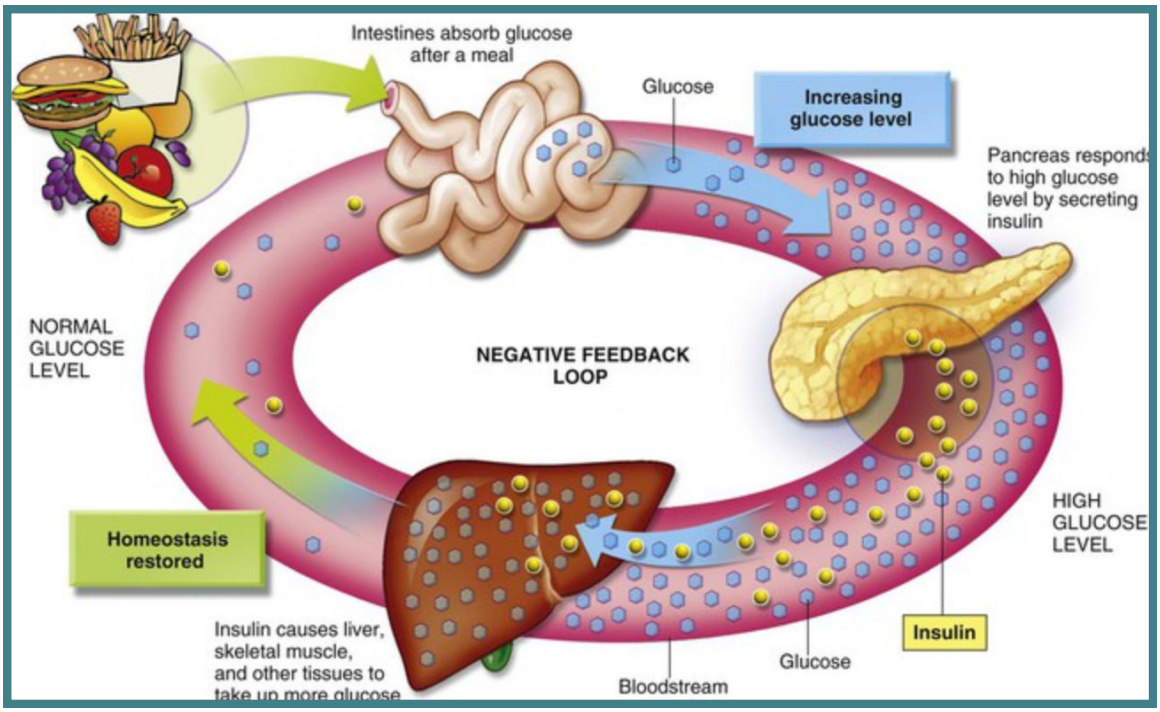
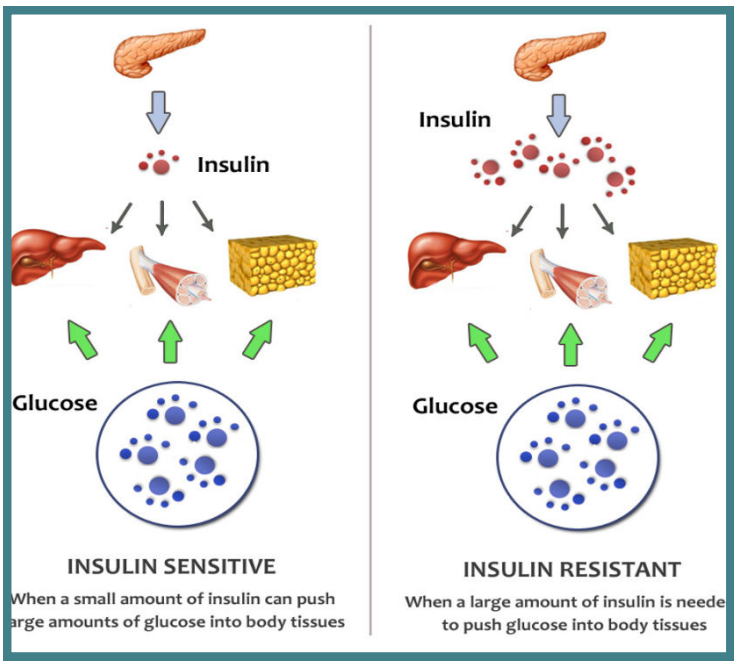
JAMES C. KENNEDY Wellness Center | MISSISSIPPI DIABETES NETWORK | Diabetes SOLUTIONS

Digestion, Blood Sugar, & Insulin



When we eat food, especially carbs, our blood sugar rises shortly after and during consumption. In the meal above, the bread, fruit, and French fries contain a lot of carbs. You can see the blue dots (blood glucose) above increase in the blood stream as the meal is consumed. As this happens, the pancreas senses that and releases insulin. Insulin binds to the glucose and brings it to the cells to deliver for energy for use for later. And then ideally, blood levels of glucose and insulin return to healthy levels.



