

The Reduced Carbohydrate Diet Revolution
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The Reduced Carbohydrate Diet Revolution

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The low carbohydrate diet revolution is really not a revolutionary idea at all, but a rediscovery of sorts of a diet that has been written about for about two hundred years. Many modern supporters of the low carbohydrate diet think that it is closer nutritionally to the natural foods that our ancestors ate before we started farming and relying on a grain and cereal based diet.

On this diet you will significantly restrict your carbohydrate intake, that means sugars and starches. You will get about 10% -30% of your calories from carbohydrate (20 - 100 grams of carbohydrate per day), primarily from the vegetables you will be eating. Between 30 and 50% of your calories will come from fats. While fats are not as strictly controlled as carbohydrate on this diet, a diet that contains more than 50% fat calories may slow your weight loss. The remainder of your calories, 40-60%, will come from protein. It is similar to Atkins, Protein Power, or the South Beach Diet.

These guidelines can be adjusted to meet individual food preferences and they are designed to give as much flexibility as possible. They are intended only to help you loose weight in a healthy manner as quickly and as easily as possible. They do not specifically address other dietary concerns such as cholesterol, diabetes, kidney disease, and salt.

Some people are concerned that a low carbohydrate diet will raise your cholesterol and triglycerides because it does not strictly limit fats and allows high cholesterol foods like eggs. Research has shown however that a low carbohydrate diet will reduce cholesterol and triglycerides even more than a low fat diet.

Some people are concerned that a low carbohydrate diet is too high in protein. While a high protein diet may not be appropriate for people with serious kidney disease, most healthy people can thrive on a diet that has more protein than carbohydrate. Most people will eventually find they are not actually eating a lot more protein than usual, but they are eating a lot less carbohydrate and more fruits and vegetables.

People who have a family history of diabetes, who have had diabetes of pregnancy, who have had a baby that weighed over eight pounds, or who carry most of their weight around their middle may do **best** on a reduced carbohydrate diet. The reduced carbohydrate diet may also work better for people who have not been able to loose weight by "eating healthy", watching their fats, or counting calories, or doing a Weight Watchers type diet. Some research shows that people may be more successful taking weight off and keeping weight off on a low carbohydrate diet than on a low fat, calorie controlled weight watchers type diet.

TWELVE EASY STEPS

Step one

No junk food. You cannot be slender and eat junk. No cookies, cakes, muffins, donuts, fritters, pies, candy, chocolates, snack crackers, processed cheese spread, pizza rolls, whipping cream, ice cream, potato chips, Doritos...the list goes on....and on....and on.

Step two

No fast food. Fast foods are generally high in fat, high in carbohydrate, high in salt. There are a few fast food items that are consistent with this diet and they are listed elsewhere in the booklet, but fast food cannot make up a significant portion of your diet. Even if you eat only the items listed at the end of the booklet, you should have a fast food meal no more than once a day, and less than once a week is even better.

Step three

Two servings of vegetables a day. Raw, steamed, stir-fried, sautéed, boiled, frozen or canned however you want to prepare them except for breaded and deep fat fried. If purchasing frozen or canned vegetables be on the look out for added salt, sugar, butter or margarine, which you do not need. A serving is $\frac{1}{2}$ to 1 cup of cooked vegetables or 1 to 2 cups of raw vegetables. Choose vegetables from the **Allowable Vegetable List** found later in the book. Potatoes, corn, peas, beans and legumes are vegetables, which are higher in carbohydrate and should be avoided or limited.

Step four

You may eat some nuts or seeds every day. It is best to buy unsalted nuts without added oil. You may have to buy raw nuts and roast them yourself or buy nuts in the shell to accomplish this. Health food stores are more likely to have nuts without added oil, salt, and sugar. Absolutely no nuts or seeds with added sugar or starch like Beer nuts or honey-roasted nuts. One tablespoon of peanut butter or other nut butters may be used as a substitute for nuts as long as it contains no added sugar and preferably no added salt or oil. One ounce of nuts or $\frac{1}{4}$ cup of nuts should contain no more than 6 grams of carbohydrates. Avoid nuts or seeds that have more than six grams of carbohydrate or have any added starch or sugar.

