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Best Foods for Diabetes, High Cholesterol, High Blood Pressure, and Weight

All these conditions involve a genetic sensitivity to refined carbohydrates. In many people, refined carbohydrates leads to abnormally high and low blood sugar levels, a condition called dysglycemia. This information sheet helps you reduce this abnormal response.

Did you know that **what** you eat is a critical determinant of **how much** you eat?

Whether you want to lose weight, or want to maintain your present healthy weight, choosing the right kinds of foods will help you achieve your goals. Let's leave calorie counting to the mathematicians.

If you are overweight, you know what happens when you ask your doctor for help. The usual response is "follow this diet and get more exercise." That doesn't work all by itself, does it?

That is because it is based on a partial truth - that the reason people gain weight is that they eat too much and exercise too little.

Let's look at the facts. The fact my overweight patients have been telling me for years is "Doc, it's my metabolism."

Let's see how and why your food choices influence that metabolism, so that you can know what to eat, and what not to eat, to improve your health and lose weight.

First, I suggest you **watch our videotape on weight gain**. You can borrow it from our receptionist. Here is part of the script for that videotape...

Journey into a cell

"To help you understand what to do about this kind of metabolism, let me introduce you to Sam. He is just slightly overweight. His genetic makeup doesn't work too well in this modern environment.

"He has the metabolic condition which predisposes to weight gain. To understand that metabolic condition, come with me on a journey. Take a moment to look at Sam's arm. Now imagine you are journeying into a muscle in his arm, you are becoming smaller and smaller, and finally small enough to see an individual muscle cell.

Cell membrane

"That muscle cell, like all cells, has a membrane. That membrane is a thin layer of oil that surrounds the cell and separates the watery region inside the cell from the watery region outside the cell. Remember hearing that the human

body is mostly water? Sam's muscle is mostly water. The contractile tissues inside each muscle cells are surrounded by water, and separated from this watery region outside by this layer of oil, the cell membrane.

“Now, imagine Sam has eaten a piece of toast. The carbohydrates in that toast are converted to sugar, and carried by his blood stream to the vicinity of this muscle cell. Now they are right near the cell, and the muscle needs to bring them into the cell for fuel. However, sugar does not dissolve in oil as it does in water.

“Sam solves this problem by secreting some insulin from his pancreas.

“This insulin will be carried by Sam's blood stream to the vicinity of this muscle cell we are watching, and it will signal this insulin receptor on Sam's muscle cell to bring the sugar into the cell. Only, now we have a new problem, and this is the secret to the metabolism of weight gain. The receptor isn't working right. The insulin signal doesn't work, and the muscle still needs the fuel. So the pancreas makes more insulin. The receptor still doesn't respond, still doesn't let in the sugar. The pancreas makes more insulin. Finally, after the insulin levels outside this cell run up to about ten times normal, the receptor finally gives in and lets the glucose into the cell.

“You have just seen, up close, the process of insulin resistance. The system designed to move sugar across this oily membrane is not working correctly, and the pancreas has made ten times the normal amount of insulin to get the glucose into the cell.

Excess insulin

“Now, you could ask at this point, What is the problem? We got the glucose into the cell, we can feed that muscle, so what?

“Well, there is a serious consequence. We've got about ten times too much insulin around this cell and in Sam's bloodstream. This insulin signals the kidney to retain sodium. Sam retains fluid, and gets a little heavier. The insulin tells the fat cells to hold on to their fat, and Sam gets a little heavier still. And finally, all that insulin can drive too much sugar into Sam's cells. And after all this work on the part of his system to get the sugar into the cells, Sam's blood sugar falls, and Sam feels terrible. He may just find himself unexpectedly hungry in the middle of the morning, or he may find that he is weak or unable to think, or he may get a headache, but in any event he doesn't feel as if he just had a great breakfast and is all ready to go to work. And he knows from past experience that if he eats some carbohydrates- a donut, or roll, or toast, or crackers or scones, that he will get back to normal. Because once more he will have sugar coming into his system, and the whole process will start over. Sugar too high, sugar can't get into the cell, pancreas makes more insulin, insulin causes retention of fluids and fat, sugar goes into the cell, and blood sugar goes too low and Sam finds himself hungry again

Refined carbohydrate-hunger cycle

“We can call it the "refined carbohydrate-hunger cycle."

Advice for Sam

“So, what advice should we give Sam?

