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**25 YEARS OF RESEARCH TO USE LASER IN PEDIATRIC DENTISTRY.**

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ABSTRACT

The aim of our study was to classify, compare and discuss the applications of LASERs in dentistry to propose future basic and clinical research projects in pediatric dentistry.

A search was carried out between the years 1965 and 1990 using mainly the medical index and the dental literature index. Those documents with a method that was not well defined and those in which the conclusions did not come directly from the analysis of the results were eliminated. 237 selected works were classified.

25.7% referred to the use of lasers in oral and maxillofacial surgery (painless excision, hemostasis and coagulation with CO<sub>2</sub>, ND-YAG and AR lasers). 19.4% referred to preventive dentistry (cavity prevention, increased fluoride fixation, removal of incipient carious lesions with ND-YAG, ASGA and excimer lasers). 16.03% referred to surgical dentistry (destruction and sterilization of carious lesions, etching of enamel and dentin with CO<sub>2</sub>, ND-YAG and excimer lasers). Other uses include holography, oral medicine and welding in prosthodontics (13, 9.3 and 4.7%).

Therefore, we suggest that lasers could be used in pediatric dentistry to bind fluoride to enamel, prevent and treat carious lesions, etch enamel, perform pulpotomies and oral surgery, as it is a rapid, painless, safe and well-proven method. However, there are controversies about the pulpal effects and more research should be carried out in this regard.

**KEYWORDS:**

LASER, DENTISTRY, PAINLESS