Step five

Eat meat. This diet has a higher percentage of protein, but you may not be actually eating more protein than you already do. Choose lean cuts of meat and trim off all visible fat. Limit processed meats like bologna, sausage, sandwich-spread, salami, etc. Do not deep fat fry your meat. Drain off all the fat that is released by cooking the meat. Do not eat the skin of chicken, turkey or oily fish. Eat more fish, 3-7 servings a week. Eat 2-3 servings of meat or other high protein food every day. A serving of meat is about 4-8 ounces of uncooked meat or 3-6 ounces of cooked meat.

Step six

Eggs are great. You may eat 2-4 eggs daily, or more. You may have eggs any style, but moderate the amount of fat you use to cook the eggs. You may add hard-boiled eggs to salad. You may have egg salad. You may have an egg as a high protein between meal snack. Because a low carbohydrate diet has such a beneficial effect on cholesterol, limiting high cholesterol food, like eggs, may not be necessary on this diet.

Step seven

Milk and dairy foods should be approached with caution. Milk products all contain lactose or milk sugar. Cheese is the protein part of milk and is low in carbohydrate but high in fats. Butter is milk fat and should be used sparingly. 1 - 2 cups a day of fat free or low fat milk, or yogurt, or $\frac{1}{2}$ - 1 cup of low-fat or fat free cottage cheese, or ricotta, or up to 4 oz of hard cheese like cheddar or mozzarella could be added to your diet each day.

Step eight

While fat is not strictly controlled on the diet you need to **eliminate unnecessary fat from your diet.** If you are getting too much fat in your diet you will not have good weight loss. In general, modest amounts of high fat foods like butter or margarine, mayonnaise or salad dressing or peanut butter are fine. One Tablespoon of fat is a serving and has about 100 calories. Try to avoid high fat meats and deep fat frying your foods. Remove the skin from chicken or turkey and trim all visible fat from your meat. If you choose a food that is marked " low fat", be sure to check that it is not high in carbohydrate.

Step nine

This is the hardest part of the diet. **NO bread, pasta, cereals, rice, grits, oatmeal, beans, corn, potatoes, winter squash, yams, peas etc.** If you are doing well on the diet, losing weight every week you may try adding special low carbohydrate bread such as Less brand bread or high fiber low carbohydrate crackers such as Wasa or Ryekrisp, or low - carb breads sold now in most grocery stores. Even so, you may only have one slice or serving of low carbohydrate bread or bread like product per day. You may also add some high fibre carbohydrates like beans, peas, corn, squash, and potatoes. If your weight loss stops or slows you may want to avoid even these higher fibre carbohydrates.

Step ten

To eat well, you should eat often. You need to have at least three meals a day. Four or five small meals or one or two snacks during the day are even better. Eating only once or twice a day will actually encourage your body to put on weight. Try not to go more than six hours without eating. **Try not to eat within three to four hours of going to bed.** **Eat your largest meal at the beginning or in the middle of the day.** **Eat as much as you need to and as often as you need to not feel hungry.**

Step eleven

Avoid alcohol. It has no significant nutritional value, it stimulates the appetite and makes food taste better and decreases your resolve to stick to a diet. If you must drink,

have one glass of wine or a light beer or a single shot of liquor, or liquor with a diet mixer like diet Coke.

Step twelve

Fruits. Fruit has a lot of carbohydrates in the form of fruit sugar, but whole fruits are also high in fibre which slows down the absorption of carbohydrate and has a beneficial effect on carbohydrate metabolism. Fruit is also a natural part of the human diet. You may not lose weight as quickly as possible if you eat too much fruit. If you are doing well on the diet and losing weight every week, you may be able to have 1-3 fruits a day. You may also use the juice of one lime or one lemon each day, or about one tablespoon of juice. Avoid Apple, Orange, Grape, Grapefruit or other fruit juices. It is much better to eat a whole piece of fruit.

