



## LCIAD Information sheet: 11

### Your guide to your occlusal appliance

A digital copy of this document is also available on our website <https://www.lciad.co.uk/patient-dental-information-sheets/>

**This information sheet contains generic information and must be read in conjunction with your personalised treatment plan, which gives specific advice.**

**Credit:** Adapted from "Your Occlusal Appliance – A Patient's Guide" by Dr Jasneet Singh Gulati

#### 1. General information

Following your dental consultation and appropriate MRI imaging or bite analysis (please see [LCIAD info sheet 10 - Occlusal analysis TMD deprogramming and equilibration 2026](#)) your dental surgeon has prescribed you an "occlusal appliance".

This occlusal appliance may also be known as a "dental orthotic", "splint", "night guard" or "deprogrammer". It is normally made out of a rigid clear acrylic material that is designed digitally and milled and polished in the laboratory.

There are usually three main reasons why your dental surgeon may have prescribed an occlusal appliance for you, and the design of the appliance will be based on what the objective of treatment is:

- **To help manage pain** related to the muscles that move your lower jaw (muscles of mastication) or the temporomandibular joints (TMJ's) and to determine if your pain is related to your occlusion (bite) by disengaging your teeth from meeting.
- **To protect your teeth**, jaw joints and muscles from the harmful effects of tooth grinding or clenching.
- **To relax your muscles** - We call this "**deprogramming**". Disengaging your bite and allowing your muscles to relax helps to achieve the correct relationship of your lower jaw to your upper jaw and "resets the bite" prior to carrying out bite analysis or dental work.

#### 2. Learning to wear your appliance

Like a new pair of shoes or a new ring on your finger, and occlusal appliance may feel strange to wear at first.

As this appliance has been designed to improve your symptoms, wearing it will eventually feel not only very natural but also something that is very welcome once you adapt.



Some patients will adapt overnight but others may take several weeks to really get into the routine of wearing it. *Please do not be hard on yourself if you need a little longer* - it is worth persevering the benefits that will bring.

### 3. What to expect when you first start wearing your appliance

#### **Excess saliva and drooling (temporary)**

If you put an object into your mouth, your brain is normally programmed to increase saliva flow because it thinks it's food. It will take a while for your brain to realise that you haven't actually got food in your mouth but during this time drooling and excess salivation is normal. This will normally decrease within a few days.

Thankfully, our saliva protects us from tooth decay so this extra birth is not completely unwelcome!

#### **Dry lips**

Despite having increase saliva flow, you may paradoxically experience that your lips feel dry for a few weeks. This is because your lips need to drape over an increased bite height due to the appliance and may tend to dry out more during breathing at night.

Lip balm or Vaseline onto the first unites can help to alleviate this dryness until your lips learn to adapt to the increased volume.

#### **Changes in breathing**

Having an occlusal appliance in your mouth may change the way you breathe, especially if you tend to be a mouth breather. However, most appliances will actually work to bring your lower jaw forwards or open your bite height and can actually be beneficial in opening the airway.

Air holes are often cut into your appliance to allow free airflow when you have the appliance in place. Patients who already sleep with a CPAP device due to sleep apnoea will usually find added benefit with an occlusal appliance that brings the lower jaw forward.

#### **Sensitive or light sleepers will need more adaptation time**

Some patients are very sensitive sleepers and introducing an occlusal appliance can upset sleep routine. It is not unusual for patients to wake up with the appliance having been removed in their sleep and lost somewhere in the duvet!

We therefore encourage slowly increasing the hours per night as your body gets used to sleeping with it and not to be too troubled if you tend to remove it during your sleep. Eventually you will adapt until you can keep it on all night for maximum benefit.



### Bite changes

All occlusal appliances are made to cover all of the teeth. We do not normally prescribe appliances that only cover a few teeth. This is so that there is no differential tooth movement where some teeth can over erupt or be depressed altering the level of the bite can occur with longer term wear.

However, an occlusal appliance will relax the muscles of your jaw and allow your joints to settle fully into their sockets. This may lead to a perception of your bite having changed.

However, what is actually happening is that the true relationship of your upper and lower jaws is being established or "reset", or "deprogrammed" as we call it. A bite analysis can then be carried out to ascertain what changes are required to establish a correct dental bite once the relationship between the upper and lower jaws has been stabilised.

