

# QUELLEN

## BODY

### Plateaus überwinden:

- 1 Hohmann, A., Lames, M. & Letzelter, M. (2010). Einführung in die Trainingswissenschaft (5. Aufl.) Wiebelsheim: Limpert Verlag GmbH.
- 2 Ebd., S. 149.
- 3 Maughan, R. J., Watson, J. S. & Weir, J. (1983). Strength and cross-sectional area of human skeletal muscle. *The Journal of Physiology*, 338 (1), 37–49. doi: 10.1113/jphysiol.1983.sp014658
- 4 Liu, Y., Gampert, L., Prokopchuk, O. & Steinacker, J. M. (2007). Satellitenzellenaktivierung beim Krafttraining. *Deutsche Zeitschrift für Sportmedizin*, 58 (1), 6–11.
- 5 Schoenfeld, B. J. (2010). The Mechanisms of Muscle Hypertrophy and Their Application to Resistance Training. *Journal of Strength and Conditioning Research*, 24 (10), 2857–2872. doi: 10.1519/JSC.0b013e3181e840f3
- 6 Liu, Y., Gampert, L., Prokopchuk, O. & Steinacker, J. M. (2007). Satellitenzellenaktivierung beim Krafttraining. *Deutsche Zeitschrift für Sportmedizin*, 58 (1), 6–11.
- 7 Pearson, S. J. & Hussain, S. R. (2014). A Review on the Mechanisms of Blood-Flow Restriction Resistance Training-Induced Muscle Hypertrophy. *Sports Medicine*, 45 (2), 187–200. doi: 10.1007/s40279-014-0264-4
- 8 Liu, Y., Gampert, L., Prokopchuk, O. & Steinacker, J. M. (2007). Satellitenzellenaktivierung beim Krafttraining. *Deutsche Zeitschrift für Sportmedizin*, 58 (1), 6–11.
- 9 Heiduk, R. (2017). Kaatsu – Das Druck-Training aus Japan. *Neue Perspektiven in Sport, Therapie und Gesundheitsförderung*. Reinheim: pulsh.
- 10 Harris, E. D. (2003). Biochemical Facts behind the Definition and Properties of Metabolites. Abgerufen von <https://www.semanticscholar.org/paper/Biochemical-Facts-behind-the-Definition-and-of-Harris/22c777dca-442d4166a6454032418a81ec4cd2572>
- 11 Goto, K., Ishii, N., Kizuka, T. & Takamatsu, K. (2005). The impact of metabolic stress on hormonal responses and muscular adaptations. *Medicine and science in sports and exercise*, 37 (6), 955–963. doi: 10.1249/01.mss.0000170470.98084.39.
- 12 Schoenfeld, B., & Grgic, J. (2018). Can Drop Set Training Enhance Muscle Growth? *Strength and Conditioning Journal*, 40(6), 95–98. <https://doi.org/10.1519/ssc.0000000000000366>
- 13 Ebd.
- 14 Schoenfeld, B. J. (2010). The Mechanisms of Muscle Hypertrophy and Their Application to Resistance Training. *Journal of Strength and Conditioning Research*, 24 (10), 2857–2872. doi: 10.1519/JSC.0b013e3181e840f3
- 15 Pearson, S. J. & Hussain, S. R. (2014). A Review on the Mechanisms of Blood-Flow Restriction Resistance Training-Induced Muscle Hypertrophy. *Sports Medicine*, 45 (2), 187–200. doi: 10.1007/s40279-014-0264-4
- 16 Schoenfeld, B. J. (2010). The Mechanisms of Muscle Hypertrophy and Their Application to Resistance Training. *Journal of Strength and Conditioning Research*, 24 (10), 2857–2872. doi: 10.1519/JSC.0b013e3181e840f3
- 17 Silverthorn, D. U. (2009). *Physiologie*. Pearson Education, München.
- 18 Jenkins, N. D. M., Miramonti, A. A., Hill, E. C., Smith, C. M., Cochrane-Snyman, K. C., Housh, T. J., & Cramer, J. T. (2017). Greater Neural Adaptations following High- vs. Low-Load Resistance Training. *Frontiers in Physiology*, 8. <https://doi.org/10.3389/fphys.2017.00331>
- 19 Barstow, I. K., Bishop, M. D., & Kaminski, T. W. (2003). Is enhanced-eccentric resistance training superior to traditional training for increasing elbow flexor strength?. *Journal of sports science & medicine*, 2(2), 62–69.
- 20 Roig, M., O'Brien, K., Kirk, G., Murray, R., McKinnon, P., Shadgan, B., & Reid, W. D. (2008). The effects of eccentric versus concentric resistance training on muscle strength and mass in healthy adults: a systematic review with meta-analysis. *British Journal of Sports Medicine*, 43(8), 556–568. <https://doi.org/10.1136/bjism.2008.051417>
- 21 Hortobagyi, T. (2003). The Positives of Negatives: Clinical Implications of Eccentric Resistance Exercise in Old Adults. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 58(5), M417–M418. <https://doi.org/10.1093/gerona/58.5.m417>
- 22 D. Joyce & D. Lewin-don (Hrsg.). *Athletiktraining für sportliche Höchstleistung*. München: Riva.
- 23 Evans, J. W. (2019). Periodized Resistance Training for Enhancing Skeletal Muscle Hypertrophy and Strength: A Mini-Review. *Frontiers in Physiology*, 10. <https://doi.org/10.3389/fphys.2019.00013>
- 24 Williams, T. D., Toluoso, D. V., Fedewa, M. V., & Esco, M. R. (2017). Comparison of Periodized and Non-Periodized Resistance Training on Maximal Strength: A Meta-Analysis. *Sports Medicine*, 47(10), 2083–2100. <https://doi.org/10.1007/s40279-017-0734-y>

