

## Understanding Blood Sugar Levels

Thirty40Thirty meals provide satiety (lack of hunger), mental focus and physical energy. The key is balancing blood sugar (glucose) levels.

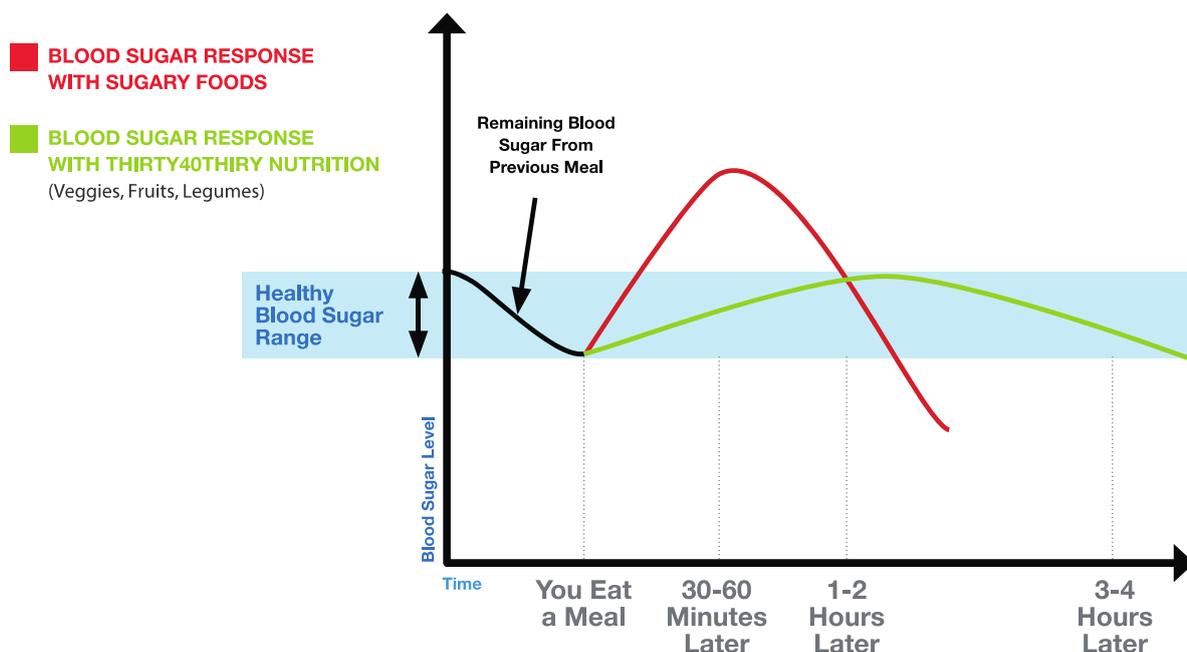
### Not All Foods Impact our Blood Sugar Levels the Same

This is how fats, protein and carbs affect your "blood sugar".

- Fats **do not** increase blood sugar
- Proteins **do increase only slightly**
- Low-density Carbs (most fruits & vegetables – non-starchy) **do increase** blood sugars
- High-density Carbs (bread, rice, pasta, cereal and sweets) **rapidly increase** blood sugar

## Effects of Eating Carbohydrates

Having high levels of sugar (glucose) in the blood can become toxic to the body. There is a healthy blood sugar range to reach and maintain for optimal health and weight management (see the blue zone in diagram below). Our body has a natural hormonal response to protect and provide for us through the release of the two hormones: insulin and glucagon. It is the action of these two hormones that enables the rise and fall of our levels of blood sugar. The key is to be able to control the level within the healthy range throughout the day to maintain energy, focus, productivity and ultimately fat burning to maintain weight.



## Consequences of Being Out of a Healthy Blood Sugar Range

Often we can find ourselves out of the healthy blood sugar range (see red curved line on diagram). This is when we have either eaten too many calories, an overconsumption of carbohydrate grams (especially bread, rice, potato, pasta, cereal and/or sweets) or not enough protein with our carbs. The following will more than likely happen:

1. A rapid rise of sugar in the bloodstream (hyperglycemia – hyper activity)
2. A signal to the pancreas to secrete INSULIN to move sugar out of bloodstream and into the cells of the brain, muscles, liver and any excess into the fat cells
3. As the brain uses up its sugar (glucose) for energy, it signals out to the body for more sugar (glucose)
4. Due to the imbalance of the meal/snack, no stored sugar is released in response
5. Brain signals the body to rush to consume more food to resupply the sugar (glucose) in the form of cravings; often causing brain fog, irritability, drowsiness and shakiness (hypoglycemia)
6. The person eats more food (often the same type of food or whatever is quick and convenient to resume energy fast)

Ironically, it is NOT a lack of will power or discipline as many people believe, that drives a person to overeat or graze on food throughout the day – it's a hormonal response. Moreover, if a person continues to regularly eat in this way, INSULIN will be called upon over and over until inflammation eventually sets in and the action of INSULIN ceases to function properly to protect and store the sugar (glucose).

### Elevated insulin is your worst hormonal nightmare

This will fuel cellular inflammation and increase your risk for virtually all chronic diseases: Cancer, diabetes, arthritis, dementia, Alzheimer's, heart disease and more.

Hence, the goal would be to limit the excess sugars which means controlling your consumption of carbohydrates, especially the high-density carbs mentioned above and always balance them with enough protein.

## Effects of Eating Protein

The benefit of balancing blood sugar by eating protein along with carbohydrates at each meal/snack is that the body signals the pancreas to secrete the hormone, GLUCAGON. Glucagon acts like a gate keeper for storage sites in the liver and fat cells (muscles will convert its stored sugar into ATP for exercise); allowing stored sugar (glucose) to be released into the bloodstream at controlled intervals so that the body can utilize it for brain and body function. Therefore, consumption of adequate protein will prevent the blood sugar from dipping too low in between meals and snacks as needed keeping energy levels steady.

Hence you need to consume adequate protein in your diet and balance with the appropriate amount of carbohydrates.

