QUELLEN

BODY

Die Kraft der Kettlebell – Das Training mit der Kugelhantel

1 https://www.dssv.de/presse/statistik/deutscher-fitnessmarkt/
2 https://www.hindawi.com/journals/crior/2017/4269575/ https://bjsm.bmj.com/content/47/18/1192.short
3 https://research.usc.edu.au/discovery/fulldisplay/alma9944874602621/61USC_INST:ResearchRepository?tags=scholar
4 https://youtu.be/Sk1VEs_plG4?t=204
5 https://journals.lww.com/nsca-jscr/Fulltext/2013/02000/Transference_of_Kettlebell_Training_to_Strength,.26.aspx
6 https://journals.lww.com/nsca-jscr/fulltext/2014/11000/Magnitude_and_Relative_Distribution_of_Kettlebell.7.aspx
7 https://journals.lww.com/nsca-jscr/Fulltext/2012/08000/Kettlebell_Swing_Training_Improves_Maximal_and.28.aspx
8 https://journals.lww.com/nsca-scj/Fulltext/2014/06000/The_Role_of_Kettlebells_in_Strength_and.7.aspx
9 https://journals.lww.com/nsca-jscr/fulltext/2016/05000/Core_Muscle_Activation_in_One_Armed_and_Two_Armed.4.aspx
10 https://research.usc.edu.au/discovery/fulldisplay/alma9944874602621/61USC_INST:ResearchRepository?tags=scholar
11 https://journals.lww.com/nsca-jscr/FullText/2013/05000/Effects_of_Kettlebell_Training_on_Postural.5.aspx
12 https://www.sciencedirect.com/science/article/abs/pii/S0531556517302528
13 https://journals.lww.com/nsca-jscr/fulltext/2016/05000/a_comparison_of_the_effect_of_kettlebell_swings.3.aspx
14 https://www.jstor.org/stable/41151543?seq=1
15 https://pdfs.semanticscholar.org/d4ba/32e5d2d71e624b04b7c545299b44536bfabd.pdf
16 https://journals.lww.com/nsca-jscr/Fulltext/2013/05000/Three_Weeks_of_Eccentric_Training_Combined_With.14.aspx
17 https://www.mdpi.com/2077-0383/9/2/438
18 https://journals.lww.com/nsca-jscr/Fulltext/2010/10000/The_Mechanisms_of_Muscle_Hypertrophy_and_Their.40.aspxLike
19 https://johanneskwella.de/produkt/kettlebell-intermediate-programm-2-more-muscles/
20 https://www.acefitness.org/getfit/studies/kettlebells012010.pdf
21 https://johanneskwella.de/welche-kettlebell-kaufen-grosser-guide/

Grundübungen im Fokus: Die häufigsten Fehler beim Überkopfdrücken

1 Finch C, Cassell E (2006). The public health impact of injury during sport and active recreation; J Sci Med Sport, 9: 490-497
2 Grim C, Engelhardt M (2015); Die Sportlerschulter; Diagnostik, Behandlungsmanagement, Rehabilitation; Verlag: Schattauer
3 Henke T, Gläser H, Heck H (2000); Sportverletzungen in Deutschland. Basisdaten, Epidemiologie, Prävention, Risikosportarten, Ausblick. Neue Wege zur Unfallverhütung im Sport Verlag: Luitpold
4 Heipertz W (1985); Sportverletzungen und Sportschäden; Heipertz W (Hrsg.), Sportmedizin; Verlag: Thieme
5 Bommas-Ebert, Teubner, Voß (2011); Kurzlehrbuch Anatomie; Verlag:Thieme; https://de.wikipedia.org/wiki/Oberarm#Rotatorenmanschette https://de.wikipedia.org/wiki/Schultergelenk
6 Schulteraktivierung stehend vs. sitzend; https://pubmed.ncbi.nlm.nih.gov/23096062/
7 Untersuchungen, Schulteraktivität mittels EMG; Wend-Uwe Boeckh-Behrens, Wolfgang Buskies (2000) Fitness-Krafttraining; Die besten Übungen und Methoden für Sport und Gesundheit; Verlag: rororo; https://suppversity.blogspot.com/2011/08/suppversity-emg-series-m-deltoideus-m.html

Booster fürs Immunsystem: Der Einfluss von Sport und Ernährung

1 https://pubmed.ncbi.nlm.nih.gov/1748922/
2 https://pubmed.ncbi.nlm.nih.gov/3097756/
3 https://pubmed.ncbi.nlm.nih.gov/29156936/
4 https://pubmed.ncbi.nlm.nih.gov/8906141/
5 https://pubmed.ncbi.nlm.nih.gov/21067953/
6 https://pubmed.ncbi.nlm.nih.gov/21527855/
7 https://pubmed.ncbi.nlm.nih.gov/30042334/
8 https://pubmed.ncbi.nlm.nih.gov/19047802/
9 https://pubmed.ncbi.nlm.nih.gov/29427753/
10 https://pubmed.ncbi.nlm.nih.gov/24562499/
11 https://pubmed.ncbi.nlm.nih.gov/17303714/
12 https://www.aerzteblatt.de/archiv/9761/Sport-und-Immunsystem
13 https://pubmed.ncbi.nlm.nih.gov/27909225/
14 https://www.thieme.de/de/physiotherapie/therapiefaktor-myokine-des-muskelsbotenstoff-148584.htm
15 https://pubmed.ncbi.nlm.nih.gov/26477920/
16 https://pubmed.ncbi.nlm.nih.gov/25422002/
17 https://pubmed.ncbi.nlm.nih.gov/31175337/

Kraft- vs. Ausdauersport – Konkurrenten oder sinnvolle Ergänzung?