Over time, some of us develop insulin resistance and our cells no longer respond well to insulin's message to store sugar. When this happens, the body begins to produce more insulin to try to address the rising levels of blood sugar. This is called hyperinsulinemia. You can see on the left, it only takes 5 "drops" of insulin to move the glucose from the meal above (represented by the blue dots in the circle) into the cells but on the right, it takes 5 times more insulin. High levels of insulin are a cause for concern. The body's cells are like the gas tank in your car & they can only take on so much fuel in the form of sugar. Once full, they become resistant to insulin's message to store sugar becoming insulin resistant. Insulin resistance is often the precursor to T2DM. We need to improve insulin sensitivity by eating low carb, exercising, & taking medication.

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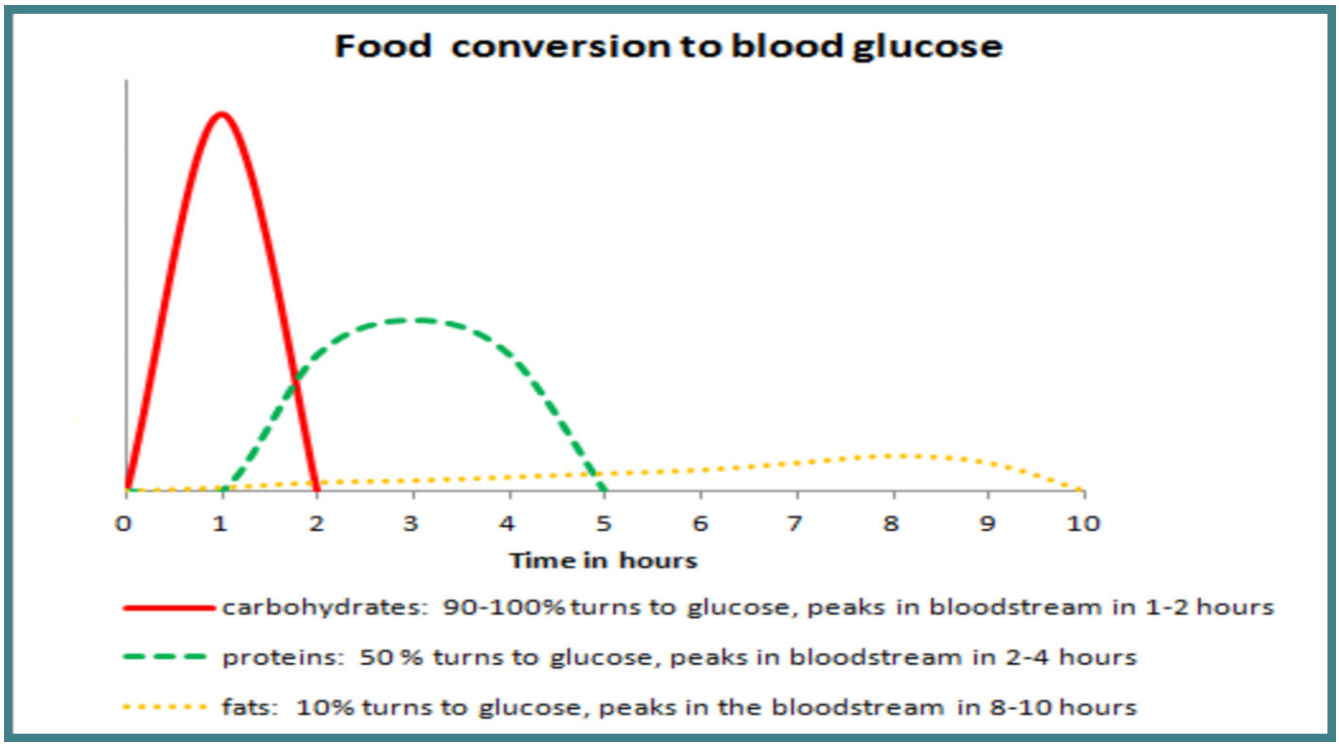
How Macronutrients Affect Blood Sugar



When we eat carbs, our blood sugar rises in accordance with how many and what type of carb we consume. 90-100% of carbs consumed will enter the blood stream as sugar and will do so quickly. About 50% of protein consumed will enter the blood stream as sugar but it is over the course of several hours. Fat has hardly any impact on blood sugar.