

## References

\*Note: This represents approximately a quarter of all references used in my dissertation. Please contact me for full dissertation references list.

1. Center for Disease Control. *National Diabetes Statistics Report, 2017 Estimates of Diabetes and Its Burden in the United States Background*. (2017).
2. Aldossari, K. K. *et al.* Prevalence of Prediabetes, Diabetes, and Its Associated Risk Factors among Males in Saudi Arabia: A Population-Based Survey. *J. Diabetes Res.* **2018**, 2194604 (2018).
3. Mellbin, L. G., Anselmino, M. & Rydén, L. Diabetes, prediabetes and cardiovascular risk. *European Journal of Cardiovascular Prevention and Rehabilitation* **17**, (2010).
4. Bansal, N. Prediabetes diagnosis and treatment: A review. *World J. Diabetes* **6**, 296 (2015).
5. Heinemann, L. Finger pricking and pain: A never ending story. *Journal of Diabetes Science and Technology* **2**, 919–921 (2008).
6. Lindström, J. *et al.* The Finnish Diabetes Prevention Study (DPS): Lifestyle intervention and 3-year results on diet and physical activity. *Diabetes Care* **26**, 3230–6 (2003).
7. Berchick, E. Who Are the Uninsured? *US Census Bureau* (2018). Available at: <https://www.census.gov/library/stories/2018/09/who-are-the-uninsured.html>. (Accessed: 19th April 2020)
8. Defining Rural Population | Official web site of the U.S. Health Resources & Services Administration. Available at: <https://www.hrsa.gov/rural-health/about-us/definition/index.html>. (Accessed: 19th April 2020)
9. Older Americans Drive Growth of Wearables. *eMarketer* (2018). Available at: <https://www.emarketer.com/content/older-americans-drive-growth-of-wearables>.
10. Continuous Glucose Monitors (CGMs) | diaTribe. *diaTribe* (2020). Available at: [https://diatribe.org/continuous-glucose-monitors#:~:text=Currently%2C four companies have personal,3\)%2C and Senseonics Eversense](https://diatribe.org/continuous-glucose-monitors#:~:text=Currently%2C four companies have personal,3)%2C and Senseonics Eversense). (Accessed: 18th December 2020)
11. Hall, H. *et al.* Glucotypes reveal new patterns of glucose dysregulation. *PLOS Biol.* **16**, e2005143 (2018).
12. Zygmunt, A. & Stanczyk, J. Methods of evaluation of autonomic nervous system function. (2010). doi:10.5114/aoms.2010.13500
13. Arberet, S. *et al.* Photoplethysmography-Based Ambulatory Heartbeat Monitoring Embedded into a Dedicated Bracelet. *Comput. Cardiol.* (2010). 935–938 (2013).
14. Witt, D. R., Kellogg, R. A., Snyder, M. P. & Dunn, J. Windows into human health through wearables data analytics. *Current Opinion in Biomedical Engineering* **9**, 28–46 (2019).
15. Dunn, J., Runge, R. & Snyder, M. Wearables and the medical revolution. *Per. Med.* **15**, 429–448 (2018).

16. Li, X. *et al.* Digital Health: Tracking Physiomes and Activity Using Wearable Biosensors Reveals Useful Health-Related Information. *PLOS Biol.* **15**, e2001402 (2017).
17. Tesfaye, S. *et al.* Diabetic neuropathies: update on definitions, diagnostic criteria, estimation of severity, and treatments. *Diabetes Care* **33**, 2285–93 (2010).
18. Grandinetti, A. *et al.* Impaired glucose tolerance is associated with postganglionic sudomotor impairment. *Clin. Auton. Res.* **17**, 231–233 (2007).
19. Goldsack, J. C. *et al.* Verification, analytical validation, and clinical validation (V3): the foundation of determining fit-for-purpose for Biometric Monitoring Technologies (BioMeTs). *npj Digit. Med.* **3**, 1–15 (2020).
20. Coravos, A., Khozin, S. & Mandl, K. D. Developing and adopting safe and effective digital biomarkers to improve patient outcomes. *npj Digit. Med.* **2**, (2019).
