Prevention of lingual nerve injury in third molar surgery: Literature review

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Purpose
To identify any factors that could aid the surgeon in preventing or minimizing the risk of lingual nerve injury during third molar surgery.

Materials and Methods
Electronic research was carried out on the correlation between lingual nerve damage and lower third molar surgery (topographic anatomy, surgical technique, and regional anesthesia) using PubMed, Scopus, and Cochrane central databases. The research included only articles published in English up to February 2016.

Results
Lingual nerve anatomy varied greatly: direct contact between the lingual nerve and the third molar alveolar wall was reported in a wide range of cases (0 to 62%) and the nerve was located at the same level or above the top of the ridge in 0 to 17.6% of cases. Lingual spit technique was statistically associated with an increased risk of temporary nerve damage than the buccal approach with or without lingual flap retraction. For permanent damage, no statistically relevant differences were found between the lingual split technique and the buccal approach with lingual flap retraction. Compared with tooth sectioning, the osteotomy was strongly statistically associated with permanent lingual nerve damage.

Conclusions
It seems preferable to avoid lingual flap elevation, except in selected cases in which the presence of more than 1 unfavorable surgical variable predicts a high risk of nerve injury. Tooth sectioning could decrease the extent of the osteotomy or even, in some cases, prevent it, potentially acting as a protective factor against lingual nerve injury