

Probiotics feature:

Hannah Braye:

- 1 Carding S, Verbeke K, Vipond DT, Corfe BM, Owen LJ. Dysbiosis of the gut microbiota in disease. *Microb Ecol Health Dis* 2015; **26**: 26191.
- 2 Belkaid Y, Hand TW. Role of the microbiota in immunity and inflammation. *Cell* 2014; **157**: 121–41.
- 3 Pirbaglou M, Katz J, de Souza RJ, Stearns JC, Motamed M, Ritvo P. Probiotic supplementation can positively affect anxiety and depressive symptoms: a systematic review of randomized controlled trials. *Nutr Res* 2016; **36**: 889–98.
- 4 Francino MP. Antibiotics and the human gut microbiome: Dysbioses and accumulation of resistances. *Front. Microbiol.* 2016; **6**: 1543.
- 5 Pattani R, Palda VA, Hwang SW, Shah PS. Probiotics for the prevention of antibiotic-associated diarrhea and *Clostridium difficile* infection among hospitalized patients: Systematic review and meta-analysis. *Open Med.* 2013; **7**: 1–12.
- 6 Hawrelak JA, Myers SP. The causes of intestinal dysbiosis: a review. *Altern Med Rev* 2004; **9**: 180–97.
- 7 Chilton SN, Burton JP, Reid G, Reid G. Inclusion of fermented foods in food guides around the world. *Nutrients.* 2015; **7**: 390–404.
- 8 Selhub EM, Logan AC, Bested AC. Fermented foods, microbiota, and mental health: ancient practice meets nutritional psychiatry. *J Physiol Anthropol* 2014; **33**: 2.
- 9 Cotillard A, Kennedy SP, Kong LC, *et al.* Dietary intervention impact on gut microbial gene richness. *Nature* 2013; **500**: 585–8.
- 10 Halmos EP, Christophersen CT, Bird AR, Shepherd SJ, Gibson PR, Muir JG. Diets that differ in their FODMAP content alter the colonic luminal microenvironment. *Gut* 2015; **64**: 93–100.
- 11 Leitch ECM, Walker AW, Duncan SH, Holtrop G, Flint HJ. Selective colonization of insoluble substrates by human faecal bacteria. *Environ Microbiol* 2007; **9**: 667–79.
- 12 Fijan S. Microorganisms with claimed probiotic properties: an overview of recent literature. *Int J Environ Res Public Health* 2014; **11**: 4745–67.
- 13 Chapman CMC, Gibson GR, Rowland I. Health benefits of probiotics: Are mixtures more effective than single strains? *Eur J Nutr* 2011; **50**: 1–17.
- 14 Govender M, Choonara YE, Kumar P, du Toit LC, van Vuuren S, Pillay V. A review of the advancements in probiotic delivery: Conventional vs. non-conventional formulations for intestinal flora supplementation. *AAPS PharmSciTech* 2014; **15**: 29–43.

Egzona Makolli:

- 1 .Allen SJ, Okoko B, Martinez, E Gregorio, G Dans LF (2003). Probiotics for treating infectious diarrhea. *Cochrane Database Syst Rev*, vol. 2 pg. CD0030487
2. Guandalini, Pensabene L, Zikri MA, *et al* (2000). Lactobacillus GG administered in oral rehydration solution to children with acute diarrhea: a multicenter European trial, *J Pediatr Gastroenterol Nutr*, vol.30 (pg.54-60)
3. Grandy, G. *et al.* (2010) Probiotics in the treatment of acute rotavirus diarrhoea. A randomized, double-blind, controlled trial using two different probiotic preparations in Bolivian children; *BMC Infectious Diseases*, Vol. 10 pp. 253
4. Firmesse, O. *et al* (2005). Quantification after transit in human digestive tract of *For those on anti biotics* (Lactobacillus Rhamnosus Rosell 11 & Lactobacillus Acidophilus Rosell 52) consumed in a food supplement. *National*

Institute of Agronomic Research. Presented at Rome Conference on probiotics.