1 Lauersen, J. B., Bertelsen, D. M., & Andersen, L. B. (2014). The effectiveness of exercise interventions to prevent sports injuries: a systematic review and meta-analysis of randomised controlled trials. British journal of sports medicine, 48(11), 871-877.
2 Lauersen, J. B., Andersen, T. E., & Andersen, L. B. (2018). Strength training as superior, dose-dependent and safe prevention of acute and overuse sports injuries: a systematic review, qualitative analysis and meta-analysis. British journal of sports medicine, 52(24), 1557-1563.
3 Steinacker, T., Steuer, M., & Höltke, V. (2001). Orthopedic problems in older marathon runners. Sportverletzung Sportschaden: Organ der Gesellschaft für Orthopädisch-Traumatologische Sportmedizin, 15(1), 12-15.
4 Van Gent, R. N., Siem, D., van Middelkoop, M., Van Os, A. G., Bierma-Zeinstra, S. M. A., & Koes, B. W. (2007). Incidence and determinants of lower extremity running injuries in long distance runners: a systematic review. British journal of sports medicine, 41(8), 469-480.
5 Fredericson, M., Cookingham, C. L., Chaudhari, A. M., Dowdell, B. C., Oestreicher, N., & Sahrmann, S. A. (2000). Hip abductor weakness in distance runners with iliotibial band syndrome. Clinical Journal of Sport Medicine, 10(3), 169-175.
6 Ferber, R., Kendall, K. D., & Farr, L. (2011). Changes in knee biomechanics after a hip-abductor strengthening protocol for runners with patellofemoral pain syndrome. Journal of athletic training, 46(2), 142-149.
7 Van den Berg, F. (2016). Das Bindegewebe des Bewegungsapparats verstehen und beeinflussen (4. Auflage). Stuttgart: Thieme Verlag.
8 Belavý, D. L., Quittner, M. J., Ridgers, N., Ling, Y., Connell, D., & Rantalainen, T. (2017). Running exercise strengthens the intervertebral disc. Scientific reports, 7, 45975.
9 Jones, G., Ding, C., Glisson, M., Hynes, K., Ma, D., & Cicuttini, F. (2003). Knee articular cartilage development in children: a longitudinal study of the effect of sex, growth, body composition, and physical activity. Pediatric research, 54(2), 230-236.
10 Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Prescribing exercise as preventive therapy. Cmaj, 174(7), 961-974.
11 Schwarz, P., Eriksen, E. F., & Thorsen, K. (2003). Bone Tissue—Bone Training. Textbook of Sports Medicine: Basic Science and Clinical Aspects of Sports Injury and Physical Activity, 173-186.
12 Mersmann, F., Bohm, S., & Arampatzis, A. (2017). Imbalances in the development of muscle and tendon as risk factor for tendinopathies in youth athletes: a review of current evidence and concepts of prevention. Frontiers in physiology, 8, 987.
13 Kubo, K., Morimoto, M., Komuro, T., Yata, H., Tsunoda, N., Kanehisa, H., & Fukunaga, T. (2007). Effects of plyometric and weight training on muscle-tendon complex and jump performance. Medicine & Science in Sports & Exercise, 39(10), 1801-1810.
14 Fyfe, J. J., Bishop, D. J., & Stepto, N. K. (2014). Interference between concurrent resistance and endurance exercise: molecular bases and the role of individual training variables. Sports medicine, 44(6), 743-762.
15 Docherty, D., & Sporer, B. (2000). A proposed model for examining the interference phenomenon between concurrent aerobic and strength training. Sports medicine, 30(6), 385-394.
16 Wang, L., Mascher, H., Psilander, N., Blomstrand, E., & Sahlin, K. (2011). Resistance exercise enhances the molecular signaling of mitochondrial biogenesis induced by endurance exercise in human skeletal muscle. Journal of applied physiology, 111(5), 1335-1344.
17 Lum, D., Tan, F., Pang, J., & Barbosa, T. M. (2019). Effects of intermittent sprint and plyometric training on endurance running performance. Journal of sport and health science, 8(5), 471-477.
18 Damasceno, M. V., Lima-Silva, A. E., Pasqua, L. A., Tricoli, V., Duarte, M., Bishop, D. J., & Bertuzzi, R. (2015). Effects of resistance training on neuromuscular characteristics and pacing during 10-km running time trial. European Journal of Applied Physiology, 115(7), 1513-1522.
19 Wong, P. L., Chamari, K., & Wisløff, U. (2010). Effects of 12-week on-field combined strength and power training on physical performance among U-14 young soccer players. The Journal of Strength & Conditioning Research, 24(3), 644-652.
20 Jung, A. P. (2003). The impact of resistance training on distance running performance. Sports Medicine, 33(7), 539-552.
21 García-Pinillos, F., Lago-Fuentes, C., Latorre-Román, P. A., Pantoja-Vallejo, A., & Ramirez-Campillo, R. (2020). Jump-Rope Training: Improved 3-km Time-Trial Performance in Endurance Runners via Enhanced Lower-Limb Reactivity and Foot-Arch Stiffness. International Journal of Sports Physiology and Performance, 1(aop), 1-7.
22 Li, F., Nassis, G. P., Shi, Y., Han, G., Zhang, X., Gao, B., & Ding, H. (2020). Concurrent Complex and Endurance Training for Recreational Marathon Runners: Effects on Neuromuscular and Running Performance. European Journal of Sport Science, 1-38.
23 Laursen, P., & Buchheit, M. (2019). Science and Application of High-Intensity Interval Training. Human Kinetics.
24 Chtara, M., Chamari, K., Chaouachi, M., Chaouachi, A., Koubaa, D., Feki, Y., … & Amri, M. (2005). Effects of intra-session concurrent endurance and strength training sequence on aerobic performance and capacity. British journal of sports medicine, 39(8), 555-560.