### Grundübungen im Fokus:

#### LITERATUR

- 1 [https://de.wikipedia.org/wiki/Musculus\\_quadriceps\\_femoris](https://de.wikipedia.org/wiki/Musculus_quadriceps_femoris)
- 2 [http://de.wikipedia.org/wiki/Wolffsches\\_Gesetz](http://de.wikipedia.org/wiki/Wolffsches_Gesetz)
- 3 [http://en.wikipedia.org/wiki/Davis%27\\_Law](http://en.wikipedia.org/wiki/Davis%27_Law)
- 4 Marc Rippetoe: *Starting Strength - Einführung ins Langhanteltraining*, Deutsche Erstauflage. Riva Verlag, 2015
- 5 Swinton, Paul A.1; Lloyd, Ray2; Keogh, Justin W. L.3,4; Agouris, Ioannis1; Stewart, Arthur D.5 A Biomechanical Comparison of the Traditional Squat, Powerlifting Squat, and Box Squat.  
Direkt Link: [https://journals.lww.com/nsca-jscr/Fulltext/2012/07000/A\\_Biomechanical\\_Comparison\\_of\\_the\\_Traditional\\_10.aspx](https://journals.lww.com/nsca-jscr/Fulltext/2012/07000/A_Biomechanical_Comparison_of_the_Traditional_10.aspx)
- 6 Heilmeier Rupert, Janke Stefan, Matrich Janosch und Wolf David: *Technik Coach*, Erstauflage, 2017, <http://technik.code-fitness.de>

- 7 Fry, AC., Smith, JC, S., & Schilling, BK. Effect of knee position on hip and knee torques during the barbell squat. *Journal Of Strength And Conditioning Research / National Strength & Conditioning Association*, Seite 629-633, 2003  
Pubmed Link: <https://www.ncbi.nlm.nih.gov/pubmed/14636100>

### Hormongesteuert

- 1 The Effects of Supraphysiologic Doses of Testosterone on Muscle Size and Strength in Normal Men <https://www.nejm.org/doi/full/10.1056/NEJM199607043350101>
- 2 Effects of Testosterone Treatment in Older Men <https://www.nejm.org/doi/full/10.1056/NEJMoa1506119>
- 3 <https://www.aerzteblatt.de/archiv/40747/Oestrogene-fuer-den-Mann-sinnvoll-oder-gefaehrlicher-Unfug>
- 4 <https://www.aerzteblatt.de/archiv/40747/Oestrogene-fuer-den-Mann-sinnvoll-oder-gefaehrlicher-Unfug>
- 5 <https://www.ncbi.nlm.nih.gov/pubmed/15831061>
- 6 <https://www.mensworld24.com/testosteron-booster/ernaehrung#gesattigte-und-einfach-ungesattigte-fettsauren-als-testosteron-booster>
- 7 <https://www.powerfood.ch/de/magazin/ernaehrung/nutze-diese-fette-als-testosteron-booster>
- 8 <https://www.gesundheitsforschung-bmbf.de/de/gutes-fett-schlechtes-fett-8035.php>
- 9 <https://www.netdoktor.de/ernaehrung/gesaettigte-fettsauren/>
- 10 <https://www.aerzteblatt.de/blog/98816/Schaden-Oestrogene-in-der-Kuhmilch-der-Gesundheit>
- 11 [https://www.toxikologie.de/fileadmin/user\\_upload/GT/Wissenschaftliche\\_Ausarbeitungen/2004-XENO-Oestrogene.pdf](https://www.toxikologie.de/fileadmin/user_upload/GT/Wissenschaftliche_Ausarbeitungen/2004-XENO-Oestrogene.pdf)
- 12 (<https://youoptimized.co/magazin/aromatasehemmer/>)
- 13 <https://www.ncbi.nlm.nih.gov/pubmed/12472620>
- 14 <https://www.ncbi.nlm.nih.gov/pubmed/32024514>
- 15 <https://www.ncbi.nlm.nih.gov/pubmed/30790614>
- 16 <https://www.ncbi.nlm.nih.gov/pubmed/31517876>
- 17 <https://www.ncbi.nlm.nih.gov/pubmed/21129941>
- 18 [http://www.mikronaehrstoff.de/pdf/Groe\\_Kis\\_Bor\\_2015.pdf](http://www.mikronaehrstoff.de/pdf/Groe_Kis_Bor_2015.pdf)
- 19 <https://www.fernarzt.com/arzneimittel/antibabypille/>

## NUTRITION

### Protein im Fokus:

- 1 Statistisches Bundesamt >>> <https://de.statista.com/statistik/daten/studie/858628/umfrage/food-trends-in-deutschland/>
- 2 Deutsche Gesellschaft für Ernährung: <https://www.dge.de/wissenschaft/referenzwerte/protein/>
- 3 M. Song (2016): Association of Animal and Plant Protein Intake With All-Cause and Cause-Specific Mortality. *JAMA Internal Medicine*, 1;176(10):1453-1463, <https://www.ncbi.nlm.nih.gov/pubmed/27479196>
- 4 J. M. Joy u. a. (2013): The effects of 8 weeks of whey or rice protein supplementation on body composition and exercise performance. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3698202/>
- 5 S.M. Solon-Biet u. a. (2019): Branched chain amino acids impact health and lifespan indirectly via amino acid balance and appetite control. *Nature metabolism*, 1(5):532-545, <https://www.ncbi.nlm.nih.gov/pubmed/31656947>

