TMD/MPD Tx for Patient Handouts.

If you have been diagnosed with one of the following conditions, this information will be useful in managing your condition:

- **Jaw muscle pain (Myalgia).**
- **TMJ pain (Arthralgia).**
- **MPD (Myofascial Pain & Dysfunction), MPD with Referral, TMJ Disc Displacement with or without Reduction, (DDWR, DDWOR)**

Stages of Treatment:

- Diagnosis and recommended X-Rays and possibly MRI of TMJ.
- Medications for acute pain/swelling if required.
- Behavioural.
- Physiotherapy.
- Occlusal appliances, sometimes described as a splint, orthotic, or night-guard.
- Botox if pain not managed already.
- Arthrocentesis is a procedure to flush out the joint should it be needed.
- Surgery is the last choice, rarely required.
- **Never** have irreversible dental rehabilitation designed to give a new bite until all symptoms have proven to have been passed. This includes, crown and bridge work, orthodontic work, or major bite correction work called occlusal equilibration.

Diagnosis:

- We will frequently request you have both an OPG X-Ray (Full Mouth), and TMJ X-Rays before your first visit which is typically a long consultation.
- You will require an X-Ray referral which you may collect from here or us send it and through to the Radiology practice. You will require your Medicare card and Qld X-Ray will charge a co-payment of $50 on your OPG. No appointment is required there for these X-Rays.
- After seeing you, we may refer you for a TMJ MRI which is a procedure that will cost you around $400-$450.
- We will likely refer you to other health professionals after your initial visit who are needed in the team management of these problems.

Medications may be prescribed:

- Mild analgesics are readily available over the counter at your chemist and Aspirin, Paracetamol, or Ibuprofen are all potentially useful.
- Stronger pain killers are infrequently recommended.
- Muscle Relaxants like Valium, Temazepam, or Cyclobenzaprine may be prescribed.
- NSAIDs (non-steroidal anti-inflammatory drugs) like oral Indomethacin (Naprosyn),

Diclofenac (Voltaren or Voltaren Emulgel), Celecoxib (Celebrex).

- Your GP Doctor may prescribe Antidepressants in chronic pain cases including Tricyclic Antidepressants like Amitriptyline, or Nortriptyline.

Behavioural Therapy:

- Counselling & Education.
- CBT (cognitive behavioural therapy) through a Psychologist in chronic pain cases.
- Harmful Habit cessation.
- Self-treatment after instruction.
- Relaxation.

Counselling & Education:

- Just as effective as other modes and a necessary component in reducing pain and improving Quality of Life.
- Understanding the condition.
- Self-Awareness with forming habit of Tongue on "N" Spot, teeth slightly apart, breathing through the nose, into the tummy (diaphragmatic breathing).
- Use Sticky notes in key spots to remind you.
- Self-exercise.
- Self-massage.
- Thermal therapy.
- Dietary advice and nutrition and eating advice.
- Harmful habit identification, monitoring, and avoidance.
- Regarding diagnosis and favourable prognosis.
- Caution regarding occlusal adjustments, invasive, or irreversible treatments. Surgery absolute last resort and there is no guarantee of success with surgery.
- Reassurance of typical self-limiting period but with fluctuations of symptoms as stress varies in life.
- In chronic pain cases, the Central Nervous System has become hypersensitized, so it is often the source of your pain long after injury, inflammation or disease in your jaw muscles and TMJs have healed. This process is known as Central Sensitisation, and requires more than just physical therapy to manage, but also requires psychological care, so we will likely suggest you contact your GP Doctor to arrange a Medicare Mental Health Plan to reduce your cost for visits. A Physiotherapy Plan through Medicare will likely be needed.
- Do not become hypervigilant (too aware), by constantly checking noises, pain, or during any oral treatments.

- Relaxation eg yoga, meditation, Thai Chi, Apps from App Store, relaxing music in headphones/earbuds.
- Sensible sleep practices and sleep hygiene.
- Limit your use of analgesics.
- Avoid OTC devices (over the counter, and online purchase) at all cost, as they are likely to do more harm than good.
- Minimise caffeine intake.
- Avoid Doctor Shopping, as this is an area in which the majority of dentists have very limited knowledge and experience, and GP doctors have virtually no knowledge.
- Don't become a Google Expert.

Self-Exercise:

- Self exercises demonstrated here, and also demonstrated by other health professionals.
- An equally important element of management to other treatments.
- Do them with an established routine (3-4 times a day), like going to toilet brushing the teeth, and for a few minutes each time. Sticky notes helpful.
- Before bed, hot water bottle or similar heat source before anti-inflammatory gel.
- If before bed, apply anti-inflammatory ointment like Voltaren Emulgel.

Self-Massage Therapy:

- Masseter muscles, Temporalis muscles, and accessible other chewing muscles after Training as demonstrated below.
- Can be done in conjunction with Self-Exercise, and usually before.

Thermal Therapy:

- Ice for acute pain/swelling only during the first 72 hours.
- Heat for chronic injury or after acute symptoms managed, only after 72 hours.

Diet and Nutrition:

- Eat food that is Pain-free to chew, as opposed to just Soft Food.
- Progressively increase hardness over 2 weeks before return to normal food.
- Must use the jaws.

- Chew your food on the SAME SIDE as your injured TMJ.

