
An Evidence-based Guide to Successful Weight Loss *and* Reversing Insulin Resistance and Type 2 Diabetes

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In this handout, we lay out steps for evidence-based weight loss built around a whole food Mediterranean-diet-and-exercise-based lifestyle. Each recommendation is associated with not simply weight loss, but also improved long-term health outcomes.

We are specifically targeting the common consequences of weight gain, including abnormal cholesterol levels, high triglycerides, high blood pressure, and high blood sugars. Many of these markers are bundled together and called the metabolic syndrome – also known as ‘pre-diabetes’ or ‘insulin resistance’ – which is associated with three to ten times the normal risk of heart disease, stroke, dementia, some cancers, and, of course, type 2 diabetes. The term ‘metabolic syndrome’ is defined by the presence of three or more of the following conditions:

- Fasting blood sugar greater than 100mg/dl or being treated for high blood sugar
- HDL (good) cholesterol lower than 40mg/dl
- Triglycerides greater than 150mg/dl
- Blood pressure greater than 135/85 or being treated for high blood pressure
- Waistline greater than 35 inches for women and 40 inches for men, or less for small-framed people.

Curious about the references? Check out the sources from the medical literature in *Good Food, Great Medicine*, 2nd Ed. 2011.

Big waists lead to bad health

Carrying too much weight around the middle has implications that should grab our attention: it *triples* our risk of dying of heart disease or stroke (an increase in risk similar to that of a smoker), doubles our risk of dementia, increases the risk of many types of cancer, and is responsible for most cases of type 2 diabetes.

Losing weight will not only help you feel better, but it may also reverse or reduce insulin resistance, a major cause of diabetes. Additionally, just ten pounds of weight loss can drop blood pressure as much as a prescription drug, or lower your risk of developing high blood pressure by 65 percent! Almost any diet that reduces calorie intake works for short-term weight loss, but what works best for long-term weight control is a diet of real food that includes healthy fats needed by you and your immune system. A whole food Mediterranean diet (healthy fats included) is an evidence-based approach to *sustainable* weight loss as well as

- heart disease and stroke risk reduction
- improved cholesterol and triglycerides
- lower blood pressure
- lower cancer risk
- fewer cases of dementia
- less need for medications
- the prevention and reversal of type 2 diabetes

The recommendations on the following pages can also help control blood sugar in patients with diabetes who are not overweight.

1. Avoid refined carbohydrates and keep your grains whole. Refined carbohydrates include most cookies, crackers, breads, baked goods, energy bars, pasta, white rice, and breakfast cereals – *even if labeled whole grain!* Stick to grains that are either whole (like oat groats cooked overnight in a crock pot or a salad made with whole cooked barley) or minimally processed (like a heavy sprouted grain bread or European sourdough rye, both of which can usually be found refrigerated in some markets).

An unprocessed whole grain is an exquisitely practical coalition of parts – the fibrous bran, rich germ, and starchy endosperm – each with a specific function and benefit. The bran fiber slows the absorption of starch, and both bran and germ supply most of the fiber, vitamins, minerals, healthy oils, and part of the protein. To get the most benefit from this magnificently-designed food, eat it in as intact a form as you can, or with as few processing steps as possible between the product and the original grain. The bigger the particles of grain you eat, the more slowly and steadily they will raise your blood sugar as they are digested.

Replace white bread and white pasta with 100% whole grain products, and white rice with options like quinoa or brown rice. **READ INGREDIENT LISTS!** Look for the words “100% whole grain”, and remember that “unbleached wheat flour” is just white flour! Also, the finer the texture, the more it has been processed. Excessive processing destroys micronutrients, alters fiber characteristics, and makes the starches act more like simple sugars. Most bread, including commercially-produced whole wheat bread, falls into the same category.

2. Minimize concentrated starches. This includes potatoes, rice (including brown), corn, polenta, pasta, dried fruit, and bread, which seem to be more responsible for weight gain than other forms of starch. It may be wise to eliminate these foods completely if weight is not coming off. Even true whole wheat or whole grain bread is a mistake if you are not losing a pound per week.

