DAFTAR PUSTAKA

Aguilar, A., Zein, N., Harmouch, E., Hafdi, B., Bornert, F., Offner, D., Clauss, F., Fioretti, F., Huck, O., Benkirane-Jessel, N., & Hua, G. (2019). Application of Chitosan in Bone and Dental Engineering. *Molecules*, *24*. https://doi.org/10.3390/molecules24163009

Alamgir, W., & Haider, A. (2023). The Past, Present and Future of Biomaterials. *Life and Science*. https://doi.org/10.37185/lns.1.1.500

Alpert, P. (2013). Calcium, a Necessary Mineral for Proper Body Function. *Home Health Care Management & Practice*, *25*, 239–241. https://doi.org/10.1177/1084822313491115

Ammann, P., Rizzoli, R., Meyer, J., & Bonjour, J. (2005). Bone density and shape as determinants of bone strength in IGF-I and/or pamidronate-treated ovariectomized rats. *Osteoporosis International*, *6*, 219–227. https://doi.org/10.1007/BF01622738

Armada, L., De Castro Brasil, S., Armada-Dias, L., Bezerra, J., Pereira, R., Takayama, L., Santos, R. M. M. Dos, Gonçalves, L., & Nascimento-Saba, C. (2018). Effects of aging, gender, and hypogonadism on mandibular bone density. *Journal of Investigative and Clinical Dentistry*, *9*. https://doi.org/10.1111/jicd.12310

Bellido, T. (2014). Osteocyte-driven bone remodeling. *Calcified Tissue International*, *94*(1), 25–34. https://doi.org/10.1007/S00223-013-9774-Y

Belluci, M., De Molon, R., Rossa, C., Tetradis, S., Giro, G., Cerri, P., Marcantonio, E., & Orrico, S. (2019). Severe magnesium deficiency compromises systemic bone mineral density and aggravates inflammatory bone resorption. *The Journal of Nutritional Biochemistry*, *77*, 108301. https://doi.org/10.1016/j.jnutbio.2019.108301

Boda, R., Lázár, I., Keczánné-Üveges, A., Bakó, J., Tóth, F., Trencsényi, G., Kálmán-Szabó, I., Béresová, M., Sajtos, Z., Tóth, E., Deák, Á., Tóth, A., Horváth, D., Gaál, B., Daroczi, L., Dezső, B., Ducza, L., & Hegedűs, C. (2023). β-Tricalcium Phosphate-Modified Aerogel Containing PVA/Chitosan Hybrid Nanospun *Scaffold*s for Bone Regeneration. *International Journal of Molecular Sciences*, *24*. https://doi.org/10.3390/ijms24087562

Bonjour, J. (2011). Calcium and Phosphate: A Duet of Ions Playing for Bone Health. *Journal of the American College of Nutrition*, *30*, 438–448. https://doi.org/10.1080/07315724.2011.10719988

Brassolatti, P., Bossini, P. S., De Andrade, A. L. M., Flores Luna, G. L., Da Silva, J. V., Almeida-Lopes, L., Napolitano, M. A., Da Silva De Avó, L. R., De Oliveira Leal, Â. M., & De Freitas Anibal, F. (2021). Comparison of two different biomaterials in the bone regeneration (15, 30 and 60 days) of critical defects in rats. *Acta Cirúrgica Brasileira*, *36*(6), e360605. https://doi.org/10.1590/ACB360605

Bueno, A., & Czepielewski, M. (2008). The importance for growth of dietary intake of calcium and vitamin D. *Jornal de Pediatria*, *84 5*, 386–394. https://doi.org/10.2223/JPED.1816

Sumida, D. H., Duarte, M. A. H., Ordinola-Zapata, R., Azuma, M. M., G., Pinheiro, T. N., & Cintra, L. T. A. (2021). Accuracy of radiographic analysis in detecting bone loss in periodontal disease: Study in rats. *The Saudi Dental Journal*, *33*(8), 987–996. rg/10.1016/j.sdentj.2021.07.004

nta-Melo, J., Kupczik, K., Vásquez, W., Beato, C., & Toro-Ibacache, Muscle-Bone Crosstalk in the Masticatory System: From cal to Molecular Interactions. *Frontiers in Endocrinology*, *11*, 606947.

https://doi.org/10.3389/FENDO.2020.606947/FULL

Cappenberg, H. A. W. (2008). Beberapa Aspek Biologi Kerang Hijau. *Oseana*, *XXXIII*(1), 33–40.

