

Surgical and Non-Surgical Treatments for Snoring

Date	May 2018	Date of Last Review:	Static Status (This policy applies indefinitely, unless or until new evidence likely to have a material effect on the policy becomes available.)
<p>Policy: Surgery for snoring (including uvulopalatopharyngoplasty (UPPP), laser-assisted uvuloplasty (LAUP), soft palate implants and radiofrequency ablation) is not funded by the CCG. Non-surgical treatments for snoring, such as oral appliances, are not funded by the CCG (these are available over the counter).</p> <p>This intervention is considered of low priority and will only be commissioned by the NHS on an individual case basis. Clinicians need to apply to the exceptional cases panel for approval of funding. (Funding request form available here).</p> <p>It is the responsibility of referring and treating clinicians to ensure compliance with this policy.</p>			

Definition:	Snoring is primarily due to vibration of the soft palate, but it can also originate from the supraglottis, tonsils or tongue ¹ . There are several proposed treatments. Surgical procedures, such as uvulopalatopharyngoplasty (UPPP) and laser-assisted uvuloplasty (LAUP), aim to enlarge the airspace in the oropharynx by removing or trimming tissue ^{2,3} . Other surgical procedures, such as soft palate implants and radiofrequency ablation, aim to reduce snoring by scarring the soft palate to cause fibrosis and stiffening of the palate ^{4,5} . Oral appliances aim to reduce snoring by either advancing the lower jaw forward or by holding the mouth open, to widen the upper airway during sleep ⁶ .
	Note: This policy does not apply to patients suffering from obstructive sleep apnoea/hypopnoea syndrome (OSAHS).
Estimated numbers of people affected:	It is estimated that 40% of the population snore ⁷ .
Resource implications:	This policy is likely to result in a reduction of surgery for this condition across Cambridgeshire and Peterborough and may, therefore, lead to cost saving.
Health benefits:	Randomised controlled trial (RCT) evidence is inconclusive for the effectiveness of UPPP ⁸ and LAUP ⁹ for snoring and there is no robust evidence for the use of soft palate implants ⁴ . There is evidence from a small RCT that radiofrequency ablation reduced snoring frequency but few patients had their symptoms resolved ¹⁰ . RCTs have shown that oral appliances can reduce snoring frequency and intensity ¹¹⁻¹³ .
Risks:	Surgery is associated with some risk of morbidity ¹⁴ . Oral appliances may result in patient discomfort.
Priority:	The potential gains of surgery are uncertain and, since the condition is not severe, they do not justify the costs and risks involved. Oral appliances are likely to be of benefit, but these are available for patients to buy over the counter.

GLOSSARY

Fibrosis:	The formation of scar tissue.
Laser assisted uvulopalatoplasty (LAUP):	Enlarging the area of the oropharynx by using a laser to remove the free edge of the uvula and soft palate.
Obstructive sleep apnoea/hypopnoea syndrome (OSAHS):	A condition where, during sleep, the upper airway collapses intermittently and repeatedly resulting in poor sleep quality and daytime sleepiness.
Oropharynx:	Area in the throat behind the oral cavity.
Soft palate implantation:	Needle puncturing of the soft palate, with the aim of stiffening it through subsequent fibrosis.
Radio-frequency ablation of soft palate:	Needle puncturing of the soft palate and additional application of radiofrequency energy to each puncture site, with the aim of stiffening it through subsequent fibrosis.
Uvulopalatopharyngoplasty (UPPP):	Enlarging the potential area in the oropharynx by removal of tissue from the uvula, soft palate, tonsils, adenoids or pharynx.