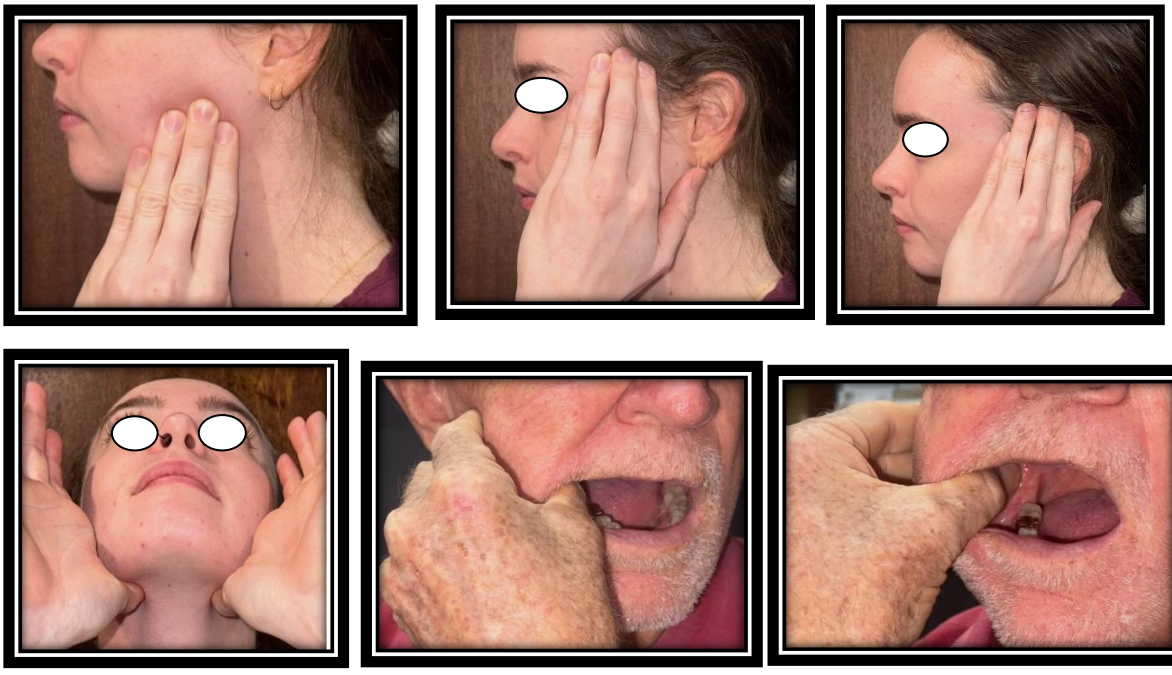
Parafunctional Behaviour:

- Identify non-nutritional chewing and biting, eg nail biting, chewing gum for prolonged periods, grinding, clenching, leaning on elbow with chin, or musical instrument playing like violin.
- Gum chewing is good to use for up to 20 minutes only. Encourage its use 3-4 times a day for up to 20 minutes, but not for longer periods.
- Monitor habits, perhaps using Bruxapp and Sticky Notes.
- Keep teeth slightly apart in rest position with tongue on palate, and breathing through nose as above in Self-Awareness.
- CBT with psychologist visits, apps, stick notes and verbal instruction for chronic pain.

Physiotherapy:

- Jaw exercises prescribed for pain, headache, mobility and reduces use of analgesics.
- Muscular and joint work, may include dry needling.
- Other Body Workers may become involved like Osteopaths, Chiropractors, Traditional Chinese Medicine Acupuncturists, Dieticians.

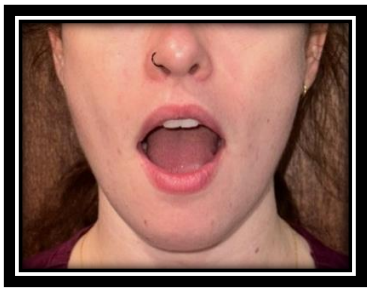
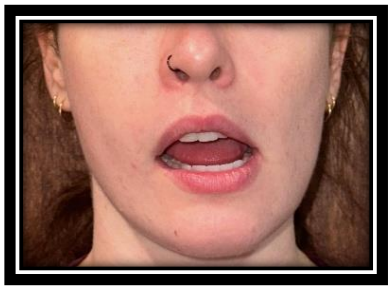
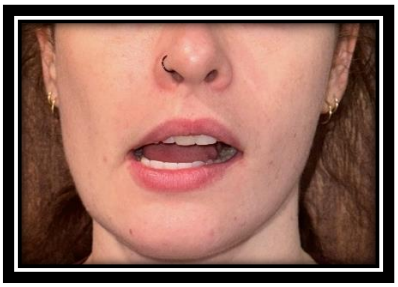
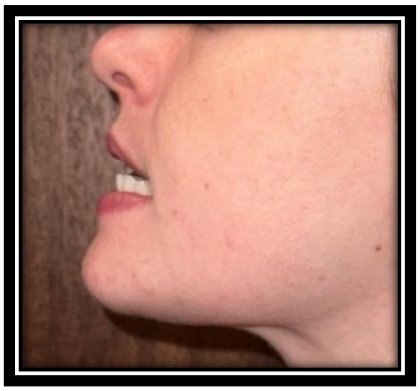
Self-Massage.



