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How to choose...

A mouthpiece to stop snoring

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Introduction

If you don't know much about sleep apnoea (sometimes spelled apnea), then we'd suggest you first read our "Snoring and Obstructive Sleep Apnoea Overview" here. What we wouldn't want, is for you to rush into buying an anti-snoring mouthpiece/device, when it might not be right for you and your situation.

We quite like this quote... "*There is always an easy solution to every human problem--neat, plausible, and wrong*". (Mencken, 1917).

Lifestyle changes and where appropriate, weight loss can significantly reduce snoring and the severity of obstructive sleep apnoea. These approaches should be considered BEFORE considering any therapy, mouthpiece or surgical option.

Snoring and obstructive sleep apnoea may be thought of as essentially the same problem but at different levels of severity. Snoring may be defined as "breathing during sleep with hoarse or harsh sounds", while obstructive sleep apnoea (OSA) is not just noisy, it is when the airway during sleep collapses, causing obstruction, and the obstruction causes the apnoea (cessation of breathing).

Although it may appear simple and straight forward, it is more complicated than it at first appears... buying the first thing you see, could be a false economy.

Snorer.com uses the UK spelling of 'apnoea' rather than the US spelling 'apnea.'

Find out more about other **Snorer.com** Guides at: https://snorer.com/information-guides/

JARGON ALERT!
MRD (Mandibular Repositioning Device)
MAS (Mandibular Advancement Splint)
Mouthpiece, 'Gumshield', Oral Appliance, Device, Splint...
These are different names for the same thing: a device worn in your mouth, which holds your lower jaw forwards, to help you breathe better while asleep.

ACRONYM ALERT!
OSA = Obstructive Sleep Apnoea
We mean OBSTRUCTIVE sleep apnoea when we say 'sleep o. Explained: Obstructive = an obstruction (used to differentiate the problem from Central sleep apnoea). Sleep = you are not awake when this happens. Apnoea = cessation of breathing. Put it all together and you have, in effect, self-suffocation when asleep!

Caution!

Has the snoring started recently? If yes, this maybe a concern and you should see your Doctor/PCP and discuss these points (where relevant).

- Space occupying lesion (abnormal tissue growth) in throat.
- Sudden weight gain.
- Menopause.
- Third trimester pregnancy possibly indicating pre-eclampsia.
- Onset of hypothyroidism.

JARGON ALERT!
Pre-eclampsia is a medical condition affecting some pregnant women, characterised by high blood pressure and considerable amounts of protein in the urine. It can develop into eclampsia (life threatening seizures) if untreated.

JARGON ALERT!
Hypothyroidism is when your thyroid gland doesn't produce enough hormones to regulate your body's metabolism and how you use energy.

Types of mouthpieces

There are two basic groups of mouthpieces that may help with snoring by holding your jaw forwards. The first group you can buy in shops and online, they are the so called "one-size-fits-all" type also variously known as non-custom, 'self-fit', 'boil and bite' anti-snoring mouthpieces.

The second group of mouthpieces is custom-made exclusively for you by a dentist with a special interest in sleep apnoea. *Be careful not to confuse custom-made with customised.* There are many different types of mouthpieces, with different mechanisms to connect the two jaws and hold your lower jaw forwards.

Customised mouthpieces are generally where a one-size-fits-all mouthpiece is adapted to your needs. It is not made for you - it is merely a one-size-fits-all mouthpiece adjusted to fit you as well as possible.

This guide does not attempt to explain everything in detail. It is intended to provide an accessible, evidence-based introduction, sufficient to help you understand HOW and WHEN to choose a mouthpiece. This starts from a medical perspective and then moves to dental... because a mouthpiece may impact upon your teeth - and your teeth (and other things) impact upon whether a mouthpiece is right for you.

Medical

You will no doubt have heard of the terms 'diagnosis' and 'treatment'. Diagnosis is a key part of treatment. Without diagnosis there should be no treatment, and in order to come to a diagnosis, there needs to be an assessment.

A diagnosis can only come from a medical professional and doesn't mean a 'self-diagnosis.'

