



Health-Maintaining Tips for Type 2 Diabetes Travelers

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Abstract

The author has been diagnosed with three chronic diseases including type 2 diabetes (T2D), hypertension, and hyperlipemia. Since 2010, he focused on T2D research to save his life. He collected and processed approximately 1.5 million data regarding his health and life details. In 2014, he developed a mathematical model of the metabolic system known as the math-physical medicine (MPM) approach by applying mathematics, physics, engineering modeling, and computer science such as big data analytics and artificial intelligence. This paper is based on his personal experience on maintaining his health during metabolic disruption while traveling.

Keywords: Artificial Intelligence; Chronic Diseases; Food; Health; Lifestyle Data; Math-Physical Medicine; Meals; Metabolic Conditions; Metabolism; Nutrition; Tips; Traveling; Type 2 Diabetes

Introduction

By using the GH-Method: math-physical medicine approach, he developed a metabolism model with 10 defined metabolism index (MI) values and, an indicator, known as the general health status unit (GHSU) to improve his health conditions. The author utilized mathematics, physics, engineering modeling, and computer science tools, including big data analytics and artificial intelligence, to conduct his research. He developed a mathematical metabolism model and four prediction tools for Weight, FPG, PPG and A1C. This metabolism model includes 10 categories with approximately 500 elements: weight, glucose, blood pressure, lipids, food, water, exercise, sleep, stress, and routine life pattern. Furthermore, he collected and processed ~1.5 million data of his health and lifestyle since 2012.

For the past 6.5 years (2012-2018), the author has made 179 trips by air which included 69 long-haul travels and 110 short-distance travels. The average trip was 14 days. This paper provides his personal experience on maintaining his health during metabolic disruption traveling days.

Methods and Results

Prior to 2015, both of his glucose and Metabolism Index (MI), which has a 73.5% break-even level, as displayed on (**Table 1**) were high (unhealthy). After 2015, his glucose and MI levels improved to a healthy state; however, he did not meet his own targets: glucose 117 mg/dL and MI 59%. Nevertheless, by following the guidelines listed below, the author had better results from the period after 2015. Therefore, other busy T2D travelers can also maintain their health during their traveling days by using the same method.

1/1/2012 - 7/31/2018			(mg/dL)	(%)		
Trips during 2012 - 2018			Daily Glucose	Daily MI	Glucose	MI
Long Trips (> 3 hrs)	69	39%	132	78%	>120 mg/dL	> 73.5 %
Short Trips (< 3 hrs)	110	61%	129	78%	>120 mg/dL	> 73.5 %
No. of Trips	179					
Total Days	2404					
Days / Trip	13					
Trips during 2012 - 2014			Daily Glucose	Daily MI	Glucose	MI
Long Trips (> 3 hrs)	31	36%	140	94%	= 140 mg/dL	Unhealthy
Short Trips (< 3 hrs)	54	64%	133	92%	> 120 mg/dL	Unhealthy
No. of Trips	85					
Total Days	1096					
Days / Trip	13					
Trips during 2015 - 2018			Daily Glucose	Daily MI	Glucose	MI
Long Trips (> 3 hrs)	38	40%	125	66%	> 117 mg/dL	Healthy
Short Trips (< 3 hrs)	56	60%	126	65%	> 117 mg/dL	Healthy
No. of Trips	94					
Total Days	1308					
Days / Trip	14					

Table 1: Summary of Travel Analysis.

The summarized traveling tips are as follows:

1. Try to avoid having meals at the airport, airline lounge room, and on the airplane as much as you can.
2. Don't indulge yourself, avoid soft drinks, high carbs and sugar food (<15 grams/meal); eat mostly vegetables (2 fistfuls) and not overly sweet fruits.
3. Continue exercise regimen. After eating, find places to walk 4,000 steps. If inside the airport, walk along the hallway between boarding gates, wherever is safe to exercise.
4. Drink 2,000 to 3,000 cc of water each day, dress comfortably, control your weight, maintain sufficient sleep hours, keep a positive mindset, and avoid getting sick or injured.

Conclusion

This short article may be beneficial to T2D patients, who travel frequently, by helping them learn how to control their glucose levels and maintain a healthy metabolic state.

References

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