“We want to give advice that is going to change his metabolism--make his insulin receptors work correctly again, so that the carbohydrates he eats gets into his cells **without** causing increased insulin levels and the refined carbohydrate-hunger cycle.

“We're going to tell Sam to increase his exercise, because that will cause his insulin receptors to work better. "Sam, increase your exercise!" "Sam! Can you do that?"

“Sam doesn't seem to be answering, so we'll have to go on. In real life we'd have to listen to Sam, what he can do and what he can't. Maybe his knees hurt and we'd have to attend to that first. But Sam needs to understand that when he puts his muscle cells under stress, gets them working, they are going to become more sensitive to insulin.

Eating prescriptions are different for different people.

“So, as I go on, if you are interested in the rest of Sam's prescription, remember that this program might have to be customized a bit to suit you or Sam. In our clinic, we think it is just as important to know about the person who has the

medical condition as it is to know about the condition. As you listen to this, I want you to understand the principles. Making it work for you might take some one-on-one counseling about what you are used to doing now and what your taste, habits and lifestyle are.

“So, here is the general principle.

“Refined carbohydrates will result in hunger. I repeat- Refined carbohydrates will result in hunger. Eat them only if you want to be hungry or gain weight. This includes all kinds of bread, pasta, potato, corn, and popcorn.”

Grains

When you eat grain, eat only whole grain. That means brown rice, boiled or baked whole wheat berries, whole grains such as quinoa, buckwheat, millet, oats, etc. So called whole grain bread has been ground up. It is a refined carbohydrate and will result in hunger and weight gain. Sprouted wheat bread will also result in hunger and weight gain. Whole grains contain substances to slow carbohydrate absorption, so insulin levels don't rise as much.

We advise people to limit whole grains to 3/4 cup per day, and to eat no refined carbohydrates. Replace pasta with bean noodles. In other words, eat only noodles made from beans.

We advise --- **No potato**, no corn or popcorn, no parsnips, rutabaga, or turnip. These are all too starchy.

Starchy vegetables

Potatoes contain enough starch to start up the refined carbohydrate-hunger cycle, and you should not eat them. Other vegetables are very starchy and you should eat no more than a half-cup a day. Those are the butternut and other very sweet squash, sweet potatoes, beets, carrots, and tomatoes. That means a half-cup of squash, or quarter-cup tomato and quarter-cup tomato, but of all of them put together, no more than a half-cup per day.

If you eat more, you may start up the refined carbohydrate-hunger cycle.

Regular vegetables

Any other vegetable, the less starchy or non-starchy vegetables, eat as much as you want. Asparagus, artichokes, bamboo shoots, bell peppers, broccoli, Brussels sprouts, cauliflower, celery, cabbage of all kinds. Greens including bok choy, chard, kale, collard greens, watercress, mustard greens, spinach, and dandelion greens can be surprisingly satisfying. Don't forget the arugula! Zucchini is not a sweet squash, so eat all you want. Try sprouts, snow peas, green beans, eggplant.

By following these rules, you will consume fiber with your carbohydrate. Carbohydrate is good for you when it is combined with fiber, and destructive otherwise.

Good vegetables, Bad vegetables

OK, so there are two kinds of vegetable carbohydrates. You must limit or avoid the starchy and refined carbohydrates because they will increase insulin levels and cause you to gain weight. Other vegetables are important to your good health, and you should eat four or more servings a day.

Now let's talk about other food categories.

Heavy Proteins

Protein, we usually suggest something on the order of a half-pound of fish, shellfish, eggs, and lean poultry a day. We suggest that you eat at least 4 ounces fish a day, or take three fish-oil capsules a day. (Apparently salmon is much safer in terms of mercury than is halibut.) The oils in cold-water fish, those omega-three fatty acids, improve the function of your **insulin receptors**. We usually recommend a protein supplement for a mid-morning, mid-afternoon, or emergency snack. Hard-boiled eggs make a good snack as well. Do not worry about the cholesterol in the egg. If you limit yourself to two eggs a day, you are very unlikely to raise your cholesterol. Be careful to avoid fatty meats such as steak, sausage, and so on.

Other sources of concentrated protein are commercial protein powder supplements, tofu, tempeh, and food products made from these.

Oils - we suggest a couple of tablespoons daily of Flax seed oil, expeller pressed olive, canola and sesame oil, mayo made with canola oil. Certain oils improve the function of the insulin receptors. Oils are calorie rich, so you need to get enough but not too much.