CONDIMENTS

Acceptable condiments include mayonnaise, butter, margarine, mustard, soy sauce, Italian salad dressing, vinegar and oil, Worcestershire sauce, hot sauce, horseradish sauce, lemon juice, lime juice, garlic, salt, and all kinds of herbs and spices. If you are not sure if a condiment is acceptable look on the back of the bottle or package for the nutritional information label. If a product has 3 grams of carbohydrate per serving or less and you only have one serving of a condiment per meal you will probably be fine. Do not **overuse** high fat condiments like mayonnaise, margarine, butter or salad dressing. Be wary of condiments that have a lot of added sugar and starch.

SUPPLEMENTS TO CONSIDER

A lot of people take vitamins, minerals, and other nutritional supplements. This is an area that we don't know much about. Lots of sources make confusing and conflicting claims. A multivitamin with at least 500-mg of calcium should meet the needs of most people. Postmenopausal women should take an additional 500-750 mg of calcium in addition to a multivitamin. You generally may continue to take any supplements you are already taking and any vitamins or supplements that have been recommended by your doctor. There may be benefits to taking extra niacin if you have high triglycerides and folate to help prevent heart disease. Omega-3-fatty acids may also help prevent heart disease, and is naturally found in high fat cold-water fish.

FAST FOOD AND THE LOW CARBOHYDRATE WEIGHT LOSS DIET

While it is usually best to cook and prepare your own meals, sometimes you have to get your meal from a fast food restaurant. Here are some fast foods that are acceptable choices. Some of the selections listed below are better than others. They are all low in fat and low in carbohydrate. Remember no crackers, no ketchup, no bun, no croutons, and no high carbohydrate salad dressing.

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Arby's Garden Salad
Arby's Roast Chicken Delux, no bun
Arby's Roast Turkey Delux, no bun
Arby's Roast Beef Delux, no bun
Arby's Roast Chicken Salad
Arby's Side Salad

Long John Silver flavored chicken
Long John Silver flavor baked fish
Long John Silver grilled chicken salad
Long John Silver green beans
Long John Silver side salad
Long John Silver garden salad
McDonald's Grilled Chicken Salad Deluxe

Boston Market white meat chicken without skin
Boston Market turkey breast without skin
Boston Market chunky chicken salad

Kentucky Fried Chicken tender roast chicken without skin
Mc Donald's Garden Salad
Wendy's grilled chicken sandwich, without the bun
Wendy's chili
Wendy's hamburger, without the bun
Wendy's Caesar Side Salad to go

VEGETABLES

Vegetables are probably a natural part of the human diet. Vegetables have a few carbohydrates, some fiber and almost no fat. Enjoy two or three servings of vegetables a day to help you feel full, and provide important vitamins, minerals, and fiber. A serving is generally one or two cups of chopped raw vegetables or $\frac{1}{2}$ - 1 cup of cooked vegetables. If you are feeling hungry try increasing the amount of vegetables you eat or add vegetables as a snack.

Some vegetables are high in carbohydrate and should be strictly limited or even eliminated from your diet, including corn, potatoes, peas, squash, beans, and legumes. If you are doing well and losing weight every week you can try adding limited amounts of starchy, higher carbohydrate vegetables to your diet.

THE ALLOWABLE VEGETABLE LIST

The vegetables that you are allowed to eat generally have less than 4 grams of carbohydrate per serving and include the following:

Asparagus	Bamboo shoots	Greens (collard, kale, and turnip)
Green beans	Bean Sprouts	Spinach
Wax beans	Chinese Cabbage	Cauliflower
Green peppers	Cabbage	Broccoli
Celery	Daikon	Radish
Cucumber	Lettuce	Summer squash
Zucchini	Turnips	Green onions (leafy part only)
Mushroom	Snow peas	Olives (black or green)
Alfalfa sprouts	Sour pickles	Sauerkraut

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If you have a salad, for example, you may use lettuce, spinach, cucumber, green pepper, radish and green onion in your salad and you may eat up to two cups of salad at one meal. If you cook green beans, you may have up to one cup of cooked green beans, or about one half of a can of green beans. If you make stir fried Chinese vegetables you may use up to two cups of raw bamboo shoots, bean sprouts, Chinese cabbage and snow peas. This will cook down to about one cup of cooked vegetables.