### Supplements im Scienc-Check:

- 1 <https://de.statista.com/statistik/daten/studie/199898/umfrage/konsum-von-kaffee-in-europa/>
- 2 <https://de.statista.com/statistik/daten/studie/199898/umfrage/konsum-von-kaffee-in-europa/>
- 3 <https://roempp.thieme.de/lexicon/RD-03-02269>
- 4 E. Mutschler, G. Geisslinger, H. K. Kroemer, P. Ruth, M. Schäfer-Korting: *Arzneimittelwirkungen. Lehrbuch der Pharmakologie und Toxikologie*. 9. Auflage. Wissenschaftliche Verlagsgesellschaft, Stuttgart 2008, ISBN 978-3-8047-1952-1, S. 192.
- 5 <https://www.nature.com/articles/nn.3623> Post-study caffeine administration enhances memory consolidation in humans
- 6 Fredholm, B.B., 1995. Adenosine, adenosine receptors and the actions of caffeine. *Pharmacology & toxicology*, 76(2), pp.93-101.
- 7 <https://doi.org/10.1111/j.1748-1716.1982.tb07078.x>
- 8 EFSA NDA Panel (EFSA Panel on Dietetic Products, Nutrition and Allergies): Scientific Opinion on the safety of caffeine. In: *EFSA Journal*. 13(5), 2015, S. 4102.
- 9 A primer of drug action – a concise and nontechnical guide to the actions, uses, and side effects of psychoactive drugs. Urban & Fischer Verlag, 2002, ISBN 3-437-21706-2.
- 10 Brockhaus ABC Chemie. VEB F.A. Brockhausverlag, Leipzig 1971.
- 11 Neuropsychiatric effects of caffeine. In: *Advances in Psychiatric Treatment*. 11, Nr. 6, 2005, S. 432–439. doi:10.1192/apt.11.6.432.
- 12 Caffeine abstinence in the management of anxiety disorders. In: *Psychological Medicine*. 19, Nr. 1, Februar 1989, S. 211–4. doi:10.1017/S003329170001117X. PMID 2727208.
- 13 Laut einer Studie der EFSA (European Food Safety Authority)
- 14 Christopher C. Wendler, Melissa Busovsky-McNeal, Satish Ghatpande, April Kalinowski, Kerry S. Russell, Scott A. Rivkees: Embryonic caffeine exposure induces adverse effects in adulthood. In: *The FASEB Journal*. Vol. 23, No. 4, 16. Dezember 2008, S. 1272–1278, doi:10.1096/fj.08-124941.
- 15 Fries, E., Dettenborn, L. and Kirschbaum, C., 2009. The cortisol awakening response (CAR): facts and future directions. *International journal of Psychophysiology*, 72(1), pp.67-73.

## QUELLEN

- 16 Lovallo, W.R., Whitsett, T.L., al'Absi, M., Sung, B.H., Vincent, A.S. and Wilson, M.F., 2005. Caffeine stimulation of cortisol secretion across the waking hours in relation to caffeine intake levels. *Psychosomatic medicine*, 67(5), p.734.
- 17 Gable, R. S. (2006): Acute toxicity of drugs versus regulatory status. In J. M. Fish (Ed.), *Drugs and Society: U.S. Public Policy*, S. 149–162, Lanham, MD: Rowman & Littlefield Publishers.
- 18 <https://doi.org/10.1002/14651858.CD009281.pub3>
- 19 Efficacy and Safety of Acetaminophen, Aspirin, and Caffeine in Alleviating Migraine Headache Pain Three Double-blind, Randomized, Placebo-Controlled Trials Richard B. Lipton, MD; Walter F. Stewart, PhD, MPH; Robert E. Ryan Jr, MD; et al Joel Saper, MD; Stephen Silberstein, MD; Fred Sheffell, MD *Arch Neurol.* 1998;55(2):210-217. doi:10.1001/archneur.55.2.210
- 20 The effects of catechin rich teas and caffeine on energy expenditure and fat oxidation: a meta-analysis

