Nutrition
Network

Roundup - August 2022

New this month in therapeutic carbohydrate restriction and metabolic health.

Reviews/Mechanisms

1. Lei, L., Huang, J., Zhang, L., Hong, Y., Hui, S., Yang, J., 2022. Effects of low-carbohydrate diets versus low-fat diets on metabolic risk factors in **overweight and obese** adults: A meta-analysis of randomized controlled trials. Front Nutr 9, 935234. https://doi.org/10.3389/fnut.2022.935234
2. Tao, Y., Leng, S.X., Zhang, H., 2022. Ketogenic diet: an effective treatment approach for **neurodegenerative diseases**. Curr Neuropharmacol. https://doi.org/10.2174/1570159X20666220830102628 ABSTRACT
3. Varkaneh, H.K., Poursoleiman, F., Al Masri, M.K., Alras, K.A., Shayah, Y., Masmoum, M.D., Alangari, F.A., Alras, A.A., Rinaldi, G., Day, A.S., Hekmatdoost, A., Abu-Zaid, A., Kutbi, E., 2022. Low fat diet versus low carbohydrate diet for management of **non-alcohol fatty liver disease**: A systematic review. Front Nutr 9, 987921. https://doi.org/10.3389/fnut.2022.987921
4. Jibril, A.T., Shab-Bidar, S., Djafarian, K., Iddrisu, M., Kwartemaah, I.S.O., Yelarge, A., 2022. Effect of Major Dietary Interventions on **Migraine**: a Systematic Review of Randomized Control Trials. SN Compr. Clin. Med. 4, 185.doi.org/10.1007/s42399-022-01270-6
5. Ungaro, P., Nettore, I.C., Franchini, F., Palatucci, G., Muscogiuri, G., Colao, A., Macchia, P.E., 2022. **Epigenome Modulation** Induced by Ketogenic Diets. Nutrients 14, 3245. doi.org/10.3390/nu14153245
6. Shcherbakova, K., Schwarz, A., Apryatin, S., Karpenko, M., Trofimov, A., 2022. Supplementation of Regular Diet With **Medium-Chain Triglycerides** for Procognitive Effects: A Narrative Review. Front Nutr 9, 934497.doi.org/10.3389/fnut.2022.934497
7. Barrea, L., Vetrani, C., Fintini, D., de Alteriis, G., Panfili, F.M., Bocchini, S., Verde, L., Colao, A., Savastano, S., Muscogiuri, G., 2022. **Prader–Willi Syndrome** in Adults: An Update On Nutritional Treatment and Pharmacological Approach. Curr Obes Rep. doi.org/10.1007/s13679-022-00478-w
8. C, F., G, S., C, G., M, S., D, S., 2022. Ketogenic state is able to improve **testosterone** serum levels - a meta-analytic approach, in: Endocrine Abstracts. Presented at the 9th ESE Young Endocrinologists and Scientists (EYES) Meeting, Bioscientifica. doi.org/10.1530/endoabs.83.RDO2

Cholesterol Focus

1. Diamond, D.M., Bikman, B.T., Mason, P., n.d. Statin therapy is not warranted for a person with high **LDL-cholesterol** on a low-carbohydrate diet. Current Opinion in Endocrinology, Diabetes and Obesity 10.1097/MED.0000000000000764. doi.org/10.1097/MED.0000000000000764
2. Feldman, D., Huggins, S., Norwitz, N.G., n.d. Short-term hyper-caloric high-fat feeding on a ketogenic diet can lower **low-density lipoprotein** cholesterol: the cholesterol drop experiment. Current Opinion in Endocrinology, Diabetes and Obesity 10.1097/MED.0000000000000762. doi.org/10.1097/MED.0000000000000762
3. Kendrick, M., n.d. Assessing cardiovascular disease: looking **beyond cholesterol**. Current Opinion in Endocrinology, Diabetes and Obesity 10.1097/MED.0000000000000761. doi.org/10.1097/MED.0000000000000761
4. Crosier, R., McPherson, R., 2022. Profound Elevation in **LDL Cholesterol** Level Following a Ketogenic Diet: A Case Series. CJC Open 4, 732–734. https://doi.org/10.1016/j.cjco.2022.05.001 (An example of cholesterol response representing position of concern and cholesterol changes in response to diet)

Trials/Studies

1. Calabrese, L., Scolnick, B., Zupec-Kania, B., Beckwith, C., Costello, K., Frank, G.K.W., 2022. Ketogenic diet and ketamine infusion treatment to target chronic persistent eating disorder psychopathology in **anorexia nervosa**: a pilot study. Eat Weight Disord. doi.org/10.1007/s40519-022-01455-x
2. Curtis, W.M., Seeds, W.A., Mattson, M.P., Bradshaw, P.C., 2022. NADPH and Mitochondrial Quality Control as Targets for a Circadian-Based Fasting and Exercise Therapy for the Treatment of **Parkinson's Disease**. Cells 11, 2416. doi.org/10.3390/cells11152416
3. Gogou, M., Pujar, S., Nemani, T., Chiang, C., Simpson, Z., Hardy, I., Schoeler, N., Cross, J.H., Eltze, C., 2022. Antiseizure medication reduction and withdrawal in children with drug-resistant **epilepsy** after starting the ketogenic diet. Dev Med Child Neurol. doi.org/10.1111/dmcn.15377 (younger starting age a/w more success)
4. Huang, L., Li, H., Zhong, J., Yang, L., Chen, G., Wang, D., Zheng, G., Han, H., Han, X., Long, Y., Wang, X., Liang, J., Yu, M., Shen, X., Fan, M., Fang, F., Liao, J., Sun, D., 2022. Efficacy and Safety of the Ketogenic Diet for **Mitochondrial Disease** With Epilepsy: A Prospective, Open-labeled, Controlled Study. Front Neurol 13, 880944. doi.org/10.3389/fneur.2022.880944
5. Jeziorek, M., Szuba, A., Kujawa, K., Regulska-Ilow, B., 2022. The Effect of a Low-Carbohydrate, High-Fat Diet versus Moderate-Carbohydrate and Fat Diet on Body