QUELLEN

NUTRITION

Supplements im Science-Check: Sind exogene Ketone Schlüssel zu besserer Fitness und Gesundheit?

1. Robinson AM and Williamson DH: Physiological roles of ketone bodies as substrates and signals in mammalian tissues, in: Physiol Rev 60 (1980),S. 143–187.
2. Laffel L.: Ketone bodies: a review of physiology, pathophysiology and application of monitoring to diabetes, in: Diabetes Metab Res Rev. (Nov-Dec 1999),15(6), S. 412-26.
3. Winder WW, Baldwin KM and Holloszy JO: Exercise-induced increase in the capacity of rat skeletal muscle to oxidize ketones, in: Can J Physiol Pharmacol. (Feb 1975), 53(1), S. 86-91.
4. Evans M et al.: Metabolism of ketone bodies during exercise and training: physiological basis for exogenous supplementation, in: J Physiol. (2017 May 1); 595(9), S. 2857-2871.
5. Paoli A, Rubini A, Volek JS & Grimaldi KA: Beyond weight loss: a review of the therapeutic uses of verylow-carbohydrate (ketogenic) diets, in: Eur J Clin Nutr 67 (2013), S. 789–796.
6. Gross EC et al.: Potential Protective Mechanisms of Ketone Bodies in Migraine Prevention, in: Nutrients (2019 Apr 10), 11(4):811.
7. Abraham R. Ketones: Controversial new energy drink could be next big thing in cycling, in: Cycling Weekly (2015).
8. Pinckaers PJ et al.: Ketone bodies and exercise performance: the next magic bullet or merely hype? in: Sports Med. (Mar 2017), 47(3), S. 383-391.
9. Stubbs BJ et al.: On the Metabolism of Exogenous Ketones in Humans. Front Physiol (2017 Oct 30), 8, S. 848.
10. Burke LM. Re-examining high-fat diets for sports performance: did we call the 'nail in the coffin' too soon? in: Sports Med. (2015 Nov), 45 Suppl 1(Suppl 1), S. 33-49.
11. Dietrich MO and Horvath TL: Limitations in anti-obesity drug development: the critical role of hunger-promoting neurons, in: Nat Rev Drug Discov (2012), 11, S. 675-691.
12. Gibson AA et al.: Do ketogenic diets really suppress appetite? A systematic review and meta-analysis, in: Obes Rev (2015),16, S. 64-76.
13. Sumithran P et al.: Ketosis and appetite-mediating nutrients and hormones after weight loss, in: Eur J Clin Nutr (2013), 67, S. 759-764.
14. Stubbs BJ et al.: A Ketone Ester Drink Lowers Human Ghrelin and Appetite, in: Obesity (Silver Spring) (2018 Feb), 26(2), S. 269-273.
15. Wood TR et al.: Exogenous Ketone Bodies as Promising Neuroprotective Agents for Developmental Brain Injury, in: Dev Neurosci. (2018), 40(5-6), S. 451-462.
16. Brietzke E et al.: Ketogenic diet as a metabolic therapy for mood disorders: Evidence and developments, in: Neurosci Biobehav Rev. (2018 Nov), 94, S. 11-16.
17. Hallböök T et al.: The effects of the ketogenic diet on behavior and cognition, in: Epilepsy Res. (2012 Jul), 100(3), S. 304-9.
18. Kashiwaya Y et al.: A ketone ester diet exhibits anxiolytic and cognition-sparing properties, and lessens amyloid and tau pathologies in a mouse model of Alzheimer's disease, in: Neurobiol Aging. (2013 Jun), 34(6), S. 1530-9.
19. Hashim SA and Vanltallie TB: Ketone body therapy: from the ketogenic diet to the oral administration of ketone ester, in: J Lipid Res. (2014 Sep), 55(9), S. 1818-26.
20. Kovacs Z et al., Therapeutic Potential of Exogenous Ketone Supplement Induced Ketosis in the Treatment of Psychiatric Disorders: Review of Current Literature. Front Psychiatry. 2019 May 23;10:363.
21. Waldmann HS et al.: Exogenous ketone salts do not improve cognitive responses after a high-intensity exercise protocol in healthy college-aged males,in: Appl Physiol Nutr Metab. (2018 Jul), 43(7), S. 711-717.
22. Aminoff Kelley S and Kossoff EH: How effective is the ketogenic diet for electrical status epilepticus of sleep? in: Epilepsy Res. (2016 Nov), 127, S. 339-343.