Low-fat or non-fat dairy

Dairy: 6 oz. of lowfat plain soy yogurt, nonfat plain yogurt, nonfat sour cream and nonfat cream cheese provide about 80 calories.

God put the fruit on the tree

Fruits: 1 whole fruit, medium size, usually provides about 80 calories. This includes apples, , nectarines, oranges, peaches, and pears. Multiply or divide these fruits to get the same size serving. Grapefruit, apricots, berries, cherries, fresh figs, grapes, melons), and plums. Have two or three servings a day. Don't eat watermelon; it's too sugary. A smallish bananas may set off a hunger cycle, or it may not. See how you respond.

Nuts and legumes

Nuts and Seeds: This amount provides about 50 calories. Almonds, cashews, hazelnuts (10-12 whole). Sunflower, pumpkin, sesame seeds (2 Tbsp.) Walnuts, pecans (4-5 Halves.) Take one or two servings a day.

Legumes: have ½ to 1½ cups cooked beans daily. Use yellow and green split peas, garbanzo, pinto, kidney, black, lima, soy, mung, and navy beans. If they give you gas, try Beano. Or soak the beans overnight in water, toss the water out, then cook the beans. Remember, if you eat beans regularly, your body will get used to them and produce less gas. Or try lentils of the various types- these often produce much less gas.

Oils

Use flax seed oil for salad or dish dressing, but not for cooking. For that, use high quality olive or sesame oil. Canola oil is good either as a cooking oil or in mayonnaise.

Flavorings

For flavor use garlic, chives, onions, leeks, cucumber, pepper, radish, mustard, turmeric, tamari sauce, balsamic vinegar, ginger and any other spices you desire.

General Rules

Be sure to eat the foods listed above!

You need the fiber and protein in the beans, the fiber and trace nutrients in the vegetables, the oils and heavy proteins, the bioflavonoids, fiber, and trace nutrients in the fruit, the selenium, oils and vitamin E in the nuts and seeds, the vitamins in the dairy products.

Set food aside for snacks every day

Every day, set aside the fruit, nuts, and seeds for snacks. Stock up on some protein bars, or a protein drink, something that will fill you up and stop hunger without setting off the carbohydrate-hunger cycle. Deviled eggs make a good snack.

Think of refined carbohydrates as poison

For you, they are. Refined carbohydrates increase your blood sugar levels, increase your insulin levels, cause you to store fat, and increase your risk of cancer, heart disease, diabetes, and arthritis.

Don't eat

Potato

Pop corn

Refined grains (any breads)

Starchy vegetables above 1/2 cup daily

Alcohol

Saturated fats

Eat starchy vegetables (like beets, carrots, squash) at mealtime.

Other foods in the meal will help blunt the carbohydrate-hunger response.

Vegetarians

Instead of fish or fish oil, take at least a tablespoon of flax oil daily. Be aware that not everyone can process flax oil properly

Don't eat trans fats

This includes most margarine, and partially-hydrogenated vegetable oil. See below for more on partially-hydrogenated oils.

Summary

So, you'll notice I've mentioned some amounts of food, and kinds of food, but have not mentioned calorie counts. That's because by choosing certain foods, you will decrease your hunger and prevent your metabolism from reacting in a way that causes you to gain weight and become ill.

Special concerns

Do not use this diet for children, or if you are pregnant or nursing, without medical supervision. Healthy growing children need more fat than in provided here; the same holds for most pregnant or nursing women.

See our separate information entitled "Daily Vitamins." If you are changing your lifestyle and losing weight, you may need supplemental vitamins and minerals to support your changing metabolic processes.

Exercise alone is usually not enough to help you lose weight. You need also to reduce calories. The winning combination is to do both together. Exercise will result in an increase in your metabolic rate that lasts all day, even when you are sitting on the couch.

Pep talk

Now, you want to lose weight, so with these food choices you'll find your appetite is less and you can eat fewer calories. Weight gain is not just weight gain. Weight gain is a sign that your genetic makeup is not compatible with the foods you see advertised on TV and in other media.

WHAT you eat is a critical determinant of HOW MUCH you eat. When you watch TV and pay attention to advertising, those ads have a chance to trigger unhealthy eating habits. When you eat the wrong thing, you will set off a reflex leading yourself to eat too much.

