SOUNDFAIR

TINNITUS AND DISORDERS OF THE TMJ AND NECK

FACT SHEET

Learn more about the jaw joint – temporo-mandibular joint or TMJ – and how problems with it or the neck may affect tinnitus.

INTRODUCTION

There is a close relationship between certain problems with the jaw joint (also called the temporo-mandibular joint or TMJ) and tinnitus.

Scientific studies have shown that people with TMJ problems are more likely to suffer from tinnitus. Similarly, some individuals who have sustained an injury to their neck may also suffer from tinnitus. Some people with either TMJ problems or neck problems are able to alter the intensity of their tinnitus by moving their mouth, jaw, face and neck. Successful treatment of the underlying problem can be associated with an improvement of tinnitus symptoms.

WHAT IS THE TMJ?

The TMJ is a complex joint as it has to allow for side-to-side and front to back movements that take place during chewing. The muscles that make the jaw move are some of the most powerful in the body. This means that quite large forces have to act through the TMJ. As a result, the joint is at risk of damage just as much as any other weight-bearing joint in the body. TMJ problems can be due to trauma, such as a 'pulled muscle' or a dislocation to the fibrous disc that sits in the hinge joint. Other TMJ problems may be due to longer-term problems such as arthritis within the joint.

THE SYMPTOMS OF TMJ PROBLEMS

The usual symptoms of TMJ problems are pain, which may be felt as earache, clunking of the jaw, or limitation of movement, causing difficulty in opening the mouth. Other symptoms that may arise are swelling of the joint, headaches, neck pain and tinnitus. Some people notice that when stressed, they grind their teeth - particularly at night - and this can put pressure on the TMJ.

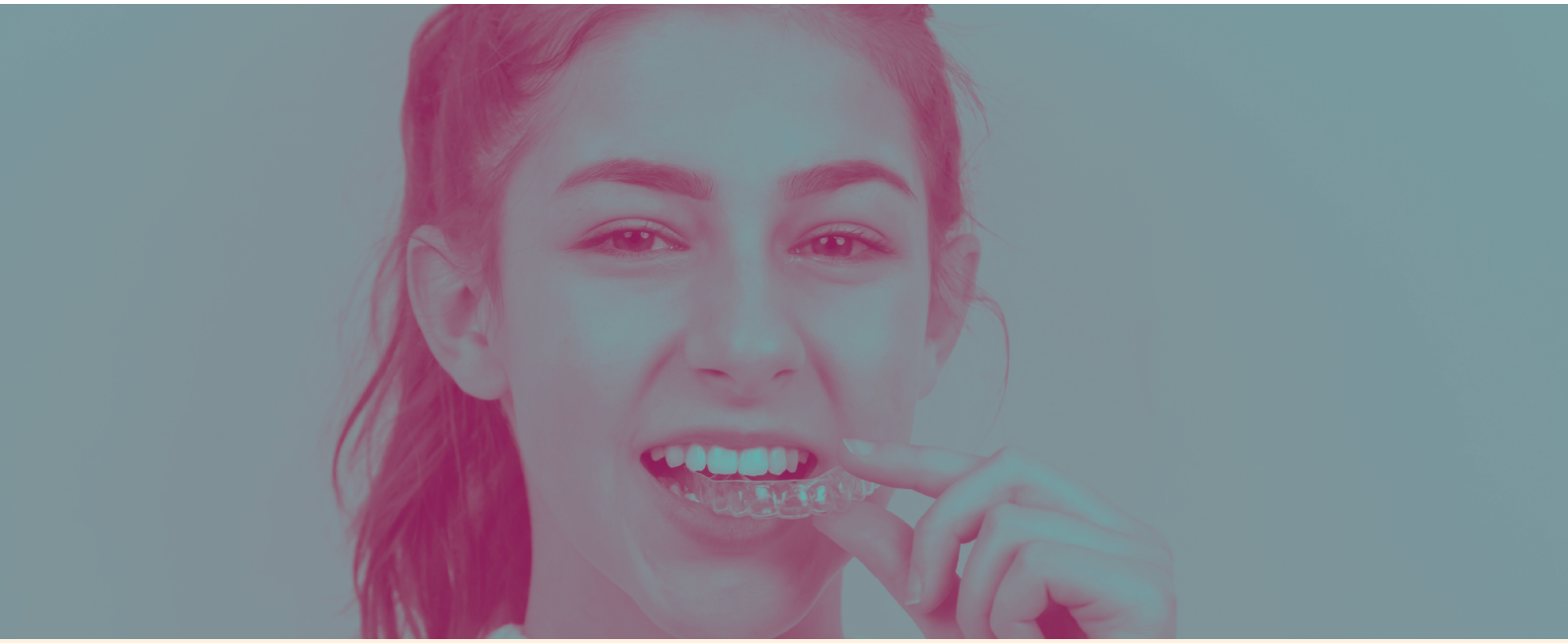
HOW DOES THE TMJ AFFECT TINNITUS?