5. Evans, M. et al (2016), Effectiveness of *Lactobacillus helveticus* and *Lactobacillus rhamnosus* for the management of antibiotic-associated diarrhoea in healthy adults: a randomised, double-blind, placebo-controlled trial, *British Journal of Nutrition*, 2016 Jul;116(1):94-103. doi: 10.1017/S0007114516001665. Epub 2016 May 12.
6. Reid, G., Younes, J. A., Van der Mei, H. C., Gloor, G. B., Knight, R., & Busscher, H. J. (2011). Microbiota restoration: natural and supplemented recovery of human microbial communities. *Nature Reviews Microbiology*, 9(1), 27-38.
7. Perdigon G, Alvarez S, Medina M, Vintini E, Roux E (1999). Influence of the oral administration of lactic acid bacteria on iga producing cells associated to bronchus. *Int J Immunopathol Pharmacol*;12:97–102.
8. Lin JS, Chiu YH, Lin NT, Chu CH, Huang KC, Liao KW, et al (2009). Different effects of probiotic species/strains on infections in preschool children: a double-blind, randomized, controlled study. *Vaccine* ;27:1073–9.
9. Marseglia GL, Tosca M, Cirillo I, Licari A, Leone M, Marseglia A, et al (2007). Efficacy of *Bacillus clausii* spores in the prevention of recurrent respiratory infections in children: a pilot study. *Ther Clin Risk Manag* ;3:13–7.
10. Simon Carding, Kristin Verbeke, Daniel T. Vipond, Bernard M. Corfe, and Lauren J. Owen (2015). Dysbiosis of the gut microbiota in disease. *Microb Ecol Health Dis*. 2015; 26:
11. Lozupone CA, Stombaugh JI, Gordon JI, Jansson JK, Knight R. (2012). Diversity, stability and resilience of the human gut microbiota. *Sep* 13;489(7415):220-30
12. Heiman ML, Greenway FL (2016). A healthy gastrointestinal microbiome is dependent on dietary diversity. *Mol Metab*. Mar 5;5(5):317-20
13. Clemente JC, Pehrsson EC, Blaser MJ, Sandhu K et al (2015). The microbiome of uncontacted Amerindians. *Sci Adv*. 2015 Apr 3;1(3).
14. Ukhanova M, Wang X, Baer DJ, Novotny JA et al (2014). Effects of almond and pistachio consumption on gut microbiota composition in a randomised cross-over human feeding study. *Br J Nutr*. 2014 Jun 28;111(12):2146-52
15. Alvaro E, Andrieux C, Rochet V, Rigottier-Gois L et al., (2007). Composition and metabolism of the intestinal microbiota in consumers and non-consumers of yogurt. *Br J Nutr*. Jan;97(1):126-33.

16. EA Mayer (2011). Gut feelings: the merging biology of gut-brain communication. *Nat. Rev Neurosci.*, 12 (8) pp.453-466

17. Steenbergen L, Sellaro R, Hemert SV et al., (2015). A randomized controlled trial to test the effect of multispecies probiotics on cognitive reactivity to sad mood. *Brain, behaviour and immunity* 48 pp.258-264

Nicola McCusker:

1. Winkler P, de Vrese M, Laue C, Schrezenmeir J. Effect of a dietary supplement containing probiotic bacteria plus vitamins and minerals on common cold infections and cellular immune parameters. *International journal of clinical pharmacology and therapeutics*. 2005;43(7):318-26.
2. Allan GM AB. Prevention and treatment of the common cold: making sense of the evidence. *CMAJ: Canadian Medical Association Journal*. 2014;186(3):190-9.
3. Ducrotte P, Sawant P, Jayanthi V. Clinical trial: *Lactobacillus plantarum* 299v (DSM 9843) improves symptoms of irritable bowel syndrome. *World journal of gastroenterology : WJG*. 2012;18(30):4012-8.

4. Varju P, Farkas N, Hegyi P, Garami A, Szabo I, Illes A, et al. Low fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMAP) diet improves symptoms in adults suffering from irritable bowel syndrome (IBS) compared to standard IBS diet: A meta-analysis of clinical studies. *PLoS one*. 2017;12(8):e0182942.
5. Karlsson C, Ahrne S, Molin G, Berggren A, Palmquist I, Fredrikson GN, et al. Probiotic therapy to men with incipient arteriosclerosis initiates increased bacterial diversity in colon: a randomized controlled trial. *Atherosclerosis*. 2010;208(1):228-33.

Jenny Hall:

Elmira Akbari et al. Effect of Probiotic Supplementation on Cognitive Function and Metabolic Status in Alzheimer's Disease: A Randomized, Double-Blind and Controlled Trial. *Frontiers in Aging Neuroscience*. November 2016, Volume 8, Article 256.

Yanath Belguesmia et al. Novel probiotic evidence of lactobacilli on immunomodulation and regulation of satiety hormones release in intestinal cells. *Journal of Functional Foods* 24 (2016) 276–286.

