

DAFTAR PUSTAKA

- Adamskaya, N., Dungal, P., Mittermayr, R., Hartinger, J., Feichtinger, G., Wassermann, K., Redl, H., van Griensven, M., 2010, Light Therapy by Blue LED Improves Wound Healing in an Excision Model in Rats, *Int. J. Care Injured.*, 42 (2011): 917-21.
- Alfaqeeh, S.A., Anil, S., 2014, Gingival Crevicular Fluid Flow Rate and Alkaline Phosphatase Level as Potential Marker of Active Tooth Movement, *OHDM*, 13 (2): 458-63.
- Alhasyimi, A.A., Pudyani, S.P., Asmara, W., Ana, I.D., 2018, Effect of Carbonated Hydroxyapatite Incorporated Advanced Platelet Rich Fibrin Intracuticular Injection on the Alkaline Phosphatase Level during Orthodontic Relapse, *AIP Conf. Proc.*, 1933 (1): 1-6.
- Al-Hijazi, A. Y., Al-Mahammadawy, A. K. A.A. A., 2014, Expression of Alkaline Phosphatase by Periodontal Tissue Treated with Topical Application of VEGF and TGF- β 1, *Int. Res. J. Nat. Sci.*, 4 (1): 84-91.
- Almeida-Lopes, L., Rigau, J., Zangaro, R.A., Guidygli-Neto, J., Jaeger, M.M., 2001, Comparison of the Low-Level Laser Therapy Effects on Cultured Human Gingival Fibroblasts Proliferation Using Different Irradiance and Same Fluence, *Lasers Surg. Med.*, 29 (2): 179-84.
- Asiry, M.A., 2018, Biological Aspects of Orthodontic Tooth Movement: A Review of Literature, *Saudi J. Biol. Sci.*, 25: 1027-32.
- Baker, H.J., Lindsey, J.R., Wisbroth, S.H., 2013, The Laboratory Rat Volume 1 Biology and Disease, New York: Elsevier, p. 38.
- Barolet, D., 2008, Light-emitting Diodes (LEDs) in Dermatology, *Semin Cutan Med Surg.*, 27 (4): 227-38.
- Batra, P., Kharbanda, O., Duggal, R., Singh, N., Parkash, H., 2006. Alkaline Phosphatase Activity in Gingival Crevicular Fluid During Canine Retraction. *Orthod. Craniofac. Res.*, 9 (1): 44-51.
- Bloise, N., Ceccarelli, G., Minzioni, P., Vercellino, M., Benedetti, L., De Angelis, M. G. C., Imbriani, M., Visai, L., 2013, Investigation of Low-Level Laser Therapy Potentiality on Proliferation and Differentiation of Human Osteoblast-like Cells in the Absence/ Presence of Osteogenic Factors, *J. Biomed. Opt.*, 18 (12): 1-13.