REFERENCES:

1. Quinn S J, Daly N, Ellis P D. Observation of the mechanism of snoring using sleep nasendoscopy. *Clinical otolaryngology and allied sciences*. Aug 1995;20(4):360-364.
2. Fujita S, Conway W, Zorick F, Roth T. Surgical correction of anatomic abnormalities in obstructive sleep apnea syndrome: uvulopalatopharyngoplasty. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. Nov-Dec 1981;89(6):923-934.
3. Larrosa F, Hernandez L, Morello A, Ballester E, Quinto L, Montserrat J M. Laser-assisted uvulopalatoplasty for snoring: does it meet the expectations? *The European respiratory journal*. Jul 2004;24(1):66-70.
4. National Institute for Health and Clinical Excellence. *Interventional procedure guidance 240. Soft palate implants for simple snoring* 2007.
5. National Institute for Health and Care Excellence. *Interventional procedure guidance 476. Radiofrequency ablation of the soft palate for snoring* 2014.
6. Lim J, Lasserson T J, Fleetham J, Wright J. Oral appliances for obstructive sleep apnoea. *The Cochrane database of systematic reviews*. 2006(1):CD004435.
7. Ohayon M M, Guilleminault C, Priest R G, Caulet M. Snoring and breathing pauses during sleep: telephone interview survey of a United Kingdom population sample. *BMJ*. Mar 22 1997;314(7084):860-863.
8. Osman E Z, Osborne J E, Hill P D, Lee B W, Hammad Z. Uvulopalatopharyngoplasty versus laser assisted uvulopalatoplasty for the treatment of snoring: an objective randomised clinical trial. *Clinical otolaryngology and allied sciences*. Aug 2000;25(4):305-310.
9. Franklin K A, Anttila H, Axelsson S, et al. Effects and side-effects of surgery for snoring and obstructive sleep apnea--a systematic review. *Sleep*. Jan 2009;32(1):27-36.
10. Stuck B A, Sauter A, Hormann K, Verse T, Maurer J T. Radiofrequency surgery of the soft palate in the treatment of snoring. A placebo-controlled trial. *Sleep*. 2005;28(7):847-850.
11. Mehta A, Qian J, Petocz P, Darendeliler M A, Cistulli P A. A randomized, controlled study of a mandibular advancement splint for obstructive sleep apnea. *American journal of respiratory and critical care medicine*. May 2001;163(6):1457-1461.
12. Gotsopoulos H, Chen C, Qian J, Cistulli P A. Oral appliance therapy improves symptoms in obstructive sleep apnea: a randomized, controlled trial. *American journal of respiratory and critical care medicine*. Sep 1 2002;166(5):743-748.
13. Blanco J, Zamarron C, Abeleira Pazos M T, Lamela C, Suarez Quintanilla D. Prospective evaluation of an oral appliance in the treatment of obstructive sleep apnea syndrome. *Sleep & breathing = Schlaf & Atmung*. Mar 2005;9(1):20-25.
14. Osman E Z, Abo-Khatwa M M, Hill P D, Lee B W, Osborne J E. Palatal surgery for snoring: objective long-term evaluation. *Clinical otolaryngology and allied sciences*. Jun 2003;28(3):257-261.

15. Hoekema A, Stegenga B, De Bont LG. Efficacy and co-morbidity of oral appliances in the treatment of obstructive sleep apnea-hypopnea: a systematic review. *Critical reviews in oral biology and medicine : an official publication of the American Association of Oral Biologists*. 2004;15(3):137-155.
16. Main C, Liu Z, Welch K, Weiner G, Jones S Q, Stein K. Surgical procedures and non-surgical devices for the management of non-apnoeic snoring: a systematic review of clinical effects and associated treatment costs. *Health Technol Assess*. Jan 2009;13(3):iii, xi-xiv, 1-208.
18. Ferguson K A, Heighway K, Ruby R R. A randomized trial of laser-assisted uvulopalatoplasty in the treatment of mild obstructive sleep apnea. *American journal of respiratory and critical care medicine*. Jan 1 2003;167(1):15-19.
19. Skjostad K W, Stene BK, Norgard S. Consequences of increased rigidity in palatal implants for snoring: a randomized controlled study. *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*. Jan 2006;134(1):63-66.
20. Back L J, Hytonen M L, Roine R P, Malmivaara A O. Radiofrequency ablation treatment of soft palate for patients with snoring: a systematic review of effectiveness and adverse effects. *The Laryngoscope*. Jun 2009;119(6):1241-1250.