3. Reduce your sweet tooth – avoid sweets and sweet drinks. Higher intake of these concentrated sugars appears to be associated with more diabetes, obesity, heart disease, dementia, cancer and worse cancer outcomes. Not only are sweets high in calories which lead to weight gain

and high blood sugars, but liquid calories are simply not as ‘filling’ as solid food so they are easier to consume to excess. Calorie-free, artificially sweetened foods and drinks appear to contribute just as much to obesity as the stuff with real sugar.

Sweet drinks include fruit juices (even unsweetened) and diet sodas. Switch to water, chilled sparkling water (flavored or plain, but not sweetened), tea, or coffee. If you need a sweetener, raw honey is probably the optimal unprocessed sweetening option – but use as little as possible. Remember that agave nectar is just another highly refined sugar, like high-fructose corn syrup. The sweet category also includes “meal replacement” drinks and protein/energy bars, which are high in sugars/carbohydrates. Read the ingredient lists!

“Whole grain” ready-to-eat breakfast cereals?

Once a whole grain has been roasted and crushed and made into a batter and extruded and steamed and puffed and dried and finished with spray-on vitamins and minerals and then boxed and left on a shelf for months, is it still a whole grain? The TV commercials say it is. The manufacturer says it is. The box says it is. Even the ingredient list says it is. But common sense says it isn't. Has it retained the benefits of the original whole grain? Nope. We don't even know how to adequately measure the damage that has been done to the carbohydrate, the nucleic acids, the fatty acids, the vitamins, the minerals – and who knows what else? – after repeated heating and extensive processing. Even when it's 100% whole grain and without added sugar, the grains have been processed to such a degree that the starch molecules and fiber have been altered, and are far more likely to raise blood sugars and insulin levels.

4. Eat 5–9 servings of vegetables daily. Try to include some with every meal, especially the dark green leafy vegetables like kale, spinach, and chard. Avoid potatoes, corn, and peas as they carry a high glycemic load and make weight loss more difficult. Eat your vegetables *whole*, not juiced – juicing eliminates most phenolics, vitamins, minerals, and micronutrients. Frozen vegetables can be almost as good as fresh, but read labels of canned produce carefully to avoid sweeteners and other enhancements.

5. Eat breakfast and don't skip meals. Eating breakfast (see *Breakfast* on page 72 of *Good Food, Great Medicine*) and frequent small meals (see pages 82-86) are both associated with successful weight loss. Hold the fruit juice, bacon, sausages, ham, potatoes, and toast!

6. Eat good fat (not low-fat) and protein with every meal or snack. This will tend to slow the rise of blood sugar and improve the sense of satisfaction. Good fats include extra-virgin olive oil, raw nuts and seeds, and avocado. **For snacks**, keep *high fiber* fresh foods like vegetables on hand, cut up in ready to eat sizes. Here are a few suggestions for high fiber + good fat + protein:

- Apple slices + sharp cheddar cheese
- Banana + handful of raw almonds
- Cucumber slices + hummus
- Baby carrots + homemade dip (see page 100 of *Good Food, Great Medicine*)
- Celery + nut butter (almond or peanut butter, with the only ingredients being nuts and salt. Ideally, grind it yourself. Beware – nut butters are calorie-dense and should be used sparingly.)

7. Include unsweetened dairy, preferably cultured. Dairy foods are associated with a reduced risk of obesity and diabetes in many studies. The evidence suggests that it doesn't much matter whether you choose low-fat or full-fat dairy products. Cultured milk products include yogurt, kefir, and cheese. Of these, yogurt and kefir can be rich sources of beneficial microorganisms (probiotics) as well as calcium and protein, and are well tolerated by most of us, even many who are lactose-intolerant.

When buying yogurt or kefir, choose the plain, unsweetened varieties to avoid added sugar. This will also maximize the probiotic potential – like the rest of us, the beneficial bugs appear to survive better in sugar-free environments. Flavor them yourself by adding some whole fruit or berries and honey. *Nancy's* is a local brand that makes great yogurt and kefir.