Die Mikrobiota: Auswirkungen auf Gesundheit und Körpergewicht

1 De Vos WM (2015). Microbial biofilms and the human intestinal microbiome. npj Biofilms and Microbiomes. Published online 2015.
2 Biesalski, Hans Konrad ; Bischoff, Stephan C; Pirlich, Matthias; Weimann A (2018). Ernährungsmedizin. 5th ed. Georg Thieme Verlag; 2018.
3 Moran-Ramos S, López-Contreras BE, Canizales-Quinteros S (2017). Gut Microbiota in Obesity and Metabolic Abnormalities: A Matter of Composition or Functionality? Archives of Medical Research. 48(8): S. 735–753.
4 Stecher B, Hardt WD (2011). Mechanisms controlling pathogen colonization of the gut. Current Opinion in Microbiology. Published online 2011.
5 Bischoff SC (2009). Probiotika, Präbiotika, Synbiotika. 1st ed. Georg Thieme Verlag; 2009.
6 Cox LM, Blaser MJ (2013). Pathways in microbe-induced obesity. Cell Metabolism. 17(6): S. 883–894.
7 Lee CJ, Sears CL, Maruthur N (2019). Gut microbiome and its role in obesity and insulin resistance. Annals of the New York Academy of Sciences. Published online 2019: S. 1016.
8 Sanmiguel C, Gupta A, Mayer EA (2015). Gut Microbiome and Obesity: A Plausible Explanation for Obesity. Current obesity reports. Published online 2015.
9 Wilson M (2005). Microbial Inhabitants of Humans: Their Ecology and Role in Health and Disease; 2005.
10 Wu GD, Chen J, Hoffmann C, et al. (2011). Linking long-term dietary patterns with gut microbial enterotypes. Science. 334(6052): S. 105–108.
11 Turnbaugh PJ, Gordon JI (2009). The core gut microbiome, energy balance and obesity. Journal of Physiology. 587(17): S. 4153–4158.
12 Arumugam M, Raes J, Pelletier E, et al. (2011). Enterotypes of the human gut microbiome. Nature. Published online 2011.
13 Cresci GA, Bawden E (2015). Gut Microbiome. Nutrition in Clinical Practice. 30(6): S. 734–746.
14 Klancic T, Reimer RA (2020). Gut microbiota and obesity: Impact of antibiotics and prebiotics and potential for musculoskeletal health. Journal of Sport and Health Science. 9(2): S. 110–118.
15 Metchnikoff E, Metchnikoff II (1908). The Prolongation of Life: Optimistic Studies.; 1908.
16 Deutsche Gesellschaft für Ernährung e. V. (2013). Ballaststoffe – wertvoll für Ihre Gesundheit. Published online 2013: S. 1–2.
17 Gibson GR, Scott KP, Rastall RA, et al. (2010). Dietary prebiotics: current status and new definition. Food Science & Technology Bulletin: Functional Foods. Published online 2010.
18 Https://fet-ev.eu/beta-glucane/. Fachgesellschaft für Ernährungstherapie und Prävention. aufgerufen am 20.09.2020
19 Https://www.verbraucherzentrale.de/wissen/lebensmittel/kennzeichnung-und-inhaltsstoffe/lebensmittel-mit-zugesetzten-speziellen-ballaststoffen-frueher-prebiotika-13936. Verbraucherzentrale, aufgerufen am 16.09.2020
20 Ley RE, Bäckhed F, Turnbaugh P, Lozupone CA, Knight RD, Gordon JI (2005). Obesity alters gut microbial ecology. Proceedings of the National Academy of Sciences of the United States of America. Published online 2005.
21 Abenavoli L, Scarpellini E, Colica C, et al. (2019). Gut microbiota and obesity: A role for probiotics. Nutrients. 11(11): S. 1–27.
22 Turnbaugh PJ, Ley RE, Mahowald MA, Magrini V, Mardis ER, Gordon JI (2006). An obesity-associated gut microbiome with increased capacity for energy harvest. Nature. 444(7122): S. 1027–1031.
23 Ppatil D, Pdhotre D, Gchavan S, et al. (2012). Molecular analysis of gut microbiota in obesity among Indian individuals. Journal of Biosciences. Published online 2012.
24 Ridaura VK, Faith JJ, Rey FE, et al. (2013). Gut microbiota from twins discordant for obesity modulate metabolism in mice. Science. Published online 2013.
25 Alisi A, Bedogni G, Baviera G, et al. (2014). Randomised clinical trial: The beneficial effects of VSL#3 in obese children with non-alcoholic steatohepatitis. Alimentary Pharmacology and Therapeutics. Published online 2014.
26 Cerdó T, García-Santos JA, Bermúdez MG, Campoy C (2019). The Role of Probiotics and Prebiotics in the Prevention and Treatment of Obesity. Vol 11.; 2019.
27 Vrieze A, Van Nood E, Holleman F, et al. (2012). Transfer of intestinal microbiota from lean donors increases insulin sensitivity in individuals with metabolic syndrome. Gastroenterology. Published online 2012.
28 Nova E, Pérez De Heredia F, Gómez-Martínez S, Marcos A (2016). The Role of Probiotics on the Microbiota: Effect on Obesity. Nutrition in Clinical Practice. 31(3): S. 387–400.
29 Ley RE, Turnbaugh PJ, Klein S, Gordon JI (2006). Microbial ecology: Human gut microbes associated with obesity. Nature. 444(7122): S. 1022–1023.
30 Cotillard A, Kennedy SP, Kong LC, et al. (2013). Dietary intervention impact on gut microbial gene richness. Nature. 500(7464): S. 585–588.
31 Clarke SF, Murphy EF, O'Sullivan O, et al. (2014). Exercise and associated dietary extremes impact on gut microbial diversity. Gut. 63(12): S. 1913–1920.