Self-Exercises:

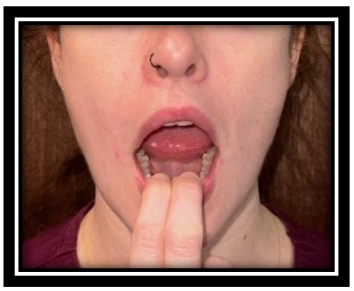
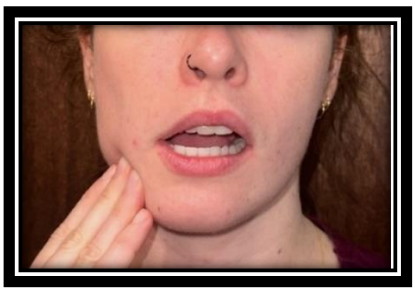
Without Resistance first.

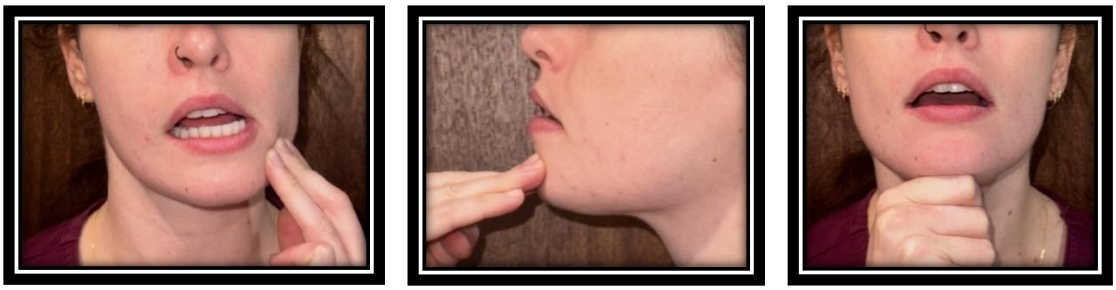
- It is good to do these in front of a mirror until they become a good habit.
- Open to the comfortable maximum, then as far to the left and right, and pushing the lower jaw forward to the point of minimal discomfort only.
- The second lot of Self-Exercise is with Resistance by pushing the fingers and maybe the thumb as well, against the direction the jaw is moving. The exercise of pushing the jaw forward is met with resistance pushing back in the opposite direction to the forward push.


Disposable Wooden Tongue depressors (tongue blades) can be stacked up on top of each other and laid sideways across the jaws and as the range of opening increases, add an extra tongue blade or two, until you reach your normal range of opening. Hold this between the teeth for 30 seconds or so. You will likely end up with 15 or 20 tongue blades in the stack, or even a few more.

Stretching thumb and fingers in scissor grip or tongue blades increasing in number.



Self-Exercise with Resistance.

In cases of Disc Displacement Without Reduction (DDWOR), often called a Closed Lock, the cartilage disc sitting between the head of the Jaw (condyle) and the base of the skull where the TMJ is positioned, is attempted to be manipulated back into the correct position by a Physiotherapist highly trained in this field.

The Condyle is supposed to remain in contact with the disc through the entire range of jaw movements, but in strong clenchers and grinders, often the lateral pterygoid muscle will displace the disc, usually pulling it in a forward direction and sometimes inwards or both.

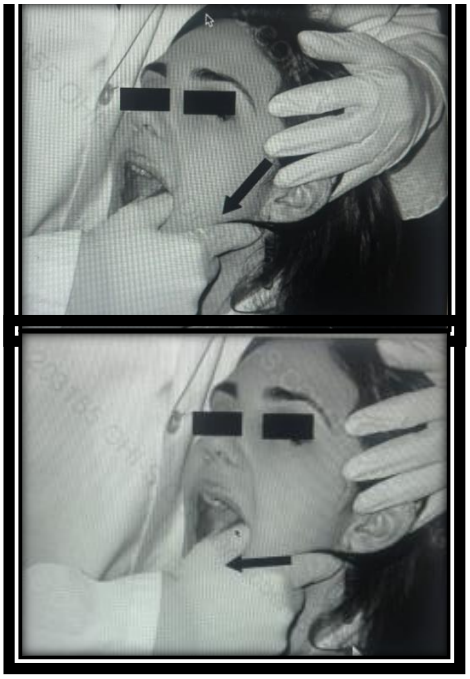
The ligaments that stabilise the disc in the TM Joint are permanently stretched and are not elastic, so do not shrink back, so the jaw rests on the highly sensitive retrodiscal tissues that are joined to the retrodiscal ligaments, and it is very painful biting on these tissues. The earlier it is recaptured in its correct position, the better the long-term outcome.