Dallas, S. L., Prideaux, M., & Bonewald, L. F. (2013). The Osteocyte: An Endocrine Cell … and More. *Endocrine Reviews*, *34*(5), 658–690. https://doi.org/10.1210/ER.2012-1026

Dasgupta, S., Maji, K., & Nandi, S. (2019). Investigating the mechanical, physiochemical and osteogenic properties in gelatin-chitosan-bioactive nanoceramic composite *scaffold*s for bone tissue regeneration: In vitro and in vivo. *Materials Science & Engineering. C, Materials for Biological Applications*, *94*, 713–728. https://doi.org/10.1016/j.msec.2018.10.022

Deng, X., Yu, C., Zhang, X., Tang, X., Guo, Q., Fu, M., Wang, Y., Fang, K., & Wu, T. (2024). A chitosan-coated PCL/nano-hydroxyapatite aerogel integrated with a nanofiber membrane for providing antibacterial activity and guiding bone regeneration. *Nanoscale*. https://doi.org/10.1039/d4nr00563e

Dinas Kelautan Perikanan (DKP). (2022). *Data Sementara Produksi Komoditas Unggulan Perikanan Budidaya Provinsi Sulawesi Selatan 2022*.

Galotta, A., Rubenis, K., Locs, J., & Sglavo, V. M. (2023). Dissolution-precipitation synthesis and cold sintering of mussel shells-derived hydroxyapatite and hydroxyapatite/chitosan composites for bone tissue engineering. *Open Ceramics*, *15*, 100418. https://doi.org/10.1016/J.OCERAM.2023.100418

Gani, A., Yulianty, R., Supiaty, S., Rusdy, M., Dwipa Asri, G., Eka Satya, D., Rahayu Feblina, A., & Achmad, H. (2022). Effectiveness of Combination of Chitosan Gel and Hydroxyapatite from Crabs Shells (Portunus pelagicus) Waste as Bonegraft on Periodontal Network Regeneration through IL-1 and BMP-2 Analysis. *International Journal of Biomaterials*, *2022*, 1817236. https://doi.org/10.1155/2022/1817236

Hall, J. E. G. and H. (2022). *Guyton and Hall Textbook of Medical Physiology, 14ed* (14ed ed.). Elsevier.

Hatami kaleshtari, A., Farjaminejad, S., Hasani, M., Farjaminejad, R., Foroozandeh, A., Abdouss, M., & Hasanzadeh, M. (2025). Hydroxyapatites and nano-hydroxyapatites as *scaffold*s in drug delivery towards efficient bone regeneration: A review. *Carbohydrate Polymer Technologies and Applications*, *9*, 100692. https://doi.org/10.1016/J.CARPTA.2025.100692

He, Y., Dong, Y., Cui, F., Chen, X., & Lin, R. (2015). Ectopic Osteogenesis and *Scaffold* Biodegradation of Nano-Hydroxyapatite-Chitosan in a Rat Model. *PLOS ONE*, *10*(8), e0135366. https://doi.org/10.1371/JOURNAL.PONE.0135366

Hildebolt, C., Pilgram, T., Dotson, M., Armamento-Villareal, R., Hauser, J., Cohen, S., & Civitelli, R. (2004). Estrogen and/or calcium plus vitamin D increase mandibular bone mass. *Journal of Periodontology*, *75 6*, 811–816. https://doi.org/10.1902/JOP.2004.75.6.811

