

# Classificazione e revisione della letteratura nella chirurgia dei terzi molari

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### Healing of hard tissues post surgical extraction of the lower third molar: comparison between two different extraction methods. Retrospective study of 300 patients and literature review

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**Aim:** The aim of this study was to focus on the healing process of hard tissues in post surgical extraction sites of lower third molars in healthy patients.

**Methods:** A group of 300 patients was treated by two different surgeons (respectively 150 the first and 150 the second), each of whom followed his own standardized surgical protocol. Basic differences were: the first operator did not administer antibiotic prophylaxis and the surgical phase was conducted with significant use of water-rotating instruments, while the second operator provided the use of the antibiotic prophylaxis and a significant use of the lever, despite minimal use of water-based rotary instruments. All other points of the two surgical extraction protocols were similar.

**Results:** The percentages of delayed healing, alveolitis, osteitis and osteomyelitis of the two groups were compared and a higher percentage of complications was recorded with the First operator than the Second one (14.09% versus 12.08%). From this analysis, subgroups of the population were created based on the risk factors related to the patient most involved in these complications, such as sex, age, smoking and oral contraceptives assumption. The respective percentages of complications were calculated and the data were compared with literature, showing that: the influence of sex and age, despite having obtained conflicting results between the two cohorts, is supported by literature and may be relevant or not. Regarding smokers and women who take contraceptives, in both cohorts a higher percentage of complications was obtained as clearly supported by literature. Once the smoking and contraceptives were defined as two evident risk factors for healing complications, these patients were removed from the initial pools and the complication rates were recalculated for both groups, showing a marked difference of complication rate: 12.75% versus 7.25%. Regarding the surgical protocols, a literature review showed that there is no statistically significant difference on the use of antibiotic prophylaxis in healthy patients to reduce the percentage of hard tissue complications; while the duration of the surgery, in particular the time spent in osteotomy, seems to increase the risk of complications referred to the hard tissues healing. On opposite, the extractions operated with a marked use of the lever (cohort 2) presented a high rate of temporary impairment of sensory function of the NAI and of the lingual nerve as secondary outcome.

**Conclusions:** The following study allows to conclude that smoking and oral contraceptive are risk factors for the healing of hard tissues that increases the possibility of complications by 2.8 times the first and 1.75 times the second; temperature increase generated by prolonged osteotomy procedure influences the healing capacity of hard tissues after an extraction; the use of strong pressure with the lever increases the risk of temporary paresthesia.