleep apnoea who cannot use continuous positive airway pressure (CPAP) devices, intraoral mandibular advancement splints can be of value. Treatment of sleep apnoea with CPAP devices has been shown to have a profound effect on both the quality of life and life expectancy.² Presumably, treatment of sleep apnoea with intraoral appliances will have similar beneficial effects, however this has not as yet been shown.

The Australian Dental Association's policy on the use of dental appliances to treat sleep disorders clearly states that dentists should not provide these devices without the patient having a prior specialist (respiratory or ENT) diagnosis. A team approach to the management of these patients with mandibular advancement devices is essential.

References

1. Vowles N, Goss AN. Mandibular advancement splints. ENT and audiology News 2010;19:58-60.
2. Jennum P, Kjellberg J. Health, social and economical consequences of sleep-disordered breathing: a controlled national study. Thorax 2011 Jan 2. E-pub.

Your questions to the PBAC

Lamotrigine for bipolar disorder

Could you please review listing lamotrigine on the Pharmaceutical Benefits Scheme (PBS) as a treatment for bipolar disorder. Lamotrigine is a well established mood stabiliser and maintenance treatment for bipolar disorder. Patients with this severe mental illness have to pay \$80 to \$200 a month for this medication. These patients are very often unable to work due to their illness and this treatment is out of the reach of many.

Elvera Stow
General practitioner
Narre Warren, Vic.

PBAC response:

Lamotrigine is currently listed on the PBS for treatment of epileptic seizures which are not adequately controlled by other antiepileptic drugs. Of the eleven brands of lamotrigine currently listed, none have marketing approval from the

Therapeutic Goods Administration (TGA) for use in bipolar disorder.

The Pharmaceutical Benefits Advisory Committee (PBAC) has previously considered several submissions for a brand of lamotrigine that has TGA marketing approval for prevention of depressive episodes in patients with bipolar disorder, most recently in March 2005. However, it has not been provided with the necessary evidence to show cost-effectiveness in this patient group and therefore lamotrigine has not been recommended for PBS listing for this indication. The manufacturer is welcome to submit further information for consideration by the PBAC at any time.

The PBAC meets three times a year in March, July and November. Since July 2005, Public Summary Documents providing information of the PBAC's deliberations for major and selected minor submissions have been published on the website approximately four months after each meeting at: www.health.gov.au/internet/main/publishing.nsf/Content/public-summary-documents-by-meeting. You may wish to consult these pages for details of PBAC submissions.

Do you have a question for the PBAC?

Australian Prescriber readers are invited to write in with their questions about decisions of the Pharmaceutical Benefits Advisory Committee (PBAC). The journal publishes selected questions from readers, together with answers from the PBAC. Questions may address issues such as regulatory decisions, pharmaceutical benefits listings and withdrawals.

This exclusive arrangement helps *Australian Prescriber* readers understand how the contents of the Schedule of Pharmaceutical Benefits (www.pbs.gov.au) are determined. Letters and responses are reviewed by our Editorial Executive Committee and may be edited before publication. It may not be possible to reply to all individual questions.