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Treatments for intrusive luxation in permanent teeth: a systematic review and meta-analysis

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Intrusive luxation (IL) is a severe form of dental trauma and there is no consensus regarding its management on permanent teeth. It was performed a systematic review and meta-analysis to identify the appropriate treatment for teeth with IL. PubMed/MEDLINE, EMBASE, US Clinical Trials, and ISRCTN Registry electronic databases were used to search for articles in English and unpublished studies without a date limit. The eligible studies evaluated periodontal results (root resorption (RR) as a primary outcome; marginal bone defects (MBD) and/or pulpal changes (PC) as secondary outcomes) after spontaneous re-eruption (SRE), orthodontic repositioning (ORP), or surgical repositioning (SRP) for patients with one or more traumatically intruded permanent teeth. Risk ratios with a 95% confidence interval were used to compare treatments. Meta-analysis revealed no significant difference (p>0.05) between SRP and SRE for RR. For secondary outcomes, SRE was significantly better than SRP (p<0.05). Subgroups analyses showed no significant differences among treatments in teeth with completely formed roots (p>0.05) and better prognosis when SRE was performed in teeth with incompletely formed roots (p<0.05). The available evidence does not allow us to conclude on the best treatment for traumatically intruded teeth. More reliable evidence is needed.

Descriptors: Tooth Injuries; Dentition, Permanent; Meta-Analysis.