

Surgical Threshold Policy

Surgery for Obstructive Sleep Apnoea/ Hypopnoea Syndrome (OSAHS) and Snoring

Scope

This policy covers surgery for patients (children and adults) with Obstructive Sleep Apnoea (OSA) and/ or Snoring. Other related NHS Cambridgeshire and Peterborough (ICB) policies cover referral for surgery for Nasal Obstruction or Deformity, Otitis Media and Tonsillitis in adults and children. This policy does not include surgery for trauma or suspected malignancy or for complex cases, such as children with Down's Syndrome.

Policy

It is the responsibility of referring and treating clinicians to ensure compliance with this policy. Referral proforma should be attached to the patient notes to aid the clinical audit process and provide evidence of compliance with the policy. For patients not meeting the policy criteria, clinicians can apply for funding to the Exceptional Cases Panel by completing the exceptional funding section of the referral proforma.

Surgery for Snoring

Surgery for snoring is a lower clinical priority and will not be funded without application to the Exceptional Case Panel.

Tonsillectomy and/or Adenoidectomy for OSAHS

NHS C&P (ICB) will fund tonsillectomy and/or adenoidectomy in adults with:

- Obstructive sleep apnoea demonstrated by sleep study; **AND**
- Excessively large tonsils/ adenoids or appearance of physical obstruction; **AND**
- BMI <35kg/m².
 - (BMI = Body Mass Index - defined by weight in kilograms divided by the square of height in metres (kg/m²))

NHS C&P (ICB) will fund tonsillectomy and/or adenoidectomy in children with:

- Obstructive sleep apnoea diagnosed clinically (children); **AND**
- Reports of witnessed apnoeic episodes (stopping breathing) or waking from sleep due to sensations of choking/obstruction; **AND**
- Excessively large tonsils/adenoids or appearance of physical obstruction.

Oropharyngeal Surgery (other than or in addition to tonsillectomy) for OSAHS in Adults

NHS C&P (ICB) will fund surgery in adults satisfying all of the following criteria:

- Over 16 years old; **AND**

- Severe OSAHS demonstrated by sleep study; **AND**
- Unsuccessful management of modifiable risk factors including lifestyle measures* over a period of at least 3-6 months; **AND**
- Unable to tolerate CPAP despite medically supervised attempts; **AND**
- Unable to tolerate customised or semi-customised mandibular advancement device (where available and appropriate) despite medically supervised attempts.

***Measures include weight loss, smoking cessation, reducing alcohol intake and promotion of good sleep hygiene including medication review.**

Additional Policies and Referrals

Weight loss can have a positive impact on OSAHS symptoms. In patients with BMI >35 kg/m² and concurrent OSAHS, clinicians should refer to Tier 3 Weight Management Services if lower tier interventions are unsuccessful (see Weight Loss Surgery policy for referral criteria).

Ensure follow-up is in line with DVLA fitness to drive guidance.

Smoking

Patients who smoke should be advised to attempt to stop smoking - see [stop smoking policy](#).

Rationale and Evidence

Children

Two systematic reviews showed improvements in apnoea-hypopnoea index following adenotonsillectomy in children with uncomplicated (1) and severe (2) OSA. Severe OSA persisted after adenotonsillectomy therefore partially effective (2). A Cochrane review found improved quality of life and polysomnography for children 5-9 years old after adenotonsillectomy for mild/moderate OSA (3). All these reviews highlighted the importance of careful consideration of risks against benefits of adenotonsillectomy for OSAHS.

Adults

A National Institute for Health and Care Excellence (NICE) evidence review of surgery for obstructive sleep apnoea/hypopnoea syndrome and obesity hypoventilation syndrome in over 16s for the NG202 guideline (4) concluded that oropharyngeal surgery (including tonsillectomy) was effective in some people with moderate and severe OSAHS, but not more effective than CPAP or mandibular advancement splints/oral devices. Of note however, oropharyngeal surgery was effective in people with moderate or severe OSAHS who are unable to tolerate or adhere to CPAP and mandibular advancement splints. There were some adverse effects associated with surgery, but the review committee agreed that they were not clinically significant.

Seven systematic reviews and meta-analysis evaluating oropharyngeal surgery for OSAHS demonstrated improvements in apnoea-hypopnoea index and Epworth sleepiness scale amongst a variety of outcome measures (5–11). A systematic review found tonsillectomy improved mild to moderate OSA in adults with enlarged tonsils (12).

