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### **“Powered by Plants”**

#### **Introduction:**

Type 2 diabetes is a multifaceted disease process that is a challenge to communities worldwide. The International Diabetes Federation reports that this condition affected 10.5% of the adult population in 2021, and is projected to rise to 46% by 2045. Therefore, incorporating preventative care is crucial to avoid irreversible microvascular and macrovascular damage. Recent shifts in our diets, characterized by increased consumption of processed foods, has contributed to the spread of diabetes across all age groups. The American College of Lifestyle Medicine and American College of Endocrinology recommend integrating a plant-based diet as a pivotal foundation for individuals to improve glycemic control, body weight management, and vascular health. A plant-based diet refers to the consumption of grains, vegetables, legumes, fruits, nuts, seeds, and their derivative products, with minimal intake of meat and dairy. In the case description below, we highlight a collaborative approach of integrating new habits to help a patient achieve his optimal health goals.

#### **Case Description:**

A 54-year-old Caucasian male with a history of type 2 diabetes, hypertension, dysrhythmia, obstructive sleep apnea, and hypertriglyceridemia presented to the clinic with concerns of increased weight gain, poor sleep quality, and rising serum blood glucose levels, despite adhering to his medication regimen: Tresiba 100u, Novolog 30u, CoQ10 100 mg, Amlodipine 10 mg, Rosuvastatin 10 mg, Valsartan 320 mg, Fenofibrate 160 mg, Vascepa 1 g, Glipizide 5 mg, and Omeprazole 20 mg. The patient's diet primarily consists of inexpensive, processed foods that are purchased by his wife. The patient reveals that he has attempted to follow a “healthy” diet in the past, but reverted back to his old habits due to work stressors. While he serves as a powerlifting coach for the Louisiana Special Olympics in his free time, the patient largely leads a sedentary lifestyle. He cites a hybrid work life, working from home most days. His physical activity is walking around the office when he is at the office. He admits that finding the time to do intentional exercise is difficult.

Bloodwork collected on 05/27/23 shows: Fasting Blood Glucose 291 mg/dL, LDL 49 mg/dL, Hemoglobin A1C 8.3%, Triglycerides 670 mg/dL, and HDL 19 mg/dL. Baseline weight 245 lbs on 02/19/2024.

Recognizing the severity of these test results and being determined to improve his quality of life, the patient agreed to follow a plant-based eating plan for 10 days which included no dairy products, no packaged or processed foods and no meat except fish. As well, there was a goal of incorporating 15-30 minutes of daily physical activity.

The patient began his journey on 03/06/2024 and 10-days later, bloodwork collected on 03/15/2024 reveals: Fasting Blood Glucose 197 mg/dL, LDL 39 mg/dL, Hemoglobin A1C 8.8%, Triglycerides 361 mg/dL, and HDL 23 mg/dL, weight 235 lbs. In essence, patient lost 10 lbs in 10 days. While there were fluctuations in the A1C, the patient expresses much enthusiasm due to improvements in his weight loss journey and overall well-being, further encouraging motivation to maintain his new habits. He admitted skepticism towards plant-based diets in the beginning, but was “completely shocked” at how rapidly he could feel the changes occurring in his body. This highlights that achieving optimal health is a marathon; one learns how to interpret how dietary choices impact how the body feels.

### **Discussion:**

Through a comprehensive approach involving lifestyle modification and patient education, there is the potential for significant improvement in chronic diseases such as diabetes. These individuals often contend with multiple medications, complex medical histories and reveal their frustration with knowing what and how to eat. Often, they are overwhelmed with “diets” that involve “calorie counting.” Plant based “jumpstarts” can help patients make significant improvements in their fasting blood glucose, energy levels and weight in as short a time as 10 days. Patients feel empowered as they learn about their physiology and can actively participate in grocery shopping and meal prepping in a way that becomes sustainable.

A “Lifestyle Medicine Prescription” incorporates realistic goals for patients. The focus of this care plan within the 10 day jumpstart highlights the pillars of Lifestyle Medicine: a whole-food, plant-predominant eating pattern, physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connections.