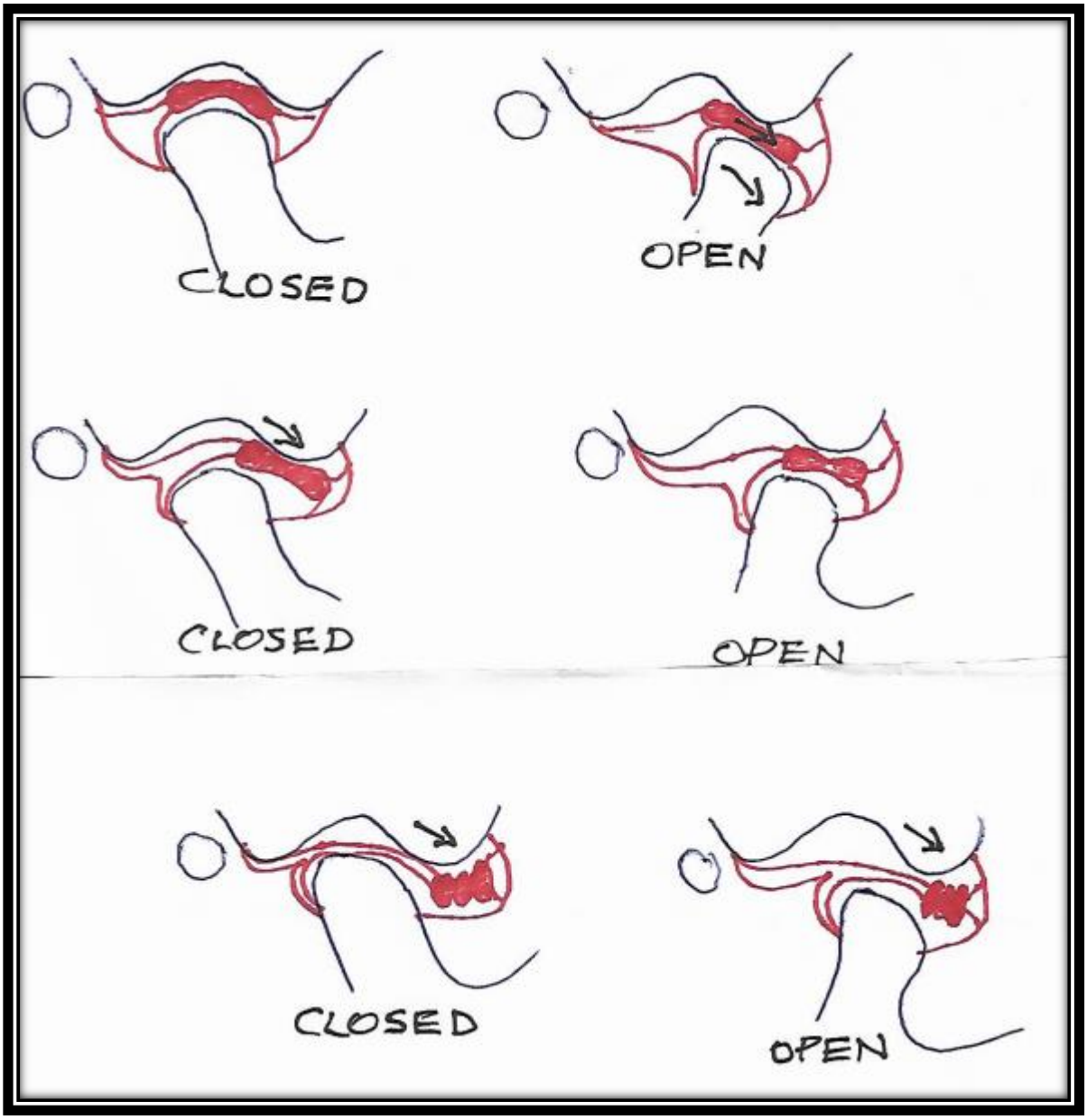
Left untreated, the retrodiscal tissues scar over and become fibrous and less painful. This is called a pseudo-disc formation, and the jaw learns to function around this, but invariably the range of movements of the jaws is considerably reduced from that point on.

Early attempts at recapturing this disc should be undertaken and preferably within 6 weeks of the original event where the disc is pulled off the condyle into the front joint spaces.

Sometimes the jaw is manipulated in the dental chair or by the Physiotherapist or under a General

Anaesthetic to recapture the disc position.





Top Illustrations show the Disc in the correct position where the TMJ cartilaginous Disc moves in harmony with the Condyle through the range of jaw movements.

Middle illustrations show DDWR (Disc Displacement With Reduction) where the Lateral Pterygoid Muscle has displaced the disc forwards (or other directions sometimes), and there is a Click when the condyle moves forward, on opening, and rides over the rear edge of the disc and it falls off the back of the disc on closing again, often with a quieter click.

The Lower illustrations show DDWOR where the Disc has been pulled so far forward by the Lateral Pterygoid Muscle that the Condyle can no longer ride up onto the Disc at all, and the Disc is distorted and the jaw opening becomes greatly reduced in a Closed Lock.

Recapturing the disc position in cases of DDWOR (Disc Displacement Without Reduction) involves manipulation done by a Dentist, Physiotherapist, Oral and maxillofacial Surgeon, or Oral Surgeon.