Figure 1: Overview of route to treatment

1. **ASSESSMENT** - This is to ask "*what is wrong*" and includes a review of your medical history, signs and symptoms (i.e. what you complain of and what the physician detects) together with examination and results of any tests.
2. **DIAGNOSIS** - The assessment may then facilitate a diagnosis, the underlying cause of your problem.
3. **TREATMENT** - Finally, based on the diagnosis, provide the best answer to solve your problem, the 'treatment'.

There are serious problems with self-diagnosis and self-treatment. The non-medical person may appreciate that he/she snores but may be totally unaware of a potentially serious underlying medical condition which may be the primary cause of the snoring. Therefore, without correct assessment, diagnosis and treatment, the patient may be doing himself/herself more harm than good, for example, in perhaps 'treating' the symptom of snoring, and missing a more serious disorder.

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Snoring is the main symptom of a serious medical condition known as Obstructive Sleep Apnoea (OSA). The problem is that whilst nearly all sleep apnoea sufferers snore, not all snorers have OSA.

It is estimated that approximately 45% of the adult population snore[1] and somewhere between 30-50% of these snorers will have some degree of OSA.[2,3,4,5]

OSA is associated with several serious medical conditions such as cardiovascular disease, stroke and insulin resistant diabetes.[6] In severe cases the patient suffers excessive daytime sleepiness (EDS) which puts the patient and those around him/her at risk, particularly with accidents at work and when driving. When OSA is associated with EDS it is referred to as Obstructive Sleep Apnoea Syndrome (OSAS).

Getting confused with acronyms yet?!
We're almost done, only a few more...

Daytime sleepiness (EDS) may be assessed subjectively using a simple questionnaire, the Epworth Sleepiness Scale (ESS) or more objectively, using in-hospital sleepiness and wakefulness tests.

You may use the *National Sleep Foundation's* interactive Epworth Sleepiness Scale here: https://sleepfoundation.org/quiz/national-sleep-foundation-sleepiness-test.

Screening for OSA can be undertaken using a variety of straightforward forms such as the *Berlin* or *STOP BANG* questionnaires, which quickly identify the likelihood of sleep related breathing disorders.
The *British Society of Dental Sleep Medicine* Pre-Treatment Screening Protocol[6] is a more sophisticated screening tool as it permits the use of a simple overnight sleep monitoring device to more accurately detect any apnoeic events.

There are lots of external references in this Guide. The reference information can be found in the References section of the Appendix at the end of the Guide.

It is important to differentiate between Obstructive Sleep Apnoea (OSA) and Obstructive Sleep Apnoea Syndrome (OSAS).

The syndrome is when OSA causes sleepiness: '*Irresistible drowsiness in inappropriate situations*'. This sleepiness is what causes concern.

www.bsdsm.org.uk

Further information can be found in the References section of the Appendix at the end of this **Snorer.com** Guide.

Screening for OSA can be performed by a variety of 'medical' personnel, but the **diagnosis** of OSA lies firmly within the remit of the specialist Respiratory Physician.

ACRONYM ALERT!
OSA = Obstructive Sleep Apnoea

Contributing factors

There are several associated factors which, if altered, may help in reducing your snoring and OSA problem. Addressing these factors may not in themselves cure your problem. Nevertheless, where possible, they should be identified and attempts to address them made, as this will make any eventual treatment more effective:

- Being overweight.
- Smoking.
- Having alcohol in the evening.
- Sleeping on your back.
- Certain medical conditions such as an underactive thyroid.
- Use of night time sedative medication such as sleeping tablets or some antihistamines.
- Nasal blockage/stuffiness – physical blockage and/or allergic rhinitis.

JARGON ALERT!
Allergic rhinitis often causes cold-like symptoms, such as sneezing, itchiness and a blocked or runny nose.

There are however, snoring and OSA exacerbating factors that are not as easily addressed:

- Increasing age (sorry we don't have a time machine!).
- Being male.[7]
- Being a post-menopausal female.
- Having a crowded throat, enlarged tonsils and/or elongated soft palate and uvula (the thing that dangles down at the back of your throat).
- Having a setback lower jaw and large tongue.

Obstructive Sleep Apnoea affects men more than women. *"...men had a prevalence of 3.9% and women 1.2%".*

Further information can be found in the References section of the Appendix at the end of this **Snorer.com** Guide.