Aurelijus Burokas, et al. Targeting the Microbiota-Gut-Brain Axis: Prebiotics Have Anxiolytic and Antidepressant-like Effects and Reverse the Impact of Chronic Stress in Mice, In *Biological Psychiatry*, Volume 82, Issue 7, 2017, Pages 472-487.

Fabbrocini G, et al. Supplementation with *Lactobacillus rhamnosus* SP1 normalises skin expression of genes implicated in insulin signalling and improves adult acne. *Benef Microbes*. 2016 Nov 30;7(5):625-630. Epub 2016 Sep 6.

Goldin BR, Gorbach SL. Clinical indications for probiotics: an overview. *Clin Infect Dis*. 2008 Feb 1;46 Suppl 2:S96-100; discussion S144-51.

Jason Lloyd-Price et al. Strains, Functions and dynamics in the expanded Human Microbiome Project. *Nature*, 20 September 2017. Epub ahead of publication.

Kalliomäki M, et al. Probiotics in primary prevention of atopic disease: a randomised placebo-controlled trial. *Lancet*. 2001 Apr 7;357(9262):1076-9.

Palomar Martin Manuel, et al. Oral probiotics supplementation can stimulate the immune system in a stress process. *Journal of Nutrition & Intermediary Metabolism* 8 (2017) 29-40.

Zanello G, Meurens F, Berri M, Salmon H. *Saccharomyces boulardii* effects on gastrointestinal diseases. *Curr Issues Mol Biol*. 2009;11(1):47-58.

Ask the experts:

Hannah Braye:

- 1 Ronald A. The etiology of urinary tract infection: Traditional and emerging pathogens. *Disease-a-Month* 2003; **49**: 71–82.
- 2 Kontiokari T, Nuutinen M, Uhari M. Dietary factors affecting susceptibility to urinary tract infection. *Pediatr Nephrol* 2004; **19**: 378–83.
- 3 Scholes D, Hooton TM, Roberts PL, Stapleton AE, Gupta K, Stamm WE. Risk Factors for Recurrent Urinary Tract Infection in Young Women. *J Infect Dis* 2000; **182**: 1177–82.
- 4 Harrington RD, Hooton TM. Urinary tract infection risk factors and gender. *J Genit Specif Med* 2000; **3**: 27–34.
- 5 Kostakioti M, Hultgren SJ, Hadjifrangiskou M. Molecular blueprint of uropathogenic *Escherichia coli* virulence provides clues toward the development of anti-virulence therapeutics. *Virulence* 2012; **3**: 592–4.
- 6 Callaway TR, Elder RO, Keen JE, Anderson RC, Nisbet DJ. Forage Feeding to Reduce Preharvest *Escherichia coli* Populations in Cattle, a

- Review. *J Dairy Sci* 2003; **86**: 852–60.
- 7 Nitzan O, Elias M, Chazan B, Saliba W. Urinary tract infections in patients with type 2 diabetes mellitus: review of prevalence, diagnosis, and management. *Diabetes Metab Syndr Obes* 2015; **8**: 129–36.
- 8 Kontiokari T, Laitinen J, Järvi L, Pokka T, Sundqvist K, Uhari M. Dietary factors protecting women from urinary tract infection. *Am J Clin Nutr* 2003; **77**: 600–4.
- 9 Beerepoot, M., Terriet, G., Nys, S., Vanderwal, W., Deborgie, C., Dereijke, T., Prins, J., Koeijers, J., Verbon, A., Stobberingh, E., Geerlings S, Kapoor A, Hsia IK, *et al*. Cranberry or trimethoprim for the prevention of recurrent urinary tract infections? A randomized controlled trial in older women. *Arch Intern Med* 2003; **46**: 500.
- 10 Abraham SN, Miao Y. The nature of immune responses to urinary tract infections. *Nat Rev Immunol* 2015; **15**: 655–63.
- 11 Kaminogawa S, Nanno M. Modulation of Immune Functions by Foods. *Evid Based Complement Alternat Med* 2004; **1**: 241–50.
- 12 Reid G, Beuerman D, Heinemann C, Bruce AW. Lactobacillus dose required to restore and maintain a normal vaginal flora. *FEMS Immunol Med Microbiol* 2001; **32**: 37–41.
- 13 Probiotics International Limited, data on file. .
- 14 Nutrition and Health Claims - European Commission.
http://ec.europa.eu/food/safety/labelling_nutrition/claims/register/public/?event=search (accessed Oct 5, 2017).
- 15 Kodner CM, Thomas Gupton EK, Gupton T, Emily K. Recurrent urinary tract infections in women: diagnosis and management. *Am Fam Physician* 2010; **82**: 638–43.