- Bozarbadi-Farahani, A., Cronshaw, M., 2017, Photobiomodulation Concepts within Orthodontics, *Lasers in Dentistry Current Concepts*, Coluzzi, D.J., Parker, S. (eds), Berlin, Germany: Springer, p. 247-75.
- Champagne, M., Buchanan, W., Reddy, S., Preisser, S., Beck, D., Offenbacher, S., 2003. Potential for Gingival Crevice Fluid Measures as Predictors of Risk for Periodontal Disease, *Periodontol.* 2000, 31: 167-80.
- Chang, B., Qiu, H., Zhao, H., Yang, X., Wang, Y., Ji, T., Zhang, Y., Quan, Q., Li, Y., Zeng, J., Meng, H., Gu, Y., 2019, The Effects of Photobiomodulation on MC3T3-E1 Cells via 630 nm and 810 nm Light-Emitting Diode, *Med. Sci. Monit.*, 25: 8744-52.
- Cury, V., Moretti, A. I. S., Assis, L., Bossini, P., de Souza Crusca, J., Neto, C. B., Fangel, R., de Souza, H. P., Hamblin, M. R., Parizotto, N. A., 2013, Low-Level Laser Therapy Increase Angiogenesis in a Model of Ischemic Skin Flap in Rats Mediated by VEGF, HIF-1 α and MMP-2, *J. Photochem. Photobiol. B.*, 125: 164-70.
- Deana, A.M., de Souza, A.M., Teixeira, V.P., Mesquita-Ferrari, R.A., Bussadori, S.K., Fernandes, K.P.S., 2018, The Impact of Photobiomodulation on Osteoblastic-like Cells: a Review, *Lasers Med. Sci.*, 33 (1): 1147-58.
- De Freitas, L.F., Hamblin, M.R., 2016, Proposed Mechanisms of Photobiomodulation or Low-Level Light Therapy, *IEEE J. Sel. Top. Quantum Electron*, 22: 348-64.
- Ekizer, A., Uysal, T., Guray, E., Akkus, D., 2015, Effect of LED-mediated-photobiomodulation Therapy on Orthodontic Tooth Movement and Root Resorption in Rats, *Laser Med. Sci.*, 30: 779-85.
- Ekizer, A., Turker, G., Uysal, T., Guray, E., Tasdemir, Z., 2016, Light Emitting Diode Mediated Photobiomodulation Therapy Improves Orthodontic Tooth Movement and Miniscrew Stability: A Randomized Controlled Clinical Trial, *Lasers Surg. Med.*, 48 (10): 936-43.
- Elih, 2015, Relaps and Retention After Orthodontic Treatment, *Padjadjaran J. Dent.*, 27 (3): 139-48.
- Farivar, S., Malekshahabi, T., Shiari, R., 2014, Biological Effects of Low-Level Laser Therapy, *J. Lasers Med. Sci.*, 5 (2): 58-62.
- Franzen, T. J., Brudvik, P., Vandevska-Radunovic, V., 2013, Periodontal Tissue Reaction During Orthodontic Relapse in Rat Molars, *Eur. J. Orthod.*, 35 (2): 152-9.

- Franzen, T.J., Zahra, S.E., El-Kadi, A., Vandeyska-Radunovic, V., 2015, The Influence of Low-Level Laser on Orthodontic Relapse in Rats, *Eur. J. Orthod.*, 37 (1): 111-7.
- Friedrichsdorf, S.P., Arana-chavez, V.E., Cattaneo, P.M., Cristina, G., 2019, Infrared Light Emitting Diode (LED) Effects on Orthodontic Tooth Movement, *Braz. Dent. J.*, 30 (4): 1-7.
- Hamblin, M.R., Ferraresi, C., Huang, Y.Y., de Freitas, L.F., Carroll, J.D., 2018, Low-Level Light Therapy: Photobiomodulation, Washington, SPIE Publisher, p. 3.
- Hamblin, M.R., 2018, Mechanism and Mitochondrial Redox Signaling in Photobiomodulation, *Photochem. Photobiol.*, 94 (2): 199-212.
- Han, G., Chen, Y., Hou, J., Liu, C., Chen, C., Zhuang, J., Meng, W., 2010, Effects of Simvastatin on Relapse and Remodeling of Periodontal Tissues After Tooth Movement in Rats, *Am. J. Orthod. Dentofac. Orthop.*, 138 (5): 550.e1-7.
- Hanna, R., Agas, D., Benedicenti, S., Ferrando, S., Laus, F., Cuteri, V., Lacava, G., Sabbieti, M.G., Amaroli, A., 2019, A Comparative Study Between the Effectiveness of 980 nm Photobiomodulation Delivered by Hand-Piece With Gaussian vs. Flat-Top Profiles on Osteoblast Maturation, *Front. Endocrinol.*, 10 (92): 1-14.
- Heimann, G.C., Grauer, D., Swift, EJ, Jr., 2012, Contemporary Approach to Orthodontic Retention, *J. Esthet. Restor. Dent.*, 24 (2): 83-7.
- Hosseinpour, S., Fekrazad, R., Arany, P.R., Ye, Q., 2019, Molecular Impacts of Photobiomodulation on Bone Regeneration: A Systematic Review, *Prog. Biophys. Mol. Biol.*, 149: 147-59.
- Hubler, R., Blando, E., Gaiao, L., Kreisner, P.E., Post, L.K., Xavier, C.B., de Oliveira, M.G., 2010, Effects of Low-Level Laser Therapy on Bone Formed After Distraction Osteogenesis, *Lasers Med. Sci.*, 25 (2): 213-19.
- Juhasz-Boss, Fehm, T., Ney, J.T., Solomayer, E.F., 2012, Pathophysiology of Bone Remodeling and Current Therapeutic Approaches, *Geburtsh. Frauenheilk.*, 72 (6): 502-6.
- Intan, Z.Z.A., Shahrul, H., Rohaya, M.A.W., Sahidan, S., Zaidah, Z.A., 2008, Osteoclast and Osteoblast Development of Musculus Haemopoietic Mononucleated Cells. *J. Biol. Sci.*, 8 (3): 506-16.