21. Coravos, A. *et al.* *Fast Facts: Digital Medicine - Measurement. Fast Facts: Digital Medicine - Measurement* (S. Karger AG, 2020). doi:10.1159/isbn.978-3-318-06708-8
22. Bent, B., Goldstein, B. A., Kibbe, W. A. & Dunn, J. P. Investigating sources of inaccuracy in wearable optical heart rate sensors. *npj Digit. Med.* **3**, 18 (2020).
23. Bent, B. & Dunn, J. P. Optimizing Sampling Rate of Wrist-worn Optical Sensors for Physiologic Monitoring. *J. Clin. Transl. Sci.* 1–27 (2020). doi:10.1017/cts.2020.526
24. Bent, B., Sim, I. & Dunn, J. P. Digital medicine community perspectives and challenges: Survey study. *JMIR mHealth uHealth* **9**, e24570 (2021).
25. Bent, B., Lu, B., Kim, J. & Dunn, J. P. Biosignal Compression Toolbox for Digital Biomarker Discovery. *Sensors* **21**, 516 (2021).
26. Bent, B. *et al.* The Digital Biomarker Discovery Pipeline: An open source software platform for the development of digital biomarkers using mHealth and wearables data. *J. Clin. Transl. Sci.* 1–28 (2020). doi:10.1017/cts.2020.511
27. Bent, B. & Dunn, J. Personalized Machine Learning Models for Noninvasive Glucose Prediction Using Wearables. in *NeurIPS Machine Learning for Mobile Health Workshop* (2020).
28. Shcherbina, A. *et al.* Accuracy in Wrist-Worn, Sensor-Based Measurements of Heart Rate and Energy Expenditure in a Diverse Cohort. *J. Pers. Med.* **7**, 3 (2017).
29. Fallow, B. A., Tarumi, T. & Tanaka, H. Influence of skin type and wavelength on light wave reflectance. doi:10.1007/s10877-013-9436-7
30. Weiler, D. T., Villajuan, S. O., Edkins, L., Cleary, S. & Saleem, J. J. Wearable Heart Rate Monitor Technology Accuracy in Research: A Comparative Study Between PPG and ECG Technology. doi:10.1177/1541931213601804
31. Yan, L., Hu, S., Alzahrani, A., Alharbi, S. & Blanos, P. A Multi-Wavelength Opto-Electronic Patch Sensor to Effectively Detect Physiological Changes against Human Skin Types. *Biosensors* **7**, (2017).
32. Choi, A. & Shin, H. Photoplethysmography sampling frequency: pilot assessment of how low can we go to analyze pulse rate variability with reliability? *Physiol. Meas.* **38**, 586–600 (2017).

33. Kiefer, M. M., Silverman, J. B., Young, B. A. & Nelson, K. M. National Patterns in Diabetes Screening: Data from the National Health and Nutrition Examination Survey (NHANES) 2005–2012. *J. Gen. Intern. Med.* **30**, 612–618 (2015).
34. Tabák, A. G., Herder, C., Rathmann, W., Brunner, E. J. & Kivimäki, M. Prediabetes: a high-risk state for diabetes development. *Lancet (London, England)* **379**, 2279–90 (2012).
35. Group, T. D. P. P. (DPP) R. The Diabetes Prevention Program (DPP): Description of lifestyle intervention. *Diabetes Care* **25**, 2165–2171 (2002).
36. January.ai | Optimize your blood sugar intelligently. Available at: <https://january.ai/landing/>. (Accessed: 12th February 2021)
37. Levels - Metabolic Fitness Program. Available at: <https://www.levelshealth.com/>. (Accessed: 12th February 2021)
38. Russell Koenigsberg, M. & Corliss, J. *Diabetes Self-Management: Facilitating Lifestyle Change*. *American Family Physician* **96**, (2017).
39. Franz, M. J. Protein: Metabolism and Effect on Blood Glucose Levels. *Diabetes Educ.* **23**, 643–651 (1997).
40. Russell, W. R. *et al.* Impact of Diet Composition on Blood Glucose Regulation. *Crit. Rev. Food Sci. Nutr.* **56**, 541–590 (2016).