Fette und ihr Einfluss auf die Ausdauerleistung

1 Thomas DT, Erdmann KA, Burke LM (2016). American College of Sports Medicine joint position statement: Nutrition and athletic performance. Med Sci Sports Exerc, 48 (3), 543-568
2 Deutsche Gesellschaft für Ernährung (2015): Fettzufuhr und Prävention ausgewählter ernährungsmitbedingter Krankheiten – Evidenzbasierte Leitlinie (2. Vers.). Bonn. https://www.dge.de/wissenschaft/leitlinien/leitlinie-fett/
3 Deutsche Gesellschaft für Ernährung, Österreichische Gesellschaft für Ernährung, Schweizerische Gesellschaft für Ernährung (2017): Referenzwerte für die Nährstoffzufuhr (2. Aufl., 3. aktual. Ausg.). Bonn
4 Schek A (2017): Ernährungslehre kompakt (6. Aufl.). Wiesbaden: Umschau Zeitschriftenverlag
5 Deutsche Gesellschaft für Ernährung (2017): Vollwertig essen und trinken nach den 10 Regeln der DGE. https://www.dge.de/ernaehrungspraxis/vollwertige-ernaehrung/10-regeln-der-dge/
6 Deutsche Gesellschaft für Ernährung (2019): Der DGE-Ernährungskreis – Beispiel für eine vollwertige Lebensmittelauswahl. https://www.dge.de/ernaehrungspraxis/vollwertige-ernaehrung/ernaehrungskreis/
7 Schek A (2018): Top ernährt im Sport. Norderstedt: BoD
8 Konrad M (2010). Nahrungsaufnahme im Radsport in Ultradistanz. Eine Fallstudie. Ernährungs Umschau, 57 (1), 16-20
9 Hulton AT, Lahart I, William KL et al. (2010). Energy Expenditure in the Race Across America (RAAM). Int. J. Sports Med, 31 (7), 463-467
10 Bailey CP, Hennessy E (2019). A review of the ketogenic diet for endurance athletes: performance enhancer or placebo effect? JISSN, 17 (1):33. doi: 10.1186/s12970-020-00362-9
11 Burke LM (2015). Re-examining high-fat diets for sports performance: Did we call the 'nail in the coffin' too soon? Sports Med, 45 (Suppl. 1), S33-S49
12 Stellingwerff T, Spriet LL, Watt MJ et al. (2005). Decreased PDH activation and glycogenolysis during exercise following fat adaptation with carbohydrate restoration. Am J Physiol Endocrinol Metab, 290 (2), E380-E388
13 McSwiney FT, Doyle F, Plews DJ, Zinn C (2019). Impact of ketogenic diet on athletes: current insights. Open Access J Sports Med, 10:171-181. doi: 10.2147/OAJSM.S180409
14 Chang C-K, Borer K, Lin P J (2017). Low-carbohydrate-high-fat diet: can it help exercise performance? J Hum Kinet, 56, 81-92