## Mythos Übersäuerung – Das sagt die Wissenschaft

- 1 [next.amboss.com/de/article/lo0YWS#Z49684269b5f142564183f0d57b95ec4a;Stand 22.04.2020](https://next.amboss.com/de/article/lo0YWS#Z49684269b5f142564183f0d57b95ec4a;Stand%2022.04.2020)
- 2 [www.onmeda.de/laborwerte/ph-wert.html; Stand: 22.04.2020](https://www.onmeda.de/laborwerte/ph-wert.html;Stand%2022.04.2020)
- 3 [flexikon.doccheck.com/de/Enzym; Stand 22.04.2020](https://flexikon.doccheck.com/de/Enzym;Stand%2022.04.2020)
- 4 [next.amboss.com/de/article/o600NS#ZK6ZUW0; Stand 22.04.2020](https://next.amboss.com/de/article/o600NS#ZK6ZUW0;Stand%2022.04.2020)
- 5 *Postgrad Med J.* 1990 Sep; 66(779): 727–729. doi: 10.1136/pgmj.66.779.727 PMID: PMC2426891; PMID: 2235803  
Relationship of urinary pH to symptoms of 'cystitis'.  
W. Brumfitt, J. M. Hamilton-Miller, J. Cooper, and A. Raeburn  
Author information Copyright and License information Disclaimer  
*BMC Musculoskelet Disord.* 2010 May 10;11:88. doi: 10.1186/1471-2474-11-88. Low urine pH and acid excretion do not predict bone fractures or the loss of bone mineral density: a prospective cohort study.  
Fenton TR1, Eliasziw M, Tough SC, Lyon AW, Brown JP, Hanley DA.
- 7 Effect of an acute oral protein load on renal acidification in healthy humans and in patients with chronic renal failure. N G de Santo, G Capasso, G Malnic, P Anastasio, L Spitali and A D'Angelo  
*JASN* May 1997, 8 (5) 784-792;
- 8 [wikipedia.org/wiki/Warburg-Hypothese#cite\\_note-4; Stand 22.04.2020](https://wikipedia.org/wiki/Warburg-Hypothese#cite_note-4;Stand%2022.04.2020)
- 9 Angela M. Otto: Warburg effect(s)—a biographical sketch of Otto Warburg and his impacts on tumor metabolism. In: *Cancer & Metabolism*. Band 4, Nr. 1, 8. März 2016, ISSN 2049-3002, doi:10.1186/s40170-016-0145-9, PMID 26962452, PMC 4784299 (freier Volltext) – ([cancerandmetabolism.com](http://cancerandmetabolism.com) [abgerufen am 17. Juli 2018]).  
Robert Allan Weinberg: *The biology of cancer*. 2. Auflage. Garland Science, New York 2014. S. 53.
- 10 *Br J Nutr.* 2013 Oct;110(7):1168-77. doi: 10.1017/S0007114513000962. Epub 2013 Apr 4.  
Nutritional disturbance in acid-base balance and osteoporosis: a hypothesis that disregards the essential homeostatic role of the kidney.  
Bonjour JP1.
- 11 *J Bone Miner Res.* 2009 Nov;24(11):1835-40. doi: 10.1359/jbmr.090515.  
Meta-analysis of the effect of the acid-ash hypothesis of osteoporosis on calcium balance.  
Fenton TR1, Lyon AW, Eliasziw M, Tough SC, Hanley DA.
- 12 *BMC Musculoskelet Disord.* 2010 May 10;11:88. doi: 10.1186/1471-2474-11-88.  
Low urine pH and acid excretion do not predict bone fractures or the loss of bone mineral density: a prospective cohort study.  
Fenton TR1, Eliasziw M, Tough SC, Lyon AW, Brown JP, Hanley DA.
- 13 *Am J Clin Nutr.* 1999 Jan;69(1):147-52. Prospective study of dietary protein intake and risk of hip fracture in postmenopausal
- 14 *J Am Coll Nutr.* 2005 Dec;24(6 Suppl):S26S-36S. Dietary protein: an essential nutrient for bone health.  
Bonjour JP1.
- 15 *Am J Epidemiol.* 2002 Apr 1;155(7):636-44. Protein consumption and bone mineral density in the elderly: the Rancho Bernardo Study. Promislow JH1, Goodman-Gruen D, Slymen DJ, Barrett-Connor E.
- 16 *J Int Soc Sports Nutr.* 2012 Nov 26;9(1):50. doi: 10.1186/1550-2783-9-50.  
Low-protein vegetarian diet does not have a short-term effect on blood acid-base status but raises oxygen consumption during submaximal cycling.

## TRENDS

### Biohacking im Sport

- 1 Baum, Lilli (2018): BIOHACKING: Selbstoptimierung Für Mehr Leistungsfähigkeit und Energie- Motivation Steigern Durch Besseren Schlaf und Mehr Energie- Anleitung Um Gesünder Ausgeglichenere Zu Leben. Taschenbuch. Independently Published.
- 2 Dave Asprey (2020): Top 10 Biohacks. <https://blog.bulletproof.com/biohacking-infographic/> (24.04.2020).
- 3 Bhattacharya, S.K.; Muruganandam, A. V. (2003): Adaptogenic activity of *Withania somnifera*: an experimental study using a rat model of chronic stress. In: Elsevier Science Inc. *Pharmacology Biochemistry and Behavior*, Vol. 75, Ausgabe 3, Seite 547-555.
- 4 Bhattacharya, S.K.; Muruganandam, A. V. (2003): Adaptogenic activity of *Withania somnifera*: an experimental study using a rat model of chronic stress. In: Elsevier Science Inc. *Pharmacology Biochemistry and Behavior*, Vol. 75, Ausgabe 3, Seite 547-555.
- 5 Bhattacharya, S.K.; Muruganandam, A. V. (2003): Adaptogenic activity of

- Withania somnifera*: an experimental study using a rat model of chronic stress. In: Elsevier Science Inc. *Pharmacology Biochemistry and Behavior*, Vol. 75, Ausgabe 3, Seite 547-555.
- 6 Bhattacharya, S.K.; Muruganandam, A. V. (2003): Adaptogenic activity of *Withania somnifera*: an experimental study using a rat model of chronic stress. In: Elsevier Science Inc. *Pharmacology Biochemistry and Behavior*, Vol. 75, Ausgabe 3, Seite 547-555.
- 7 Bhattacharya, S.K.; Muruganandam, A. V. (2003): Adaptogenic activity of *Withania somnifera*: an experimental study using a rat model of chronic stress. In: Elsevier Science Inc. *Pharmacology Biochemistry and Behavior*, Vol. 75, Ausgabe 3, Seite 547-555.
- 8 Zimmer, P.; Oberste, M.; Bloch, W. (2015): Einfluss von Sport auf das zentrale Nervensystem – Molekulare und zelluläre Wirkmechanismen. In: *Deutsche Zeitschrift für Sportmedizin*, 66. Jahrgang, 2/2015, Seite 42-49.