WHAT you eat is a critical determinant of HOW MUCH you eat. When you watch TV, they will not be advertising fresh salmon or spinach. They advertise processed and prepared foods that are most likely going to trigger unhealthy eating habits.

WHAT you eat is a critical determinant of HOW MUCH you eat. When you shop, shop the perimeter of the grocery store- around the edges of the store where the fresh produce, meats, fish, dairy, nuts, legumes are found. Stay out of the middle aisles unless you are in there to buy spices. If the unhealthy foods are not in your house, you are less likely to eat them.

Good fats and bad fats

(This is part of the script from our video about weight loss. See the video for the illustrations.)

“Did you ever read the labels in the store, see inscrutable terms like polyunsaturated fatty acids and partially hydrogenated vegetable oils, and wish you could understand whether they are helpful or harmful? Well, today is YOUR lucky day! Let me take you on another journey, a fascinating journey a little further into Sam.

“So, here we go again, into Sam's arm, into his muscle, smaller and smaller, and here we are at Sam's muscle cell. Here is the nucleus, and the cell membrane, and those insulin receptors we ran into on our last journey. Now let's go further into this cell membrane, which as we know is made of oil. Now, as we discuss this, remember that an oil is just a liquid fat. Your hamburger fat turns to oil as you heat it in the pan because it melts at a high temperature. Oils and fats are the same thing, just as water is water whether frozen or not. So, oils, and solid oils known as fats, and neither one dissolves in water.

“So, when we say now that Sam's cell membrane is made of fatty acids, we know that a fatty acid is an oil. Oil doesn't mix with water. Oil and water don't mix. Let me introduce you to something new. This is a fatty acid, a molecule that has a fatty part, which is attracted to oil, and an acid part, which is attracted to water. This is similar to something you may use everyday, that is soap. Soap, just like this fatty acid, has one part that is attracted to oil and one part that is attracted to water. So soap will grab onto the grease on your plate with its fatty part, and onto the dishwasher with its water-attracting part, and pull what's left of your dinner off your plate and down the drain.

“Oil and water don't mix, unless in the presence of something like soap, or a fatty acid. Both of those are unusual in that part is attracted to oil, part attracted to water.

“So, let's look a little closer at one of these fatty acids in the membrane of Sam's muscle cell. This part here is composed of hydrogen and carbon, and this part is attracted to oil. This part will not mix with water. This end is the acid end. This is a weak acid, so don't worry that Sam's arm is going to fall off. This particular acid doesn't do much except seek out water and avoid fat.”

(this is the end of our videotape script- you'll have to watch the tape to see diagrams of polyunsaturated fats and partially hydrogenated vegetable oil. Having seen these, you will never confuse these two again.)

The main message here is that some fats make your insulin receptors work better, and others make them work worse. Pay attention to which is which.

A Diet Myth

You can lose weight by always choosing "fat-free" food in the grocery store. Fact- Most fat-free foods have as many calories as their full-fat counterpart.

Do you have carbohydrate craving in the winter?

Some people gain weight as a response to low light levels in the winter. Read our handout on “Light therapy.”

What to eat

Breakfast Suggestions

Whole grain

3/8 cup whole oats or whole rye grain (not rolled, not steel cut, but whole. May be labeled “oat groats”)

1 cup water

6 slices fresh ginger

Simmer 25 minutes.

Egg

Sauté onion and garlic in 1 tsp olive oil, add chopped non-starchy vegetables of your choice and one or two eggs. Top with a few sprinkles of parmesan cheese.

Or have one or two hard-boiled eggs, or eggs over easy, or deviled eggs. (not too much mayo, though)

Tofu dog

Tofu dog topped with mustard and sauerkraut. (or at lunch, with half an avocado and a few slices of tomato)

Fruit

Any fruit from list.

Protein drink or protein bar.

Bagel

You are usually better off without flour, but lox and half-a-bagel with some nonfat cream cheese no more than once a week should be OK if it doesn't make you too hungry afterwards.

2 oz smoked salmon lox

Snack suggestions

1 hardboiled or deviled egg

1 apple, pear or other fruit

10- 12 almonds or other nuts (except peanuts)

glass of water

cup of tea

Low-fat yogurt

Miso soup

Raw vegetables, such as raw carrot, celery -- top with hummus, 1 Tbsp tahini or almond butter

Protein drink or protein bars

Meal Ideas- Mix and Match

Meats:

Broil or bake chicken or fish. As an example...