41. Lopez-Minguez, J., Gómez-Abellán, P. & Garaulet, M. Timing of breakfast, lunch, and dinner. Effects on obesity and metabolic risk. *Nutrients* **11**, (2019).
42. Poggiogalle, E., Jamshed, H. & Peterson, C. M. Circadian regulation of glucose, lipid, and energy metabolism in humans. *Metabolism*. **84**, 11–27 (2018).
43. Lamothe, L. M. *et al.* The scientific basis for healthful carbohydrate profile. *Critical Reviews in Food Science and Nutrition* **59**, 1058–1070 (2019).
44. Capuano, E. The behavior of dietary fiber in the gastrointestinal tract determines its physiological effect. *Crit. Rev. Food Sci. Nutr.* **57**, 3543–3564 (2017).
45. Clark, M. J. & Slavin, J. L. The effect of fiber on satiety and food intake: A systematic review. *J. Am. Coll. Nutr.* **32**, 200–211 (2013).
46. Wheeler, M. L. & Pi-Sunyer, F. X. Carbohydrate Issues: Type and Amount. *J. Am. Diet. Assoc.* **108**, (2008).
47. Cozma, A. I. *et al.* Effect of fructose on glycemic control in diabetes: A systematic review and meta-analysis of controlled feeding trials. *Diabetes Care* **35**, 1611–1620 (2012).
48. Qiu, Y. T., Smallegange, R. C., Van Loon, J. J. A., Ter Braak, C. J. F. & Takken, W. Interindividual variation in the attractiveness of human odours to the malaria mosquito *Anopheles gambiae* s. s. *Med. Vet. Entomol.* **20**, 280–287 (2006).
49. Bell, K. J., Petocz, P., Colagiuri, S. & Brand-Miller, J. C. Algorithms to Improve the Prediction of Postprandial Insulinaemia in Response to Common Foods. *Nutrients* **8**, (2016).
50. Beebe, C. A. *et al.* Effect of temporal distribution of calories on diurnal patterns of glucose levels and insulin secretion in NIDDM. *Diabetes Care* **13**, 748–755 (1990).

51. Qian, J. & Scheer, F. A. J. L. Circadian System and Glucose Metabolism: Implications for Physiology and Disease. *Trends in Endocrinology and Metabolism* **27**, 282–293 (2016).
52. Morris, C. J., Yang, J. N. & Scheer, F. A. J. L. The impact of the circadian timing system on cardiovascular and metabolic function. in *Progress in Brain Research* **199**, 337–358 (Elsevier B.V., 2012).
53. Nedeltcheva, A. V. & Scheer, F. A. J. L. Metabolic effects of sleep disruption, links to obesity and diabetes. *Current Opinion in Endocrinology, Diabetes and Obesity* **21**, 293–298 (2014).
54. Mattson, M. P. *et al.* Meal frequency and timing in health and disease. *Proc. Natl. Acad. Sci. U. S. A.* **111**, 16647–16653 (2014).
55. Radziuk, J. & Pye, S. Diurnal rhythm in endogenous glucose production is a major contributor to fasting hyperglycaemia in type 2 diabetes. Suprachiasmatic deficit or limit cycle behaviour? *Diabetologia* **49**, 1619–1628 (2006).
56. Peter Adams, O. The impact of brief high-intensity exercise on blood glucose levels. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* **6**, 113–122 (2013).
57. Boulé, N. G., Haddad, E., Kenny, G. P., Wells, G. A. & Sigal, R. J. Effects of exercise on glycemic control and body mass in type 2 diabetes mellitus: A meta-analysis of controlled clinical trials. *Journal of the American Medical Association* **286**, 1218–1227 (2001).
58. Boulé, N. G. *et al.* Metformin and exercise in type 2 diabetes: Examining treatment modality interactions. *Diabetes Care* **34**, 1469–1474 (2011).
59. Umpierre, D. *et al.* Physical activity advice only or structured exercise training and association with HbA1c levels in type 2 diabetes: A systematic review and meta-analysis. *JAMA - Journal of the American Medical Association* **305**, 1790–1799 (2011).