Hoveidaei, A. H., Sadat-Shojai, M., Mosalamiaghili, S., Salarikia, S. R., Roghani-shahraki, H., Ghaderpanah, R., Ersi, M. H., & Conway, J. D. (2024). Nano-hydroxyapatite structures for bone regenerative medicine: Cell-material … *Bone*, *179*. https://doi.org/10.1016/J.BONE.2023.116956

… Farella, M., Hoffman, J., & Kramer, B. (2017). Variations in bone … ss the body of the immature human mandible. *Journal of Anatomy*, … doi.org/10.1111/joa.12591

… & Przekora, A. (2020). Osteoconductive and osteoinductive surface … s of biomaterials for bone regeneration: A concise review. *Coatings*, … 5. https://doi.org/10.3390/coatings10100971

… sehatan Republik Indonesia. (2019). *Peraturan Menteri Kesehatan … donesia Nomor 28 Tahun 2019 tentang Angka Kecukupan Gizi yang*

Dianjurkan untuk Masyarakat Indonesia.

Khaohoen, A., Sornsuwan, T., Chaijareenont, P., Poovarodom, P., Rungsiyakull, C., & Rungsiyakull, P. (2023). Biomaterials and Clinical Application of Dental Implants in Relation to Bone Density—A Narrative Review. *Journal of Clinical Medicine*, *12*. https://doi.org/10.3390/jcm12216924

Kini, U., & Nandeesh, B. (2012). Physiology of Bone Formation, Remodeling, and Metabolism. In *Radionuclide and Hybrid Bone Imaging* (Vol. 9783642024, pp. 29–57). https://doi.org/10.1007/978-3-642-02400-9

Kollmannsberger, P., Kerschnitzki, M., Repp, F., Wagermaier, W., Weinkamer, R., & Fratzl, P. (2017). The Small World of Osteocytes: Connectomics of the Lacuno-Canalicular Network in Bone. *New Journal of Physics*, *19*(7). https://doi.org/10.1088/1367-2630/aa764b

Kravanja, G., Primožič, M., Knez, Ž., & Leitgeb, M. (2019). Chitosan-Based (Nano)Materials for Novel Biomedical Applications. *Molecules*, *24*. https://doi.org/10.3390/molecules24101960

Lakhtin, Y. V, Zviahin, S. M., & Karpez, L. M. (2021). The State Of The Optical Density Of The Alveolar Process Of The Jaws Of Rats In Supraocclusive Relationships Of Individual Teeth In The Age Aspect. *Wiadomości Lekarskie*, *LXXIV*(8), 8–11. https://doi.org/10.36740/WLek202108104

Lu, H. T., Lu, T. W., Chen, C. H., & Mi, F. L. (2019). Development of genipin-crosslinked and fucoidan-adsorbed nano-hydroxyapatite/hydroxypropyl chitosan composite *scaffold*s for bone tissue engineering. *International Journal of Biological Macromolecules*, *128*, 973–984. https://doi.org/10.1016/J.IJBIOMAC.2019.02.010

Masztalerz-Kozubek, D., Zielinska-Pukos, M., & Hamułka, J. (2021). Maternal Diet, Nutritional Status, and Birth-Related Factors Influencing Offspring's Bone Mineral Density: A Narrative Review of Observational, Cohort, and Randomized Controlled Trials. *Nutrients*, *13*. https://doi.org/10.3390/nu13072302

Melhus, G., Brorson, S. H., Baekkevold, E. S., Andersson, G., Jemtland, R., Olstad, O. K., & Reinholt, F. P. (2010). Gene Expression and Distribution of Key Bone Turnover Markers in the Callus of Estrogen-Deficient, Vitamin D-Depleted Rats. *Calcified Tissue International 2010 87:1*, *87*(1), 77–89. https://doi.org/10.1007/S00223-010-9371-2