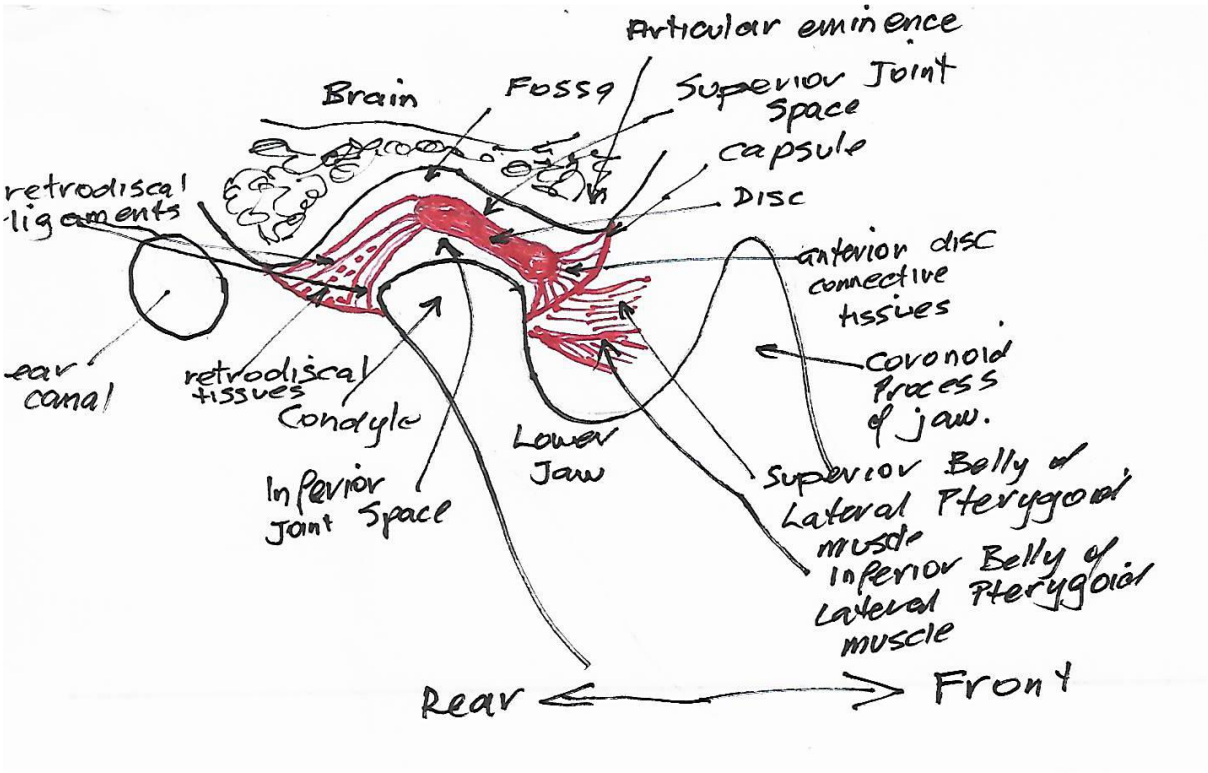
If reduction is achieved and is stable, no further treatment is required.

If you still have pain, you will require an occlusal splint.

If manipulation is unsuccessful in reducing the displaced disc or keeping it stable once reduced, you will need time to encourage pseudo-disc formation by the use of the exercises used in jaw pain.

During this time, you will still experience discomfort or pain, in which case other choices for these Closed Lock Cases including arthrocentesis, arthroscopy, or arthroplasty may be advised, but these are more costly and often involve delays waiting to be seen by the Specialist and exercises in most cases are just as effective.

Surgery to your TMJ is the last option but quite rarely advised.

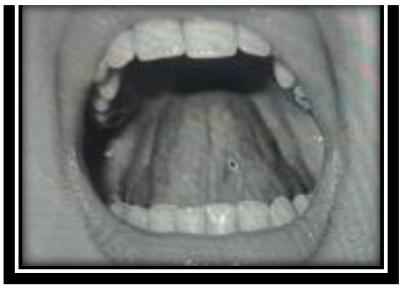


Degenerative Joint Disease, Arthrosis, is usually from Osteo Arthritis:

- Difficulty in controlling jaw movement often.
- Crepitus is a grating or crunchy feeling/noise in the TMJ on moving it.
- Often degenerative disease is painless and does not require treatment.
- Careful controlled movement is required, as with the above self-exercises.
- It is often picked up on X-Rays of your TMJs, like an OPG X-Ray, and its mere Presence infrequently requires attention.

DISLOCATION (Luxation or Subluxation) where the jaw locks in an open position or is very difficult to close the mouth by wiggling the jaw into different positions yourself.

- Acute Open Lock Dislocation requires urgent treatment and is very distressing**.**
- Only treat if inflammation or pain on maximum opening.
- Avoid excessive translation.
- Yawning support of chin AND doing Tongue Scrape on Palate while yawning, by placing the tongue on the palate as soon as you are about to yawn.
- Great care if chewing very hard food is needed.



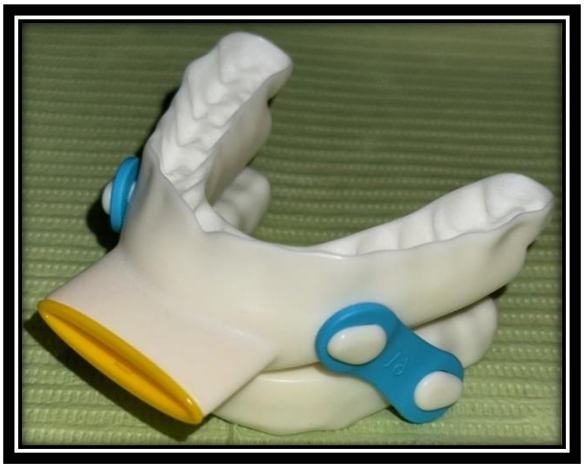
Any patient who has Obstructive Sleep Apnoea (OSA), whether formally diagnosed already or not, should have a diagnostic sleep study done before making any splint.