15 Graham TE, Helge JW, MacLean DA et al. (2000). Caffeine ingestion does not alter carbohydrate or fat metabolism in human skeletal muscle during exercise. J Physiol, 529 (Pt 3), 837-847
16 Greer F, Friars D, Graham TE (2000). Comparison of caffeine and theophylline ingestion: exercise metabolism and endurance. J Appl Physiol, 89 (5), 1837-1844
17 EFSA (2011). Scientific Opinion on the substantiation of health claims related to caffeine and increased fat oxidation leading to a reduction in body fat mass (ID 735, 1484), increased energy expenditure leading to a reduction in body weight (ID 1487), increased alertness (ID 736, 1101, 1187, 1485, 1491, 2063, 2103) and increased attention (ID 736, 1485, 1491, 2375) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA J., 9:2054
18 EFSA (2011). Scientific Opinion on the substantiation of health claims related to caffeine and increase in physical performance during short-term high-intensity exercise (ID 737, 1486, 1489), increase in endurance performance (ID 737, 1486), increase in endurance capacity (ID 1488) and reduction in the rated perceived exertion/effort during exercise (ID 1488, 1490) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA J., 9:2053
19 Gnoni A, Longo S, Gnoni GV, Giudetti AM (2020). Carnitine in human muscle bioenergetics: Can carnitine supplementation improve physical exercise? Molecules, 25 (1):182. doi: 10.3390/molecules25010182
20 Schek A (1994). L-Carnitin: Sinn und Unsinn der Substitution einer körpereigenen Substanz (Teil 1 + 2). Ernährungs Umschau, 41 (1 + 2), 9-15 + 60-67
21 EFSA (2011). Scientific Opinion on the substantiation of health claims related to L-carnitine and faster recovery from muscle fatigue after exercise (ID 738, 1492, 1493), skeletal muscle tissue repair (ID 738, 1492, 1493), increase in endurance capacity (ID 4305, 4684), maintenance of normal blood LDL-cholesterol concentrations (ID 1494, 4684), contribution to normal spermatogenesis (ID 1822), "energy metabolism" (ID 1821), and increasing L-carnitine concentrations and/or decreasing free fatty acids in blood during pregnancy (ID 1495) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA J., 9:2212
22 EFSA (2003). Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food (AFC) on a request from the Commission related to L-Carnitine-L-tartrate for use in foods for particular nutritional uses. EFSA Journal, 19, 1-13
23 Hessvik NP, Bakke SS, Frederiksson K et al. (2010). Metabolic switching of human myotubes is improved by n-3 fatty acids. J Lipid Res, 51 (8), 2090-2104
24 Noreen EE, Sass MJ, Crow ML et al. (2010). Effects of supplemental fish oil on resting metabolic rate, body composition, and salivary cortisol in healthy adults. J Int Soc Sports Nutr, 7, 31
25 Bortolotti M, Tappy L, Schneiter P (2007). Fish oil supplementation does not alter energy efficiency in healthy males. Clin Nutr, 26 (2), 225-230
26 Da Boit M, Hunter AM, Gray SR (2017). Fit with good fat? The role of n-3 polyunsaturated fatty acids on exercise performance. Metabolism, 66, 45-54
27 EFSA (2012). Tolerable upper intake level of EPA, DHA and DPA. EFSA Journal, 10 (7), 2815
28 Massicotte D, Péronnet F, Brisson GR, Hillaire-Marcel C (1992). Oxidation of exogenous medium-chain free fatty acids during prolonged exercise: comparison with glucose. J Appl Physiol, 73 (4), 1334-1339
29 Jeukendrup, A. (2018): Vortrag bei der International Sport and Exercise Nutrition Conference (ISENC) in Newcastle upon Tyne
30 Schek, A, Braun, H, Carlsohn A et al. (2019). Fette in der Sporternährung. Position der Arbeitsgruppe Sport und Ernährung der Deutschen Gesellschaft für Ernährung e. V. Ernährungs Umschau, 66 (9), 182-189
31 Okano G, Sato Y, Takumi Y, Sugawara M. (1996). Effect of 4-h pre-exercise high carbohydrate and high fat meal ingestion on endurance performance and metabolism. Int J Sports Med, 17 (7), 530-534
32 Okano G, Sato Y, Murata Y. (1998). Effect of elevated FFA levels on endurance performance after a single fat meal ingestion. Med Sci Sports Exerc, 30 (5), 763-768
33 Whitley HA, Humphreys SM, Campbell IT et al. (1998). Metabolic and performance responses during endurance exercise after high-fat and high-carbohydrate meals. J Appl Physiol, 85 (2), 418-424
34 Pitsiladis YP, Smith I, Maughan RJ (1999). Increased fat availability enhances the capacity of trained individuals to perform prolonged exercise. Med Sci Sports Exerc, 31 (11), 1570-1579
35 Wee SL, Williams C, Garcia-Roves P. (1999). Carbohydrate availability determines endurance running capacity in fasted subjects. Med Sci Sports Exerc, 31 (5), Suppl. (abstract 299): 91S
36 Phinney SD, Bistrian BR, Evans WF (1983). The human metabolic response to chronic ketosis without caloric restriction: preservation of submaximal exercise capacity with reduced carbohydrate oxidation. Metabolism, 32 (8), 769-776
37 Zajac A, Poprzecki S, Maszczyk A et al. (2014). The effects of a ketogenic diet on exercise metabolism and physical performance in off-road cyclists. Nutrients, 6 (7), 2493-2508
38 Zinn C, Wood M, Williden M et al. (2017). Ketogenic diet benefits body composition and well-being but not performance in a pilot case study of New Zealand endurance athletes. JISSN, 14, 22 ff.
39 Burke LM, Ross ML, Garvican-Lewis LA et al. (2017). Low carbohydrate, high fat diet impairs exercise economy and negates the performance benefit from intensified training in elite race walkers. J Physiol, 595 (9), 2785-2807
40 Heatherly AJ, Killen LG, Smith AF et al. (2018). Effects of ad libitum low-carbohydrate high-fat dieting in middle-age male runners. Med Sci Sports Exerc, 50 (3), 570-579
41 McSwiney FT, Wardrop B, Hyde PN et al. (2018). Keto-adaptation enhances exercise performance and body composition responses to training in endurance athletes. Metabolism, 81, 25-34
42 Shaw DM, Merien F, Braakhuis A et al. (2019). Effect of a ketogenic diet on submaximal exercise capacity and efficiency in runners. Med Sci Sports Exerc, 51 (10), 2135-2146
43 Mujika I (2019). Case study: Long-term low-carbohydrate, high-fat diet impairs performance and subjective well-being in a world-class vegetarian long-distance triathlete. Int J Sport Nutr Exerc Metab, 29 (3), 339-344
44 O'Keeffe KA, Keith RE, Wilson GD, Blessing DL (1989). Dietary carbohydrate intake and endurance exercise performance of trained female cyclists. Nutr Res, 9 (8), 819-830
45 Lambert EV, Speechly DP, Dennis SC, Noakes TD (1994). Enhanced endurance in trained cyclists during moderate intensity exercise following 2 weeks adaptation to high fat diet. Eur J Appl Physiol, 69 (4), 287-293
46 Rowlands DS, Hopkins WG (2002). Effects of high-fat and high-carbohydrate diets on metabolism and performance in cycling. Metabolism, 51 (6), 678-690
47 Vogt M, Puntschart A, Howald H et al. (2003). Effects of dietary fat on muscle substrates, metabolism, and performance in athletes. Med Sci Sports Exerc, 35 (6), 952-960
48 Burke LM, Angus DJ, Cox GR et al. (2000). Effect of fat adaptation and carbohydrate restoration on metabolism and performance during prolonged cycling. J Appl Physiol, 89 (6), 2413-2421
49 Carey AL, Staudacher HM, Cummings NK et al. (2001). Effects of fat adaptation and carbohydrate restoration on prolonged endurance exercise. J Appl Physiol, 91 (1), 115-122
50 Lambert EV, Goedecke JH, van Zyl CG et al. (2001). High-fat versus habitual diet prior to carbohydrate loading: effects on exercise metabolism and cycling performance. Int J Sport Nutr Exerc Metab, 11, 209-225
51 Burke LM, Hawley JA, Angus DJ et al. (2002). Adaptations to short-term high-fat diet persist during exercise despite high carbohydrate availability. Med Sci Sports Exerc, 34 (1), 83-91
52 Havemann L, West SJ, Goedecke HJ et al. (2006). Fat adaptation followed by carbohydrate-loading compromises high-intensity sprint performance. J Appl Physiol, 100 (1), 194-202
53 Burke LM, Sharma AP, Heikura IA et al. (2020). Crisis of confidence averted: Impairment of exercise economy and performance in elite race walkers by ketogenic low carbohydrate, high fat (LCHF) diet is reproducible. PLoS ONE, 15 (6):e0234027. doi: 10.1371/journal.pone.0234027

