

Tinnitus and Its Role in Orthodontics

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Tinnitus is the sensation of a noise in the ear or head when no apparent source for the noise is evident. Tinnitus may be either subjective (perceived only by the patient) or objective (perceived by an examiner also). Virtually 95 to 98% of tinnitus is subjective, and 65 to 98% of tinnitus is idiopathic [1]. Tooth movement during fixed orthodontic treatment may be a factor which may lead to tinnitus in adult patients. This occurs due to a change in the contact between maxillary and mandibular teeth which leads to the formation of a new sensory engram. As adaptation is slow in adults, the temporomandibular joint may degenerate leading to disorders. Tinnitus has been seen in patients with a previous history of temporomandibular disorders (TMDs). To identify an associated disorder, the history is exceedingly important, because certain reversible problems (e.g., recurrent exposure to loud noise), drugs producing tinnitus (e.g., aspirin or quinidine), barotrauma from scuba diving, renal disease with ototoxic drug exposure, or lymphoma treatment involving ototoxic drugs may be discovered [2]. The examiner must quickly run through a list of various groupings of disorders. These include otologic, dental and orthodontic, traumatic, metabolic, neurologic, pharmacologic, or psychiatric.

A throbbing sensation in the ear or head may indicate objective tinnitus. The patient may mention that lying supine, rotating the head, or pressing on the neck will either exacerbate or eliminate the noise. Only rarely, however, can a cause amenable to medical or surgical treatment be identified in subjective tinnitus cases [3]. In most individual cases, it is impossible to determine the cause of tinnitus. In orthodontic patients, many

high points may be present (when the cusps of the teeth occlude directly on the bracket or band) which leads to inadequate or incomplete intercuspation. This can be prevented by bonding the brackets and bands 0.5 mm clear of the opposite teeth. Occlusal forces generated at these high points may be causative factor for tinnitus as the TMJ is located next to the ear ossicles.

In all, further studies need to be done in order to establish a direct relation between orthodontic treatment and tinnitus. Few studies have been done but no correlation was found. Debonding of brackets had been done in patients with tinnitus, but even after 2 months of debonding, the tinnitus did not subside. Hence etiology of tinnitus is very important and no study directly links orthodontic treatment to it.

References

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