

CONSORT Randomized Clinical Trial

[Efficacy of Articaine versus Lidocaine in Supplemental Infiltration for Mandibular First versus Second Molars with Irreversible Pulpitis: A Prospective, Randomized, Double-blind Clinical Trial](#)

Michael R. Shapiro, Neville J. McDonald, Richard J. Gardner, Mathilde C. Peters, Tatiana M. Botero

[Treatment Outcomes of 4 Vital Pulp Therapies in Mature Molars](#)

Saeed Asgary, Raheleh Hassanizadeh, Hassan Torabzadeh, Mohammad Jafar Eghbal

Review Article

[Nuclear Magnetic Resonance Imaging in Endodontics: A Review](#)

Dario Di Nardo, Gianluca Gambarini, Silvia Capuani, Luca Testarelli

Clinical Research

[12-month Success of Cracked Teeth Treated with Orthograde Root Canal Treatment](#)

Keith V. Krell, Daniel J. Caplan

[Dental Pulp Status of Posterior Teeth in Patients with Oral and Oropharyngeal Cancer Treated with Radiotherapy: 1-year Follow-up](#)

Nishtha Gupta, Mandeep S. Grewal, Munish Gairola, Stutee Grewal, Parveen Ahlawat

[Relationship between Root Apices and the Mandibular Canal: A Cone-beam Computed Tomographic Comparison of 3 Populations](#)

Alex Lvovsky, Shir Bachrach, Hyeon-Cheol Kim, Ajinkya Pawar, Oleg Levinzon, Joe Ben Itzhak, Michael Solomonov

[Root Canal Irrigants and Medicaments in Endodontic Malpractice Cases: A Nationwide Longitudinal Observation](#)

Outi Swanljung, Miira M. Vehkalahti

[The Incidence of Second Mesiobuccal Canals Located in Maxillary Molars with the Aid of Cone-beam Computed Tomography](#)

Ben Studebaker, Lars Hollender, Lloyd Mancl, James D. Johnson, Avina Paranjpe

[Accuracy of Cone-beam Computed Tomographic Image Interpretation by Endodontists and Endodontic Residents](#)

Jeffrey T. Beacham, James R. Geist, Qingzhao Yu, Van T. Himel, Kent A. Sabey

Regenerative Endodontics

[Metformin Enhances the Differentiation of Dental Pulp Cells into Odontoblasts by Activating AMPK Signaling](#)

Wei Qin, Xianling Gao, Tao Ma, Michael D. Weir, Jing Zou, Bing Song, Zhengmei Lin, Abraham Schneider, Hockin H.K. Xu

[Leptin Induces Odontogenic Differentiation and Angiogenesis in Human Dental Pulp Cells via Activation of the Mitogen-activated Protein Kinase Signaling Pathway](#)

Viet Anh Ngo, Ji-Yeon Jung, Jeong-Tae Koh, Won-Mann Oh, Yun-Chan Hwang, Bin-Na Lee

[Evaluation of the Biodistribution of Human Dental Pulp Stem Cells Transplanted into Mice](#)

Sunil Kim, Sukjoon Lee, Han-Sung Jung, Sun-Young Kim, Su-Jung Shin, Mo K. Kang, Euseong Kim

[Effect of 3 Bioceramic Materials on Stem Cells of the Apical Papilla Proliferation and Differentiation Using a Dentin Disk Model](#)

Amber A. Miller, Koyo Takimoto, James Wealleans, Anibal Diogenes

Basic Research

Biology

[Omega-3 Fatty Acids Reduce Inflammation in Rat Apical Periodontitis](#)

Mariane Maffei Azuma, João Eduardo Gomes-Filho, Edilson Ervolino, Carolina de Barros Moraes Cardoso, Camila Barbosa Pipa, Toshihisa Kawai, Leticia Citelli Conti, Luciano Tavares Angelo Cintra

[Enterococcus faecalis Hydrolyzes Dental Resin Composites and Adhesives](#)

Muna Q. Marashdeh, Russel Gitalis, Celine Levesque, Yoav Finer

Technology

[Influence of Contracted Endodontic Access on Root Canal Geometry: An *In Vitro* Study](#)

Mario Alovisi, Damiano Pasqualini, Edoardo Musso, Elena Bobbio, Carlotta Giuliano, Davide Mancino, Nicola Scotti, Elio Berutti

[Zoom Reconstruction Tool: Evaluation of Image Quality and Influence on the Diagnosis of Root Fracture](#)

Polyane Mazucatto Queiroz, Gustavo Machado Santaella, Ana Lúcia Alvares Capelozza, Pedro Luiz Rosalen, Deborah Queiroz Freitas, Francisco Haiter-Neto

[Low Environmental Temperature Influences the Fatigue Resistance of Nickel-titanium Files](#)

Ya Shen, Xiangya Huang, Zhejun Wang, Xi Wei, Markus Haapasalo

[Correlation between Temperature-dependent Fatigue Resistance and Differential Scanning Calorimetry Analysis for 2 Contemporary Rotary Instruments](#)

Ana Arias, José C. Macorra, Sanjay Govindjee, Ove A. Peters

[Comparison of Gap Volume after Retrofilling Using 4 Different Filling Materials: Evaluation by Micro-computed Tomography](#)

Sue Youn Kim, Hyeon-Cheol Kim, Su-Jung Shin, Euseong Kim

[Evaluation of Quality and Preparation Time of Retrograde Cavities in Root Canals Filled with GuttaCore and Cold Lateral Condensation Technique](#)

Unni Endal, Ya Shen, Jingzhi Ma, Yan Yang, Markus Haapasalo

[Effect of Torsional and Fatigue Preloading on HyFlex EDM Files](#)

Ya Shen, Charles Tra, Ahmed Hieawy, Zhejun Wang, Markus Haapasalo

[Cyclic Fatigue Resistance of Heat-treated Nickel-titanium Instruments after Immersion in Sodium Hypochlorite and/or Sterilization](#)

Eugenio Pedullà, Angela Benites, Giusy M. La Rosa, Gianluca Plotino, Nicola M. Grande, Ernesto Rapisarda, Luigi Generali

[Comparative Evaluation of Stress Distribution in Experimentally Designed Nickel-titanium Rotary Files with Varying Cross Sections: A Finite Element Analysis](#)

Shadir Bughari Basheer Ahamed, Purushothaman Pranav Vanajassun, Kothandaraman Rajkumar, Sekar Mahalaxmi

[Biomechanical Effects of Bonding Pericervical Dentin in Maxillary Premolars](#)

Nghia Huynh, Fang-Chi Li, Shimon Friedman, Anil Kishen

Case Report/Clinical Techniques

[Computer-aided Design/Computer-aided Manufacturing–guided Endodontic Surgery: Guided Osteotomy and Apex Localization in a Mandibular Molar with a Thick Buccal Bone Plate](#)

So-Yeon Ahn, Nam-Hoon Kim, Sunil Kim, Bekir Karabucak, Euiseong Kim

[Targeted Endodontic Microsurgery: A Novel Approach to Anatomically Challenging Scenarios Using 3-dimensional–printed Guides and Trepine Burs—A Report of 3 Cases](#)

C. Michelle Giacomino, Jarom J. Ray, James A. Wealleans