Muntean, F. L., Olariu, I., Marian, D., Olariu, T., Petrescu, E. L., Olariu, T., & Drăghici, G. A. (2024). Hydroxyapatite from Mollusk Shells: Characteristics, Production, and Potential Applications in Dentistry. *Dentistry Journal*, *12*(12). https://doi.org/10.3390/dj12120409

Nandiraju, D., & Ahmed, I. (2019). Human skeletal physiology and factors affecting its modeling and remodeling. *Fertility and Sterility*, *112*(5), 775–781. https://doi.org/10.1016/j.fertnstert.2019.10.005

Paladini, F., & Pollini, M. (2022). Novel Approaches and Biomaterials for Bone Tissue Engineering: A Focus on Silk Fibroin. *Materials (Basel, Switzerland)*, *15*(19). https://doi.org/10.3390/MA15196952

Prihanto, A., Muryanto, S., Vaquer, S., Schmahl, W., Ismail, R., Jamari, J., & [illegible] A. (2023). In-depth knowledge of the low-temperature hydrothermal [illegible]f nanocrystalline hydroxyapatite from waste green mussel shell [illegible]Viridis). *Environmental Technology*, *45*, 2375–2387. [illegible]rg/10.1080/09593330.2023.2173087

[illegible]lyastiti, N., Budijitno, S., Muniroh, M., Novriansyah, R., Alwi, L., & [illegible]. (2023). Application of green mussel (Perna viridis) shells [illegible]tite on osteocalcin levels and osteoblast cells in rabbit femur bone [illegible]*nnals of Medicine and Surgery*, *85*, 5464–5468. [illegible]rg/10.1097/MS9.0000000000001302

Reid, I., Bristow, S., & Bolland, M. (2015). Calcium supplements: benefits and risks. *Journal of Internal Medicine*, *278*, 354–368. https://doi.org/10.1111/joim.12394

Ressler, A. (2022). Chitosan-Based Biomaterials for Bone Tissue Engineering Applications: A Short Review. *Polymers*, *14*(16). https://doi.org/10.3390/POLYM14163430

Roco, M. C. (2011). The long view of nanotechnology development: the National Nanotechnology Initiative at 10 years. *Journal of Nanoparticle Research*, *13*(2), 427–445. https://doi.org/10.1007/s11051-010-0192-z

Saleem, M., Rasheed, S., & Yougen, C. (2020). Silk fibroin/hydroxyapatite *scaffold*: a highly compatible material for bone regeneration. *Science and Technology of Advanced Materials*, *21*(1), 242–266. https://doi.org/10.1080/14686996.2020.1748520

Sathiyavimal, S., Vasantharaj, S., Mattheos, N., Pugazhendhi, A., & Subbalekha, K. (2024). Mussel shell-derived biogenic hydroxyapatite as reinforcement on chitosan-loaded gentamicin composite for antibacterial activity and bone regeneration. *International Journal of Biological Macromolecules*, *278*, 134143. https://doi.org/10.1016/J.IJBIOMAC.2024.134143

Schaffler, M. B., Cheung, W.-Y., Majeska, R., & Kennedy, O. (2014). Osteocytes: master orchestrators of bone. *Calcified Tissue International*, *94*(1), 5–24. https://doi.org/10.1007/s00223-013-9790-y

Schaffler, M. B., & Kennedy, O. D. (2012). Osteocyte signaling in bone. *Current Osteoporosis Reports*, *10*(2), 118–125. https://doi.org/10.1007/S11914-012-0105-4

Siddiqui, J. A., & Partridge, N. C. (2016). Physiological Bone Remodeling: Systemic Regulation and Growth Factor Involvement. *Physiology (Bethesda, Md.)*, *31*(3), 233–245. https://doi.org/10.1152/physiol.00061.2014

Silviana, N. M., & Aulia, N. A. (2022). Bone Architecture and Atomic Mineral Composition in The Mandibular Corpus of Rats with Different Diet Consistency. *Stomatognatic*, *19*(1), 19–24.