JARGON ALERT!
Medical and dental professionals may describe this as a 'receding' mandible (lower jaw) or retrognathic.

- Some medical conditions such as Downs Syndrome and Pierre Robin Syndrome.
- Some racial groups – exhibiting certain facial characteristics.

Look at the following questions (feel free to print them out). If you snore, are sleepy in the day and answer 'yes' to any of them you would be strongly advised to seek further medical assessment which may include an overnight sleep test and medical diagnosis. It is probably best to ask your bed partner for help in answering some of them.

1. **Do you have other sleep disorders?**

2. **Have you been diagnosed with congestive heart failure?**

3. **Do you suffer from a neuromuscular condition?**
   e.g.: Stroke, Parkinson's, Multiple Sclerosis?

4. **Do you have epilepsy?**

5. **Has your partner noticed you stop breathing during sleep?**

6. **Has your partner noticed you choking during your sleep?**

7. **Is your Body Mass Index (BMI) greater than or equal to 30?**
   Visit: https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm to find out

8. **Is your neck circumference larger than or equal to 17"/43cm?**

9. **Are you ever woken suddenly by the sound of your own snore?**

10. **Do you have to sleep sitting up?**

11. **Do you wake frequently to 'visit the bathroom' during the night?**

12. **Do you feel breathless when lying flat?**

13. **Do you have a history of high blood pressure?**

14. **Do you have a history of swelling of the ankles or heart failure?**

15. **Do you have a history of palpitations?**

16. **Have you experienced a transient ischaemic attack (TIA) or a mini-stroke?**

17. **Do you have a history of underactive thyroid?**

18. **Do you have chronic breathing problems such as severe asthma or Chronic Obstructive Airways Disease (COPD)?**

19. **Do you have a regular cough?**

20. **Do you suffer from heartburn?**

21. **Has your snoring only recently started?**

22. **Do you have difficulty breathing easily through your nose?**

23. **Are you or could you be pregnant?**

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The names for an anti-snoring mouthpiece vary from mandibular repositioning device (MRD), mandibular advancement appliance (MAD) or splint (MAS). Most research revolves around mouthpieces that work by holding the lower jaw slightly forwards and through this action they pull the tongue forward and away from the back of the throat.

But hold on there one moment – even if you do not suffer from any of the problems listed above, don't assume that a mouthpiece will work well for you and don't go on the internet and buy the first mouthpiece that you see. You now *need* to consider the *dental* aspects of such therapy. (Sorry, but we did say it was a little more complicated than it at first appeared!)

Mouthpieces are a dental solution to a medical breathing problem experienced when you are asleep; and should only be provided after OSA screening and a thorough dental, gum and jaw assessment has been carried out.

JARGON ALERT!
Screening is an approach used to identify a disease in individuals without obvious signs or symptoms.

One other thing to remember is that as we get older, snoring/apnoea tends to get worse (because increased age is often connected with increased weight and decreased muscle tone). The same goes for general weight gain (and loss). Consequently, any treatment that works at the moment may not be as effective as time goes by, simply because you've changed. Similarly, it is important to recognise that all forms of medical therapy have associated side effects, which may have an impact upon your decision to proceed with treatment.

So, the take home message is that a thorough dental assessment should be carried out by a dentist specially trained in dental sleep medicine, before any oral device is considered and that regular dental checks are recommended to ensure that the treatment effect is maintained, any side-effects of treatment are identified and your options discussed.

Dental

The key principles of airway management for mouthpieces are:

- Bringing forward the lower jaw.
- Maintaining the 'brought forward' position of the lower jaw whilst keeping a minimum degree of mouth opening.
- The mouthpiece must not fall off the teeth during sleep.

JARGON ALERT!

Airway management is the phrase used to explain how the route that air takes to your lungs is 'managed' or maintained.

'Brought forward' is known as protrusion in medical/dental terminology.

The mouthpiece not falling off (it 'grips' your teeth) enables it to hold your jaw in a forward position. This is referred to as 'retention' by dentists.

