



IJSET - International Journal of Innovative Science, Engineering & Technology, Vol. 09 Issue 06, June 2022

ISSN (Online) 2348 - 7968 | Impact Factor - 6.72

www.ijset.com

The applications of laser wavelengths in dentistry - A review

Abstract

In the medical field, the use of various wavelengths of lasers in handling has become commonplace. There are now many different systems and wavelengths of laser for dental use that are available, and they have emerged as the preferred instrument in different dental applications. This review's goal is to describe how lasers with different wavelengths are used in the dentistry areas. Many clinical studies published have revealed a favorable trend for the use of lasers in dentistry with different wavelengths. The laser use is thought to provide shorter treatment times, better hospitalization, fewer side effects, and lower pain after treatment for patients with toothaches. Furthermore, dental laser studies have demonstrated healing effects and analgesic effects. Due to a lack of clinical trial control, the use of lasers in the treatment of oral lesions was not widely recognized by the dentistry profession. The dentist who uses a laser must understand that no single laser can be used to do all jobs, so it is critical that dental laser users have a basic understanding of the technology of high-quality lasers as well as how to use a laser on biological tissue in its most basic form. When laser light strikes tissue, it can be reflected, spread, absorbed, or transferred to surrounding tissue. The degree of reflection, scattering, and transmission is largely controlled by absorption, and the main factor that determines absorption is wavelength. An Nd-YAG laser, for example, is primarily absorbed by pigmented tissues, whereas the wavelength of the CO₂ laser is absorbed by most tissues and materials sequentially.