60. Snowling, N. J. & Hopkins, W. G. Effects of different modes of exercise training on glucose control and risk factors for complications in type 2 diabetic patients: A meta-analysis. *Diabetes Care* **29**, 2518–2527 (2006).
61. Van Dijk, J. W. *et al.* Effect of moderate-intensity exercise versus activities of daily living on 24-hour blood glucose homeostasis in male patients with type 2 diabetes. *Diabetes Care* **36**, 3448–3453 (2013).
62. Wiesli, P. *et al.* Acute psychological stress affects glucose concentrations in patients with type 1 diabetes following food intake but not in the fasting state. *Diabetes Care* **28**, 1910–1915 (2005).
63. Lloyd, C., Smith, J. & Weinger, K. Stress and iabetes: A review of the links. *Diabetes Spectrum* **18**, 121–127 (2005).
64. Yitshak-Sade, M., Mendelson, N., Novack, V., Codish, S. & Liberty, I. F. The association between an increase in glucose levels and armed conflict-related stress: A population-based study. *Sci. Rep.* **10**, 1–6 (2020).
65. Wong, H., Singh, J., Go, R. M., Ahluwalia, N. & Guerrero-Go, M. A. The Effects of Mental Stress on Non-insulin-dependent Diabetes: Determining the Relationship Between Catecholamine and Adrenergic Signals from Stress, Anxiety, and Depression on the Physiological Changes in the Pancreatic Hormone Secretion. *Cureus* **11**, (2019).

66. Usselman, C. W. *et al.* Hormone phase influences sympathetic responses to high levels of lower body negative pressure in young healthy women. *Am. J. Physiol. - Regul. Integr. Comp. Physiol.* **311**, R957–R963 (2016).
67. Tryon, M. S., Carter, C. S., DeCant, R. & Laugero, K. D. Chronic stress exposure may affect the brain's response to high calorie food cues and predispose to obesogenic eating habits. *Physiol. Behav.* **120**, 233–242 (2013).
68. Zamani-Alavijeh, F., Araban, M., Koohestani, H. R. & Karimy, M. The effectiveness of stress management training on blood glucose control in patients with type 2 diabetes. *Diabetol. Metab. Syndr.* **10**, (2018).
69. Nordström\*, A., Hadrévi, J., Olsson, T., Franks, P. W. & Nordström, P. Higher Prevalence of Type 2 Diabetes in Men Than in Women Is Associated With Differences in Visceral Fat Mass. *J. Clin. Endocrinol. Metab.* **101**, 3740–3746 (2016).
70. Chen, L., Magliano, D. J. & Zimmet, P. Z. The worldwide epidemiology of type 2 diabetes mellitus - Present and future perspectives. *Nature Reviews Endocrinology* **8**, 228–236 (2012).
71. Tracey, M. L. *et al.* The prevalence of Type 2 diabetes and related complications in a nationally representative sample of adults aged 50 and over in the Republic of Ireland. *Diabet. Med.* **33**, 441–445 (2016).
72. Wild, S., Roglic, G., Green, A., Sicree, R. & King, H. Global Prevalence of Diabetes: Estimates for the year 2000 and projections for 2030. *Diabetes Care* **27**, 1047–1053 (2004).
73. Mauvais-Jarvis, F. Gender differences in glucose homeostasis and diabetes. *Physiol. Behav.* **187**, 20–23 (2018).
74. Anish, T. *et al.* Gender difference in blood pressure, blood sugar, and cholesterol in young adults with comparable routine physical exertion. *J. Fam. Med. Prim. Care* **2**, 200 (2013).
75. Kautzky-Willer, A., Harreiter, J. & Pacini, G. Sex and gender differences in risk, pathophysiology and complications of type 2 diabetes mellitus. *Endocrine Reviews* **37**, 278–316 (2016).
76. Kautzky-Willer, A., Kosi, L., Lin, J. & Mihaljevic, R. Gender-based differences in glycaemic control and hypoglycaemia prevalence in patients with type 2 diabetes: Results from patient-level pooled data of six randomized controlled trials. *Diabetes, Obes. Metab.* **17**, 533–540 (2015).