Figure 1: Three airway examples – normal, with apnoea and with a MRD

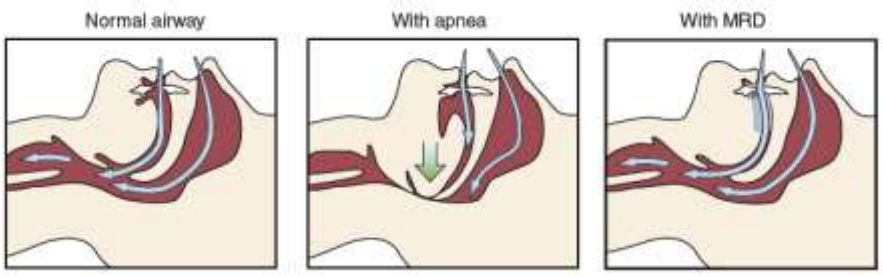


Image from Newman MG, Takei HH, Klokkevold PR, Carranza FA: Carranza's clinical periodontology. 12 ed, Saunders, St Louis, 2015

Commonly occurring side-effects

The following side effects are usually temporary, not too severe and disappear within a few weeks.

- Tooth and/or jaw muscle ache and/or jaw joint pain may occur, especially if the lower jaw is brought forward/advanced too far and too quickly.
- Excessive salivation or paradoxically a dry mouth.

On removing the mouthpiece in the mornings your mouth/jaw and your 'bite' may feel a little different. This is because the overnight lower jaw advancement has stretched many muscles surrounding the jaw joint. One small muscle however has been allowed to relax and contract. Additionally, fluid has been allowed to accumulate behind the jaw joint.

JARGON ALERT!

Bite means the way your upper and lower teeth normally meet.

Your dentist will show you a quick and simple exercise to perform each morning to rectify this temporary 'bite' change.

It should be noted that some side effects are permanent and not so easily reversed. The most commonly seen of these are a backward tilting of your upper front teeth and some forward tilting of your lower front teeth. Less commonly, tilting of the back teeth, the development of spaces between the upper and lower back teeth, as well as small increases in lower third face height.

JARGON ALERT!
This is the distance between the tip of your chin to just under your nose.

Basics

You would probably be an unsuitable candidate for (or in some cases would find it impossible to use) a mouthpiece for snoring if:

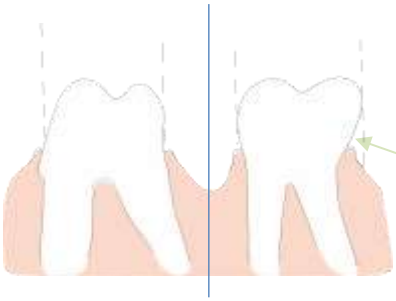
- You have **no** teeth. This is because you need a sufficient number and distribution of healthy teeth for the mouthpiece to work. If you have insufficient teeth and\or a poor tooth distribution then crowns/ bridges (caps) on top of dental implants may be an option.
- You have missing lower back teeth on both sides of the lower jaw (mandible).
- You have untreated dental decay/untreated gum disease, because having a device covering your teeth at night might make this worse by holding bacteria close.
- You have acute jaw ache, as wearing the device may make this pain worse.
- You have poorly controlled epilepsy, because a seizure may cause you to break the device and potentially inhale broken parts.
- If you can't push your lower jaw/chin forward more than 5 mm.
- You have very short height teeth and/or worn down teeth.

JARGON ALERT!
Dentists may refer to these teeth as posterior molars or just 'posteriors'

Short height teeth provide very little means for the mouthpiece to grip your teeth (dentists call this 'retention'). *(See overleaf)*

- Your teeth are shaped as they are in the diagram below, left, as they will provide little ability to hold the mouthpiece in place (indicated area on the right tooth indicates the **retentive** area).

Figure 3: Non-retentive (left) and retentive (right) tooth shapes



This is the **retentive area** known as the 'undercut'. This is the part of your tooth that a mouthpiece would use to stay in place – and in turn hold your jaw forwards to stop you snoring.
The mouthpiece 'dovetails' into this retentive space.

Jaw joint pain

A careful jaw joint assessment must be carried out by your dentist prior to treatment, as the mouthpiece will put a load on your jaw joint which if it was unhealthy could potentially cause you harm.