Some vegetables, commonly used only as a garnish or flavoring, may be added to other dishes:

Chives
Horseradish

Parsley
Ginger

Garlic
Hot Chilies

FRUIT

Fruit is a part of a natural and healthy human diet. Fruit does have carbohydrates in the form of fruit sugars or fructose. Fruit also has fiber, which aids digestion and slows down carbohydrate absorption. Some people will loose weight faster if they do not eat fruit. Most people will find that they can have one or two or three servings of fruit a day and still loose weight. A serving of fruit is 1 cup of fruit or a medium size piece of fruit. You may also flavor your food with the juice of a lemon or a lime. The juice of one lemon or lime has about 1.5 calories. Other than that you should avoid fruit juices, which have all the fruit sugars and hardly any of the fiber. In addition one 8 oz glass of orange juice has the juice of about 3- 4 medium sized oranges!

DAIRY

Milk and milk products probably were never a natural part of the human diet past childhood. Some people will loose weight faster if they avoid milk altogether. Milk has about 12 grams of carbohydrate in the form of milk sugar or lactose per cup. Some people can't digest lactose past childhood and have gas, bloating, stomach cramps and diarrhea when they drink milk or eat ice cream or yogurt. If you are lucky enough to be able to drink milk, use skim milk to decrease your animal fats. Limit your intake to one or two cups a day of low fat or fat free milk or yogurt, or $\frac{1}{2}$ - 1 cup of fat-free or low fat ricotta or cottage cheese.

Cheese is the protein part of the milk that has been curdled and separated from the whey or liquid part of milk. It is the whey that contains the milk sugar, so cheese is lower in carbohydrate than milk. Soft fresh cheeses like cottage cheese and ricotta are often low in fat. Cheese has about one carbohydrate per ounce. Hard cured cheeses are higher in milk fat and you may want to choose a lower fat cheese. Up to four ounces of cheese like cheddar, mozzarella, Colby, Munster, Swiss, etc is allowed each day. Stay away from high fat processed cheeses like Velveeta, American cheese, or cheese spread. You may choose e $\frac{1}{2}$ - 1 cup of low fat or fat free cottage cheese or ricotta each day instead of regular hard cheeses.

FIBER

Some people develop constipation on a reduced carbohydrate diet due to lack of fiber. Using a fiber supplement like sugar-free Metamucil or Citrucel will increase the fiber in your diet. Some breakfast cereals like General Mills Fiber-one and Post All-bran have a large amount of fiber and are low in carbohydrate. Drinking plenty of water, 8 -10 glasses a day, will also help avoid constipation. Foods that are high in fiber also slow down the absorption of fats and carbohydrates and help regulate blood sugar.

EGGS

You may eat eggs as often as you want to. If your cholesterol is average (under 240) do not worry about reducing your cholesterol while you are trying to lose weight. Even if your cholesterol is high, it will probably go down if you follow this diet, even if you eat eggs every day. If your cholesterol is very high or you feel you need to limit your cholesterol intake remember that there is no cholesterol and very little fat in the egg white, so you may eat egg whites without fear of raising your fats or cholesterol. You may also substitute eggbeaters for eggs in order to reduce your cholesterol intake. Bird's eggs would have been a natural part of our human ancestor's diet.

MEAT AND PROTEIN FOODS

This diet has a high percentage of protein, and the major source of protein is meat. Low fat meat in the form of fish and game would have formed the largest part of our ancestors diet.

You may have any type of meat or flesh that you wish to: pork, veal, beef, lamb, mutton, fish, chicken, turkey, shellfish, shrimp, rattlesnake, frog, etc. Some meats are better than others in terms of fat content. All meats should have excess fat trimmed before cooking or cooked so that excess fat is drained away. Some highly processed meats like Krab legs have carbohydrate added and should not generally be used. Some sausage and lunch meat have added sugar and should not generally be used. The following lists divide meat into high, medium, and low fat categories. Eat more meats from the low fat category than the high fat category.