Rosemary-Lemon Chicken- for one person, place chicken breast in pan, top with mixture of canola oil (1 tsp), 2 tsp rosemary or Fines herbes, salt, 1 Tbsp lemon juice. Bake at 375 for 25-30 minutes,

Stir-fry: use 2 tsp olive oil, add garlic and onion, slice carrots, chopped cabbage, and spinach leaves. Add protein in the form of tempeh, baked chicken, shrimp. Use tamari sauce or a ready-made sauce from the soup section as flavoring. Substitute other vegetables for variety- leek, snow peas, asparagus, mushroom slices, broccoli, cauliflower.

Stir-fry variations- try scallops, tofu, or salmon.

Side dishes:

Cooked brown rice, baked beans, cooked vegetables such as spinach, green beans, cauliflower, cabbage, broccoli. Starchy vegetables such as sweet potato, tomato, carrots, beets, not to exceed ½ cup daily.

One cup lentils, four cups water, chopped onions, asofoetida, one pat butter, bake at 350 degrees for about an hour.

Salads:

To the usual greens, add garbanzo beans, a few olives, carrots, onions, fresh mushrooms, shrimp, chicken, hard boiled egg. Use more nutritious greens such as spinach and arugula. Dress with flax oil (say, 1 tsp), vinegar (about 3 tsp), mustard and tamari sauce to taste.

Make a three-bean salad.

Make a tuna salad. Use tuna, greens, chopped onions. Or use avocado, shredded cabbage, bell pepper.

Ditto for a shrimp salad.

Grain combinations:

Brown rice or cooked wheat berries, top with stir-fry. Don't forget wild rice.

Pasta-type meals:

Cook bean thread or bean noodles, top with stir-fry or pesto.

Luncheon ideas:

Deli turkey or chicken, with sauerkraut, side of avocado and tomato slices.

If you have a favorite recipe that uses the foods on this plan, that you are willing to share with others, email to medical@olympus.net.

Go to www.RienstraClinic.com for more recipes and for information about weight loss.

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The next page is a sheet to help you keep track of the kinds of food you eat each day. You can download this sheet from our website at <http://www.rienstraclinic.com/info/weight/DysglycemiaDiet.doc>

CATEGORY DESCRIPTION & SERVING SIZES:

Ultra-x or protein: 1 serving = 2 scoops = 150 cal.

Legumes: ½ cup cooked.

Yellow and green split peas, all beans garbanzo,pinto, kidney, black, lima, soy, mung, navy, red and green lentils.

Vegetables without limit: Asparagas, artichokes, bamboo shoots, bell peppers, broccoli, brussel sprouts, cauliflower, celery, cabbage (red, green, chinese), chives, onions, leeks, garlic, greens (bok choy, swiss chard, kale, collard greens, watercress, spinach, dandelion greens, lettuces.

Starchy Vegetables: ½ cup cooked, 1 cup raw.

carrots, beets, sweet potatoes, yams, acorn squash, tomatoes.

Whole Grains: ½ cup cooked, 1 slice bread, ½ ww pita.

amaranth, teff, quinoa, basmati and other brown rice, buckwheat groats, whole barley, millet, whole oats, whole wheat, spelt, or kamut berries, 100% whole wheat pasta, whole grain rye crackers, bread: multi whole grain.

Oils: Flax seed oil, expeller pressed olive, canola and sesame oil, mayo made with canola oil.

Dairy: 6 oz. Lowfat plain soy yogurt, nonfat plain yogurt, nonfat sour cream and nonfat cream cheese.

Fruits: 1 whole fruit, medium size. Apple, apricot, berries, cherries, fresh figs, grapes, melons (except watermelon), grapefruit (1/2), nectarine, orange, peach, pear, plum.

Nuts and Seeds: 1 serving. Almonds, cashews, hazelnuts (10-12 whole). Sunflower, pumpkin, sesame seeds (2 Tbsp.) Walnuts, pecans (4-5 Halves)

Date _____

Protein-supplement ___
 Legumes ___
 Starchy Veggies: __
 3 Oz. Fish _
 Protein (any) _____
 Oils: Tbsp. ___
 Nuts & Seeds ___
 Fruits ___
 Dairy _
 Whole Grains __
 Exercise :

Date _____

Protein-supplement ___
 Legumes ___
 Starchy Veggies: __
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 Oils: Tbsp. ___
 Nuts & Seeds ___
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