## Trainingsstrategien und Verletzungsprävention im Sport:

- 1 Airaksinen O, Brox JI, Cedraschi C, Hildebrandt J, Klüber-Moffett J, Kovacs F, Mannion AF, Reis S, Staal JB, Ursin H, Zanolli G. (European guidelines for the management of, 2006): Cost B13 Working Group on Guidelines for Chronic Low Back Pain. *European guidelines for the management of chronic nonspecific low back pain.* *Eur Spine J* Chapter 4, 2006, S192-300.
- 2 Toppi, J., Fairley, J., Cicuttini, F.M., Cook, J., Davis, S.R., Bell, R.J. et al., 2015, 'Factors associated with magnetic resonance imaging defined patellar tendinopathy in community-based middle-aged women: A prospective cohort study', *BMC Musculoskeletal Disorders* 16, 184–190.
- 3 Scott A, Huisman E, Khan K. Conservative treatment of chronic Achilles tendinopathy. *Can Med Assoc J.* 2011;183(10):1159-1165.
- 4 Apeldoorn, Adri T., PhD\*; Ostelo, Raymond W., PhD\*; van Helvoirt, Hans, MA§; Fritz, Julie M., PhD; Knol, Dirk L., PhD\*; van Tulder, Maurits W., PhD\*; de Vet, Henrica CW, PhD\* A Randomized Controlled Trial on the Effectiveness of a Classification-Based System for Subacute and Chronic Low Back Pain, *Spine*: July 15, 2012 – Volume 37 – Issue 16 – p 1347-1356 doi: 10.1097/BRS.0b013e31824d9f2b
- 5 Pfingstl M., Hildebrandt J. (2017) Rückenschmerzen. In: Kröner-Herwig B., Frettlöh J., Klinger R., Nilges P. (eds) *Schmerzpsychotherapie*. Springer, Berlin, Heidelberg
- 6 Hoy D, Bain C, Williams G, et al. A systematic review of the global prevalence of low back pain. *Arthritis Rheum.* 2012;64:2028-2037.
- 7 Wenig, C.M., Schmidt, C.O., Kohlmann, T. and Schweikert, B. (2009), Costs of back pain in Germany. *European Journal of Pain*, 13: 280-286. doi:10.1016/j.ejpain.2008.04.005
- 8 Boling M, Padua D, Marshall S, et al. Gender differences in the incidence and prevalence of patellofemoral pain syndrome. *Scand J Med Sci Sports* 2010;20(5):725-30.
- 9 Petersen W, Ellermann A, Gosele-Koppenburg A, et al. Patellofemoral pain syndrome. *Knee Surg Sports Traumatol Arthrosc* 2014;22(10):2264-74.
- 10 Wood L, Muller S, Peat G. The epidemiology of patellofemoral disorders in adulthood: A review of routine general practice morbidity recording. *Prim Health Care Res Dev* 2011;12(2):157-64.
- 11 Knobloch K, Yoon U, Vogt PM. Acute and overuse injuries correlated to hours of training in master running athletes. *Foot Ankle Int.* 2008;29(7):671-676.
- 12 Kujala UM, Sarna S, Kaprio J. Cumulative incidence of achilles tendon rupture and tendinopathy in male former elite athletes. *Clin J Sport Med.* 2005;15(3):133-135.
- 13 Hott, A., Liavaag, S., Juel, N.G. et al. Study protocol: a randomised controlled trial comparing the long term effects of isolated hip strengthening, quadriceps-based training and free physical activity for patellofemoral pain syndrome (anterior knee pain). *BMC Musculoskelet Disord* 16, 40 (2015). <https://doi.org/10.1186/s12891-015-0493-6>
- 14 Järvinen TA, Kannus P, Paavola M, Järvinen TL, Józsa L, Järvinen M: Achilles tendon injuries. *Curr Opin Rheumatol* 13 (2001) 150-5.
- 15 Abate M, Silbernagel KG, Siljeholm C, et al. Pathogenesis of tendinopathies: inflammation or degeneration? *Arthritis Res Ther.* 2009;11(3):235.
- 16 Paavola M, Kannus P, Paakkala T, Pasanen M, Järvinen M. Long-term prognosis of patients with achilles tendinopathy. An observational 8-year follow-up study. *Am J Sports Med.* 2000;28(5):634-642.
- 17 Paavola M, Kannus P, Jarvinen TA, Khan K, Jozsa L, Jarvinen M. Achilles tendinopathy. *J Bone Joint Surg Am.* 2002;84-A(11):2062-2076.
- 18 Flor H, Braun C, Elbert T, Birbaumer N. (Extensive reorganization, 1997): Extensive reorganization of primary somatosensory cortex in chronic back pain patients. *NeurosciLett* 224, 1997, 5–8.
- 19 May, A. (2008). „Chronic pain may change the structure of the brain.“ *Pain* 137(1): 7-15.
- 20 Woolf CJ, Salter M. (Plasticity and pain, 2006): Plasticity and pain: the role of the dorsal horn. In: McMahon SB, Koltzenburg M, editors. *Textbook of Pain*. 5th ed., Elsevier, London, 2006.
- 21 Merskey, H., N. Bogduk, et al. (1994). Classification of chronic pain: descriptions of chronic pain syndromes and definitions of pain terms. Seattle, IASP Press.
- 22 Smart et al., Mechanisms-based classifications of musculoskeletal pain: Part 1 of 3: Symptoms and signs of central sensitisation in patients with low back (±leg) pain, Part 2 of 3: Symptoms and signs of peripheral neuropathic pain in patients with low back (±leg) pain, Part 3 of 3: Symptoms and signs of nociceptive pain in patients with low back (±leg) pain. *Manual Therapy*. Volume 17, Issue 4, August 2012, Pages 352-357
- 23 *Chronic Pain: An Integrated Biobehavioral Approach*. ISBN: 978-0-931092-90-9 Published: 2011 Flor & Turk, 2012
- 24 Lotze 2016. Maladaptive Plastizität bei chronischen und neuropathischen Schmerzen. *Der Schmerz*. Ausgabe 2/2016