(Dairy foods – especially full-fat dairy – get a bad rap from some quarters: we encourage more spirited debate on *all* the evidence. Some helpful references can be found in *Good Food, Great Medicine*.)

8. Don't be misled by "low-fat" labels, which often mean "high carbohydrate." Low-fat and/or low calorie advertisement claims generally are not a marker of good nutrition. A low-fat diet is not superior to a high-fat diet for weight loss – or for health markers such as cancer risk, blood sugar, or cholesterol levels. (References on pages 5, 6, 20, and 30 in *Good Food, Great Medicine*, 2nd Ed.) In fact, low-fat is arguably a little worse. Fat makes food more satisfying: don't be afraid of naturally occurring fats in animal proteins, eggs, yogurt, cheese, avocado, raw nuts or seeds (sunflower, sesame, flax, and pumpkin), hummus, and extra-virgin olive oil.

9. Read ingredient lists on everything you buy – junk is often disguised as food. Eight ounces of pre-sweetened yogurt can hide *6 – 9 teaspoons of sugar!* Look for plain unsweetened yogurt and sweeten it yourself with raw honey and fresh fruit.

Six ingredients to avoid

1. **Partially hydrogenated or hydrogenated oils** found in most margarine, vegetable shortening, and many packaged foods.
2. **Refined grains** like instant oatmeal, ready-to-eat breakfast cereal, white rice, crackers, packaged snack foods, energy bars, most breads, baked goods, and pastas.
3. **Sugar**, which has many names, like evaporated cane juice, agave nectar, raw unrefined sugar, fructose, sucrose, dextrose, glucose, fruit juice concentrate, corn syrup, and so on. Avoid artificial sweeteners, which are associated with increased risk of diabetes and obesity.
4. **Preserved (processed) meats** like bacon, ham, deli meats, sausages, and hot dogs, are associated with increased risk of diabetes and heart disease. Unprocessed red meat does not appear to have the same risk.
5. **Commercially-fried food**, which means any foods that you haven't fried yourself.
6. **Fake or highly-altered foods** like egg and butter substitutes, non-dairy creamer, and artificial flavors, colors and artificial sweeteners (sucralose/Splenda, Equal, aspartame/NutraSweet, saccharine/Sweet'n Low.)

10. Watch out for extra processing. When foods are processed, their nutritional profile is usually downgraded and calorie-density upgraded. There are intriguing studies indicating that extra processing steps or higher-heat processing seem to contribute to not just nutritional deficiencies, but also diabetes risk. Examples include roasted nuts and seeds, fast foods, “energy” bars, processed meats, and most prepared foods.

11. Plan tomorrow’s meals, drinks, snacks, and exercise TODAY! Tomorrow usually comes, and we make better choices when we plan ahead.

12. Monitor portion sizes and eat slowly savoring your food. Try to stop eating before you’re full. Use smaller plates. Constantly re-think your ideas of portions. Too much food, even very *good* food, is still too much. If you are still hungry – eat some more vegetables. Eat whole fruit for dessert. Stop at two handfuls of raw nuts, *one ounce* of dark chocolate, and one serving of alcohol a day. (One serving is generally defined as 5 ounces of wine, 12 ounces of beer, or 1½ ounces of spirits.)

13. The quality and quantity of calories count. When we choose whole foods over processed foods we are getting the fiber, the fat, the protein, the carbohydrates, and the micronutrients as close as possible to the nutritional profile of the original plant or animal. For any given product or recipe, the *ingredient list* tells you what you need to know. The ‘nutrition facts’ panel can give the quantity but *not the quality* of the calories or fat. Also, calories from minimally-processed whole foods are not as completely absorbed, so the caloric content of whole foods may be off by as much as 15%, making direct comparisons unreliable. We find that a modified whole food Mediterranean diet that limits simple carbohydrates and concentrated starches (like potatoes, corn, rice, bread, refined cereals) works well for weight loss – especially when combined with portion control and exercise. Plus, the evidence would seem to support including good fat (as in raw nuts, extra-virgin olive oil, avocado, moderate dairy and meat) rather than encouraging a low-fat diet.