JARGON ALERT!
Sometimes known as a temporo-mandibular joint (TMJ) examination. The dentist is looking for TMJ pain or what is sometimes known as TMD – the 'D' stands for dysfunction.

Severe gum disease (Periodontal disease)

Do not use a mouthpiece without seeing a dentist. Any mouthpiece will place additional stresses and strains on your teeth and could aggravate any pre-existing periodontal/ gum disease.

Incomplete dental work

All of your teeth and gums should be carefully checked by your dental practitioner and any outstanding dental treatment should be completed before impressions are taken for a custom mouthpiece or adaptation of a non-custom 'self-fit' mouthpiece.

Mouthpieces – desirable features

If you believe a mouthpiece might suit you, what should you look out for? Here is a list of desirable mouthpiece features to think about or discuss with your dentist:

- Doesn't fall off your teeth – 'retentive' (stays in your mouth when you go to sleep by 'gripping' the teeth).
- Minimal 'bulk'. This means it is less noticeable in your mouth – typically by being thinner and more like a second skin on the teeth, rather than being bulky, like a sports gum shield.
- Adjustable in how far it pushes the jaw forwards.
- Permits a slight amount of the mouth opening and closing (also known as vertical movement) but prevents the mouth from falling open wide during sleep.
- Permits some side-to-side jaw movement thus eliminating the feeling of the lower jaw being 'trapped'.
- Adjustable whilst in the mouth.
- Minimal vertical opening (or adjustable) mouth opening.
- Strong enough to take the loads imposed by holding the lower jaw forward overnight.
- Last for several years without breaking.
- Robust – so it doesn't break if dropped in the sink when cleaning.
- Non permeable to oral fluids, so it doesn't discolour, get 'gunky' or smelly!
- Easy/simple to clean.
- Low cost.

JARGON ALERT!

This refers to the minimum space between your teeth – how much your mouth is held open by the mouthpiece.

Comparison – custom vs non-custom devices

Now that we know a little more about what makes an 'ideal mouthpiece', let's explore the two types – custom made and non-custom.

The first type of mouthpiece you may have seen advertised on the internet or through other media, is the non-custom device. The second type of mouthpiece is custom made for you and is available via a specialised dentist. The trade-off might be described like this: with a non-custom mouthpiece you have to self-fit, and with custom, the mouthpiece is made to fit you. Regardless of which type you choose, always look for evidence that the mouthpiece has been independently researched and proven effective.

Limited research has been undertaken to compare the two types. Olivier Vanderveken found in his research[8]:

- The [number of overly shallow breaths or missed breaths] AHI was only significantly reduced by the custom made mouthpiece.
- The custom made mouthpiece was more successful in reducing snoring.
- 69% of the non-custom mouthpieces failed (mostly to due to poor retention).
- The majority of the non-custom failures were successfully treated with a custom mouthpiece.
- At the end of treatment, 82% preferred the custom mouthpiece.
- The custom mouthpiece was more effective that the non-custom mouthpiece in the treatment of snoring and SDB.
- The non-custom mouthpiece cannot be recommended as a therapeutic option nor can it be used as a screening tool to select good candidates for custom MRD mouthpiece therapy.

ACRONYM ALERT!
AHI = Apnoea-Hypopnoea Index

JARGON ALERT!
Apnoea-Hypopnoea Index -
This index tracks the amount of apnoeas (no breaths) and hypopnoeas (abnormally low breath rates).
This is explained further in the Snorer.com Jargon Buster!
https://snorer.com/jargon-buster/

ACRONYM ALERT!
SDB = Sleep Disordered Breathing.
This term has since been superseded by SRBD which means Sleep Related Breathing Disorder.

Having been through all these points, it is important to question would the research conclusions have been different if the non-custom mouthpiece been more retentive?

We suggest you bear these points in mind when considering buying ANY mouthpiece:

- Some mouthpieces are made from materials that 'absorb' bacteria and hold plaque next to your teeth and gums - making it harder to keep your mouth healthy - your oral hygiene.
- Some mouthpieces may be bulky and therefore difficult to tolerate wearing. Wearing one might make your mouth dry or make you dribble. This is because you cannot close your lips and your brain is aware that there is something in your mouth, assumes that it must be food and therefore makes more saliva.
- Some mouthpieces may require frequent replacement as they are made from soft, heat adaptable materials.
- Some mouthpieces may have an insufficient range of adjustment to allow for changes in your requirements (if they are adjustable at all).
- Fine adjustments may not be possible.
- Some mouthpieces may cause soreness to your gums and/or inner cheek if not made, adapted and fitted correctly.

