

WHAT IS FASTING?

WHY IT'S GOOD
FOR YOU

THINGS TO UNDERSTAND

BUILDING BLOCKS

- ▶ What is the purpose for Insulin?
 - ▶ Hormone made by the pancreas
 - ▶ Responsible for storing and delivering glucose (sugar) from the bloodstream into muscle, fat, liver, and most other cells so that your body can use it for fuel.
 - ▶ Insulin stimulates the liver to store glucose in the form of glycogen
- ▶ What is “Insulin Resistance”?
 - ▶ Due to pancreas making “too much” insulin - due to dietary or non-dietary reasons - the cells become resistant to the effects of insulin.
 - ▶ Glucose remains in bloodstream instead of being consumed by cells. (This is what we call - High Sugar)
- ▶ What are the fuel types used in the body?
 - ▶ Carbohydrate
 - ▶ Stored and Released by Liver
 - ▶ Liver stores around 24hrs worth - after that excess carbohydrate is converted to fat
 - ▶ Fat
 - ▶ Stored all over the body (adipose tissue cells) - Survival mechanism
 - ▶ Can be converted for fuel using a process called - Ketosis. In the absence of carbohydrate.
 - ▶ Insulin is the gatekeeper of fat - it will choose carbohydrate over fat.

WHAT IS FASTING? WHAT IS STARVATION?

FASTING VS STARVATION

- ▶ Starvation is “involuntary” abstention from eating
- ▶ Fasting is “voluntary” abstention from eating



BUSTING THE MYTHS OF FASTING

- ▶ Fasting puts you in “starvation mode”
 - ▶ Calorie Restriction causes BMR to reduce
 - ▶ Calorie Elimination causes switch to new fuel source (fat) - Fasting can increase BMR
- ▶ Fasting makes you burn muscle
 - ▶ Survival is top priority - muscle is required for survival
 - ▶ Glycogen (Carbs) are complete exhausted after 24-48hrs (Fat burning increases)
 - ▶ Muscle is preserved until body fat is less than 4 percent (Survival - Hunter Gatherers)
- ▶ Fasting causes low blood sugar
 - ▶ First 24hrs (Glycogen is broken down, stored in Liver)
 - ▶ After 24-36hrs of Fasting - Gluconeogenesis kicks in (basically glycerol which is a by-product of fat is used to create glucose in the absence of carbohydrate. Also “Ketosis” begins)
- ▶ Fasting deprives the body of nutrients
 - ▶ Micronutrients (Vitamin and Minerals)
 - ▶ Simple “multi-vitamin” will suffice during fasting (longer than 36hrs)
 - ▶ Macronutrients (Protein, Fat, Carbohydrate)
 - ▶ No such thing as “Essential Carbohydrate” - impossible to become carb deficient
 - ▶ Essential Amino Acids and Essential Fatty Acids are required in the diet. During Fasting the loss of these nutrients are reduce.

ADVANTAGES OF FASTING

- ▶ Improves Mental Clarity and Concentration
 - ▶ Autophagy - Cellular Cleansing
 - ▶ Can't occur with increased levels of glucose, insulin, and proteins - (simple terms if you eat all the time - you can't allow for autophagy)
- ▶ Induces Weight and Body Fat Loss
 - ▶ Insulin remains low - which allows for fat burning
 - ▶ Calorie restriction only causes **Metabolic Adaptation** and eventually you will fail at weight loss.
- ▶ Type 2 Diabetes (Reversal)
 - ▶ This is a "Dietary" and "Lifestyle" disease brought on by High Blood Sugar
 - ▶ High Blood Sugar causes Excessive Insulin to be produced, which leads to Insulin Resistance - Body stops responding to Insulin signals - which then causes obesity (because now you can't burn fat)
 - ▶ Fasting - keeps insulin levels low, causes body to heal via Autophagy, and over time will reverse insulin resistance
- ▶ Lowers Cholesterol
 - ▶ Liver produces majority of cholesterol found in the blood.
 - ▶ Eating less cholesterol doesn't equate to lowering cholesterol (can be counterproductive)
 - ▶ In the absence of carbohydrates (Fasting or Low Carb Lifestyle) - liver decreases its synthesis of triglycerides. Triglycerides are released from the liver as VLDL which is the precursor to LDL. By reducing VLDL synthesis will ultimately lower LDL..

INTERMITTENT FASTING

RECOMMENDED FASTING PROTOCOL

- ▶ What is Intermittent Fasting?
 - ▶ Periods of fasting occur regularly between periods of normal eating.
- ▶ Intermittent Fasting Regimen
 - ▶ 12/12
 - ▶ 16/8 - Recommended
 - ▶ 20/4 - aka “Warrior Diet”
 - ▶ 23/1 - aka “OMAD - One Meal a Day”

WHO SHOULD NOT FAST

- ▶ Avoid Fasting
 - ▶ Severely Malnourished or Underweight
 - ▶ When Body Fat is under 4 percent - body is forced to use protein/muscle to feed itself.
 - ▶ Children under 18
 - ▶ Prolong Fasting in children is not advised - growth and development processes require tremendous amounts of nutrients
 - ▶ Pregnant Women
 - ▶ Fetus requires adequate nutrients during pregnancy
 - ▶ Breastfeeding Women
 - ▶ Newborn requires adequate nutrients during pregnancy
- ▶ Be Cautious While Fasting
 - ▶ You have gout
 - ▶ Uric Acid elimination is through your urine. This process decreases during Fasting. Caution is advised.
 - ▶ You are taking medications
 - ▶ Consult your physician to avoid any possible side effects from prolonged fasting.
 - ▶ You have type 1 or type 2 diabetes
 - ▶ Due to “Insulin Resistance” reversal when fasting - medications may have to be reduced, closely working with your physician is recommended.