This may constitute:

- Minor adjustments to your teeth in a systematic way (equilibration)
- Orthodontics which is also usually followed by more minor equilibration
- If there is a significant discrepancy in your bite then rarely we may recommend that our orthodontist and maxillofacial surgery team assess you to see whether corrective jaw surgery may be required to provide you with a stable bite for the longer term.
- If none of these are practical or solves the problem completely, then we may recommend that you continue wearing an occlusal appliance indefinitely to protect your teeth and reduce the risk of future dental damage and TMJ disorder.

Please see [LCIAD info sheet 10 - Occlusal analysis TMD deprogramming and equilibration 2026](#) for more information on this.

#### 4. Advice to improve your compliance and wearing experience

- Try to wear your appliance for just a few hours on the first few nights. The time it takes to adapt is highly variable between patients and may vary from one night to a couple of weeks. Take your time. Every period of wear will improve the situation.
- Try to also wear the appliance during the day if you can when watching television, reading, doing the ironing, going for a walk etc. and you are not required to eat or talk in public.



- Please keep the appliance clean using a normal nylon brush (which will be provided for you when we fit the appliance) and simply liquid soap and cold water. Lather the appliance up so that the brush tips enter all of the nooks and crannies of the biting surface and especially also the air channels.
- Please bring the appliance with you to hygiene visits and we can clean it using a bicarbonate spray if any deposits are built on it. Please do not use any abrasive cleaners such as toothpaste.
- If there is heavy soiling or hardened deposits on the appliance that do not come off easily, please use a dedicated cleaner such as [Retainer Brite](#), though this should not be necessary frequently and it is normally better to bring the appliance into us for professional cleaning.

### 5. How successful are occlusal appliances?

A successful occlusal appliances based on the quality of the diagnosis and good compliance with consistent wear on the part of the patient. An appliance made purely on a clinical examination may not be successful if it is not clear what exactly is happening inside the jaw joints.

We would therefore normally prescribe an MRI to get a clear image of what is happening with the joints and the associated protective discs. The wrong type of appliance can actually make matters worse if there are dysfunctional changes within the joints themselves so it is very important to have a complete diagnosis at the start of treatment.

The vast majority of our patients, well in excess of 90%, will see some benefit to wearing a correctly designed appliance. Pain levels will go down, muscles will relax, sleep is often improved and reproducibility and range of jaw movements increases.

However, sometimes the damage that has already been done to the jaw joints and to the teeth may not be reversible and the appliance will simply then be a way of improving what is possible as far as possible and preventing deterioration. Sometimes this may take up to 6 months of wear.

It must be remembered that occlusal appliances are non-invasive and non-surgical methods of addressing occlusal and temporomandibular joint disorders as well as being diagnostic tools in their own right.

How you respond to an occlusal appliance will therefore depend on a number of factors but it is our experience and having provided this kind of treatment for many years is that patients virtually never get worse and invariably improve by considerable degree.



This may then need to be followed up by stabilisation in the form of either equilibration, orthodontics or reconstructive dental work or a combination of all three to maintain the bite and dynamic movements at the correct jaw relationships.

In patients that have non-reversible joint damage, we would normally recommend indefinite appliance wear and on rare occasions may refer you to a specialist maxillofacial colleague to discuss the options of jaw joint surgery if we feel this is appropriate. However normally this occurs in less than 1% of patients.

### 6. What are the alternatives?

The provision of an occlusal appliance is the first step to stabilising an unstable situation.

There are not really any good alternatives to an occlusal appliance where one is indicated. However, it should be remembered that an appliance is a tool for diagnosis and initial conservative treatment of a problem that may also be supplemented by a variety of other treatment modalities including:

- Correctly prescribed jaw exercises and physiotherapy after suitable diagnosis.
- Muscle relaxants or localised botulinum toxin injection in case of severe muscle spasm that does not resolve conservatively.
- Orthodontics to align teeth into their correct positions once the jaw relationships have been established and the muscles are relaxed and the joints are fully seated.
- Occlusal equilibration (targeted and planned bite adjustments following bite analysis). This is also usually required after orthodontics since whilst orthodontics may put the teeth in the correct positions, it cannot alter their shapes and minor targeted tooth shape changes will be required to ensure that your bite fits perfectly the end of treatment.
- If your teeth or existing dental restorations are worn or damaged, they may need replacement or further restorative work may be required to establish the ideal bite and protect your teeth from further damage as part of a planned dental rehabilitation.
- If the positional discrepancy between your upper and lower jaws is particularly large when your joints are fully seated, then an assessment for possible jaw surgery would be recommended with our orthodontist and orthognathic surgery team with whom we work closely. These bites are known as "large horizontal / small vertical (Hv)" bites where your correct jaw position does not allow teeth to mesh together properly as the lower jaw drops back a very long way. This can easily be diagnosed during a bite analysis.