Low fat

(<10 grams fat/4 oz)

Chicken without the skin
Chicken liver, gizzard, heart
Turkey without the skin

Medium fat

(10-16 grams fat/4oz)

Ground turkey
Duck
Goose

High fat

(>16 grams fat/4 oz)

Sausage
Bacon
Ground round, sirloin,

Turkey liver, gizzard, heart	Mackerel	or chuck
Most fish	Herring	Hamburger
Tuna (fresh and canned)	Sardines	Bologna
Roe	Eel	Salami
Mussels	Sirloin steak	Pimento loaf
Lobster	T-bone steak	Olive loaf
Oysters	Porterhouse steak	Liverwurst
Shrimp	Rib eye steak	Knackwurst
Scallops	Delmonico steak	Bratwurst
Crab	Fillet Mignon	Keilbasa
Pork tenderloin	New York strip steak	Blood sausage
Pork loin roast	Prime rib	Pepperoni
Pork loin chop	Pork rib roast	Spam
Pork rib chop	Pork sirloin roast	Vienna sausage
Ham	Pork Blade Steak	Ground pork
Ham steak	Lamb rib chop	Hot dogs
Top round	Lamb shoulder	Prociutto
Bottom round	Lamb loin chop	Summer sausage
Eye of round	Brains	Corned beef
Flank steak	Canadian Bacon	Head cheese
Chuck roast	Pastrami	Chitterlings
Beef or calf liver		Pork ribs
Leg of lamb		Pork neck bones
Veal		Pate
Most game		Sandwich spread
		Pork tails and jowls
		Tongue
		Deviled ham

ONE DAY AT A TIME, THREE MEALS A DAY

One of the biggest mistakes people make when they diet is skipping meals. Your mother probably told you that it wasn't good to skip meals and she was right.

When you go for long periods of time without eating your body uses up all its stored carbohydrate and then it starts to use up stored fat. This is great this is what we want to have happen, isn't it? The problem is that your body knows when you are not eating *but* your body doesn't know that you are not eating because you are trying to loose weight. Your body only knows that if you aren't eating it must be because there is no food available. In an effort to conserve energy in response to this short-term starvation, your body slows down its metabolism. Your body starts to burn calories more slowly in a misguided effort to prevent excessive weight loss. In order to maintain the rapid weight loss that is possible with the low carbohydrate diet, *you cannot subject your body to short term starvation*. In order to achieve rapid weight loss you need to eat at least three meals per day.

A related problem occurs when people do not eat enough food. It would seem that the less food you eat the faster you would lose weight. However when your food intake is less than your body needs to maintain your current weight your body's metabolism slows down in order to prevent weight loss and maintain a certain amount of stored fat. If your food intake continues to be less than your body needs to maintain your current weight, you eventually begin to lose weight, but the weight loss is slow. Much slower in fact than we would expect for the amount of food deprivation. Again your body slows down its metabolism in response to what it perceives as slow starvation.

If you are hungry on the low carbohydrate diet or if you fail to lose weight on the low carbohydrate diet is it because you are not eating three high protein meals a day? It is very important to have at least three high protein meals a day, or three meals and one or two high protein snacks, or four small meals a day. It is also important to eat enough food at each meal so that you don't feel hungry. If you get hungry between meals it is allowable to have a high protein snack. Tea, coffee, diet soda, sugar free jello, or bullion may also help curb your hunger.

EXERCISE

We all know we should do it. We almost all want to do it. We just don't like to do it, and we don't think we have time to do it. While exercise is not essential to weight loss it can be useful in accelerating weight loss and it is clearly beneficial in helping you maintain your weight loss. Exercise helps lower your cholesterol, decreases your risk of heart attack or heart disease, decreases your risk for osteoporosis, decreases your risk for diabetes, and if that isn't enough exercise increases your energy level and improves your sex life.