We will question you regarding any excessive drowsiness and other findings that suggest this possibility, before we make you any type of splint, and arranger your Sleep Test if advised.

The reason for this is that any splint will reduce the space available for your tongue, moving it in the direction of the throat, and potentially increase OSA.

If you are already successfully using CPAP for OSA and wear it all night, every night, a splint may still be worn, but if you are not receiving treatment, we may suggest a Mandibular Advancement Splint, MAS.

We deal extensively in Sleep Medicine as well as Orofacial Pain, and TMJ disease.



OCCLUSAL SPLINT USE

- Severe problems often occur with OTC splint (over the counter) use because many are Googling and finding cleverly marketed devices that are cheap, but often cause

irreversible damage.

- Many dentists make Occlusal Splints now, but a significant number are placed and never adjusted (majority).
- Most Dentists still think occlusion (the way your top and bottom teeth meet) is the cause of the TMD problems. We know now that this rarely affects your TMJ function.
- The only splint type made by most dentists is a Flat Plane Splint, and often this type Will worsen the problem, or inadequately manage it.
- Never is a splint used alone, but always with the previous measures. A Splint is NOT the first line of treatment.
- Education alone more effective than splint alone as the day is longer than the night with the splint worn, especially after 12 months.
- A combination of massage, plus Botox is sometimes needed in bruxers (severe tooth grinders and clenchers).

Splint/Orthotic Types we typically use:

Some splints are designed to be a long-term appliance, while others need to be worn during the symptom period of the TMJ or muscular problem and some need to be gradually withdrawn from use. We will advise accordingly.

Aqualiser:

- This is a rescue appliance and is pre-made and does not require adjustment. It is a very low cost.
- It is used in an acute closed-lock situation (DDWOR) and is able to be worn for a few weeks.
- When this form of disc displacement occurs, often there is a sudden change in bite which is very uncomfortable, and this appliance evens the contact of all teeth.

Flat Plane Splint, or Stabilisation Splint:

- Very specific design requirements to get best outcome.
- We do not make the dual laminate design with the soft flexible inner lining because they are bulky and crack and break far more frequently.
- Once inserted, this type requires regular adjustments.
- This design is useful in some cases, but other cases will become worse with this design. Because of the above problems, we make this type infrequently, yet the majority of dentists only really ever use this design. Over 50 years of use of this type, has taught me that it is not necessarily the right first choice splint.

Plain flexible Nightguard.:

- This type is only ever used for a patient who is a strong tooth grinder (bruxism) but has no pain in the jaw muscles and no TMJ symptoms or headache.
- It is the cheapest and requires virtually no adjustments, once inserted.

ON-3 night-time Orthotic:

- This is an anterior positioner splint/orthotic and involves both a 3D printed nylon appliance in upper and lower jaw.
- It requires little adjustment after insertion, and is minimal bulk, and quite comfortable to wear.
- It is designed more for patients who have disc displacement with reduction and a residual click, although it is also used in some severe grinding/clenching patients, as it reduces the force applied by the masseter and temporalis muscles.
- It may be used in mild OSA cases as it does push the lower jaw a little further forward acting like a MAS.

Farrar Splint:

- This is an acrylic, rigid, single arch appliance designed to be worn in one jaw only and also an anterior positioner-style splint similar in application to the ON-3 splint.

Gelb Splint:

- This is designed more for those who have disc displacement without reduction who have had manipulation to reposition the disc in the TMJ and where we are trying to maintain its correct position.
- It is typically a lower, acrylic design with tooth indentations in the surface to guide the jaw into the position to maintain the disc position.

Pivotal Splint:

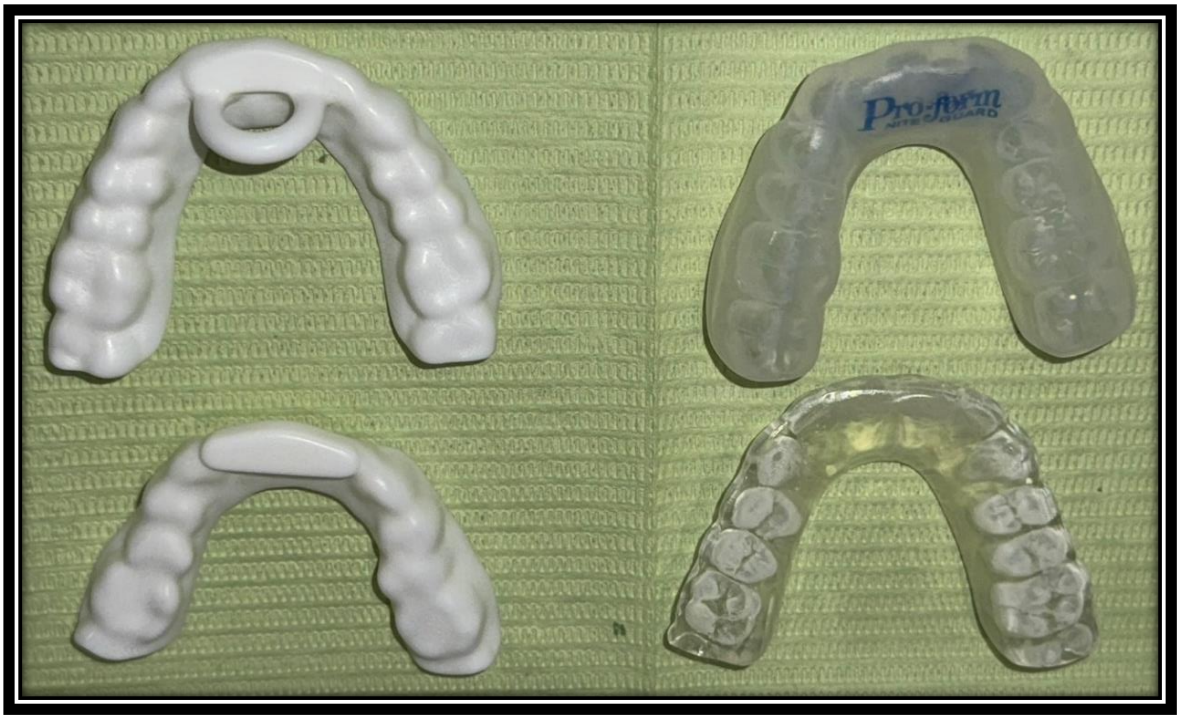
- This appliance is made specifically for cases of disc displacement without reduction (DDWOR) and is designed to assist in recapturing the correct position of the disc in the TMJ.
- It is a single-arch rigid, acrylic appliance.

Day-Time Orthotics:

- These appliances are thin, clear, fairly rigid appliances.
- They are designed to lessen the jaw muscle activity of those patients who have headaches and jaw muscle pain caused by grinding and clenching the teeth during the day due to stress.

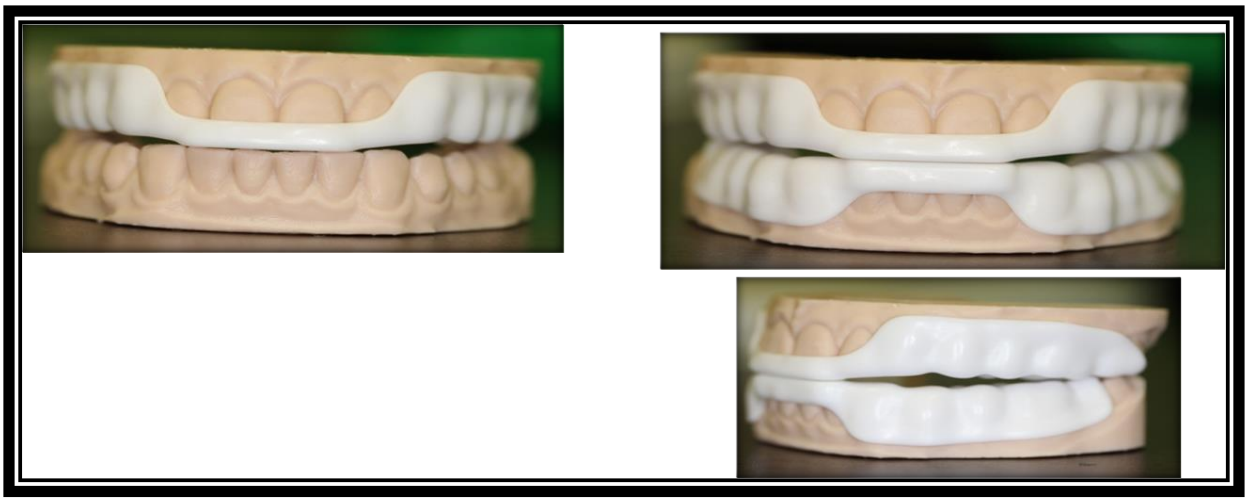
NTI-TSS Appliance:

- This is an appliance made specifically for people who have migraine associated with the strength of their grinding and clenching after other causes of migraine have been investigated. It is a rescue appliance.
- It is an appliance we make very infrequently and is made in a single visit.
- We need the patient to ensure it remains tightly fitting and difficult to remove, as it is small enough to potentially swallow.
- For those few patients who wear them, we typically would never go to sleep without wearing it.