Mouthpieces are sometimes sold with a money back guarantee. If they don't work we suggest you seek a refund!

The next section explores how to get a custom mouthpiece.

Obtaining a custom-made mouthpiece

Screening for obstructive sleep apnoea (OSA)

Snoring may be a symptom of obstructive sleep apnoea (OSA). If OSA is suspected a referral to respiratory physician is necessary for further investigation and diagnosis.

Mouthpieces can be provided by a trained dentist (on his/her own) to treat snoring only where NO OSA is suspected. Mouthpieces can only be provided for patients with OSA when the dentist is working under the direct prescription of the respiratory physician.

The process then moves to a thorough dental assessment where all factors are professionally assessed. Should your teeth, gums and jaw joints be considered capable of withstanding the stresses imposed by a mouthpiece, impressions (moulds) of your mouth will be taken and your jaw relationship (known as a bite registration) recorded to make the mouthpiece as comfortable and effective as possible.

Sometimes the dentist may advise *against* the use of a mouthpiece as it may damage the health of your teeth, gums and jaw joint. You should then consult with your medical practitioner or consultant respiratory physician to discuss alternative therapies.

Alternatively, the initial dental assessment may reveal the need to provide dental, gum or TMJ treatment prior to mouthpiece use, in order to make them robust enough to withstand the forces applied. These forces include gravity, the weight of your jaw and neck structures as well as those needed to overcome muscle resistance when the lower jaw is pulled forward.

ACRONYM ALERT!
TMJ = Temporo-mandibular joint.
The dentist is looking for TMJ pain or what is sometimes known as TMD – the 'D' stands for dysfunction.

Things to check when considering a custom mouthpiece for snoring/sleep apnoea

- Has the dentist received adequate training in screening for Obstructive Sleep Apnoea (OSA) and the provision and adjustment of mouthpieces in accordance with accepted best practice?
- Who has provided this training? A professional dental sleep medicine society is best as they provide unbiased, 'non-commercial' training on a wide range of different mouthpieces. Examples of such societies include:
  - the American Academy of Dental Sleep Medicine (AADSM)
  - the European Academy of Dental Sleep Medicine (EADSM)
  - the British Society of Dental Sleep Medicine (BSDSM)
  - The German Society of Dental Sleep Medicine (DGZS)
  - The Dutch Society of Dental Sleep Medicine (NVTS)
- Are they experienced in providing this type of treatment? Ask about the numbers of patients they have helped.
- Are they familiar with a range of anti-snoring mouthpieces? Certain types of mouthpiece may be more appropriate for you than others.

What we suggest

1. Get a **medical** diagnosis (see your doctor/PCP to start this) or be screened by a specially trained dentist.
2. Get a **dental** assessment - to determine if a mouthpiece is an option for you.

ACRONYM ALERT!
PCP = Primary Care Physician

Important points to note regarding adjustment

If you have been assessed as a non-apnoeic snorer, then the mouthpiece should be adjusted forwards until you stop snoring and no further.

If you have been diagnosed with some degree of OSA then the mouthpiece should be adjusted until you stop snoring, then another overnight sleep study must be undertaken. This is necessary to show that whilst wearing your mouthpiece, your apnoea–hypopnoea index (AHI) has been reduced to a medically acceptable level. This may require further appliance adjustments and additional sleep tests to confirm the mouthpiece is working properly. If your AHI cannot be reduced to a medically acceptable level, then additional/alternative therapies should be discussed.

A diagnosis can only come from a medical professional and doesn't mean a 'self-diagnosis.'

JARGON ALERT!

AHI = Apnoea Hypopnoea Index. This is an index of sleep apnoea severity that combines apnoeas and hypopnoeas. Apnoeas over 10 seconds that are associated with a decrease in blood oxygenation are counted.

