## Rethinking breakfast

The traditional wisdom, endlessly purveyed by young, slender dieticians on TV, is that you should eat a hearty breakfast. The mantra is that "breakfast is the most important meal" and that it sets the tone for optimal metabolism throughout the day.

Indeed there is wisdom and science to back this up. Studies show that if you eat a breakfast of sugary cereal or refined pastry or white toast with jam, your blood sugar will skyrocket, generating a compensatory burst of insulin. Within a couple of hours, your blood sugar will crash, and you will be famished. The subsequent ricochets of glucose will send your appetite and mood careening for the rest of the day.

When I tell patients this, many of them agree, saying that a good breakfast "anchors" them for the rest of the day and prevents indiscriminate eating later on. Others protest that if they eat breakfast, it kindles their appetites and they're off to the races on their food cravings. The latter group often says: "I'm fine until I eat, then it's downhill for the rest of the day."

Recently, some counterthought has been introduced into the breakfast controversy. With the popularity of "Intermittent Fasting," some advocate that the longer we go without eating, the better it is for us. During the long period between dinner and a late brunch—sometimes up to 18 hours—the digestive apparatus rests and ketosis is induced—a metabolic state in which the body cannibalizes its own fat stores. Restricting eating to a narrow "window" of, say, eight hours per day is a modified and doable form of Intermittent Fasting.

Some studies have shown that avoiding late meals (after around 6 P.M.) is a good strategy for losing weight.

Advocates of Intermittent Fasting say it reduces insulin resistance, combats inflammation and even helps mood and memory because blood sugar is stabilized and the brain fuels itself with ketones.

What about the timing of breakfast around morning exercise?

Ignoring the rules of thermodynamics —"Energy begets energy"—I often rise early, have a glass of water or black decaf, then jump in the pool or the bay for a 1,500 yard swim or hop on the bike for a 25 mile bike ride—without eating food or consuming "power-drinks." This may seem counter-intuitive because where's the fuel coming from that powers the hour or so exertion that I undertake?

For one, it's stored in glycogen that binds to muscles. (Most of the glycogen that's stored in the liver has been expended during the overnight fast.) For another, it's derived from fat oxidation.

There's a lot of misinformation out there. Some seemingly authoritative sports websites claim, with little substantiation, that it's important to consume some carbohydrates before morning exercise "to allow the body to burn fat more readily." But when this proposition was recently put to the test in a Belgian study, it came up short.

Researchers recruited 28 healthy active men and divided them into three groups: One group got a special high-octane breakfast without exercise; another consumed breakfast before exercising; and a third group ate after exercising.

As might be expected, after several weeks, the first group gained a lot of

weight—six pounds, on average. The group that ate breakfast before exercising also gained weight, but only half as much. By contrast, the group that consumed a meal after their workout didn't gain weight and showed none of the signs of insulin resistance that the other hearty breakfast-eaters exhibited.

The conclusion: When it comes to exercise, a calorie is not a calorie is not a calorie, and meal-timing is crucial.

Of course, there are exceptions to the rule of "no food before exercise." If I'm going to do a mega-workout of two hours or more, or if I'm about to compete in an Olympic triathlon (~3 hours of swimming, biking and running), I'm going to have some calorie-dense, gluten-free hot-cereal or toast and a banana or two to glom glycogen into my muscles. If I don't eat, after about a couple of hours of continuous exertion, I "bonk" when my starved muscles exhaust their glycogen stores.

The ability to retain glycogen at muscles' sites after long periods of exertion is a training effect; untrained, sedentary individuals can't go long without tiring if they don't eat. Gradually, the ability to exercise without pre-fueling can be acquired with repetitive bouts of progressively longer-fasted exercise. Additionally, the more muscle mass you acquire, the more sites there are for glycogen to be stored.

So is it a good idea to go-for-broke and skip eating until dinnertime? Maybe, if you're an Intermittent Faster taking the day off from working out, but certainly not for morning exercisers. It's been demonstrated that proper intake of food within an hour of completing exercise—especially of protein and healthy fats, along with some quality low-glycemic index carbs—facilitates muscle repair and strength consolidation.

So what are you? Are you a breakfast person? Comment on this article on Facebook (https://www.facebook.com/DrRonaldHoffman) and tell us what works for you!