77. Valensi, P. *et al.* Influence of blood glucose on heart rate and cardiac autonomic function. The DESIR study. *Diabet. Med.* **28**, 440–449 (2011).
78. Frier, B. M., Schernthaner, G. & Heller, S. R. Hypoglycemia and cardiovascular risks. *Diabetes Care* **34**, S132 (2011).
79. Panzer, C., Lauer, M. S., Brieke, A., Blackstone, E. & Hoogwerf, B. Association of fasting plasma glucose with heart rate recovery in healthy adults: A population-based study. *Diabetes* **51**, 803–807 (2002).
80. Molnar, G. W. & Read, R. C. Hypoglycemia and Body Temperature. *JAMA J. Am. Med. Assoc.* **227**, 916–921 (1974).
81. Kenny, G. P., Sigal, R. J. & McGinn, R. Body temperature regulation in diabetes. *Temperature* **3**, 119–145 (2016).

82. Wu, J.-S. *et al.* Epidemiological Evidence of Altered Cardiac Autonomic Function in Subjects with Impaired Glucose Tolerance But Not Isolated Impaired Fasting Glucose. *J. Clin. Endocrinol. Metab.* **92**, 3885–3889 (2007).
83. Low, P. A., Tomalia, V. A. & Park, K.-J. Autonomic function tests: some clinical applications. *J. Clin. Neurol.* **9**, 1–8 (2013).
84. Maarek, A., Rao, G. & Gandhi, P. Detection of neuropathy using a sudomotor test in type 2 diabetes. *Degener. Neurol. Neuromuscul. Dis.* **5**, 1 (2015).
85. Woldaregay, A. Z. *et al.* Data-driven blood glucose pattern classification and anomalies detection: Machine-learning applications in type 1 diabetes. *Journal of Medical Internet Research* **21**, (2019).
86. Zeevi, D. *et al.* Personalized Nutrition by Prediction of Glycemic Responses. *Cell* **163**, 1079–1094 (2015).
87. Umpierrez, G. E. & P. Kovatchev, B. Glycemic Variability: How to Measure and Its Clinical Implication for Type 2 Diabetes. *American Journal of the Medical Sciences* **356**, 518–527 (2018).
88. Tamborlane, W. V. *et al.* Continuous Glucose Monitoring and Intensive Treatment of Type 1 Diabetes. *N. Engl. J. Med.* **359**, 1464–1476 (2008).
89. Aronoff, S. L., Berkowitz, K., Shreiner, B. & Want, L. Glucose Metabolism and Regulation: Beyond Insulin and Glucagon. *Diabetes Spectr.* **17**, 183–190 (2004).
90. Rodbard, D. Glucose Variability: A Review of Clinical Applications and Research Developments. *Diabetes Technol. Ther.* **20**, S2-5-S2-15 (2018).
91. Kovatchev, B. P. Metrics for glycaemic control — from HbA1c to continuous glucose monitoring. *Nat. Rev. Endocrinol.* **13**, 425–436 (2017).
92. Jean-Marie, E. Diagnosis and classification of diabetes mellitus. in *Encyclopedia of Endocrine Diseases* **43**, 105–109 (Elsevier, 2018).
93. Zeevi, D. *et al.* Personalized Nutrition by Prediction of Glycemic Responses. *Cell* **163**, 1079–1094 (2015).
94. Peters, E., Slovic, P., Västfjäll, D. & Mertz, C. K. *Intuitive numbers guide decisions. Judgment and Decision Making* **3**, (2008).
95. Colvonen, P. J. Response To: Investigating sources of inaccuracy in wearable optical heart rate sensors. *npj Digit. Med.* **4**, 38 (2021).
96. Bent, B., Enache, O. M., Goldstein, B., Kibbe, W. & Dunn, J. P. Reply: Matters Arising ‘Investigating sources of inaccuracy in wearable optical heart rate sensors’. *npj Digit. Med.* **4**, 39 (2021).
97. Bent, B., Henriquez, M. & Dunn, J. cgmquantify: Python and R packages for comprehensive analysis of interstitial glucose and glycemic variability from continuous glucose monitor data. (2021).