**Chapter 17**

**Weight Control, Exercise & Diet**

Baena-Beato, P. A., Arroyo-Morales, M., Delgado-Fernández, M., Gatto-Cardia, M. C., & Artero, E. G. (2013). Effects of different frequencies (2-3 days/week) of aquatic therapy program in adults with chronic low back pain. A non-randomized comparison trial. *Pain Med, 14*(1), 145-158. doi:10.1111/pme.12002

Brady, S. R., Mamuaya, B. B., Cicuttini, F., Wluka, A. E., Wang, Y., Hussain, S. M., & Urquhart, D. M. (2015). Body composition is associated with multisite lower body musculoskeletal pain in a community-based study. *J Pain, 16*(8), 700-706. doi:10.1016/j.jpain.2015.04.006

Briggs, M. S., Givens, D. L., Schmitt, L. C., & Taylor, C. A. (2013). Relations of C-reactive protein and obesity to the prevalence and the odds of reporting low back pain. *Arch Phys Med Rehabil, 94*(4), 745-752. doi:10.1016/j.apmr.2012.11.026

Choi, J., Joseph, L., & Pilote, L. (2013). Obesity and C-reactive protein in various populations: a systematic review and meta-analysis. *Obes Rev, 14*(3), 232-244. doi:10.1111/obr.12003

Clauw, D. J., & Crofford, L. J. (2003). Chronic widespread pain and fibromyalgia: what we know, and what we need to know. *Best Pract Res Clin Rheumatol, 17*(4), 685-701.

Ford, E. S., Li, C., Pearson, W. S., Zhao, G., Strine, T. W., & Mokdad, A. H. (2008). Body mass index and headaches: findings from a national sample of US adults. *Cephalalgia, 28*(12), 1270-1276. doi:10.1111/j.1468-2982.2008.01671.x

Frilander, H., Solovieva, S., Mutanen, P., Pihlajamäki, H., Heliövaara, M., & Viikari-Juntura, E. (2015). Role of overweight and obesity in low back disorders among men: a longitudinal study with a life course approach. *BMJ Open, 5*(8), e007805. doi:10.1136/bmjopen-2015-007805

Geneen, L. J., Moore, R. A., Clarke, C., Martin, D., Colvin, L. A., & Smith, B. H. (2017). Physical activity and exercise for chronic pain in adults: an overview of Cochrane Reviews. *Cochrane Database Syst Rev, 1*, CD011279. doi:10.1002/14651858.CD011279.pub2

Grimble, R. F., & Tappia, P. S. (1998). Modulation of pro-inflammatory cytokine biology by unsaturated fatty acids. *Z Ernahrungswiss, 37 Suppl 1*, 57-65.

Guh, D. P., Zhang, W., Bansback, N., Amarsi, Z., Birmingham, C. L., & Anis, A. H. (2009). The incidence of co-morbidities related to obesity and overweight: a systematic review and meta-analysis. *BMC Public Health, 9*, 88. doi:10.1186/1471-2458-9-88

Hagen, K. B., Jamtvedt, G., Hilde, G., & Winnem, M. F. (2005). The updated cochrane review of bed rest for low back pain and sciatica. *Spine (Phila Pa 1976), 30*(5), 542-546.

Hamdy, O., Porramatikul, S., & Al-Ozairi, E. (2006). Metabolic obesity: the paradox between visceral and subcutaneous fat. *Curr Diabetes Rev, 2*(4), 367-373.

Hayden, J. A., van Tulder, M. W., Malmivaara, A., & Koes, B. W. (2005). Exercise therapy for treatment of non-specific low back pain. *Cochrane Database Syst Rev*(3), CD000335. doi:10.1002/14651858.CD000335.pub2

Heffner, K. L., France, C. R., Trost, Z., Ng, H. M., & Pigeon, W. R. (2011). Chronic low back pain, sleep disturbance, and interleukin-6. *Clin J Pain, 27*(1), 35-41.

Hitt, H. C., McMillen, R. C., Thornton-Neaves, T., Koch, K., & Cosby, A. G. (2007). Comorbidity of obesity and pain in a general population: results from the Southern Pain Prevalence Study. *J Pain, 8*(5), 430-436. doi:10.1016/j.jpain.2006.12.003

Janke, E. A., Collins, A., & Kozak, A. T. (2007). Overview of the relationship between pain and obesity: What do we know? Where do we go next? *J Rehabil Res Dev, 44*(2), 245-262.

Jentzsch, T., Geiger, J., Slankamenac, K., & Werner, C. M. (2015). Obesity measured by outer abdominal fat may cause facet joint arthritis at the lumbar spine. *J Back Musculoskelet Rehabil, 28*(1), 85-91. doi:10.3233/BMR-140495

Jinks, C., Jordan, K., & Croft, P. (2006). Disabling knee pain--another consequence of obesity: results from a prospective cohort study. *BMC Public Health, 6*, 258. doi:10.1186/1471-2458-6-258

Kayo, A. H., Peccin, M. S., Sanches, C. M., & Trevisani, V. F. (2012). Effectiveness of physical activity in reducing pain in patients with fibromyalgia: a blinded randomized clinical trial. *Rheumatol Int, 32*(8), 2285-2292. doi:10.1007/s00296-011-1958-z

Koltyn, K. F. (2000). Analgesia following exercise: a review. *Sports Med, 29*(2), 85-98.

