

IMAD ABOUT



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Professor Imad About obtained a PhD in biochemistry in 1992 from Aix-Marseille University, France. He joined the university “la Méditerranée” as assistant professor in 1996, became associate professor in 2000 and Professor of Oral Biology at the faculty of dentistry of Aix-Marseille University in 2002. Imad About is currently member of the “Institut des Sciences du Mouvement”. He is responsible of the basic sciences field and the Research Laboratory and at the faculty of dentistry, Aix-Marseille University, France.

His research group is involved in investigating the role of progenitor and nonprogenitor cells in dentin-pulp regeneration, and the effects of biomaterials on these events. He was the winner of the European Society of Endodontology annual research grant in 2012 and actively involved in developing dental materials including Biodentine.

He is well-recognized expert in pulp stem cells and tissue regeneration. He published more than 170 peer reviewed papers, abstracts and book chapters. He is reviewer and editorial board member of leading journals in the scientific and dental field (Journal of dental research, Journal of endodontics...etc). Imad About is lead guest editor of a special issue of Stem cell international. He is renowned speaker and frequently invited to major international conferences. Imad About is currently member of CED-IADR office and nominated for the IADR distinguished scientist award.

TRICALCIUM SILICATES BROUGHT A PARADIGM SHIFT TO VITAL PULP THERAPY

Understanding pulp regeneration during pathological conditions represents a real challenge in the provision of a suitable treatment that ideally leads to the induction of the dentin-pulp regeneration. However, this is highly dependent on the inflammatory degree mainly due to the pulp location within rigid and inextensible dentinal walls.

Tricalcium silicates are considered as the materials of choice for vital pulp therapy and regenerative procedures. The clinical use of an almost pure tricalcium silicate permanent dentin substitute (Biodentine) shows enormous potential in deep carious lesions, vital pulp therapy and severe injuries due to trauma. This is ascribed to the pulp high regeneration potential, material byproducts upon hydration and interactions of this material with the mineralized tissues to provide a hermetic seal. Additionally, Biodentine interactions with the pulp soft tissues have anti-inflammatory potential and induce pulp tissue regeneration leading to the successful outcome after direct pulp capping, partial and complete pulpotomy.

Nowadays, Calcium silicate-resin based hybrid pulp capping material are developed to reduce the setting time of tricalcium silicates while taking advantage of their inherent bioactive properties. However, it remains to be established if the bioactive properties are maintained after modifying Calcium silicates by adding resins. This lecture will explain the composition and handling properties of Biodentine. It will explain that, in addition to its physical and chemical unique properties, the clinical success of Biodentine may be partially explained by its capacity to induce dentin-pulp regeneration and anti-inflammatory properties. This lecture will also demonstrate that adding resins to tricalcium silicate alters their bioactive properties. Overall, this presentation will illustrate how Biodentine is involved in the new era of regenerative dentistry and will shed light on its multiple clinical applications mainly in vital pulp therapy.