Souto-Lopes, M., Grenho, L., Manrique, Y., Dias, M., Lopes, J., Fernandes, M., Monteiro, F., Salgado, C., Álvarez-Pérez, M., Rosa, A. L., & Martinez-Aguilar, V. (2024a). Bone regeneration driven by a nano-hydroxyapatite/chitosan composite bioaerogel for periodontal regeneration. *Frontiers in Bioengineering and Biotechnology*, *12*. https://doi.org/10.3389/fbioe.2024.1355950

Souto-Lopes, M., Grenho, L., Manrique, Y., Dias, M. M., Lopes, J. C. B., Fernandes, M. H., Monteiro, F. J., Salgado, C. L., Álvarez-Pérez, M., Rosa, A. L., & Martinez-Aguilar, V. (2024b). Bone regeneration driven by a nano-hydroxyapatite/chitosan composite bioaerogel for periodontal regeneration. *Frontiers in Bioengineering and Biotechnology*, *12*, 1355950. https://doi.org/10.3389/fbioe.2024.1355950

Sukpaita, T., Chirachanchai, S., Pimkhaokham, A., & Ampornaramveth, R. S. (2021). Chitosan-Based *Scaffold* for Mineralized Tissues Regeneration. *Marine Drugs*, *19*(10), 551. https://doi.org/10.3390/MD19100551

Suzuki, F., Okamoto, S., Miyagi, S., Tsujiguchi, H., Hara, A., Nguyen, T., Shimizu, Y., Hayashi, K., Suzuki, K., Nakai, S., Miyagi, M., Kannon, T., Tajima, A., Tsuboi, H., [illegible] T., & Nakamura, H. (2021). Relationship between Decreased Mineral [illegible] to Oral Frailty and Bone Mineral Density: Findings from Shika Study. [illegible]3. https://doi.org/10.3390/nu13041193

[illegible] A., Płociński, P., Kupikowska-Stobba, B., Urbaniak, M. M., Rusek-[illegible]zustakiewicz, K., Piszko, P., Krupa, A., Biernat, M., Gazińska, M., [illegible]M., Nawrotek, K., Mira, N. P., & Rudnicka, K. (2023). Bioactive [illegible]r Bone Regeneration: Biomolecules and Delivery Systems. *ACS* [illegible]s *Science & Engineering*, *9*(9), 5222–5254. [illegible]rg/10.1021/ACSBIOMATERIALS.3C00609

Taguchi, T., & Lopez, M. J. (2020). An overview of de novo bone generation in animal models. *Journal of Orthopaedic Research*, *39*(1), 7. https://doi.org/10.1002/JOR.24852

Tai, V., Leung, W., Grey, A., Reid, I. R., & Bolland, M. J. (2015). Calcium intake and bone mineral density: systematic review and meta-analysis. *BMJ (Clinical Research Ed.)*, *351*. https://doi.org/10.1136/BMJ.H4183

Talaeipour, A. R., Shirazi, M., Kheirandish, Y., Delrobaie, A., Jafari, F., & Dehpour, A. R. (2005). Densitometric evaluation of skull and jaw bones after administration of thyroid hormones in rats. *Dento Maxillo Facial Radiology*, *34*(6), 332–336. https://doi.org/10.1259/DMFR/50255929

Tjandra, K. C., Novriansyah, R., Limijadi, E. K. S., Kuntjoro, L., & Hendrianingtyas, M. (2024). The effect of green mussel (Perna viridis) shells' hydroxyapatite application on alkaline phosphatase levels in rabbit femur bone defect. *F1000Research*, *12*. https://doi.org/10.12688/F1000RESEARCH.132881.2/DOI

Tjandra, K., Novriansyah, R., Limijadi, E., Kuntjoro, L., & Hendrianingtyas, M. (2023). The effect of green mussel (Perna viridis) shells' hydroxyapatite application on alkaline phosphatase levels in rabbit femur bone defect. *F1000Research*, *12*. https://doi.org/10.12688/f1000research.132881.2