There are three main theories behind why problems with the TMJ may cause tinnitus, or make it worse. Firstly, the chewing muscles are near to some of the muscles that insert into the middle ear and so may have an effect on hearing, and so may promote tinnitus. Secondly, there can be a direct connection between the ligaments that attach to the jaw and one of the hearing bones that sits in the middle ear. Thirdly, the nerve supply from the TMJ has been shown to have connections with the parts of the brain that are involved with both hearing and the interpretation of sound. The general discomfort associated with TMJ problems can also aggravate any pre-existing tinnitus.

HOW CAN TMJ PROBLEMS BE DIAGNOSED?

Your dentist can often diagnose TMJ problems on clinical examination. If necessary, the dentist will refer you for further tests. Disorders of the TMJ may be investigated with magnetic resonance imaging (MRI) scans and even, on occasion, by arthroscopy, which is a small procedure where a tiny camera is inserted into the joint.

SOUNDFAIR



> My dentist gave me a mouth guard to wear at night to help stop me grinding my teeth – I sleep better and my tinnitus isn't as intrusive.

WHAT CAN BE DONE ABOUT IT?

A variety of treatments are available to treat TMJ disorders. If your tinnitus is related to your TMJ problem, the tinnitus may improve as the TMJ problems get resolved.

There are some simple measures that can help TMJ problems, such as a change to a soft diet, jaw muscle exercises or the use of anti-inflammatory medicines and painkillers. For people who grind their teeth or clench their jaw, a bite-appliance may be made that corrects the way in which the jaw works and reduces the stresses and loads on it. This can be disposed of when normal function is restored. In exceptional cases a specialist dentist, known as a maxillo-facial surgeon, may be required to perform surgery on the TMJ.

FURTHER READING

Björne A. 'Assessment of temporomandibular and cervical spine disorders in tinnitus patients.' Prog Brain Res. 2007;166:215-9.

Folmer RL, Griest SE. Chronic tinnitus resulting from head or neck injuries. Laryngoscope. 2003;113(5):821-7.

Levine RA, Nam EC, Oron Y, Melcher JR. 'Evidence for a tinnitus subgroup responsive to somatosensory based treatment modalities.' Prog Brain Res. 2007;166:195-207.

Shore S, Zhou J, Koehler S. 'Neural mechanisms underlying somatic tinnitus.' Prog Brain Res. 2007;166:107-23.

Vanneste S, Plazier M, Van de Heyning P, De Ridder D. 'Transcutaneous electrical nerve stimulation (TENS) of upper cervical nerve (C2) for the treatment of somatic tinnitus.' Exp Brain Res. 2010;204(2):283-7.

This factsheet is intended to be a guide of a general nature, having regard to general circumstances. The information presented should not be relied on as a substitute for medical advice, independent judgement or assessment by a healthcare professional, with consideration of the particular needs and individual circumstances. This factsheet reflects information available at the time of its preparation, but its currency should be determined having regard to other available information. Tinnitus Australia disclaims all liability to users of the information provided.

Author: John Phillips, FRCS (ORL-HNS)

The British Tinnitus Association (BTA) has given permission for the reproduction of their copyright material. The BTA does not accept responsibility for the accuracy of the reproduction.

ADDRESS

1 Hamilton Place,
Mount Waverley 3149
Phone: (03) 9510 1577
Email: tinnitus@soundfair.org.au

HEARING LINE

1300 242 842

For hearing, social & emotional support, & general enquiries, Monday to Friday, 9am – 5pm

LET'S CONNECT

#MoreThanJustEars
#MoreThanJustDevices

SOUNDFAIR
MAKING HEARING SEEN AND PEOPLE HEARD.