25 Khalid & Tubus, 2017. Neuroanatomy and Neuropsychology of Pain. *Cureus*. 2017 Oct; 9(10): e1754.

26 Farmer MA, Baliki MN, Apkarian AV. A dynamic network perspective of chronic pain. *Neurosci Lett*. 2012;520(2):197–203. doi:10.1016/j.neulet.2012.05.001

27 Manresa et al. Is the Conditioned Pain Modulation Paradigm Reliable? A Test-Retest Assessment Using the Nociceptive Withdrawal Reflex. *PLoS One*. 2014; 9(6): e100241.

28 Adriaan Louw, Jo Nijs & Emilio J. Puentedura (2017) A clinical perspective on a pain neuroscience education approach to manual therapy, *Journal of Manual & Manipulative Therapy*, 25:3, 160-168, DOI: 10.1080/10669817.2017.1323699

29 Meyer J., Hermann DH., Mentales Training, 2011, S. 56.

30 Brain magnetic resonance imaging with contrast dependent on blood oxygenation S Ogawa, T M Lee, A R Kay, D W Tank Proceedings of the National Academy of Sciences Dec 1990, 87 (24) 9868-9872; DOI: 10.1073/pnas.87.24.9868

31 Luomajoki H, et al. (Reliabilität von Bewegungskontrolltests, 2010): Reliabilität von Bewegungskontrolltests der LWS. *Manuelle Therapie*; 13, 2010, 34-38.

32 Moseley G.L. (I can't find it!, 2008); I can't find it! Distorted body image and tactile dysfunction in patients with chronic back pain, *Pain* 2008.

33 Tsao H, Galea MP, Hodges PW. (Reorganization of the motor cortex, 2008): Reorganization of the motor cortex is associated with postural control deficits in recurrent low back pain. *Brain* 2008;131:2161–71.

34 Rio E, et al. *Br J Sports Med* 2016;50:209–215. doi:10.1136/bjsports-2015-095215

35 Radebold A, Cholewicki J, Panjabi MM, Patel TC. (Muscle response, 2000): Muscle response pattern to sudden loading in healthy individuals and in patients with chronic low back pain. *Spine (Phila Pa 1976)*. 2000 Apr. 15;25(8): 947–57.

36 Massé-Alarie, H., Beaulieu, L., Preuss, R. et al. Corticomotor control of lumbar multifidus muscles is impaired in chronic low back pain: concurrent evidence from ultrasound imaging and double-pulse transcranial magnetic stimulation. *Exp Brain Res* 234, 1033–1045 (2016). https://doi.org/10.1007/s00221-015-4528-x

37 Maxine Te, BHIthSci/MPhysio, BHIthSci (Hons), Abrahão F. Baptista, PhD, Lucy S. Chipchase, PhD, Siobhan M. Schabrun, PhD, Primary Motor Cortex Organization Is Altered in Persistent Patellofemoral Pain, *Pain Medicine*, Volume 18, Issue 11, November 2017, Pages 2224–2234, https://doi.org/10.1093/pm/pnx036

38 C.Kaminski, M.W. Hoppe, J.Freiwald. Mental chronometry in patients with chronic low back pain and a healthy control group. *Physiotherapy*, Volume 101, e708, 2015.

39 van der Heijden RA, Lankhorst NE, van Linschoten R, Bierma-Zeinstra SMA, van Middelkoop M. Exercise for treating patellofemoral pain syndrome. *Cochrane Database of Systematic Reviews* 2015, Issue 1. Art. No.: CD010387. DOI: 10.1002/14651858.CD010387.pub2.

40 Apkarian, A. V., Y. Sosa, et al. (2004). „Chronic back pain is associated with decreased prefrontal and thalamic gray matter density.“ *J Neurosci* 24(46): 10410-5.

41 Giesecke et al. Zentrale Schmerzverarbeitung bei chronischem Rückenschmerz Hinweise auf verminderte Schmerz-inhibition. *Der Schmerz* 2006 20:411–417.

42 Coulter et al. Manipulation and mobilization for treating chronic low back pain: a systematic review and meta-analysis. *The Spine Journal* 18 (2018) 866–879

43 Van Middelkoop M, Rubinsten SM, Kuipers T, Verhagen AP, Ostelo R, Koes BW, van Tulder MW. (A systematic review on the effectiveness, 2011): A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *Eur Spine J*. 2011 Jan;20(1):19-39.

44 Habets, B. and van Cingel, R.E.H. (2015). A systematic review on different protocols. *Scand J Med Sci Sports*, 25: 3-15. doi:10.1111/sms.12208

45 Sander, Marianne Lücking, David Daniel Ebert, et al. A Three-Arm Randomized Controlled Study of the Effectiveness of Guided and Unguided Acceptance and Commitment Therapy by Jiayi Lin, Sarah Paganini, *Lasse Dtsch Arztebl Int* 2017; 114: 681–8.

46 Machado GC, Pinheiro MB, Lee H, Ahmed OH, Hendrick P, Williams C, Kamper SJ. Smartphone apps for the self-management of low back pain: A systematic review. *Best Pract Res Clin Rheumatol*. 2016 Dec;30(6):1098-1109.