Lauretani, F., Bandinelli, S., Bartali, B., Benedetta, B., Cherubini, A., Iorio, A. D., Ferrucci, L. (2007). Omega-6 and omega-3 fatty acids predict accelerated decline of peripheral nerve function in older persons. *Eur J Neurol, 14*(7), 801-808. doi:10.1111/j.1468-1331.2007.01860.x

Li, S., & Micheletti, R. (2011). Role of diet in rheumatic disease. *Rheum Dis Clin North Am, 37*(1), 119-133. doi:10.1016/j.rdc.2010.11.006

Liddle, S. D., Baxter, G. D., & Gracey, J. H. (2004). Exercise and chronic low back pain: what works? *Pain, 107*(1-2), 176-190.

Maher, C. G. (2004). Effective physical treatment for chronic low back pain. *Orthop Clin North Am, 35*(1), 57-64. doi:10.1016/S0030-5898(03)00088-9

Messier, S. P., Loeser, R. F., Miller, G. D., Morgan, T. M., Rejeski, W. J., Sevick, M. A., Williamson, J. D. (2004). Exercise and dietary weight loss in overweight and obese older adults with knee osteoarthritis: the Arthritis, Diet, and Activity Promotion Trial. *Arthritis Rheum, 50*(5), 1501-1510. doi:10.1002/art.20256

Murtezani, A., Hundozi, H., Orovcanec, N., Sllamniku, S., & Osmani, T. (2011). A comparison of high intensity aerobic exercise and passive modalities for the treatment of workers with chronic low back pain: a randomized, controlled trial. *Eur J Phys Rehabil Med, 47*(3), 359-366.

Paley, C. A., & Johnson, M. I. (2016). Physical Activity to Reduce Systemic Inflammation Associated With Chronic Pain and Obesity: A Narrative Review. *Clin J Pain, 32*(4), 365-370. doi:10.1097/AJP.0000000000000258

Peltonen, M., Lindroos, A. K., & Torgerson, J. S. (2003). Musculoskeletal pain in the obese: a comparison with a general population and long-term changes after conventional and surgical obesity treatment. *Pain, 104*(3), 549-557.

Pisters, M. F., Veenhof, C., Schellevis, F. G., Twisk, J. W., Dekker, J., & De Bakker, D. H. (2010). Exercise adherence improving long-term patient outcome in patients with osteoarthritis of the hip and/or knee. *Arthritis Care Res (Hoboken), 62*(8), 1087-1094. doi:10.1002/acr.20182

Roffey, D. M., Ashdown, L. C., Dornan, H. D., Creech, M. J., Dagenais, S., Dent, R. M., & Wai, E. K. (2011). Pilot evaluation of a multidisciplinary, medically supervised, nonsurgical weight loss program on the severity of low back pain in obese adults. *Spine J, 11*(3), 197-204. doi:10.1016/j.spinee.2011.01.031

Standaert, C. J., Weinstein, S. M., & Rumpeltes, J. (2008). Evidence-informed management of chronic low back pain with lumbar stabilization exercises. *Spine J, 8*(1), 114-120. doi:10.1016/j.spinee.2007.10.015

Stone, A. A., & Broderick, J. E. (2012). Obesity and pain are associated in the United States. *Obesity (Silver Spring), 20*(7), 1491-1495. doi:10.1038/oby.2011.397

Sullivan, A. B., Scheman, J., Venesy, D., & Davin, S. (2012). The role of exercise and types of exercise in the rehabilitation of chronic pain: specific or nonspecific benefits. *Curr Pain Headache Rep, 16*(2), 153-161. doi:10.1007/s11916-012-0245-3

van der Velde, G., & Mierau, D. (2000). The effect of exercise on percentile rank aerobic capacity, pain, and self-rated disability in patients with chronic low-back pain: a retrospective chart review. *Arch Phys Med Rehabil, 81*(11), 1457-1463. doi:10.1053/apmr.2000.9629

Vandenkerkhof, E. G., Macdonald, H. M., Jones, G. T., Power, C., & Macfarlane, G. J. (2011). Diet, lifestyle and chronic widespread pain: results from the 1958 British Birth Cohort Study. *Pain Res Manag, 16*(2), 87-92.

Van Middwekoop M, Rubinstein SM, Verhagen AP, Ostelo RW, Koes BW, van Tulder MW. Exercise therapy for chronic nonspecific low back pain. Arch physMed Rehabil. Mar 2013;94(3):536-542.

Vincent, H. K., Heywood, K., Connelly, J., & Hurley, R. W. (2012). Obesity and weight loss in the treatment and prevention of osteoarthritis. *PM R, 4*(5 Suppl), S59-67. doi:10.1016/j.pmrj.2012.01.005

Waller, B., Lambeck, J., & Daly, D. (2009). Therapeutic aquatic exercise in the treatment of low back pain: a systematic review. *Clin Rehabil, 23*(1), 3-14. doi:10.1177/0269215508097856

Weil, A. <http://www.drweil.com/drw/u/ART02012/anti-inflammatory-diet>

Yunus, M. B., Arslan, S., & Aldag, J. C. (2002). Relationship between body mass index and fibromyalgia features. *Scand J Rheumatol, 31*(1), 27-31.

Zdziarski, L. A., Wasser, J. G., & Vincent, H. K. (2015). Chronic pain management in the obese patient: a focused review of key challenges and potential exercise solutions. *J Pain Res, 8*, 63-77. doi:10.2147/JPR.S55360