Tjandra, K., Novriansyah, R., Limijadi, E., Kuntjoro, L., Hendrianingtyas, M., Prihanto, A., Muryanto, S., Vaquer, S., Schmahl, W., Ismail, R., Jamari, J., Bayuseno, A., Shavandi, A., Wilton, V., Bekhit, A., Putra, R. S., Widyastiti, N., Budijitno, S., Muniroh, M., … Adiputra, P. (2023). Synthesis of macro and micro porous hydroxyapatite (HA) structure from waste kina (Evechinus chloroticus) shells. *Annals of Medicine and Surgery*, *45*, 5464–5468. https://doi.org/10.1016/J.JTICE.2016.05.007

Ul-Islam, M., Alabbosh, K. F., Manan, S., Khan, S., Ahmad, F., & Ullah, M. W. (2024). Chitosan-based nanostructured biomaterials: Synthesis, properties, and biomedical applications. *Advanced Industrial and Engineering Polymer Research*, *7*(1), 79–99. https://doi.org/10.1016/J.AIEPR.2023.07.002

Van Ankum, E., Majcher, K., Dolovich, A., Johnston, J., & Boughner, J. (2021). A Mouse Model Suggests How an Industrialized Diet Alters Jaw Form. *The FASEB Journal*, *35*. https://doi.org/10.1096/FASEBJ.2021.35.S1.02209

Van Eijden, T. M. G. J. (2000). Biomechanics of the Mandible. *Critical Reviews in Oral Biology & Medicine*, *11*(1), 123–136. https://doi.org/10.1177/10454411000110010101

Venkatesan, J., Anil, S., Kim, S.-K., Shim, M. S., Gan, D., Liu, M., Xu, T., Wang, K., Tan, H., & Lu, X. (2017). Chitosan/biphasic calcium phosphate *scaffold*s functionalized with BMP-2-encapsulated nanoparticles and RGD for bone regeneration. *Journal of Biomedical Materials Research. Part A*, *104 Pt B*, 2613–2624. https://doi.org/10.1002/jbm.a.36453

Venkatesan, J., & Kim, S.-K. (2014). Nano-hydroxyapatite composite biomaterials for bone tissue engineering--a review. *Journal of Biomedical Nanotechnology*, *10*(10), 3124–3140. https://doi.org/10.1166/jbn.2014.1893

Wahjuningrum, D. A., Setyabudi, Cahyani, F., Setiawan, F., Dianti, E., Sampoerno, G., … W., Nurdianto, A. R., & Bhardwaj, A. (2022). Chitosan as Bone … d Graft Materials for Bone Regeneration: A Systematic Review. … *Journal of Fundamental and Applied Sciences*, *18*(5), 541–549. … rg/10.11113/MJFAS.V18N5.2518

… DeMoss, D. (2000a). Evidence for dramatically increased bone … spontaneously hypertensive rats. *Metabolism: Clinical and* … *al*, *49*(9), 1130–1133. https://doi.org/10.1053/META.2000.8608

… DeMoss, D. (2000b). Evidence for dramatically increased bone … spontaneously hypertensive rats. *Metabolism: Clinical and*

Experimental, *49*(9), 1130–1133. https://doi.org/10.1053/meta.2000.8608

Xu, H., Cui, Y., Tian, Y., Dou, M., Sun, S., Wang, J., & Wu, D. (2024). Nanoparticle-Based Drug Delivery Systems for Enhancing Bone Regeneration. *ACS Biomaterials Science and Engineering*, *10*(3), 1302–1322. https://doi.org/10.1021/ACSBIOMATERIALS.3C01643

Zaffarin, A. S. M., Ng, S. F., Ng, M. H., Hassan, H., & Alias, E. (2021). Nano-hydroxyapatite as a delivery system for promoting bone regeneration in vivo: A systematic review. *Nanomaterials*, *11*(10). https://doi.org/10.3390/NANO11102569