## 7. How long will my appliance last?

Modern occlusal appliances are made using high-quality, proprietary, dense, clear acrylic blanks that are precision milled to very small tolerances using modern CAD/CAM techniques in a dental laboratory. They are inherently very strong and it is rare that they can be easily fractured with normal function.

It is certainly possible with someone for a very strong bite to gradually damage an appliance, but this is quite rare.

We normally design appliances so they have a minimum thickness of around 4 mm between the back teeth, though in some designs these appliances can have greater thickness depending on the relationship between your upper and lower jaws.

- A directive appliance (what we normally call a **protrusive appliance**) which keeps your lower jaw positioned forwards in a certain place to unload your jaw joints can normally be used for many years. Once designed, it is relatively straightforward to mill a brand-new one if the appliance begins to deteriorate or get damaged.



- An appliance that allows the lower jaw freedom to move around without bite interferences to allow muscle relaxation (a so-called **Michigan appliance** for the upper jaw or a **Tanner appliance** for the lower jaw) may wear more quickly due to the fact that the teeth will actually be skating around on the surface and tend to scratch and wear the surface more.







Whilst there is obviously an initial outlay in making these appliances due to the length of time it takes to take clinical records and verify them and to fit and adjust the appliances, subsequent appliances can normally be made for a fraction of the cost as it simply involves reprinting an existing digital file. This has led to a reduction in overall costs of replacement appliances long-term compared to older methods of manufacture.

There are many types of occlusal appliances with many carrying the names of clinicians who have designed variations on a theme. However, the three appliances named above are the main workhorses of most dental surgeons around the world who are familiar with treating occlusal dysfunction and of long and proven track records of success.

Finally, please keep your appliances away from pets and in a safe box - dogs tend to like them as chew toys!

### 8. How long do I need to wear the appliance for the future?

This depends entirely on the initial diagnosis, the extent of remedial dental work that is carried out to stabilise the situation following diagnosis and the condition of your jaw joints.

Some occlusal appliances designed to simply relax muscles and deprogram or reset the bite can work in as little as 10 to 14 days.

Other appliances that require repositioning of the jaw to alleviate destructive forces on dysfunctional jaw joints may need to be worn for up to 6 months. It takes this long to see whether joint changes or disc displacements can be reversed using a follow-up MRI after six months.

If there is improvement, then usually the bite is then stabilised using equilibration or some form of dental restorative orthodontic stabilisation to maintain the bite.

If there is no improvement in jaw joint anatomical derangement, then indefinite wear of a protrusive appliance to keep your lower jaw downwards and forwards may be indicated to reduce the risk of longer term damaged your jaw joints.

You will be informed of the nature of your problem and the likelihood of length of wear required following proper consultation and imaging.

### 9. What if the appliance is too loose or too tight?

We work to quite close tolerances and know what settings our technician needs to use on the milling machine in the laboratory to provide the perfect fit.

However, every patient is different and if your appliance proves to be too loose and keeps dislodging or is too tight and is difficult to remove and place without discomfort, we can easily change the settings slightly and re-mill a new one at no additional cost.



#### 10. What if my pain does not improve?

If you have been in pain from your jaw joints and muscles for a long time, the appliance does need some time to work. It takes time for chronically spasming muscles to relax, sometimes as much as two or three weeks. Supplemental physiotherapy and medication as indicated above may also help.

Some appliances will need some adjustment as the muscles relax and the bite position on them changes as your lower jaw repositions. We would normally book a couple of review appointments at 2 to 3 weekly intervals to adjust until there is no more change, indicating a stable relationship has been reached and the muscles are fully relaxed.

Sometimes, when a patient starts to wear an appliance, they get a spasm triggered by holding their jaw in a certain position when the muscles are already very tense. This can be quite painful like a cramp but is normally very temporary. We will prescribe anti-inflammatories or muscle relaxants as necessary if this occurs. In our experience this occurs in less than 5% of patients and normally resolves in a couple of days. Please persevere, the appliance will actually be helping and it is better to wear it than to leave it out.

If your pain persists or increases during appliance wear, this is highly unusual and an alternative reason for your pain should be investigated. It is extremely rare for an occlusal appliance to increase pain levels if your disorder is correctly diagnosed and the appliance is correctly designed and made.

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