14. Exercise daily – any way you can and at every opportunity. Move more! Avoid taking elevators if

you can take the stairs. Use exercise as a health tool – its contribution to weight loss is modest unless you increase to high levels, such as an hour or two of walking daily. **But even small amounts reduce your disease risk and help control weight.** Are you too busy? Then do shorter bursts of higher-intensity exercise such as stairs and jumping rope. But any amount of exercise makes you healthier. In addition to planned exercise, stay active every moment you can. For example, stand up or even walk around while talking on the phone. Don’t blame any lack of weight loss on lack of exercise: the key to weight loss is eating less.

15. Schedule 7 – 9 hours of sleep at night. There are many significant benefits related to getting enough sleep, but the bottom line is that inadequate sleep is associated with more obesity.

16. Cut screen time (TV, computer, video) Eliminating or reducing screen time by at least half can contribute to significant weight loss. Cook a meal with your family, take an after dinner walk, do yard work, or read a good book. Surprisingly, reading books (at least the paper kind) do not seem to be associated with the adverse effects that have been found with television.

Some refined carbohydrate alternatives

Try these from *Good Food, Great Medicine*:

Ready-to-eat breakfast cereal: try the muesli recipe on page 77, and modify it to suit your tastes.

More breakfast options: pages 72-81.

White rice: try substituting brown rice (see pages 170-77 for tips and recipes) or better yet, substitute protein-rich quinoa (page 180).

Pre-sweetened yogurt: buy plain yogurt and sweeten with raw honey and fresh fruit.

Bread: the coarser the grain, the better! (See page 16.) Or make your own from chapter 13.

17. Avoid eating out. If your health is at all compromised, whether by excess weight or other risk factors, it would be wise to eat out as little as possible. When you eat out, don’t fool yourself. Even a good restaurant can’t afford to make your health a higher priority than their survival. They will tend to use ingredients and methods best for *their* bottom line, not yours. If you work away from

home, avoid eating food you haven't prepared yourself. **Pack a lunch!** And eat mindfully – eating while otherwise occupied can lead to overeating.

Tips for eating out

Don't compromise. Choose places that offer whole food options like fresh vegetables, beans, whole grains, dairy, eggs, fish, poultry, and meat. Greek restaurants usually offer hummus and tzatziki, and fresh salads of tomato, cucumber, feta cheese, and olives. Thai restaurants can serve up wonderful plates of vegetables – but beware of the noodles, rice, and sauces made with sugar and bad fats. Mexican restaurants generally offer sides of beans and pico de gallo, and you can ask for extra sautéed onions and bell peppers with your fajitas.

Think about ordering from the appetizer menu – the servings are smaller, the food is simpler, and the variety keeps things interesting. However, avoid trans fats by steering clear of breaded or battered food. The coating is bad, the deep-frying is worse.

Check the menu for better options, like sides of vegetables to replace French fries. The restaurant may even create a side of their vegetables-of-the-day for you. Ask for brown rice instead of white rice. Better still, skip rice and potatoes altogether. When in doubt, just eat meat (using the term broadly for animal proteins, including fish) and vegetables. Aim for roughly ¼ animal protein and ¾ plant foods.

Beware soups, sauces, and dressings – these generally hide lots of bad fats and sugars.

Minimize concentrated starches like breads, chips, tortillas, pasta, potatoes, rice, polenta, sweets, fruit juices, and sweet drinks.

When choosing a salad, pick one with the most colorful greens. In the case of lettuce, the darker green, the better. Avoid trimmings like bacon bits, croutons, and roasted salted sunflower seeds.

Ask for real butter. If a restaurant only has margarine, that's a bad sign.

Avoid desserts! (Otherwise share with someone – or order fruit and cheese instead.)

Just say no to soft drinks and fruit juice! Restrict alcohol to one drink for women or two drinks for men. Skip the pre-dinner cocktail and order a tall glass of chilled sparkling water with lemon instead.

Resist the extras like warm bread and chips. Even after choosing sensibly from a menu, it's easy to neutralize healthy choices by indulging in calorie-dense extras that are hard to resist.