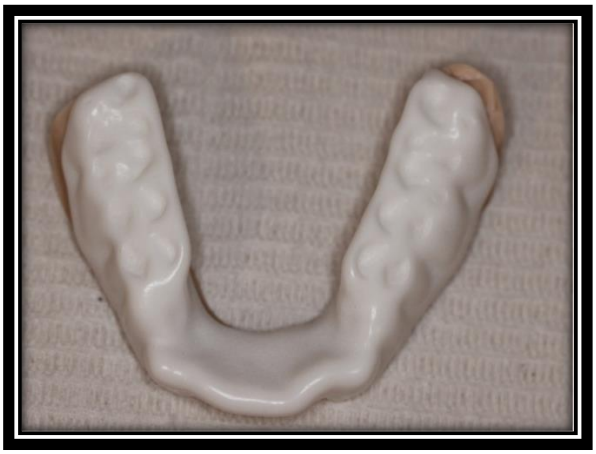


ON-3 Orthotic

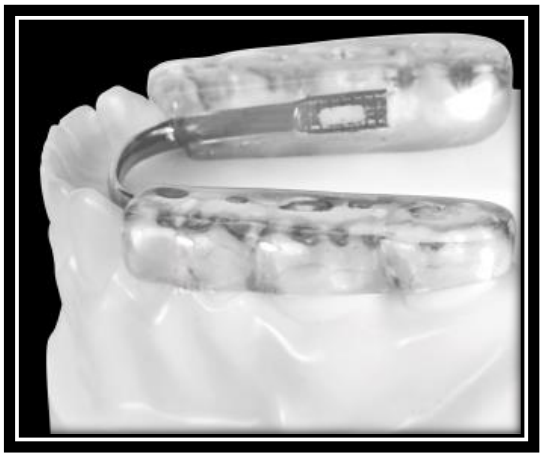
Soft Nightguard & Flat Plane Splint.



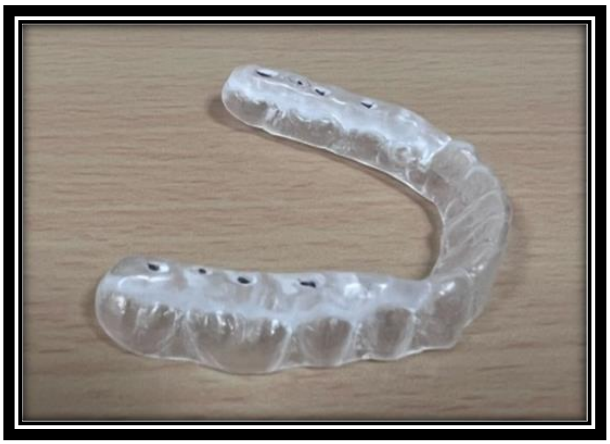
More views on ON-3

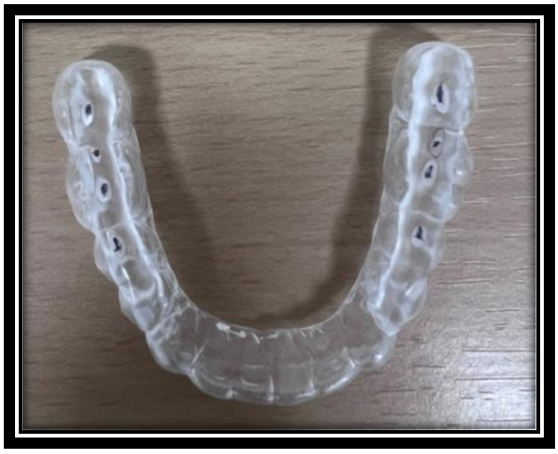


Nylon Gelb Splint

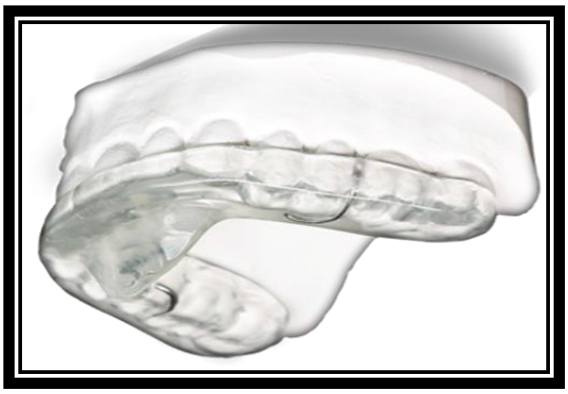


Acrylic Gelb Splint



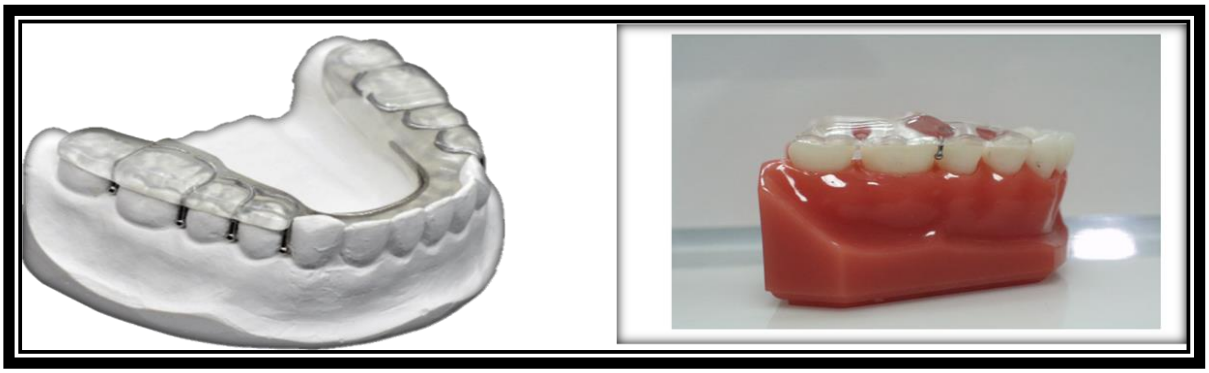


Daytime Orthotic Splint



Acrylic Farrar Splint

NTI Appliance



Gelb Splint

Pivotal Splint