Hello, I’m Kelsea Forrester. I’m a registered dietitian here at MIT recreation.

All the food we eat is made up of macronutrients, this may be something you remember from science. The three macronutrients are proteins, carbohydrates, and fats. All the different foods are made up of mostly a combination of these things. Sometimes people are surprised, that there is protein in vegetables, there’s not a lot but there’s just a tiny little bit.

Carbohydrates are things that we use mostly for energy. That’s the simplest explanation of why we would eat carbohydrates. Carbohydrates are things like breads, grains, pastas, rice. There’s also things like fruits and vegetables that have mostly carbohydrates, juice, soda, anything with sugar is going to mostly carbohydrates. When you take the amount of carbohydrates out of a food you have 4 calories per gram of carbohydrates. So that’s just telling you exactly how much energy you get from digesting and using that kind of food as energy. Serving sizes are going to be like once slice of bread, half a cup of pasta or rice, one cup of raw vegetables, a whole fruit, if it’s like a hand fruit, a cup of like chopped up fruit and then a half a cup of vegetables if its cooked.

Proteins, so proteins also have 4 calories per gram. So, these foods would be like, dairy, cheese, nuts, any kind of meat, soy, eggs, any kind of meat product. Serving sizes are going to be about 8 oz. of milk or yogurt, 4 oz of cheese and meat. Edamame, soy, it’s going to be around 4 oz of those kinds of things.

Fats, so lastly the last macronutrients are going to be things that have fats. So, like nuts seeds, dressings, peanut butter, avocado, hummus, guacamole, cream cheese, oil. Fats have about 9 calories per gram. So, they’re more calorie dense, which is something to make a note. That doesn’t mean that they’re bad, right? For a long time, dietitians all over the country were saying like, “Oh I know what’s happening, we just need to cut out the fat in our food, because it has the most calories per gram, that can help us way less that’s the best way to diet.” It isn’t the best way to diet. It’s pretty much the opposite of what you want to do. But, that was the theory for a long-time people so people would hope that to the food in industry and the industry ended up making all of these low fat, no fat foods and in order to do that they added a bunch of sugar, right that’s where we are now.

So, the first way to kind of look at energy and how we feel after meals is to think about this caloric density idea. One of the ways that I’ve talked with people, if they’re saying like “Oh, I eat meals they’re pretty balanced, I feel like I’m eating all the things I need to eat. I’m getting all the calories I need to get but I’m not full.” One of the reasons why you might not feel full is they might literally just not have the volume of the food in their stomach. Like they might’ve eaten 400 calories like in this example of oil. Right, that looks, that’s energy wise the same as 400 calories of vegetables and if you’re eating more vegetables that are less volume dense, right then you’re going to feel physically more full. Thinking about things that are, when we talk specifically about carbohydrates you want to think about if you’re eating carbohydrates that
are high in glycemic index, versus things that are moderate or low in glycemic index. Things that are high in glycemic index are things that are going to digest very quickly when we eat them. So that’s things like white rice, white pasta, white bread, any sweets, corn potatoes, sodas, anything with an extra sugar that’s a beverage, juices. All of those things give us very fast energy. So, they turn into sugar, blood sugar when we eat them. When they turn into sugar very quickly when we eat them, our blood sugar also then plummets after we eat a food like that.

Obviously, the girl in the lettuce rollercoaster looks less fun but definitely, surviving her day a little bit better. I mentioned whole grains, just to be a quick biology review for you all. When we say a whole grain right, it’s because the grain used in making the product they use the whole plant. So they use the bran, the endosperm and the germ when they make that product just so they don’t separate any of those things. When they do make like white bread or white pasta, most of the time they are taking out the germ and the bran. They’re separating those out and their just using the white fluffy endosperm to make the grain product, which is where there are no nutrients it’s just kind of the carbohydrate where is the bran and germ that’s where the nutrients and fiber is.