Most exercise programs fail because people choose a form of exercise that they do not enjoy. Many people feel that to be effective exercise has to be strenuous or difficult, and rarely pick an activity that they enjoy enough to stick with. When it comes to exercise, we all do some exercise every day. Sitting is more exercise than lying down, standing is more exercise than sitting down, walking is more exercise than standing and almost every other activity is even more exercise than walking - vacuuming, mowing the lawn, pulling weeds, washing windows, cooking dinner, sweeping, grocery shopping. Admittedly, these are not the most enjoyable forms of exercise but feel good and happy with yourself if you spent 30 minutes vacuuming the house, pulling weeds, or mowing the grass. That is a pretty good effort and it is something that you ought to do once in a while anyway. America is one of the few countries where well off people routinely pay someone to exercise for them at home so they can have the time to pay money to exercise at the health club. Crazy isn't it?

If you do not formally exercise at all, start by scheduling a physically active task that will take you at least thirty minutes every day. It will be amazing how quickly your house gets cleaned, and the little things that had piled up that you never seemed to have time for get taken care of. This way housework doesn't prevent you from doing exercise. If you do it briskly with a lot of energy and work up a bit of a sweat, housework can become your exercise.

Now you want to turn up the heat a bit because now you are breezing through your chores and don't even get short of breath when you vacuum anymore. Choose an activity that you enjoy.

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If you don't particularly care for doing an activity alone recruit a friend, a spouse, a child, a dog to do it with you. Walking alone can be boring. Walking up to the park and back with your grandchildren can be a pleasure. If you always liked to bike invest in a bicycle. If you always liked to garden dig up a section of your yard and plant a garden. If you always wanted to learn how to rollerblade, buy a pair of rollerblades (and safety gear). Push yourself to go faster and harder just enough so that you feel a little bit out of breath and can feel your heart pumping. If you are sore the next day, you overdid it, and need to slow down a little. Remember you are not training for the Olympics. You should slow down or stop if you become uncomfortable. You should feel refreshed and energetic after exercise, not tired and sore.

Mark it on the calendar; put it in your planner. Even if you only have time to exercise 10 minutes a day, reserve that time for exercise and do it. Making exercise a ritual may help keep you on track. Have a special outfit that you wear only when you exercise. Go to the same place every time you exercise. Develop a stretching routine that you always follow before you exercise. Exercise at the same time every day. Have gym bag with all your exercise equipment in it that it is ready to go all the time even if the only equipment you use is a pair of comfortable shoes and a sweat towel.

EXERCISE SHOULDN'T HURT

Is there anyone who is so seriously ill that they can't do the type of exercise described here? If your doctor has said you are too ill to have sex or to do your own housework then you are too ill to engage in any exercise program except under direct continuous medical supervision. Otherwise even people with heart or lung problems should be able to follow the exercise recommendations given here. If you develop pressure, tightness, fullness, discomfort or pain in the middle of your chest or in your shoulder, neck, or arm when you exercise you need to see a doctor as soon as possible. If you develop trouble breathing, feel like you can't catch your breath, or get abnormally short of breath when you exercise you need to see a doctor as soon as possible.

Some people who suffer from overweight and/or arthritis and/or poor circulation find that even vacuuming for thirty minutes is too strenuous. If you get severely out of breath have severe joint pain or muscle cramping or need to rest frequently while vacuuming you may need a specialized exercise program that can be prescribed by your doctor. You may also want to try slow stretching exercises in the shallow end of the pool. The water helps take weight off of your joints and decreases swelling in the lower legs and improves blood return to the heart. You only weigh about 1/10 as much in the water as you do on land. Exercise in the water in a heated pool is probably the ideal activity for anyone with medical conditions that limit their ability to do activities on land.

NOW THAT YOU ARE GETTING SERIOUS ABOUT EXERCISE

Since there are 3500 calories in one pound of fat, you must eliminate 500 calories a day to lose one pound of fat a week. A balance between reducing the amount that you eat and increasing the amount that you exercise may be the most effective way of achieving this goal.