For breakfast, ask for poached or fried eggs with vegetables and/or fruit on the side. Hold the bacon, sausages, ham, potatoes, fruit juice and toast.

18. Keep a food journal and weigh yourself

daily. Awareness of how much and how often we eat is crucial to reforming eating habits. Weigh first thing in the morning without clothes at least once a week. If you aren't losing about one pound per week, some part of the plan needs to be re-worked. What works for one person may be different for another. Changing lifelong habits is hard work. No step is too small.

The Mediterranean diet and diabetes

Most cases of type 2 diabetes and metabolic syndrome are the result of daily food and exercise choices, not genetics. In my medical practice, some of the patients who are able to do the hard work this approach requires are able to completely obliterate any evidence of diabetes, and get off all of their diabetes medication and insulin. (A note of caution: never stop your diabetes medication without the supervision of your physician.)

In head-to-head trials against other dietary approaches, including low-fat and Atkins-style diets, the Mediterranean diet have been shown to be the most effective weapon against diabetes. For example, the PREDIMED-Reus study compared a "prudent" low-fat diet to Mediterranean-style diets and found a 50% reduction in the risk of diabetes in those using the Mediterranean diet compared to the low-fat diet.¹ Other studies have shown that those with type 2 diabetes who eat Mediterranean-style diets have lower blood sugars and insulin levels than those using low-fat or Atkins approaches.² Mediterranean diets have also shown the greatest risk reduction for heart disease, stroke, cancer, dementia³ – and better cholesterol levels compared to those on low-fat diets.⁴ Nice side-effects!

¹ Salas-Salvado, J. et al. Diabetes Care 2011;34:14-19

² Shai, I et al. NEJM 2008;359:229-41

³ Sofi, F et al. Am J Clin Nutr 2010;92:1189-96

⁴ Nordmann, A. Am J Med 2011;124:841-51

The whole-food Mediterranean diet⁵

The whole-food Mediterranean diet is central to an evidence-based approach to preventing or reversing type 2 diabetes as well as heart disease. Here is a quick overview of the details. This whole food version combines conventional Mediterranean diet concepts with minimally processed foods that have their nutrients largely intact.

Base your diet on unprocessed plant foods.

This includes vegetables, fruits, beans and legumes, whole grains, raw nuts, and seeds. The greatest benefit appears to be associated with vegetable intake, raw and cooked.

▪ Eat minimally-processed grains and beans.

Although the contemporary Mediterranean diet includes white rice, white bread, and white pasta, replace them with brown rice or quinoa, 100 percent whole grain bread, and whole grain pasta. For those who are not seeing weight loss or improved blood sugar, even grains and beans may need to be minimized.

▪ Eat good fat, not low-fat.

Use extra-virgin olive oil as main fat, replacing most other oils and fats. Eat raw nuts, avocados, and other healthy fats.

▪ Eat plenty of fish and small amounts of unprocessed meat and poultry.

Treat meat as a condiment, not the main part of the meal. Keep portions no larger than one third of your total plate area. Save your appetite for the most important food – vegetables!

▪ **Eat cultured dairy**, like plain yogurt and kefir (a yogurt-like drink) and cheese. Available data shows benefit, not harm, with dairy fat.

▪ **Drink a small amount of wine**, generally with meals.

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Dr. Hassell's medical practice combines conventional and complementary approaches to the treatment and prevention of disease, emphasizing evidence-based nutritional lifestyle management in the context of a thorough traditional medical model.

Dr. Hassell is co-author of *Good Food, Great Medicine*, an evidence-based guide to using the Mediterranean diet and your kitchen in the pursuit of optimal health. *Good Food, Great Medicine* is a practical and easy-to-read resource for anyone wanting to eat well without sacrificing enjoyment. It presents powerful medical evidence to support the case for a whole food Mediterranean-diet-and-exercise-based lifestyle. Miles' sister, Mea Hassell, simplifies the business of food and cooking with tips, humor, and over 140 easy-to-follow recipes.

Books are available at Amazon.com and Powell's Books (Powells.com). For bulk discounts, contact our office.

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⁵ <http://www.oldwayspt.org/>