

**Ausgabe:** BDZI KONKRET

**Thema:** Unterstützung der Osseointegration von Keramikimplantaten

**Autor:** Dr. Dominik Nischwitz

---

## Literatur

- 1 Periodontology 2000, Vol. 17, 1998, 151-175: Guided bone regeneration at oral implant sites Hämmerle, Christoph H. F. & Karring, Thorkild
- 2 Nischwitz, D: Nahrung heilt. In: In aller Munde. Mosaik Verlag, Germany, 2019: 208-257.
- 3 Weston A. Price, MS. Nutrition and Physical Degeneration. Paul B. Hoeber, Inc Medical Book Department of Harper & Brothers New York London, Copyright, 1939, by Paul B. Hoeber, Inc.
- 4 Dayer R1, Rizzoli R, Kaelin A, Ammann P.: Low protein intake is associated with impaired titanium implant osseointegration, J Bone Miner Res. 2006 Feb;21(2):258-64. Epub 2005 Oct 18
- 5 Dayer R1, Badoud I, Rizzoli R, Ammann P.: Defective implant osseointegration under protein undernutrition: prevention by PTH or pamidronate. J Bone Miner Res. 2007 Oct;22(10):1526-33.
- 6 Hannan MT1, Tucker KL, Dawson-Hughes B, Cupples LA, Felson DT, Kiel DP.: Effect of dietary protein on bone loss in elderly men and women: the Framingham Osteoporosis Study. J Bone Miner Res. 2000 Dec;15(12):2504-12.
- 7 Schürch MA1, Rizzoli R, Slosman D, Vadas L, Vergnaud P, Bonjour JP.: Protein supplements increase serum insulin-like growth factor-I levels and attenuate proximal femur bone loss in patients with recent hip fracture. A randomized, double-blind, placebo-controlled trial. Ann Intern Med. 1998 May 15;128(10):801-9.
- 8 Stokes T1, Hector AJ2, Morton RW3, McGlory C4, Phillips SM5: Recent Perspectives Regarding the Role of Dietary Protein for the Promotion of Muscle Hypertrophy with Resistance Exercise Training. Nutrients. 2018 Feb 7;10(2). pii: E180. doi: 10.3390/nu10020180.
- 9 Wu G1: Dietary protein intake and human health. Food Funct. 2016 Mar;7(3):1251-65. doi: 10.1039/c5fo01530h.
- 10 Phillips SM1, Chevalier S2,3, Leidy HJ4: Protein "requirements" beyond the RDA: implications for optimizing health. Appl Physiol Nutr Metab. 2016 May;41(5):565-72. doi: 10.1139/apnm-2015-0550. Epub 2016 Feb 9.
- 11 Traylor DA1, Gorissen SHM1, Phillips SM1: Perspective: Protein Requirements and Optimal Intakes in Aging: Are We Ready to Recommend More Than the Recommended Daily Allowance?, Adv Nutr. 2018 May 1;9(3):171-182. doi: 10.1093/advances/nmy003.
- 12 Daly JM1, Reynolds J, Sigal RK, Shou J, Liberman MD: Effect of dietary protein and amino acids on immune function. Crit Care Med. 1990 Feb;18(2 Suppl):S. 86-93.
- 13 Grimble RF1, Grimble GK.: Immunonutrition: role of sulfur amino acids, related amino acids, and polyamines. Nutrition. 1998 Jul-Aug;14(7-8):605-10.
- 14 Li P1, Yin YL, Li D, Kim SW, Wu G.: Amino acids and immune function. Br J Nutr. 2007 Aug;98(2):237-52. Epub 2007 Apr 3.

- 15 Bonjour JP1.: Dietary protein: an essential nutrient for bone health. *J Am Coll Nutr.* 2005 Dec;24(6 Suppl):526S-36S.
- 16 Ammann P1, Laib A, Bonjour JP, Meyer JM, Rügsegger P, Rizzoli R.: Dietary essential amino acid supplements increase bone strength by influencing bone mass and bone microarchitecture in ovariectomized adult rats fed an isocaloric low-protein diet. *J Bone Miner Res.* 2002 Jul;17(7):1264-72.
- 17 Bonjour JP.: The dietary protein, IGF-I, skeletal health axis. *Horm Mol Biol Clin Investig.* 2016 Oct 1;28(1):39-53. doi: 10.1515/hmbci-2016-0003.
- 18 One hundred years after Vitamin D discovery: Is there clinical evidence for supplementation doses? Ghanaati Shahram, Choukroun Joseph, Volz Ulrich, Hueber Rebekka, Mourão Carlos Fernando de Almeida Barros, Sader Robert, Kawase-Koga Yoko, Mazhari Ramesh, Amrein Karin, Meybohm Patrick, Al-Maawi Sarah, *Int J Growth Factors Stem Cell Dent.*2020;3:1,3-11
- 19 *Clin Oral Implants Res.* 2016 Jun;27(6):701-6. doi: 10.1111/clr.12641. Epub 2015 Jul 14. Systemic vitamin D supplementation and local bone formation after maxillary sinus augmentation - a randomized, double-blind, placebo-controlled clinical investigation. Schulze-Späte U1, Dietrich T2, Wu C3, Wang K1, Hasturk H4, Dibart S5.
- 20 *J Cell Biochem.* 1992 May;49(1):53-8. Role of vitamin D in bone resorption. Suda T1, Takahashi N, Abe E.
- 21 *J Steroid Biochem Mol Biol.* 2010 Jul;121(1-2):277-80. doi: 10.1016/j.jsbmb.2010.03.048. Epub 2010 Mar 19. The metabolism of 25-(OH) vitamin D3 by osteoclasts and their precursors regulates the differentiation of osteoclasts. Kogawa M1, Anderson PH, Findlay DM, Morris HA, Atkins GJ.
- 22 *Best Pract Res Clin Endocrinol Metab.* 2011 Aug;25(4):585-91. doi: 10.1016/j.beem.2011.05.002. The effect of vitamin D on bone and osteoporosis. Lips P1, van Schoor NM.
- 23 Choukroun J, Khoury G, Khoury F, Russe P, Testori T, Komiyama Y, Sammartino G, Palacci P, Tunali M, Choukroun E. Two neglected biologic risk factors in bone grafting and implantology: high low-density lipoprotein cholesterol and low serum vitamin D. *J Oral Implantol.* 2014 Feb;40(1):110-4. doi: 10.1563/AAID-JOI-D-13-00062. Epub 2013 Oct 9. PMID: 24107195.
- 24 Myneni, V D, and E Mezey. "Regulation of bone remodeling by vitamin K2." *Oral diseases* vol. 23,8 (2017): 1021-1028. doi:10.1111/odi.12624
- 25 *J Am Osteopath Assoc.* 2018 Mar 1;118(3):181-189. doi: 10.7556/jaoa.2018.037. Role of Magnesium in Vitamin D Activation and Function. Uwitonze AM, Razzaque MS.
- 26 Craig TA, Benson LM, Naylor S, Kumar R. Modulation effects of zinc on the formation of vitamin D receptor and retinoid X receptor alpha-DNA transcription complexes: analysis by microelectrospray mass spectrometry. *Rapid Commun Mass Spectrom.* 2001;15(12):1011-6. doi: 10.1002/rcm.332. PMID: 11400211.
- 27 Pizzorno, Lara. "Nothing Boring About Boron." *Integrative medicine (Encinitas, Calif.)* vol. 14,4 (2015): 35-48.