



Dr. Md. Hossein Nekoofar

Dr. Mohammad Hossein Nekoofar is an academic member of Endodontics department in Tehran University of Medical Sciences (TUMS) where he received his DDs (1989). For his M.Sc, he worked on Electronic Root Canal Length Measurement Devices (1993,TUMS). In 1994, he became a Diplomate of the Iranian board of Endodontics. His PhD projects were focused on investigating Calcium Silicate cements and lead to his graduation in 2011 from Cardiff University, UK. Working on Regenerative Endodontics and Stem Cells, he is already responsible for teaching in department of Tissue Engineering and Applied Cell Sciences in TUMS. Simultaneously he is an honorary Senior Lecturer in Endodontics and Dental Biomaterial in Cardiff University and teaches postgraduate courses such as surgical endodontic courses, biomaterial endodontics.

Dr. Nekoofar also has a strong sense of leadership and management. He has been the president of Iranian Association of Endodontics since 2013 and the Group Leader of Endodontology Research Group in Cardiff University since 2004 up to now.

He has written more than 40 papers, published in peer-reviewed journals which have been cited more than 1100 times. He has been invited as a keynote speaker internationally to give lectures in different professional dental/endodontics congresses or Universities around the world such as Irish Endodontics Society(Dublin 2008), American Association of Endodontics(Vancouver 2008),European Society of Endodontology(Rome 2011),Turkish Endodontic Society(Istanbul 2012 & 2014),NIVVT symposium (Belgium 2014),University of Illinois at Chicago (UIC 2015),Indiana University/School of Dentistry(Indiana 2015),International Association of Dental Research CED (Antalya 2015).

He is a member of the editorial board of the International Endodontic Journal and also acts as a scientific reviewer for a series of endodontics/dental journals.

His research interests mainly focus on Electronic Root Canal Length Measurement Devices, Calcium Silicates, Post-operative Pain in Endodontics, Treatment of Immature Root Canals, Automated Root Canal Preparation, Physiopathology of Periapical Lesions and Regenerative Endodontics.

Abstract Paper

Title: Regenerative Endodontics, Clinical Considerations

The aim of regenerative endodontics in treatment of teeth with incomplete root formation and necrotic pulp is to replace the irreversibly inflamed pulp tissue with newly regenerated tissue in an attempt to stimulate root maturation, increasing dentine thickness and root length. This novel procedure of revitalization involves chemical disinfection of the root canal system through profuse irrigation using sodium hypochlorite and the placement of a tri-antibiotic paste inside the root canal system without mechanical instrumentation. The tri-antibiotic paste was described as an effective medicament against the multi-bacterial root canal infection. At the second appointment a blood clot is induced inside the canal to act as a matrix for regeneration and then the coronal access cavity is sealed to prevent bacterial penetration and to allow regeneration in a bacteria free environment. More recently, the use of platelet-rich plasma and/or fibrin rather than blood clot has been suggested.

The material used to provide the bacteria tight seal in this context is important as it should ideally have the ability to up-regulate signaling molecules and provoke regeneration of an immune-competent tissue inside the root canal. Moreover, since it is not practical to avoid blood contamination the sealing ability and basic physical properties of the material should not be jeopardized by moisture and/or blood exposure.

In this presentation following a quick review of the clinical procedures of pulp revitalization the following clinical considerations will be discussed.

- Considerations in diagnosis and case selection will be reviewed.
- Advantages and disadvantages of various types and concentration of suggested antibiotics/disinfections will be discussed.
- Various suggested scaffold for more favorable outcome will be compared.
- Various materials suggested to place in contact with intra canal scaffolds to provoke pulp tissue regeneration will be listed and their biological, physical, chemical and antibacterial properties will be compared.