47 Morgan, S., Janse van Vuuren, E.C. & Coetzee, F.F., 2016, 'Causative factors and rehabilitation of patellar tendinopathy: A systematic review', *South African Journal of Physiotherapy* 72(1), a338. http://dx.doi.org/10.4102/sajp.v72i1.338

48 Wünnemann M, Rosenbaum D Chronische Tendinopathie der Achillessehne – ein multifaktorielles Beschwerdebild. *dEUTSCHE ZEITSCHRIFT FÜR SpOrTmEdL-ZIn Jahrgang* 60, nr. 11 (2009)

49 Murphy MC, Travers MJ, Chivers P, et al Efficacy of heavy eccentric calf training for treating mid-portion Achilles tendinopathy: a systematic review and meta-analysis *British Journal of Sports Medicine* 2019;53:1070-1077.

50 Stehle P (2009a) Expertise «Sensomotorisches Training – Propriozeptives Training». Bd 1: Projektleitung Sven Bruhn. Sportverlag Strauß, Köln

51 Steib S, Rahlf AL, Pfeifer K and Zech A (2017) Dose-Response Relationship of Neuromuscular Training for Injury Prevention in Youth Athletes: A Meta-Analysis. *Front. Physiol.* 8:920. doi: 10.3389/fphys.2017.00920

52 Christoph Centner, Benedikt Lauber, Olivier R. Seynnes, Simon Jerger, Tim Sohnus, Albert Gollhofer, and Daniel König Low-load blood flow restriction training induces similar morphological and mechanical Achilles tendon adaptations compared with high-load resistance training. *Journal of Applied Physiology* 2019 127:6, 1660-1667.

53 Gruber M, Bruhn S, Gollhofer A. Specific adaptations of neuromuscular control and knee joint stiffness following sensorimotor training. *Int J Sports Med*. 2006 Aug;27(8):636-41.

54 Taube W, Lorch M, Zeiter S, Keller M. Non-physical practice improves task performance in an unstable, perturbed environment: motor imagery and observational balance training. *Front Hum Neurosci*. 2014;8:972. Published 2014 Dec 4. doi:10.3389/fnhum.2014.00972

55 Luomajoki H et al. (Improvement in low back movement, 2010): Improvement in low back movement control, decreased pain and disability, resulting from specific exercise intervention. *Sports Medicine, Arthroscopy, Rehabilitation, Therapy & Technology* 2010. 2:11.

56 Freiwald, J., Greiving, A. (2016). *Optimales Krafttraining. Sport – Prävention – Rehabilitation*. Balin- gen: Spitta.

**Mythen-Barometer:**

- 1 The Rapid Fatloss Handbook – Lyle McDonald
- 2 https://de.wikipedia.org/wiki/Adenosintriphosphat
- 3 https://www.chemie.de/lexikon/Gluconeogenese.html
- 4 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4008806/
- 5 https://www.ncbi.nlm.nih.gov/books/NBK279077/
- 6 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6315740/
- 7 https://www.ncbi.nlm.nih.gov/pubmed/17101527
- 8 https://asbmr.onlinelibrary.wiley.com/doi/10.1359/jbmr.1997.12.12.2076
- 9 The Hungry Brain: Outsmarting the Instincts That Make Us Overeat – Stephen J. Guyenet
- 10 https://www.ncbi.nlm.nih.gov/pubmed/1454084
- 11 https://www.ncbi.nlm.nih.gov/pubmed/21951331



