A Comparison: The TRE Plan Versus Keto Diet

The TRE plan. The plan allows the body to oscillate between using glucose for energy during the daylight feeding period and into using the stored fat for energy during the long overnight fasting period. The long fasting period ensures that the body enters the alternative ketogenic pathway to use stored fat for energy. Up until 50 years ago, humans stayed lean because they followed this type of natural fasting-feeding cycle, consuming 2-3 meals per day mostly during the daylight hours.

Two essential requirements of TRE plan are:

- Consume holistic, plant-based foods to meet all the daily nutritional and caloric needs. Since there is no restriction on the amount of food consumed at each meal, there is no risk of muscle loss or nutrient deficiency.
- Fasting period must be longer than the feeding period to allow the body to enter into the alternative ketogenic pathway of burning stored fat energy regularly each day.

The Keto diet plan. The plan keeps the body consistently in the ketogenic pathway of metabolism of using only fat as a fuel for energy. The keto diet is deficient in carbohydrates (glucose fuel), and the source of energy fuel in the diet is fats and protein. Since not much glucose comes from the digestive tract, the body remains in a perpetual ketogenic mode for producing energy 24 hours of the day. The carbohydrate intake in the keto plan is less than 50g per day; the average adult carbohydrate intake is 200 to 250g (50-55% of total calories).

A carbohydrate-deficient diet means glucose is unavailable for making glycogen reserve, which is essential to sustaining muscle activity. Building healthy muscles requires a balance of protein as well as carbohydrates in the diet, ensuring adequate glycogen reserves. The big muscles without the glucose fuel coming from the glycogen stores are like a fancy sports car with an empty fuel tank.

The source of calories in a keto diet plan is proteins and fats, mostly from animal sources. Planning a perfect keto diet plan for a vegetarian, therefore, is a challenging task. Typically, the vegetarian keto diet plan ends up including high amounts of fat.

The Keto diet plan works well for short-term weight loss, diabetes, and cholesterol control. However, it is not sustainable because the plan calls for a significant shift in the food style, making it difficult to embrace it long term. Additionally, the Keto diet has many well-known harmful effects when used for the long run:

1. ***Keto flu.*** The immediate side effect of keto diet within the first few weeks is flu-like symptoms such as tiredness, dizziness, nausea, vomiting, stomach pain, breath odor, and poor sleep. These symptoms are the result of total glucose deprivation.

2. ***Micronutrient deficiency***. Keto diet is rich in animal protein and fat and very low in carbohydrates. The problem with a low-carbohydrate diet is that it is deficient in vegetables, fruits, grains, seeds, and nuts. The plant foods are the primary source of micronutrients such as vitamins, minerals, and antioxidants. The animal foods are zero in disease-fighting antioxidants. The long-term keto diet, therefore, will lead to nutrient deficiencies.

3. ***Constipation.*** The animal-based high-protein keto diet is deficient in fiber. The plant-based foods, on the other hand, are the most abundant source of natural fiber. Fiber-deficient foods cause constipation.

4. ***Muscle loss.*** It is a common misconception that high-protein low-carbohydrate diets will promote muscle building. The fact is that both muscle building and endurance require a fair amount of glucose, which comes from carbohydrates in the menu. The muscle endurance depends solely upon its glycogen store, which gets synthesized from the glucose. The professional athletes who have built up muscle endurance have 5-6 times the average amount of glycogen in their muscle.

5. ***Osteoporosis (bone thinning).*** High-protein diets such as a keto diet produce an increased acidic waste in the body. The body is alkaline and to balance the acid load, calcium carbonate gets mobilized from the bones, causing bone thinning. High-protein diets lead to a high level of calcium in the urine; a condition called hypercalciuria, which increases the risk of kidney stones.

6. ***Kidney damage.*** A diet rich in protein and low in carbohydrates such as keto diet can increase the risk of kidney stones due to excessive excretion of calcium as well as uric acid in the urine. Uric acid is a breakdown product of the proteins in the body.

From the above discussion, it is apparent that in comparison to the Keto diet, the TRE plan is a more natural and physiologic way of keeping the body lean and disease-free. The program is easy to adopt as it does not require any modification of the calories, protein, fats, or carbohydrate content of the diet.