This is a good visual. So, this is a graph that came from the nutrition guidelines 2015. USDA does a big survey of how Americans eat. And the way you can interpret this graph is that the orange line is the percent of Americans that are eating below the recommendation or above a limit for an item. And, the blue graph is the percentage of people who are eating at or above the recommendation or below the limit of the food. So, some foods have recommendation amounts, some foods have a daily limit recommendation. Some foods you would want to eat five servings of fruits and vegetables. You want to eat less than the 2000 milligrams of sodium, right, so those are two different things. So, you can see there is a lot more orange on this slide than there is blue. Which is pretty depressing, when you think about how Americans eat. Overall, Americans don’t eat enough fruits and vegetables, that’s true. Total grains, we eat probably more than we need. Protein foods, we do get enough of protein foods in general. They do say that when they break this down this is just the summary side, they break it down by like demographics too but like age and gender. Young adult men get way, plenty protein they get way more than they’re supposed to get. The rest of the demographics actually get right at what we need. So, I think it’s the actual, the sway on this is that young men typically get more than what they need. And the sugars, saturated fats, sodium, we are getting way too much of those three things in our diet. Sugars is something that they looked into more in depth in this report. So, this is the most recent report. The next one will come out about in 2020 but it’s always five years later. The recommendation for sugars is that people eat less than 10 % of the calories per day from added sugar. So, this sparked a movement and added sugars to the nutrition labels. So, in the next year or two food companies, they’ve pushed it back but, the next year or two you should see all the nutrient labels have the line for sugars in the amount of sugars and the amount of added sugars. So they have to separate those two things out. Mostly its in beverages, snacks and sweets is the second place finisher in that graph. Ten perfect of calories, I did this math out loud last time I was talking, but if you think about it we eat about 2,000 calories a day. That means about 200 calories a day should be coming from sugars, right.
And then said that 4 grams per there are four calories per gram in carbohydrates, so that’s about 25 grams of added sugars a day.

This list is helpful. The part that I think gets challenges is there’s some foods that are super convenient and useful that can be either very high glycemic or kind of in that moderate category. And their helpful when you’re thinking about being on the run like the yogurts or the instant oatmeal, the cold cereal or granola bars right some of those things are really useful when we are hungry. But, some of them are going to be very high in sugar and some are going to be in that moderate category.

So, then there’s also sugar substitutes. So, when you think about products right obviously dietitians everywhere have been talking about how bad added sugars are. There’s hundreds of products now on the market that have sugar substitutes and there kind of two categories of sugar substitutes. There nonnutritive sweeteners so those are the ones we are used to Splenda and sweet and low and equal they’ve been around forever. There’s like Splenda for baking, they can use a bunch of different of these nonnutritive sweetners in place of sugar in lots of recipes’. Then there’s also sugar alcohols which are also newer. Sugar alcohols are anything that ends in like a “litol” Not sure if you guys took chemistry or remember your chemistry but that just means that there’s an alcohol group in that chemical. So, this one is an example, Halo Top is an ice cream not sure if you guys are familiar with Halo Top. It’s a product, there’s like Halo Top then there’s three or four others that are similar now in the grocery store. This one includes erythritol. It something that’s been around since 2001, its safe. The thing about sugar alcohol is that about half of the chemicals is something we can digest and about half of the chemicals are something we can’t digest.

So, thinking about, these are the things we talked about so far. So, thinking about, just how to plan out your meals so kind of the basics. So step one would be to think about if you’re feeling hungry in the middle of the day, so if you’re getting passed lunch and you’re feeling like your energy is dropping or you’re not feeling like super satisfied, step one might be looking back and seeing like did you have enough volume in your meals? Did you eat the right amount of calories, ok sure. Ok, step one is did you eat enough calories, right? Did you eat meals and snacks, right. Did you eat lunch? If you did and if you feel full or you should be full from what you had, was what you had enough volume to make you feel full? Is there a way to switch it so you have actually more physical volume in what you’re eating.

Well if you do that, also did you eat something that high in glycemic index is that one of the reasons your blood sugar is now dropping really fast in response to what you had that was real high in glycemic index, which again calories should keep you full but maybe your blood sugar is responding in a way that makes you feel like your hungry again. And then lastly, are you eating all of the foods are you missing out on any of the food groups?

Couple of other ideas, the other thing I wanted to mention is the hunger scale. Do you have a hunger scale has anyone ever used this before or seen this before? So, it’s just a way to quantify how hungry you are like 1 and 2, really hungry you’re going to like faint. I use the
description like you’re going to eat the next thing that’s edible that you see, right. I’m going to walk into the store and buy whatever I want because I’m so hungry. Eight, nine, ten, ten is like that really “I can’t get off the couch to help clean up after this meal. I’m going to need to sit here for 30 minutes and maybe I’ll be able to help in 30 minutes.” Eight, nine, is very much passed the point of being full. The cut off for being full in my mind or the way I describe seven is like you enjoyed what you’re eating it was really great, if there was more you’d eat more. You know you think it would taste good, your mind is like “Oh that was so tasty, I would eat more because I like the taste of it.” But you can tell that you’re actually full. And that’s really hard, it’s like a hard thing to kind of figure out when that point is. But starting to put words and numbers to how people feel is really a good way to help people figure out kind of what the levels are.

Credits:

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