Penny Shaw:

<https://www.ncbi.nlm.nih.gov/pubmed/17112576>
<https://www.ncbi.nlm.nih.gov/pubmed/23129026>
<https://www.ncbi.nlm.nih.gov/pubmed/17086191?dopt=Abstract>
<https://www.ncbi.nlm.nih.gov/pubmed/22055504>
<https://www.ncbi.nlm.nih.gov/pubmed/25654502>
<https://www.ncbi.nlm.nih.gov/pubmed/?term=14595267>
<https://www.ncbi.nlm.nih.gov/pubmed/25669932>

Fatigue feature:

Michelle Halemai:

1. Cleare, A.J., Reid, S., Chalder, T., Hotopf, M., Wessely, S., 2015. *Chronic Fatigue Syndrome*.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4585442/>
 Accessed 28/09/17
2. Cleare, A.J., Reid, S., Chalder, T., Hotopf, M., Wessely, S., 2010. *Chronic Fatigue Syndrome*.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117488/>
 Accessed 28/09/17
3. NAME-US.org., 2015. *Definitions Overview*.
<http://www.name-us.org/DefintionsPages/DefOverview.htm>
 Accessed 28/09/17
4. Nightingale Research Foundation, 2017. *Understanding Myalgic Encephalomyelitis (M.E.)*
<https://www.nightingale.ca/understanding-m-e>
 Accessed 28/09/17
5. Br Med J., 1978. *Epidemic myalgic encephalomyelitis*.

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1604957/>
Accessed 28/09/17
6. Sharpe, M., Campling, F., 2000. *Chronic Fatigue Syndrome (CFS/ME): The Facts*. Oxford: Oxford Press. pp. 14, 15.
Accessed 28/09/17
 7. Merriam-Webster, Inc., 2017. *Syndrome*.
<https://www.merriam-webster.com/dictionary/syndrome>
Accessed 28/09/17
 8. MPKB, 2015. *Chronic fatigue syndrome (myalgic encephalomyelitis)*
<https://mpkb.org/home/diseases/cfs>
Accessed 28/09/17
 9. Harvey, S., 2012. *University of Maryland Medical Center – Chronic Fatigue Syndrome?*
<http://www.umm.edu/health/medical/reports/articles/chronic-fatigue-syndrome>
Accessed 28/09/17
 10. Furness, J.B., Callaghan, B.P., Rivera, L.R., Cho, H.J., 2014. *The enteric nervous system and gastrointestinal innervation: integrated local and central control*.
<https://www.ncbi.nlm.nih.gov/pubmed/24997029>
Accessed 28/09/17
 11. Ford, D., Faj, S., Batheja, R.K., DeBusk, R., Grotto, D., Noland, D., Redmond, E., Swift, K.M., 2011. *American Dietetic Association: Standards of Practice and Standards of Professional Performance for Registered Dietitians (Competent, Proficient, and Expert) in Integrative and Functional Medicine*. *J Acad Nutr Diet*. 111(6):902-913.e23.
Accessed 28/09/17
 12. Centers for Disease Control and Prevention (CDC), 2017. *Myalgic Encephalomyelitis/Chronic Fatigue Syndrome*.
<https://www.cdc.gov/me-cfs/treatment/index.html>
Accessed 28/09/17
 13. BMJ, 2010. *Nurse led, home based self help treatment for patients in primary care with chronic fatigue syndrome: randomised controlled trial*.
<http://www.bmj.com/content/340/bmj.c1777/rapid-responses>
Accessed 28/09/17
 14. Brown, B., 2014. *Chronic fatigue syndrome: a personalized integrative medicine approach*.
Alternative Therapies, Jan/Feb 2014 vol. 20,(1):29-40.
Accessed 28/09/17
 15. Jacobson, W., Saich, T., Borysiewicz, L.K., Behan, W.M., Behan, P.O., Wreghitt, T.G., 1993. *Serum folate and chronic fatigue syndrome*.
Neurology;43(12):2645-2647.
Accessed 28/09/17
 16. Ehrlich, S.,D., 2015. *Vitamin B6 (Pyridoxine)*
<http://www.umm.edu/health/medical/altmed/supplement/vitamin-b6-pyridoxine>
Accessed 28/09/17
 17. Plioplys, A.V., Plioplys, S., 1995. *Serum levels of carnitine in chronic fatigue syndrome: clinical correlates*.
<https://www.ncbi.nlm.nih.gov/pubmed/8544970>
Accessed 28/09/17