Surgery for Snoring

Two RCTs of uvulopalatopharyngoplasty (UPPP) (13,14), one of laser-assisted uvulopalatoplasty (LAUP) (15) and one of radiofrequency ablation (RA) (16) reported reduced rates of post-treatment snoring for surgery compared with control. However, other trials of LAUP (17) and RA (18,19) showed no difference in

post-treatment snoring. RCTs have shown that oral appliances can effectively reduce snoring frequency and intensity 20-22.

Glossary

Adenotonsillectomy:	Removal of the adenoids and tonsils in a single procedure.
Apnoea–Hypopnea Index:	The number of ‘absence of breathing’ or ‘abnormally shallow breathing’ episodes recorded during an hour of sleep.
Continuous Positive Airway Pressure (CPAP):	A machine that uses mild air pressure to keep breathing airways open.
Epworth Sleepiness Scale:	A self-administered questionnaire that is used to assess daytime sleepiness.
Laser-Assisted Uvulopalatoplasty (LAUP):	A procedure that uses a laser to remove part or all of the uvula (the small piece of flesh that hangs at the back of the throat).
Mandibular Advancement Device:	Device to move the jaw forward.
Obstructive Sleep Apnoea/Hypopnoea Syndrome (OSAHS):	A condition in which a person experiences repeated episodes of apnoea or hypopnoea causing closure or narrowing of the pharyngeal airway during sleep.
Pulse Oximetry:	Non-invasive method for monitoring a person's peripheral oxygen saturation.
Radiofrequency Ablation (RA):	The use of heat generated from a medium frequency alternating current to destroy tissue.
Sleep Studies:	Non-invasive tests that measure how well a person sleeps.
Uvulopalatopharyngoplasty (UPPP):	Surgery to remove and/or remodel tissue in the throat.

References

1. Chen Y, Xu J, Yin G, Ye J. Effectiveness and safety of (adeno) tonsillectomy for paediatric obstructive sleep apnoea in different age groups: A systematic review and meta-analysis. Vol. 69, Sleep Medicine Reviews. W.B. Saunders Ltd; 2023.
2. Galluzzi F, Garavello W. Impact of adenotonsillectomy in children with severe obstructive sleep apnoea: A systematic review. Auris Nasus Larynx. 2021 Aug;48(4):549–54.
3. Venekamp RP, Hearne BJ, Chandrasekharan D, Blackshaw H, Lim J, Schilder AG. Tonsillectomy or adenotonsillectomy versus non-surgical management for obstructive sleep-disordered breathing in children. Cochrane Database of Systematic Reviews. 2015 Oct 14;2015(10).
4. NICE NG202. NICE. 2021 [cited 2024 Feb 1]. Obstructive sleep apnoea/hypopnoea syndrome and obesity hypoventilation syndrome in over 16s. Available from: <https://www.nice.org.uk/guidance/ng202>
5. Rahavi-Ezabadi S, Su Y, Wang Y, Lin C, Chang C, Friedman M, et al. Minimally invasive, single-stage, multilevel surgery for obstructive sleep apnoea: A systematic review and meta-analysis. Clinical Otolaryngology. 2023 Nov 27;48(6):828–40.
6. Su YY, Lin PW, Lin HC, Chang CT, Lin CY, Friedman M, et al. Systematic review and updated meta-analysis of multi-level surgery for patients with OSA. Auris Nasus Larynx. 2022 Jun;49(3):421–30.
7. Maniaci A, Di Luca M, Lechien JR, Iannella G, Grillo C, Grillo CM, et al. Lateral pharyngoplasty vs. traditional uvulopalatopharyngoplasty for patients with OSA: systematic review and meta-analysis. Sleep and Breathing. 2022 Dec 3;26(4):1539–50.
8. Iannella G, Lechien JR, Perrone T, Meccariello G, Cammaroto G, Cannavici A, et al. Barbed reposition pharyngoplasty (BRP) in obstructive sleep apnea treatment: State of the art. Am J Otolaryngol. 2022 Jan;43(1):103197
9. Saenwandee P, Neruntarat C, Saengthong P, Wiriyaamornchai P, Khuancharee K, Sirisomboonwech S, et al. Barbed pharyngoplasty for obstructive sleep apnea: A meta-analysis. Am J Otolaryngol. 2022 Mar;43(2):103306
10. Neruntarat C, Khuancharee K, Saengthong P. Barbed Reposition Pharyngoplasty versus Expansion Sphincter Pharyngoplasty: A Meta-Analysis. Laryngoscope. 2021 Jun 25;131(6):1420–8.
11. Park MJ, Lee YH, Cho JH, Choi JH. Limited Palatal Muscle Resection for the Treatment of Obstructive Sleep Apnoea: A Systematic Review and Meta-Analysis. Medicina (Lithuania). 2023 Aug 1;59(8).
12. Camacho M, Li D, Kawai M, Zaghi S, Teixeira J, Senchak AJ, et al. Tonsillectomy for adult obstructive sleep apnoea: A systematic review and meta-analysis. Laryngoscope. 2016 Sep;126(9):2176–86.
13. Sommer JU, Heiser C, Gahleitner C, Herr RM, Hörmann K, Maurer JT, et al. Tonsillectomy with Uvulopalatopharyngoplasty in Obstructive Sleep Apnoea. Dtsch Arztebl Int. 2016 Jan 11.

