



## Review Article

---

### [The Importance of Cone-beam Computed Tomography in the Management of Endodontic Problems: A Review of the Literature](#)

Tadas Venskutonis, Gianluca Plotino, Gintaras Juodzbaly, Lina Mickevičienė

### [An Overview on Biologic Medications and Their Possible Role in Apical Periodontitis](#)

Elisabetta Cotti, Elia Schirru, Elio Acquas, Paolo Usai

## Clinical Research

---

### [Anesthetic Comparisons of 4% Concentrations of Articaine, Lidocaine, and Prilocaine as Primary Buccal Infiltrations of the Mandibular First Molar: A Prospective Randomized, Double-blind Study](#)

Brett Nydegger, John Nusstein, Al Reader, Melissa Drum, Mike Beck

### [Prevalence of Persistent Pain 3 to 5 Years Post Primary Root Canal Therapy and Its Impact on Oral Health–Related Quality of Life: PEARL Network Findings](#)

Donald A. Vena, Damon Collie, Hongyu Wu, Jennifer L. Gibbs, Hillary L. Broder, Frederick A. Curro, Van P. Thompson, Ronald G. Craig

### [The Critical Time-lapse between Various Restoration Placements and Subsequent Endodontic Intervention](#)

Sarah Kwang, Anita Aminoshariae, Jarrod Harding, Thomas A. Montagnese, Andre Mickel

### [Assessment of Oxygen Saturation in Dental Pulp of Permanent Teeth with Periodontal Disease](#)

Larissa Bergesch Giovanella, Fernando Branco Barletta, Wilson Tadeu Felipe, Kely Firmino Bruno, Ana Helena Gonçalves de Alencar, Carlos Estrela

### [Correlation between Clinical and Histologic Pulp Diagnoses](#)

Domenico Ricucci, Simona Loghin, José F. Siqueira

### [Degree of Patient Pain, Complications, and Satisfaction after Root Canal Treatment or a Single Implant: A Preliminary Prospective Investigation](#)

Mahmoud Torabinejad, Wesam Salha, Jaime L. Lozada, Yuan-Lung Hung, Antoanela Garbacea

### [Clinical and Radiographic Outcomes of Traumatized Immature Permanent Necrotic Teeth after Revascularization/Revitalization Therapy](#)

Tarek Mohamed A. Saoud, Ashraf Zaazou, Ahmed Nabil, Sybel Moussa, Louis M. Lin, Jennifer L. Gibbs

### [Comparative Evaluation of Calcium Hypochlorite and Sodium Hypochlorite Associated with Passive Ultrasonic Irrigation on Antimicrobial Activity of a Root Canal System Infected with \*Enterococcus faecalis\*: An \*In Vitro\* Study](#)

Ana Paula de Almeida, Matheus Albino Souza, Daniela Cristina Miyagaki, Yuri Dal Bello, Douglas Cecchin, Ana Paula Farina

### [Does Acetaminophen/Hydrocodone Affect Cold Pulpal Testing in Patients with Symptomatic Irreversible Pulpitis? A Prospective, Randomized, Double-blind, Placebo-controlled Study](#)

Sara Fowler, Spencer Fullmer, Melissa Drum, Al Reader

## Basic Research

---

## Biology

---

### [Proteomic Analysis of Human Tooth Pulp: Proteomics of Human Tooth](#)

Adam Eckhardt, Michal Jágr, Stasis Pataridis, Ivan Mikšík

### [Dentinogenic Responses after Direct Pulp Capping of Miniature Swine Teeth with Biodentine](#)

Christina Tziafa, Eugenia Koliniotou-Koumpia, Serafim Papadimitriou, Dimitrios Tzifas

### [Viability of Intratubular Bacteria after Chemomechanical Caries Removal](#)

Hamdi H. Hamama, Cynthia K. Yiu, Michael F. Burrow

### [Influence of Calcium Hydroxide-loaded Microcapsules on Osteoprotegerin and Receptor Activator of Nuclear Factor Kappa B Ligand Activity](#)

Bing Han, Xiaoyan Wang, Jiguang Liu, Fuxin Liang, Xiaozhong Qu, Zhenzhong Yang, Xuejun Gao

### [Initial Transient Accumulation of M2 Macrophage-associated Molecule-expressing Cells after Pulpotomy with Mineral Trioxide Aggregate in Rat Molars](#)

Erika Takei, Yoshimi Shigetani, Kunihiko Yoshiba, Go Hinata, Nagako Yoshiba, Takashi Okiji

### [Histologic Evaluation of the Effects of Emdogain Gel on Injured Root Apex in Rats](#)

Noriyoshi Matsumoto, Masahiko Minakami, Junko Hatakeyama, Chieko Haruna, Takahiko Morotomi, Toshio Izumi, Hisashi Anan

## Technology

---

### [Bacterial Removal Promoted by 2 Single-file Systems: Wave One and One Shape](#)

Cleber Keiti Nabeshima, Hector Caballero-Flores, Silvana Cai, José Aranguren, Maria Leticia Borges Britto, Manoel Eduardo de Lima Machado

### [Antimicrobial Activity of a Sodium Hypochlorite/Etidronic Acid Irrigant Solution](#)

Maria Teresa Arias-Moliz, Ronald Ordinola-Zapata, Pilar Baca, Matilde Ruiz-Linares, Carmen María Ferrer-Luque

### [Quality of Obturation Achieved by a Non-gutta-percha-based Root Filling System in Single-rooted Canals](#)

Lisa C. Selem, Guo-hua Li, Li-na Niu, Brian E. Bergeron, Eduardo A. Bortoluzzi, Ji-hua Chen, David H. Pashley, Franklin R. Tay