**Resilienz:**

- 1 Margraf, Jürgen, Heinzow, Birger (2018): Resilienz. *Psychembel online*, https://www.psychembel.de/Resilienz%20[Psychologie]/KJJPW (07.04.2020).
- 2 Ott, Ulrich (2015): Meditation hat Effekte auf Aktivität und Struktur des Gehirns. *HCC Magazin*, https://www.brainlight.de/presse/publikationen/meditation-hat-effekte-auf-aktivitaet-und-struktur-des-gehirns-dr-ulrich-ott-im-interview.html (07.04.2020).
- 3 Keim, Vivian (2016): Stress. *Psychembel online*, https://www.psychembel.de/Stress/KOLQG (30.03.2020).
- 4 Hentschel, Sebastian (2016): allgemeines Anpassungssyndrom. *Psychembel online*, https://www.psychembel.de/allgemeines%20Anpassungssyndrom/K02G5/doc/ (30.03.2020).
- 5 Lazarus, Richard S., Folkman, Susan (1984): *Stress, Appraisal, and Coping*, S. 117 ff.
- 6 Gilbert, Paul, Procter Sue (2006): Compassionate mind training for people with high shame and self-criticism: overview and pilot study of a group therapy approach. In: *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, Bd. 13, Ausgabe 6, Seiten 353-379.
- 7 Maier, Wolfgang (2016): Amygdala. *Psychembel online*, https://www.psychembel.de/Amygdala/P05FG (07.04.2020).
- 8 Seite „Limbisches System“. In: *Wikipedia, Die freie Enzyklopädie*. Bearbeitungsstand: 4. August 2019, 10:54 UTC. URL: https://de.wikipedia.org/w/index.php?title=Limbisches\_System&oldid=191027862 (07.04.2020).
- 9 Markgraf Jürgen (2016): Neuronale Plastizität. *Psychembel online*, https://www.psychembel.de/Neuronale%20Plastizitaet%20C3%A4/K0RW3 (30.03.2020).
- 10 Myers, David G. (2014): *Psychologie*. 3. Aufl., Springer-Verlag Berlin Heidelberg.
- 11 Lazar, Sara W., et al.: Stress reduction correlates with structural changes in the amygdala, *Social Cognitive and Affective Neuroscience*, Volume 5, Issue 1, March 2010, Pages 11–17, https://doi.org/10.1093/scan/nsp034
- 12 Lazar, Sara W., et al.: Stress reduction correlates with structural changes in the amygdala, *Social Cognitive and Affective Neuroscience*, Volume 5, Issue 1, March 2010, Pages 11–17, https://doi.org/10.1093/scan/nsp034
- 13 Chattarji, Sumatra, et al.: (2009): Stress, memory and the amygdala. In: *nature reviews neuroscience* 10, Pages 423-433.
- 14 Ott, Ulrich (2010): Meditation für Skeptiker. Ein Neurowissenschaftler erklärt den Weg zum Selbst, O.W. Barth Verlag, München, S. 160, 168.
- 15 Kabat-Zinn, Jon (2013): *Gesund durch Meditation: Das große Buch der Selbstheilung mit MBSR*. Knauer Taschenbuch, München, S. 172 ff.
- 16 Hölzel, Britta K., et al. (2011): Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging*, 191, 36-42.
- 17 Ott, Ulrich (2010): Meditation für Skeptiker. Ein Neurowissenschaftler erklärt den Weg zum Selbst, O.W. Barth Verlag, München, S. 178 f.
- 18 Salzberg, Sharon (2014): *Real Happiness at Work. Meditation for Accomplishment, Achievement, and Peace*. Workman Publishing, New York, Page 173.
- 19 Robinson, Mark (2010): *Making adaptive Resilience real*, Ebook: http://www.projctcoal.org/coal/wp-content/uploads/2012/02/Arts\_Resilience.pdf, Page 14 (17.04.2020).
- 20 Brunner, Stefan (28.05.2017): Der knifflige Umgang mit Druck, *Süddeutsche Zeitung*, https://www.sueddeutsche.de/muenchen/sport/sportpsychologie-der-knifflige-umgang-mit-druck-1.3524303 (17.04.2020).
- 21 Ehrenspiel Felix, Geukes Katharina, Beckmann Jürgen (2018): Stress, Angst und Leistung im Leistungssport. In: Fuchs Reinhard, Gerber Markus (eds): *Handbuch Stressregulation und Sport*. Springer Reference Psychologie. Springer, Berlin, Heidelberg, Seiten 391-416.
- 22 Seyedeh Asma Hosseini, Mohammad Ali Besharat (2010): Relation of resilience with sport achievement and mental health in a sample of athletes In: *Procedia-Social and Behavioral Sciences*, Vol. 5, Pages 633-638.
- 23 Priesterjahn, Ninja (2017): Ludwig/ Walkenhorst: „Ich könnte die ganze Zeit schreien“ In: *Berliner Morgenpost*, https://www.morgenpost.de/sport/artic-le211495123/Ludwig-Walkenhorst-Ich-koennte-die-ganze-Zeit-schreien.html (17.04.2020).

## QUELLEN

- 24 Süddeutsche Zeitung (23.03.2020): Sportpsychologin Anett Szigeti: „Ungewissheit, die quält“ <https://www.sueddeutsche.de/sport/olympia-hamburg-sportpsychologin-anett-szigeti-ungewissheit-die-quaelt-dpa.urn-newsml-dpa-com-20090101-200323-99-437863> (17.04.2020).
- 25 Fröhlich-Gildhoff, Klaus, Rennau-Böse, Maike: Resilienz, Ernst Reinhardt Verlag München, 5. Aufl., Seite 8.
- 26 Hoyer, Jürgen (2016): Selbstwirksamkeit. Pschyrembel online, <https://www.pschyrembel.de/Selbstwirksamkeit/P024L/doc/> (17.04.2020).
- 27 Fuchs, Reinhard, Gerber, Markus (2017): Handbuch Stressregulation und Sport. Springer Verlag, Seite 211.
- 28 Schwarzer, Ralf & Jerusalem, Matthias (1995): Generalized Self-Efficacy scale. In: J. Weinman, S. Wright, & M. Johnston (Eds.), Measures in health psychology: A users portfolio. Causal and control beliefs (pp. 35-37). Windsor, UK: NFER-NELSON.
- 29 Scholz, Urte, Gutierrez-Dona, Benicia, Sud, Shonali & Schwarzer, Ralf (2002). Is General self-efficacy a universal construct? Psychometric findings from 25 countries. European Journal of Psychological Assessment, Vol. 18, Issue 3, pp. 242-251.
- 30 Fuchs, Reinhard, Schwarzer, Ralf (1994): Selbstwirksamkeit zur sportlichen Aktivität: Reliabilität und Validität eines neuen Meßinstruments. Zeitschrift für Differentielle und Diagnostische Psychologie, 15, 1994, Heft 3, S. 141-154.
- 31 Kroll, Thilo, Kehn, Matthew, Ho, Pei-Shu, & Groah, Suzanne (2007): The SCI Exercise Self-Efficacy Scale (ESES): Development and psychometric properties. International Journal of Behavioral Nutrition and Physical Activity, 4, 34.
- 32 Fuchs, Reinhard, Gerber, Markus (2017): Handbuch Stressregulation und Sport. Springer Verlag, Seite 214.
- 33 Kroll, Thilo, Kehn, Matthew, Ho, Pei-Shu, & Groah, Suzanne (2007): The SCI Exercise Self-Efficacy Scale (ESES): Development and psychometric properties. International Journal of Behavioral Nutrition and Physical Activity, 4, 34.
- 34 Kabat-Zinn, Jon (2016): Achtsamkeit - die neue Glücksformel? In: Sternstunde Philosophie, SRF Kultur, <https://youtu.be/yNi5m14QMFU?t=1595>, Min. 26:35 (17.04.2020).