

lingual instrumentation to protect the lingual nerve. This group of practitioners advocate the raising of a buccal muco-periosteal flap with removal of only buccal bone along with sectioning of the lower third molar tooth to allow its removal.

The above technique is suitable for simple teeth extracted under out-patient local anesthesia; however, for more difficult cases many surgeons still prefer to raise a lingual flap to allow insertion of an instrument to protect the lingual nerve. This has led to differences in opinion regarding which technique carries the lowest morbidity to the lingual nerve.

I consider that raising a wide tension-free lingual flap, which allows for the insertion of a wide metal retractor to protect the lingual nerve, does not increase lingual nerve morbidity. I will outline the surgical technique and present the results of a 20-year retrospective audit of the technique.

I hope that my session will stimulate debate about the differing surgical techniques and when it may be appropriate to use each technique. There is also a developing viewpoint that de-coronation of the impacted lower third molar may provide an even safer alternative method of treatment to either of the above methods.

References

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The Effect of Injury and Protocols for Management

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There are many different causes and mechanisms and lingual and inferior alveolar nerve injury. This talk will review the different types of mechanical injury that may occur to either the lingual or inferior alveolar nerves during third molar removal, together with likely clinical sequelae. The effects and some common surgical medicaments — BIPP (bismuth iodoform paraffin paste), Surgicel (oxidized regenerated cellulose), Whitehead's varnish (compound iodoform paint) and Carnoy's solution (ethanol, chloroform and acetic acid) - on neural function will also be reported.

The majority of lingual and inferior alveolar nerve injuries result in a transient sensory disturbance but in some cases permanent paraesthesia, hypoesthesia or, even worse, dysesthesia can occur. Structural changes within the neuromas may play a role in the development of these persistent sensory disorders. The results of detailed light and electron microscopical studies that have examined lingual nerve neuromas removed from pa-

tients, and correlated the histological changes with the clinical symptoms, will be discussed.

Finally, the importance of early evaluation of the injury type and the subsequent monitoring of recovery will be outlined; together with algorithms for the management of both lingual and inferior alveolar nerve injuries.

References

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 Robinson PP, Loescher AR, Yates JM and Smith Git *British Journal of Oral and Maxillofacial Surgery* 42; 285-292, 2004.
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The Results of Nerve Repair and the Management of Nerve Injury-Induced Pain

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There is good evidence to indicate that trigeminal nerve repair can improve the level of sensory recovery. In a prospective quantitative study of 53 patients who had lingual nerve repair, we found a significant improvement in the results of sensory testing, and patients reported that the procedure was worthwhile. However, the level of recovery was variable and never complete. Furthermore, the number of patients suffering from injury-induced pain was not reduced, although the level of the symptoms often declined. More recent observations on a group of 20 patients who had undergone inferior alveolar nerve decompression revealed significant improvements in sensation and reductions of dysesthesia, but the level of improvement was small.

In laboratory experiments, we have sought an explanation for the development of injury-induced pain (dysesthesia) in some patients. Damaged inferior alveolar and lingual nerve fibers developed spontaneous and mechanically-induced discharge and this was associated with an accumulation of neuropeptides, specific sodium channel sub-types, and nitric oxide in the damaged fibers. The application of corticosteroids to an experimental injury site decreased the mechanically-induced discharge, and carbamazepine reduced the spontaneous discharge in some axons. Studies on lingual nerve neuromas taken from patients undergoing nerve repair also revealed an accumulation of neuropeptides, as well as inflammatory and structural changes, but the presence of most of these features did not correlate directly with the patients reported symptoms.