- Kalka, K., Merk, H., Mukhtar, H., 2000, Photodynamic Therapy in Dermatology, *J Am. Acad. Dermatol*, 42 (3): 389-413.
- Karoussis, I.K., Kyriakidou, K., Psarros, C., Koutsilieris, M., Vrotsos, J.A., 2018, Effects and Action Mechanism of Low-Level Therapy (LLLT): Applications in Periodontology, *Dentistry*, 8 (9): 1-6.
- Karu, T.I., Pyatibrat, L.V., Kolyakov, S.F., Afanasyeva, N.I., 2005, Absorption Measurements of a Cell Monolayer Relevant to Phototherapy: Reduction of Cytochrome C Oxidase Under Near IR Radiation, *Photochem. Photobiol. Sci.*, 81 (2): 98-106.
- Kau, C.H., Kantarci, A., Shaughnessy, T., Vachiramon, A., Santiwong, P., Fuente, A., Skrenes, D., Ma, D., Brawn, P., 2013, Photobiomodulation Accelerates Orthodontic Alignment in the Early Phase of Treatment, *Prog. Orthod.*, 14 (30): 1-9.
- Kavadia-Tsatala, S., Kaklamanos, E.G., Tsalikis, L., 2002, Effects of Orthodontic Treatment on Gingival Crevicular Fluid Flow Rate and Composition: Clinical Implications and Applications, *Int. J. Adult Orthodon. Orthognath. Surg.*, 17 (3): 191-205.
- Kawasaki, K., Shimizu, N., 2000, Effects of Low-Energy Laser Irradiation on Bone Remodeling During Experimental Tooth Movement in Rats, *Lasers Surg. Med.*, 26 (3): 282-91.
- Krishnan, D. dan Davidovitch, Z., 2015, *Biological Mechanisms of Tooth Movement, Second Edition*, Wiley-Blackwell, United Kingdom, p. 1-39.
- Lim, H.M., Lew, K.K., Tay, D.K., 1995, A Clinical Investigation of the Efficacy of Low-Level Laser Therapy in Reducing Orthodontic Postadjustment Pain, *Am. J. Orthod. Dentofacial Orthop.*, 108: 614-22.
- Maleeh, I., Robinson, J., Wadhwa, S., 2016, Role of Alveolar Bone in Mediating Orthodontic Tooth Movement and Relapse, *Biology of Orthodontic Tooth Movement*, Shroff, B. (ed), Switzerland: Springer International Publishing, p. 1-12.
- Maltha, J.C., Kuijper-Jagtman, A.M., Von den Hoff, J.W., Ongkosuwito, E.M., 2017, Relapse Revisited Animal Studies and its Translational Application to the Orthodontic Office, *Semin. Orthod.*, 23 (4): 390-98.
- Mitchell, L., 2007, *Retention. An Introduction to Orthodontics*, 3 th ed., Oxford, p. 168-76.