Composition in Patients with **Lipedema**. DMSO 15, 2545–2561. doi.org/10.2147/DMSO.S377720

6. Kleiner, A., Cum, B., Pisciotta, L., Cincione, I.R., Cogorno, L., Prigione, A., Tramacere, A., Vignati, A., Carmisciano, L., Sukkar, S.G., 2022. Safety and Efficacy of Eucaloric Very Low-Carb Diet (EVLCD) in **Type 1 Diabetes**: A One-Year Real-Life Retrospective Experience. Nutrients 14, 3208. doi.org/10.3390/nu14153208
7. Kumru Akin, B., Ozturk Hismi, B., Daly, A., 2022. Improvement in **hypertrophic cardiomyopathy** after using a high-fat, high-protein and low-carbohydrate diet in a non-adherent child with glycogen storage disease type IIIa. Molecular Genetics and Metabolism Reports 32, 100904. doi.org/10.1016/j.ymgmr.2022.100904
8. Ligorio, F., Fucà, G., Provenzano, L., Lobefaro, R., Zanenga, L., Vingiani, A., Belfiore, A., Lorenzoni, A., Alessi, A., Pruneri, G., de Braud, F., Vernieri, C., 2022. Exceptional **tumour responses** to fasting-mimicking diet combined with standard anticancer therapies: A sub-analysis of the NCT03340935 trial. Eur J Cancer 172, 300–310. doi.org/10.1016/j.ejca.2022.05.046
9. Lovati, C., d'Alessandro, C.M., Ventura, S.D., Muzio, F., Pantoni, L., 2022. Ketogenic diet in refractory **migraine**: possible efficacy and role of ketone bodies-a pilot experience. Neurol Sci. doi.10.1007/s10072-022-06311-5
10. Norwitz, Nicholas G., Czeisler, M.É., Delichatsios, H.K., Hoenig, M.P., Cywes, R., 2022. Metabolic Health Immersion for Medical Education: A Pilot Program with **Continuous Glucose Monitors** in Medical and Dental Students: American Journal of Lifestyle Medicine. doi.10.1177/15598276221119989
11. Paul, J., Jani, R., Jones, M., Davoren, P., Knight-Agarwal, C., 2022. Association between a low carbohydrate diet, glycemic control, and quality of life in Australian adults living with **type 1 diabetes**: a pilot study. Endocr Pract S1530-891X(22)00578-X. doi.org/10.1016/j.eprac.2022.08.003
12. Smith, K.A., Hendricks, B.K., DiDomenico, J.D., Conway, B.N., Smith, T.L., Azadi, A., Fonkem, E., n.d. Ketogenic Metabolic Therapy for **Glioma**. Cureus 14, e26457. doi.org/10.7759/cureus.26457
13. Thomsen, M.N., Skytte, M.J., Samkani, A., Astrup, A., Fenger, M., Frystyk, J., Hartmann, B., Holst, J.J., Larsen, T.M., Madsbad, S., Magkos, F., Rehfeld, J.F., Haugaard, S.B., Krarup, T., 2022. Weight loss improves β-cell function independently of dietary carbohydrate restriction in people with **type 2 diabetes**: A 6-week randomized controlled trial. Front Nutr 9, 933118. doi.org/10.3389/fnut.2022.933118
14. Trout, K.K., Compher, C.W., Dolin, C., Burns, C., Quinn, R., Durnwald, C., 2022. Increased Protein with Decreased Carbohydrate Intake Reduces Postprandial Blood Glucose

Levels in Women with **Gestational Diabetes**: The iPRO Study. Women's Health Reports 3, 728–739. doi.org/10.1089/whr.2022.0012

15. Wu, W., Zhou, Q., Yuan, P., Qiao, D., Deng, S., Cheng, H., Ren, Y., 2022. A Novel Multiphase Modified Ketogenic Diet: An Effective and Safe Tool for **Weight Loss** in Chinese Obese Patients. DMSO 15, 2521–2534. doi.org/10.2147/DMSO.S365192

Case Studies

1. Gajagowni, S., Tarun, T., Dorairajan, S., Chockalingam, A., 2022. First Report Of 50-Day Continuous Fasting in Symptomatic Multivessel **Coronary Artery Disease and Heart Failure**: Cardioprotection Through Natural Ketosis. Mo Med 119, 250–254. PMID: 36035583 (highlights importance of monitoring and adequate hydration/electrolytes)
2. Evangeliou, A.E., Spilioti, M.G., Vassilakou, D., Goutsaridou, F., Seyfried, T.N., 2022. Restricted Ketogenic Diet Therapy for Primary **Lung Cancer** With Metastasis to the Brain: A Case Report. Cureus 14. doi.org/10.7759/cureus.27603