

# Headaches from jaw clenching

Patients presenting with tension-type headache are probably the victims of chronic clenching of their jaw, says holistic dentist Ron Ehrlich.

**D**octors and dentists see many patients suffering from various types of headaches. In Australia alone, it is estimated that there are up to three million migraine sufferers and up to seven million tension-type headache sufferers (36 per cent men and 42 per cent women).<sup>1</sup>

Studies have shown that a common factor to migraine and tension-type headaches may be chronic clenching.<sup>2,3</sup>

## Headaches often misattributed

Tension-type headache is the most common type of primary headache.<sup>4</sup> Lifetime prevalence of tension-type headache in the general population ranges from 30 to 78 per cent. It has been estimated that more than nine out of 10 patients who see a doctor for the relief of head pain could be helped if the proper diagnosis of muscle-contraction (now referred to as tension-type) headache were made.<sup>5</sup>

Yet despite tension-type headaches having the highest socio-economic impact, its cause and pathophysiology are poorly understood and it is the least studied of primary headache disorders.<sup>6,7</sup> However, muscle tenderness is a common feature, so a reduction in this could result in a reduction in craniofacial pain.<sup>3</sup>

Understanding tension-type headaches takes us back to basic principles. Pain is defined by the International Society for the Study of Pain as an unpleasant emotional experience caused by the activation of the nociceptive afferent system, involving both a peripheral (nociceptive) and central (emotional) components.



## SUMMARY

- Migraines and tension-type headaches are often due to sustained muscle contraction from jaw clenching
- In these cases, a simple dental appliance may provide patients with an effective, non-drug treatment for their pain

Nociceptors are activated by mechanical, thermal or chemical (lactic acid, inflammatory chemicals and histamine) stimulation. Soft-tissue lesions activate the nociceptive system, resulting in muscle contraction, tenderness and the pain of tension-type headaches.

The aim of treating these common headaches is to heal soft-tissue lesion and prevent activation of the nociceptive system. Reducing chronic contraction of posterior cervical muscles is central to healing these soft-tissue lesions. The relationship between oral motor activity, in particular jaw clenching and posterior cervical muscle activity, has been well documented.<sup>8,9</sup>

## Correcting causes and symptoms

A holistic approach to treating tension-type headaches is to reduce the activity of the nociceptive system by reducing the mechanical and biochemical stimulus that results in pain. This can be achieved by:

- reducing oral and posterior cervical muscle activity with the use of an appropriate oral appliance. The simple, cost-effective nociceptive

trigeminal inhibition (NTI) appliance prevents night-time grinding and, in doing, so reduces both oral and posterior-cervical muscle activity.

During function, teeth touch and cause contraction of jaw and neck muscles for 15–30 minutes per day. During clenching and/or grinding (parafunction), both jaw and posterior cervical muscles contract for hours. An oral appliance (e.g. NTI) reduces oral muscle activity and so reduces posterior cervical-muscle activity, facilitating healing of soft-tissue lesions;

- reviewing postural strains during sleeping, working and walking;
- optimising nutritional status to reduce potential biochemical stimuli and promote healing. ▽

## References

- 1 World Health Organization Report. Headache Disorders and Public Health: Education and Management Implications. Geneva: WHO, WHO/MSD/MBD/00.9, Sept 2000.
- 2 Shankland WE. *Compendium* 2002;23(2):1–6.
- 3 Haley D, et al. *Headache* 1993;33:210–3.
- 4 Araki N. *Nippon Rinsho* 2005;63(10):1742–6.
- 5 Diamond S. *The Practicing Physician's Approach to Headache* (2nd edn). Baltimore: William and Wilkins, 1978.
- 6 Krusz JC. *Prim Care* 2004;31:293–311.
- 7 Schulman EA. *Curr Pain Headache Rep* 2001;5(5):454–62.
- 8 Ehrlich R, et al. *J Orofac Pain* 1999;13(2):115–20.
- 9 Yoshimatsu T, et al. *Nippon Hotetsu Shika Gakkai Zasshi* 1989;33:1044–9.

Ron Ehrlich, BDS, FACNEM, Sydney  
Holistic Dental Centre