- Newman, M.G., Takei, H.H., Klokkevold, P.R., Carranza, F.A., 2012, *Carranza's Clinical Periodontology 11th ed.*, Elsevier. Singapore, p. 103-4.
- Nimeri, G., Kau, C.H., Abou-Kheir, N.S., Corona, R., 2013, Acceleration of Tooth Movement During Orthodontic Treatment—a Frontier in Orthodontics, *Prog. Orthod.*, 14 (42): 1-8.
- Orimo, H., 2010, The Mechanism of Mineralization and the Role of Alkaline Phosphatase in Health and Disease, *J. Nippon Med. Sch.*, 77 (1): 4-12.
- Othman, S.S., Saafan, A., Al-Halbosi, M.M.F., El-Beialy, A.R., Fathy, I., 2020, Effect of Photobiomodulation and Stem Cells Application on the Expression of Matrix Metalloproteinase (MMP) and its Inhibitor During Orthodontic Relapse in Rats, *J. Crit. Rev.*, 7 (19): 3307-16.
- Ozturk, T., Amuk, N. G., 2020, Effects of Photobiomodulation at Different Wavelengths on Orthodontically Induced Root Resorption in Orthodontic Retention Period: a Micro-CT and RT-PCR Study, *Lasers Med. Sci.*, 35: 1419-29.
- Perinetti, G., Paolantonio, M., D'Attilio, M., 2002, Alkaline Phosphatase Activity in Gingival Crevicular Fluid During Human Orthodontic Tooth Movement, *Am. J. Orthod. Dentofacial Orthop.*, 122 (5): 548-56.
- Perozini, C., Chibebé, P. C. A., Leao, M. V. P., Queiroz, C. D., Pallos, D., 2010, Gingival Crevicular Fluid Biochemical Markers in Periodontal Disease: a Cross-Sectional Study, *Quintessence Int.*, 41 (10): 877-83.
- Philippe, J., 2016, Keeping Orthodontic Treatment Results Steady, *J. Dentofacial Anom Orthod.*, 19 (102): 1-13.
- Pratt, M.C., Kluemper, G.T., Lindstrom, A.F., 2011, Patient Compliance with Orthodontic Retainers in the Postretention Phase, *Am. J. Orthod. Dentofacial Orthop.*, 140 (2): 196-201.
- Proffit, W.R., 2007, *The Biologic Basis of Orthodontic Treatment in Contemporary Orthodontics*, 4th ed., Canada, Elsevier, p: 331-41.
- Pudyani, S.P., Asmara, W., Ana, I.D., Utari, R.U., 2014, Alkaline Phosphatase Expression During Relapse After Orthodontic Tooth Movement, *Dent. J. (Maj. Ked. Gigi)*, 47 (1): 25-30.
- Xu, M., Deng, T., Mo, F., Deng, B., Lam, W., Deng, P., Zhang, X., Liu, S., 2009, Low-Intensity Pulsed Laser Irradiation Affects RANKL and OPG mRNA Expression in Rat Calvarial Cells, *Photomed. Laser Surg.*, 27 (2): 309-15.