MIND

Emotionales Essen – Oder warum nicht nur Liebe durch den Magen geht

1 American Psychiatric Association: Diagnostic and statistical manual of mental disorders (5th ed.), Washington, DC: Author 2013.
2 Braden A., Flatt SW., Boutelle KN., Strong D., Sherwood NE., Rock CL: Emotional eating is associated with weight loss success among adults enrolled in a weight loss program, in: Journal of Behavioral Medicine (2016), S. 39, 4, 727-32.
3 Guyenet, S.: The Hungry Brain: Outsmarting the instincts, that make us overeat, New York: Flatiron Books 2017.
4 Herpertz, S., de Zwaan, M., Zipfel, S.: Handbuch Essstörungen und Adipositas, Berlin: Springer 2015.
5 Hudson JI., Hiripi E., Pope HG Jr., Kessler RC.: The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication, in: Biological Psychiatry (2007), S. 61, 3, 348-358.
6 Klotter, C.: Einführung in die Ernährungspsychologie. UTB, München: Ernst Reinhard Verlag 2017.
7 Kahneman, D.: Maps of Bounded Rationality, in: Psychology for Behavioral Economics. American Economic Review (2003), S. 93, 5, 1449-1475.
8 Péneau, S., Méjean C., Bellisle F.: Sex and dieting modify the association between emotional eating and weight status, in: American Journal of Clinical Nutrition (2013), S. 97, 6, 1307–1313.
9 Spencer, S.J., Korosi, A., Layé, S. et al.: Food for thought: how nutrition impacts cognition and emotion, in: NPJ Science of Food (2017), S. 1, 7, o. A.
10 Turton R., Chami R., Treasure J: Emotional Eating, Binge Eating and Animal Models of Binge-Type Eating Disorders, in: Current Obesity Reports (2017), S. 6, 2, 217-228.

The Winning Mindset – and the way it is „set"

1 Sascha Riether, Koordinator der Schalker Lizenspielerabteilung, im Sport 1-«Doppelpass» nach dem mutlosen Auftritt des Teams beim 0:3 im Derby gegen Dortmund.
2 Loehr, J.E. (2003). Die neue mentale Stärke. Sportliche Bestleistung durch mentale, emotionale und physische Konditionierung. München: BLV.
3 Clough, P., Earle, K. & Sewell, D. (2002). Mental toughness: The concept and its measurement. In I. Cockerill (Ed.), Solutions in sport psychology (pp. 32–46). London: Thomson Learning.
4 Schmid, J. (2004). Mentale Schwierigkeiten oder: Was Schweizer Athletinnen und Athleten daran hindert, an Olympischen Spielen ihr Leistungspotenzial auszuschöpfen. Schweizerische Zeitschrift für Sportmedizin und Sporttraumatologie, 52 (2), 62–65.
5 Gerber, M. (2011). Mentale Toughness im Sport. Ein Review. Sportwiss 41: 283–299
DOI 10.1007/s126620110202z.
6 Engel, R. (2014). Laufbahnen von ehemaligen Nachwuchs-Elite-Athleten unter dem Aspekt des Erfolgs. Inauguraldissertation Universität Bern.
7 Gubelmann, H.P. (2020). Psyche ist im Spitzensport matchentscheidend. Die Volkswirtschaft. 8-9, S.26-28.
8 Lobinger, B. & Stoll, O. (2019). Leistung beschreiben, erklären, vorhersagen und optimieren. Zeitschrift für Sportpsychologie, 26(2), S.58-70.

QUELLEN

9 Engbert, K. (2011). Mentales Training im Leistungssport. Ein Übungsbuch für den Schüler- und Jugendbereich. Neuer Sportverlag.
10 Seiler, R. & Stock, A., (1994). Handbuch Psychotraining im Sport. Reinbek: Rowohlt.
11 Birrer, D. & Morgan, G. (2010). Psychological skills training as a way to enhance an athlete's performance in high intensity sports. Scandinavian Journal of Medicine and Science in Sports, 20, 78 – 87. https://doi.org/10.1111/j.1600-0838.2010.01188.
12 Gubelmann, H.-P. (1998). Mentale Leistungsoptimierung im Zehnkampf. Unveröff. Diplomarbeit: Diplom Trainerlehrgang I, SOV.
13 Kusserow, M., Amft, O., Gubelmann, H.-P. & Tröster, G. (2011). Arousal pattern analysis of an Olympic champion in ski jumping. Sports Technology, 3:3, p.192-203.
14 Schliermann, R. (2012). Leistungspsychologie im Rollstuhlbasketball. Köln: Sportverlag Strauß.
15 Achter, M. & Stoll, O. (2010). Vom Anforderungsprofil zum Interventionsansatz. Überlegungen zu einem langfristigen sportpsychologischen Beratungs- und Betreuungskonzept für die olympischen Wassersparten. Zeitschrift für Sportpsychologie, 17, S.93–100.
16 Küttel, A. & Larsen, C.H. (2019). Factors affecting elite athletes' health: a systematic review. In: Strauss, Halberschmidt et al. (Eds). Abstract Book of the 15. FEPSAC Kongress, 15.-19. Juli 2019 in Münster, p.184.
17 Keyes, C.L.M. (2002). The mental health continuum: From languishing to flourishing in life. Journal of Health and Social Behavior, vol.43/2,pp.207-222.
18 Dweck, C. S. (2006). Mindset: The new psychology of success. New York: Random House.
19 Dweck, C. S. (2012). Mindset: How you can fulfill your potential. Constable & Robinson Limited.
20 Gubelmann, H.P. (2018). The winning mindset. https://www.die-sportpsychologen.de/2018/03/dr-hanspeter-gubelmann-the-winning-mindset/
21 Stauffer, R. (2019). Roger Federer. Die Biographie. München: Piper.
22 Ryan, R. & Deci, E. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. The American psychologist. 55, p.68-78.
23 Gubelmann, H.P. & Baldasarre, C. (2020). Sport soll Lebensschule sein. Eine Balance zwischen optimaler Leistung und dem Wohlergehen der Sportlerinnen und Sportler finden. Psychoscope (3), S.18-21.
24 Jeklauc, D. & Kittler, C. (2015). Achtsamkeit im Leistungssport. Zeitschrift Leistungssport 6, S.19-23.
25 Haberl, P. (2020). Focus Tokyo 2021 – High performance mindset of an Olympic Favorite. Unveröff. Vortragsmanuskript, Tag der Sportpsychologie 2020, Innsbruck.
26 Federer, R. (2017). 5 Life lessons from Roger Federer in his own words. Interview gegenüber «Goalcast», 2. August 2017.