### [Effectiveness of Final Irrigant Protocols for Debris Removal from Simulated Canal Irregularities](#)

Aline Martins Justo, Ricardo Abreu da Rosa, Manuela Favarin Santini, Maria Beatriz Cardoso Ferreira, Jefferson Ricardo Pereira, Marco Antonio Húngaro Duarte, Marcus Vinícius Reis Só

### [Energy Consumption of ProTaper Next X1 after Glide Path with PathFiles and ProGlider](#)

Elio Berutti, Mario Alovisi, Michele Angelo Pastorelli, Giorgio Chiandussi, Nicola Scotti, Damiano Pasqualini

### [Effects of Mineral Trioxide Aggregate Mixed with Hydration Accelerators on Osteoblastic Differentiation](#)

Bin-Na Lee, Hye-Joung Kim, Hoon-Sang Chang, In-Nam Hwang, Won-Mann Oh, Jung-Woo Kim, Jeong-Tae Koh, Kyung-San Min, Choong-Ho Choi, Yun-Chan Hwang

### [Biocompatibility of New Calcium Aluminate Cement: Tissue Reaction and Expression of Inflammatory Mediators and Cytokines](#)

Lucas da Fonseca Roberti Garcia, Claudia Huck, Leticia Menezes de Oliveira, Pedro Paulo Chaves de Souza, Carlos Alberto de Souza Costa

### [Tricalcium Silicate Cements with Resins and Alternative Radiopacifiers](#)

Josette Camilleri

### [Qualitative Analysis of Precipitate Formation on the Surface and in the Tubules of Dentin Irrigated with Sodium Hypochlorite and a Final Rinse of Chlorhexidine or QMiX](#)

Kamil P. Kolosowski, Rana N.S. Sodhi, Anil Kishen, Bettina R. Basrani

[The Effect of Medicaments Used in Endodontic Regeneration Technique on the Dislocation Resistance of Mineral Trioxide Aggregate to Root Canal Dentin](#)

Hüseyin Sinan Topçuoğlu, Hakan Arslan, Merve Akçay, Gökhan Saygılı, Fatih Çakıcı, Gamze Topçuoğlu

[Influence of Chlorhexidine Application Time on the Bond Strength between Fiber Posts and Dentin](#)

Doglas Cecchin, Ana Paula Farina, Mateus Giacomini, Cristina de Mattos Pimenta Vidal, Bruno Carlini-Júnior, Caio Cezar Randi Ferraz

[An Evaluation of the Accuracy of Labeling of Percent Sodium Hypochlorite on Various Commercial and Professional Sources: Is Sodium Hypochlorite from These Sources Equally Suitable for Endodontic Irrigation?](#)

Suzette V. van der Waal, Nilai E. van Dusseldorp, Johannes J. de Soet

[Evaluation of Root Canal Transportation, Centering Ratio, and Remaining Dentin Thickness Associated with ProTaper Next Instruments with and without Glide Path](#)

Amr M. Elnaghy, Shaymaa E. Elsaka

[Accuracy of Cone-beam Computed Tomography and Periapical Radiography in Apical Periodontitis Diagnosis](#)

Fernanda Ullmann López, Patrícia Maria Poli Kopper, Carolina Cucco, Alvaro Della Bona, José Antônio Poli de Figueiredo, Fabiana Vieira Vier-Pelisser

[Accuracy of an Electronic Apex Locator in the Retreatment of Teeth Obturated with Plastic or Cross-linked Gutta-percha Carrier-based Materials: An \*Ex Vivo\* Study](#)

Manuele Mancini, Pietro Palopoli, Lorenzo Iorio, Gabriele Conte, Luigi Cianconi

[Evaluation of Debris Extruded Apically during the Removal of Root Canal Filling Material Using ProTaper, D-RaCe, and R-Endo Rotary Nickel-Titanium Retreatment Instruments and Hand Files](#)

Hüseyin Sinan Topçuoğlu, Ahmet Aktı, Öznur Tuncay, Asiye Nur Dinçer, Salih Düzgün, Gamze Topçuoğlu

[Comparison of pH Changes Induced by Calcium Enriched Mixture and Those of Calcium Hydroxide in Simulated Root Resorption Defects](#)

Maryam Forghani, Hamzeh Mashhoor, Armita Rouhani, Hamid Jafarzadeh

[Evaluation of the Breakage of Orthograde Endodontic Ultrasonic Tips](#)

Jeffrey Wan, Allan S. Deutsch, Barry L. Musikant, Jason Guzman

[Reciprocating Versus Rotary Systems for Root Filling Removal: Assessment of the Apically Extruded Material](#)

Emmanuel João Nogueira Leal Silva, Liliâne Sá, Felipe Gonçalves Belladonna, Aline A. Neves, Thais Accorsi-Mendonça, Victor T.L. Vieira, Gustavo De-Deus, Edson J. Moreira

## Case Report/Clinical Techniques

---

[Treatment of a Large Cystlike Inflammatory Periapical Lesion Associated with Mature Necrotic Teeth Using Regenerative Endodontic Therapy](#)

Tarek Mohamed A. Saoud, Asgeir Sigurdsson, Paul A. Rosenberg, Louis M. Lin, Domenico Ricucci

[Errata](#)

[Errata](#)

[Three Root Canals in the Mesio Buccal Root of Maxillary Molars: Case Reports and Literature Review](#)

Ibrahim Ali Ahmad, Anas Al-Jadaa