- Rahmah, N.E., Christnawati., Suparwitri, S., 2020., The Effect of Blue-Light Emitting Diode Irradiation to Alkaline Phosphatase Levels of Orthodontic Tooth Movement, *J. Int. Dent. Medical Res.*, 13 (4): 1242-46.
- Rohaya, M.A.W., Maryati, M.D., Sahidan, S., Asma, A.A.A., Yamamoto, Z., Jemain, A.A., Ariffin, S.H.Z., 2013, Crevicular Alkaline Phosphatase Activity and Rate of Tooth Movement of Female Orthodontic Subjects Under Different Continuous Force Applications. *Int.J. Dent.*, 2013 (245818): 1-7.
- Rucci, N., 2008, Molecular Biology of Bone Remodelling, *Clin. Cases Miner. Bone Metab.*, 5 (1): 49-56.
- Sadowsky, C., Schneider, B.J., BeGole, E.A., Tahir, E., 1994, Long Term Stability After Orthodontic Treatment: Nonextraction with Prolonged Retention, *Am. J. Orthod. Dentofac. Orthop.*, 106 (3): 243-9.
- Shaughnessy, T., Kantarci, A., Kau, C.H., Skrenes, D., Skrenes, S., Ma, D., 2016, Intraoral Photobiomodulation-Induced Orthodontic Tooth Alignment: a Preliminary Study, *BMC Oral Health*, 16 (3): 1-9.
- Singh, G., 2008, *Textbook of Orthodontics*, Jaypee Brothers Medical Publisher (P) Ltd., New Delhi, p: 216-9; 455-8.
- Soedjono-Aswin, 2001, *Metodologi Penelitian Kedokteran*, Fakultas Kedokteran Universitas Gadjah Mada, Yogyakarta, p. 6.
- Stein, E., Koehn, J., Sutter, W., Wendtlandt, G., Wanschitz, F., Thurnher, D., Baghestanian, M., Turhani, D., 2008, Initial Effects of Low-Level Laser Therapy on Growth and Differentiation of Human Osteoblast-like Cells, *Wien. Klin. Wochenschr*, 120 (3-4): 112-7.
- Struillou, X., Boutigny, H., Soueidan, A., Layrolle, P., 2010, Experimental Animal Models in Periodontology: A Review, *Open Dent. J.*, 4 (1): 37-47.
- Sutjiati, R., Rubianto, Narmada, I.B., Sudiana, I.K. dan Rahayu, R.P., 2017, The Inhibition of Relapse of Orthodontic Tooth Movement by NaF Administration in Expressions of TGF- β 1, Runx2, Alkaline Phosphatase and Microscopic Appearance of Woven Bone, *Engineering and Technology Intern. J. of Med. and Health Sci.*, 11 (10): 567-74.
- Tsai, S.R., Hamblin, M.R., 2017, Biological Effects and Medical Applications of Infrared Radiation, *J. Photochem. Photobiol. B.*, 170: 197-207.
- Van Leeuwen, E. J., Maltha, J. C., Kuijpers-Jagtman, A. M., Van't Hof, M. A., 2003, The Effect of Retention on Orthodontics Relapse After the Use of

Small Continuous or Discontinuous Forces. An Experimental Study in Beagle Dogs, *Eur. J. Oral. Sci.*, 111 (2): 111-6.

Yudaniayanti, I.S., 2005, Aktifitas Alkaline Phosphatase pada Proses Kesembuhan Patah Tulang Femur dengan Terapi CaCO₃ Dosis Tinggi pada Tikus Jantan (Sprague dawley), *MKH*, 21 (1): 15-8.

Yurista, S.R., Ferdian, R.A., Sargowo, D., 2016, Principles of the 3Rs and ARRIVE Guidelines in Animal Research, *J. Kardiol. Indones.*, 37: 156-63.

Zaidi, M., 2007, Skeletal Remodeling in Health and Disease, *Nature Med.*, 13: 791-801.

Zhao, N., Lin, J., Kanzaki, H., Ni, J., Chen, Z., Liang, W. dan Liu, Y., 2012, Local Osteoprogenitor Gene Transfer Inhibits Relapse of Orthodontic Tooth Movement, *Am J Orthod Dentofacial Orthop.*, 141 (1): 30-40.

Zia, A., Khan, S., Bey, A., Gupta, N.D., Mukhtar-Un-Nisar, S., 2011. Oral Biomarkers in the Diagnosis and Progression of Periodontal Diseases. *Biology and Medicine*. 3 (2): 45-52.

Zilov, V.G., Khadartsev, A.A., Bitsoev, V.D., 2014, Effect of Polychromatic Visible and Infrared Light on Biological Liquid Media, *Bull. Exp. Biol. Med.*, 157: 470-72.