Emotionen, Erwartungen und das soziale Umfeld: Wie sie zum Auslöser körperlicher Beschwerden werden!

1 Sapolsky R.: Gewalt und Mitgefühl, 2. Auflage, München: Carl Hanser Verlag 2018.
2 Butler DS., Mosley GL.: Schmerzen verstehen, 3. Auflage, Heidelberg: Springer-Verlag 2016.
3 Barlow HB: Possible principles underlying the transformation of sensory messages sensory, in: sensory communication, MA: MIT Press (2012), S. 217-34.
4 Virginia D. E. Welter: Neuroplastizität und Schmerz, Heidelberg: Springer Verlag 2015.
5 L. Berkowitz: Pain and Aggression: some findings and implications, Motivation and Emotion (1993), 17: 277.
6 Martin von Wachter, Hendrischke A.: Psychoedukation bei chronischen Schmerzen, Heidelberg: Springer Verlag 2016.
7 Butler DS.: The Sensitive Nervous System, Adelaide, Australia: Noigroup Publications 2000.
8 Michaelis, M. Et al.: sympathetic modulation of activity in rat dorsal root ganglion neurons changes over time following peripheral nerve injury, in: J Neurophysiol 76 (1996), S. 753-63.
9 Bushnell MC, Villemure c, Strigo I, Duncan GH: Imaging Pain in the Brain, in: Journal of Musculoskeletal Pain 10 (2010), S. 59-72
10 Alt A., Malcherek N., Reis J., Geisler S.: Die Rechnung der Rückenschmerzen, Neue Erkenntnisse zur nachhaltigen Schmerztherapie, Poland: Amazon Fulfillment 2019.
11 Kellner JR, Furst A, Fan C, Redfern R, Inglis B, Fields HL: Isolating the modulatory effect of expectation on pain transmission: a functional magnetic resonance imaging study, in: The journal of neuroscience: the official journal of the society for neuroscience 26 (2006), S. 4437-43.
12 Alaiti RK, Zuccolo PF, Hunziker MHL, Caneiro JP, Vlaeyen JWS, Fernandes da Costa M.: Pain can be conditioned to voluntary movements through associative learning: an experimental study in healthy participants, 2020.
13 Häuser W. et al.: Nocebo phenomena in medicine: their relevance in everyday clinical practice, in: Deutsches Ärzteblatt Int., 109(26) (2012), S. 459-65.
14 Gallagher M. et al.: Mechanisms of change in cognitive behavioral therapy for panic disorder: the unique effects of self-efficacy and anxiety sensitivity, in: Behav Res Ther., 51(11) (2013), S: 767-77
15 Edwards K.: The interplay of affect and Kognition in Attitude Formation and change. in: Journal of Personality and Social Psychology, 59(2) (1990), S. 202–216.
16 Kahneman, D. (2011): Thinking, Fast and Slow, Farad, New York: Straus and Giroux 2011.
17 o.V.: Anchoring Bias with Critical Implications, in: AORN Journal 6 (2016), S. 658-31.
18 Chenot J. et al.: Non-Specific Low Back Pain, Clinical Practice Guidline, in: Deutsche Ärzteblatt Int. 114 (2017), S. 883-90.
19 D. Viviani et al.: Oxytocin Selectively Gates Fear Response Through Distinct Outputs From The Central Nucleus, in: Sci 333 (2011), S. 104.
20 Moseley, G.L. et al.: Thinking about movement hurts. The effect of motor imagery on pain and swelling in people with chronic arm pain, in: Arthritis Care & Research 59 (2008), S. 623-31.
21 Fishbain, D. A., Rosomoff, H. L., Cutler, R. B., & Rosomoff, R. S.: Secondary gain concept: A review of the scientific evidence, The Clinical Journal of Pain, 11 (1995), S. 6–21.
22 Eyerund Th., Orth A. K.: Einsamkeit in Deutschland, Aktuelle Entwicklung und soziodemographische Zusammenhänge, in: IW-Report No. 22, Köln (2019), S. 15. Bove et al. 2017, Beide et al. 2017; Senn 2011, Hrobjartsson et al. 2010

TRENDS

Mythen-Barometer: Wie viel Protein kann der Körper in einer Mahlzeit aufnehmen?

1 http://www.medizinfo.de/ernaehrung/eiweiss.htm
2 https://www.surgeryjournal.co.uk/article/S0263-9319(09)00062-3/abstract
3 https://pubmed.ncbi.nlm.nih.gov/27281811
4 https://pubmed.ncbi.nlm.nih.gov/26530155
5 https://pubmed.ncbi.nlm.nih.gov/20844073
6 https://pubmed.ncbi.nlm.nih.gov/11306673
7 https://pubmed.ncbi.nlm.nih.gov/22451437
8 https://pubmed.ncbi.nlm.nih.gov/21289204
9 https://pubmed.ncbi.nlm.nih.gov/24477298
10 https://pubmed.ncbi.nlm.nih.gov/27511985
11 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4558471
12 https://pubmed.ncbi.nlm.nih.gov/?term=beef+phillps+sm | https://pubmed.ncbi.nlm.nih.gov/24257722/ | https://pubmed.ncbi.nlm.nih.gov/27511985