Hypopnoeas are episodes of overly shallow breathing or an abnormally low breathing rate. They may result in a decreased air movement into the lungs and can cause oxygen levels in your blood to drop. Hypopnoea is commonly due to a partial obstruction of the upper part of your throat.

Conclusion

Ask a sleep medicine trained, dental professional to describe the design features of the mouthpieces that he/she feels are most suitable for you, and to describe any other treatment options. You can find such a dentist by searching the professional societies listed at the end of this **Snorer.com** Guide.

'Self-fit' mouthpieces represent a risk in terms of being available without a medical diagnosis or dental assessment and may potentially initiate or exacerbate long term side effects, which could go undetected due to a lack of medical/dental follow up.

Remember to maintain high levels of oral hygiene (teeth brushing, flossing etc.) and pay close attention to keeping the mouthpiece meticulously clean. A simple routine, of cleaning the mouthpiece with a toothbrush under a cold tap, immediately after you remove it from your mouth (not letting the saliva dry on it) will help.

A final note: If you struggle with or cannot breathe through your nose, perhaps you could be suffering from some form of nasal blockage such as a deviated septum or enlarged turbinates, nasal congestion or allergic rhinitis.

Experimenting with nasal dilators or strips may open the blocked nasal airway sufficiently to allow relaxed nasal breathing during sleep. This may help make your appliance therapy more effective.

In cases of allergic rhinitis your GMP/PCP may need to prescribe steroid nasal drops to reduce inflammation in the nasal mucosa overnight, this will also improve your nasal airway.

In some cases, improving your nasal airway MAY stop or reduce the snoring (to an acceptable level) to make the mouthpiece unnecessary.

JARGON ALERT!
Turbinates are tissue covered bones that protrudes into the breathing passages of your nose. These can develop soft tissue 'lumps' (the enlargements) that may impact upon your nasal breathing.

JARGON ALERT!
Allergic rhinitis often causes cold-like symptoms, such as sneezing, itchiness and a blocked or runny nose.

JARGON ALERT!
The type of skin inside your nose.

What next?

You might like to read the other **Snorer.com** Guides:

- Overview Guide
- Partner's Guide
- How to choose... Positive Airway Pressure (PAP) therapy
- Things to consider... when considering surgery for snoring & sleep apnoea

Find out more about other **Snorer.com** Guides at: https://snorer.com/information-guides/

Want to find out if you have sleep apnoea, but worried about the impact on your medical records? We suggest you consider the **Snorer.com** ASAP Anonymous Sleep Apnoea Process™.

Find out more about the **Snorer.com** Anonymous Sleep Apnoea Process at: https://snorer.com/asap/

Appendix

Acronym glossary

JARGON ALERT!
These acronyms, and others that you may come across are explained in the **Snorer.com** Jargon Buster!
https://snorer.com/jargon-buster/

- AHI = Apnoea-Hypopnoea Index
- BDS = Bachelor of Dental Surgery
- BSDSM = British Society of Dental Sleep Medicine
- CPD = Continuing Professional Development
- DIP DENT SED = Diploma in Dental Sedation
- EDS = Excessive Daytime Sleepiness
- ESS = Epworth Sleepiness Score
- FFGDP = Fellow of the Faculty of General Dental Practitioners (UK)
- GDP = General Dental Practitioner
- GMP = General Medical Practitioner
- MAD = Mandibular Advancement Device
- MAS = Mandibular Advancement Splint
- MBA = Master of Business Administration
- MFGDP (UK) = Member of the Faculty of General Dental Practitioners (UK)
- MGDS RCS (ENG) = Membership in General Dental Surgery - Royal College of Surgeons of England
- MRD = Mandibular Repositioning Device
- OSA = Obstructive Sleep Apnoea
- OSAS = Obstructive Sleep Apnoea Syndrome
- PCP = Primary Care Physician
- SDB = Sleep Disordered Breathing
- SRBD = Sleep Related Breathing Disorder

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Professional Dental Sleep Medicine Societies

- The American Academy of Dental Sleep Medicine (AADSM)
- The European Academy of Dental Sleep Medicine (EADSM)
- The British Society of Dental Sleep Medicine (BSDSM)
- The German Society of Dental Sleep Medicine (DGZS)
- The Dutch Society of Dental Sleep Medicine (NVTS)