14. MacKay S, Carney AS, Catcheside PG, Chai-Coetzer CL, Chia M, Cistulli PA, et al. Effect of Multilevel Upper Airway Surgery vs Medical Management on the Apnoea-Hypopnea Index and Patient-Reported Daytime Sleepiness Among Patients With Moderate or Severe Obstructive Sleep Apnoea. *JAMA*. 2020 Sep 22;324(12):1168.
15. Ferguson KA, Heighway K, Ruby RRF. A Randomized Trial of Laser-assisted Uvulopalatoplasty in the Treatment of Mild Obstructive Sleep Apnoea. *Am J Respir Crit Care Med*. 2003 Jan 1;167(1):15–9.
16. Stuck BA, Sauter A, Hörmann K, Verse T, Maurer JT. Radiofrequency Surgery of the Soft Palate in the Treatment of Snoring. A Placebo-Controlled Trial. *Sleep*. 2005 Jul;28(7):847–50.
17. Larrosa F, Hernandez L, Morello A, Ballester E, Quinto L, Montserrat JM. Laser-assisted uvulopalatoplasty for snoring: does it meet the expectations? *European Respiratory Journal*. 2004 Jul 1;24(1):66–70.
18. Holmlund T, Levring-Jäghagen E, Franklin KA, Lindkvist M, Berggren D. Effects of Radiofrequency versus sham surgery of the soft palate on daytime sleepiness. *Laryngoscope*. 2014 Oct 6;124(10):2422–6.
19. Woodson BT, Steward DL, Weaver EM, Javaheri S. A Randomized Trial of Temperature-Controlled Radiofrequency, Continuous Positive Airway Pressure, and Placebo for Obstructive Sleep Apnoea Syndrome. *Otolaryngology–Head and Neck Surgery*. 2003 Jun 17;128(6):848–61.
20. MEHTA A, QIAN J, PETOCZ P, DARENDELILER MA, CISTULLI PA. A Randomized, Controlled Study of a Mandibular Advancement Splint for Obstructive Sleep Apnoea. *Am J Respir Crit Care Med*. 2001 May 1;163(6):1457–61.
21. Gotsopoulos H, Chen C, Qian J, Cistulli PA. Oral Appliance Therapy Improves Symptoms in Obstructive Sleep Apnoea. *Am J Respir Crit Care Med*. 2002 Sep;166(5):743–8.
22. Blanco J, Zamarr n C, Abeleira Pazos MT, Lamela C, Suarez Quintanilla D. Prospective evaluation of an oral appliance in the treatment of obstructive sleep apnoea syndrome. *Sleep and Breathing*. 2005 Mar 18;9(1):20–5

Policy effective from:	Policy adopted by NHS C&P (ICB) 1 July 2022 Reviewed policy ratified by QPF 31/05/24 Reviewed policy approved by JCPEG 15/05/24 Reviewed policy approved by CPF 02/05/24 Policy developed by C&P Public Health Team
Policy to be reviewed:	November 2027
Policy reference:	OSA Surgical Sept 2024 V7