

Applications of Ozone Therapy in Dentistry

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Atmospheric ozone (O₃) is considered “Mother Earth's natural way of self-cleaning”. Prepared ozone gas is unstable; it quickly gives up nascent oxygen (O) molecule to form oxygen gas (O₂). The released nascent oxygen has many wonderful beneficial effects in medical and dental fields due to its extremely strong oxidant property. Accordingly; ozone has been used as circulatory enhancer for stimulation of oxygen metabolism, disruption of tumor metabolism and to kill almost all pathogens. In dentistry; synthetic O₃ is administered in the form of gas, aqueous solution or oils.

Ozone dental applications includes purification of drinking water in dental units, sterilization instruments and various amazing therapeutic modalities. Ozone dental applications includes purification of drinking water in dental units, sterilization instruments and various amazing therapeutic modalities. Corroborated evidence of various studies confirmed the prophylactic antimicrobial effect of O₃ treatment. It is used management of oral pathoses (stomatitis, herpes infections, aphthous ulceration, moniliasis, abscesses, fistulae, trismus, myoarthropathies, and periodontitis). Ozone exposure is used in tooth extraction, hemostasis, wound healing, oral implantation and others. In addition; O₃ is implemented in restorative dentistry including bleaching, dentine hypersensitivity, caries as well as disinfection of tooth cavity and root canal. This state of art technology allows a minimally invasive and conservative approach to dental treatment. Elucidation of molecular mechanisms of ozone offers further benefits to practical application in dentistry. Treating patients with ozone therapy reduces treatment time with

a great deal of difference and it eliminates the bacterial count more precisely. Ozone treatment seems completely painless and it increases patients' acceptability and compliance with minimal adverse effects.

Therefore; applications of ozone therapy in dentistry is considered a critical issue to be addressed.

Biography

Hoda Gaafar Hassan Hammad is an Egyptian Assistant professor of Dental Biomaterials. She got her PhD from collaboration of [Cairo University with Rennes 1 University](#), Egypt in 2014. She achieved her Master degree in Restorative Dentistry, Cairo University in 2001 and her BDS was with very good and honor degree from Cairo University in 1994.

Her academic experience is in MUST, GMU, BMC and ACU Universities; since April 2010 till now. She has published more than 15 papers in reputed / indexed journals. She is assigned as editorial board member of the “[Journal of Biomaterials](#)”; May 2020- now. She is allocated as editorial manager at Sultan Qaboos University Medical Journal, July 2020 - now. She is appointed as peer reviewer for “[Macedonian Journal of Medical Sciences](#)”, April 2020- now.

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