Support groups

United Kingdom

- Sleep Apnoea Trust Association: http://www.sleep-apnoea-trust.org/
- Scottish Association for Sleep Apnoea (SASA): https://scottishsleepapnoea.co.uk/
- Irish Sleep Apnoea Trust: https://www.isat.ie

United States

- American Sleep Apnea Association: https://www.sleepapnea.org

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Is a GDP (General Dental Practitioner) practicing in Guernsey with a particular interest in the treatment of snoring and OSA patients. He is a past-President and co-founder of the British Society of Dental Sleep Medicine (BSDSM), Board member of the European Academy of Dental Sleep Medicine and Board member of the Association of Respiratory Technology and Physiology, Sleep Advisory Committee (ARTP SAC).

Adrian Zacher MBA

Adrian Zacher has a wide ranging experience in medical devices for both conscious and unconscious respiratory medicine. He is a recognised pioneer, inventor, author, expert and serial entrepreneur.

Adrian pioneered the first commercial dental sleep medicine laboratory in Europe; ZSA Ltd. During the 11 years of successfully running ZSA, he invented a sleep device that could be adjusted to suit the individual needs of the wearer, winning an award for the device. He went on to co-found the British Society of Dental Sleep Medicine (BSDSM) and instigated and assembled the sleep medicine team which ultimately developed the Pre-Treatment Screening Protocol, which forms the benchmark for obstructive sleep apnoea screening in the UK. He continues to provide specialist dental sleep medicine knowledge to interested parties.

http://bsdsm.org.uk/

http://www.nature.com/bdj/journal/v206/n6/full/sj.bdj.2009.214.html

Adrian successfully completed his MBA in Oxford. After which, he was headhunted to lead international business development for a leading sleep business, working as subject matter expert on oral appliances and dental sleep medicine. He left in February 2012.

Adrian is often asked for advice and insight in the field of sleep medicine, recently co-authoring a chapter in Carranza's Clinical Periodontology Expert Consult, and has completed the 2013 update.

Whilst taking time off as a new parent (truly appreciating the need for good quality sleep!) he started work on Snorer.com Ltd.

When not running **Snorer.com**, including **Snorer.me** (for patients), **Snorer.business** (for employers) and **Snorer.training** (for dentists), Adrian runs a LinkedIn group "The impact of sleep disorders on business" is a member of the British Sleep Society and a recent past Trustee of the charity Hope2Sleep that supports patients with sleep disordered breathing.

https://snorer.me
https://snorer.business
https://snorer.training
https://www.linkedin.com/groups/4925339
www.sleepsociety.org.uk/
www.hope2sleep.co.uk

Dr Shouresh Charkhandeh DDS MBA

Dr. Charkhandeh received his Doctor of Dental Surgery (DDS) Degree and Bachelor of Medical Sciences from the University of Alberta, Canada. He is a Fellow of The International Association of Physiologic Aesthetics and also a Fellow of Las Vegas Institute for Advanced Dental Studies. He then furthered his education and training by completing a Research Fellowship in the area of "Sleep and Dental Sleep Medicine" at the University of Antwerp Hospital (UZA), in Antwerp, Belgium.

Dr. Charkhandeh is a general dentist who maintains a group of private practices in Edmonton and Calgary with an interest in Dental Sleep Medicine and TMD. He is actively involved in clinical research in Dental Sleep Medicine and his research focuses on developing new technologies to improve treatment outcome predictability and patient selection in Oral Appliance Therapy for patients with OSA (i.e. Obstructive Sleep Apnea).

He is the "Chief Dental Officer" at Zephyr Sleep Technologies, the developer of "MATRx TM" Technology. He is the recipient of the "2012 & 2015 Clinical Research Award" and "2015 Clinical Excellence Award" from the American Academy of Dental Sleep Medicine (AADSM).

Dr. Charkhandeh is a major advocate for the importance of a multi-disciplinary approach to Dental Sleep Medicine which focuses on the collaboration of Sleep Physicians, Sleep Dentists and other healthcare professionals. He has been treating OSA patients for many years and also has trained hundreds of dentists in Dental Sleep Medicine.

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