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Eliminate	Add
4 oz bagel (250 cal)	45 min walk at 4 mph (250 cal)
1 candy bar (250 cal)	55 min yoga (250 cal)
16 oz soda (200 cal)	50 min low-impact aerobics (300 cal)
2 oz whole-wheat pretzels (200 cal)	35 min jogging (300 cal)
2 slices of bread (150 cal)	40 min stationary bicycling (moderate) (350 cal)

The amount of calories you burn with exercise depends on the intensity of the exercise and how long you perform the exercise at that intensity. Low intensity exercise takes longer to burn the same amount of fat or have the same cardiovascular benefits compared to high intensity exercise. Low intensity exercise should raise a healthy person's heart rate over 120 beats per minute. Moderate intensity exercise should raise it above 140 beats per minute. High intensity exercise should raise your heart rate over 160 beats per minute.

If you able to talk comfortably during your workout without a great deal of strain, you're most likely at a low level of intensity which is a very good level to start at and is generally safe for people at all ages and fitness levels. As your fitness level improves, increase the intensity of your workout to a level where you cannot carry on a normal conversation comfortably.

A MORE SOPHISTICATED WAY TO CALCULATE THE INTENSITY OF YOUR EXERCISE FOR YOUR INDIVIDUAL LEVEL OF FITNESS AND AGE IS:

Take your maximum heart rate (HR) while exercising, subtract your resting heart rate taken first thing in the morning, then divide the result by: 220 minus your age minus your resting heart rate.

If the number is below 0.6 you are exercising at low intensity

If the number is between 0.6 and 0.75 you are exercising at moderate intensity

If the number is between 0.75 and 0.90 you are exercising at high intensity

$$\frac{\text{HR exercise} - \text{HR resting}}{220 - \text{age} - \text{HR resting}} = \text{intensity}$$

You have to periodically recalculate the level of intensity as your fitness improves!

You can also increase the amount of calories you burn and improve the way your body metabolizes carbohydrates every minute of every day by increasing your muscle mass. Muscle is more metabolically active than fat. To increase muscle mass, you may need to do strength-building exercises in addition to aerobic exercise. Strength building exercise will also give your body more definition. It will not reduce fat in the area being exercised. Sit-ups will not reduce the amount of fat on your belly! To increase muscle mass focus on the large muscle groups in the buttocks, thighs and back, upper arms and shoulders.

CALORIES BURNED WITH EXERCISE

<u>Activity</u>	<u>Calories burned per minute</u>
Walking 2 mph	4
Walking 3 mph	6
Walking 4mph	8
Walking or running 5 mph	12
Walking uphill 3.5 mph	10
Climbing stairs	12
Running 6 mph	16
Running 7 mph	18
Running 8 mph	20
Running 9 mph	24
Running 10 mph	28
Swimming leisurely	9
Swimming slow	11
Swimming fast	16
Jump rope slow	12
Jump rope medium	16
Jump rope fast	18
Water aerobics or dancing	6
Aerobics low impact	8
Aerobics high impact	10
Tae bo	12
Boxing	14
Step aerobics	16
Yoga hatha	6
Yoga ashtanga	9
Weight training	9
Basketball	10
Football	12
Softball competitive	10
Volleyball competitive	12
Tennis singles	12
Tennis doubles	8
Soccer competitive	16
Soccer recreational	10
Martial arts (karate, aikido, tae kwan do)	16
Squash	18
Golf (no cart, carry bags)	6
Driving range	4
Skiing	11
Hockey	12
Ice skating leisurely	11
Ice skating vigorous	14
Rowing	10
Stair climber	14
Spinning	12
Elliptical	10
Lawn mowing	5
Washing floors	6
Weeding	8

STRATEGIES FOR SUCCESS

Here is a list of tips that may help you on the low carbohydrate diet:

- The low carbohydrate diet requires planning ahead. You must have appropriate foods available to you at all times so you will not be tempted to eat foods that are not allowed on the diet.
- Hard boil a dozen eggs - make half of the eggs into deviled eggs and leave the other half plain. They will keep for a week in the refrigerator. Use the eggs as a snack if you get hungry or as a quick breakfast that you can eat in the car on your way to work.
- Have a couple of cans of tuna or canned chicken packed in water in you desk drawer or in your locker. If you forget to bring lunch or you get hungry at work, open a can and enjoy. Canned tuna and chicken will keep forever. All you need is a can opener and a fork.
- Have a lot of tasty salad made up at the beginning of the week. Examples include egg salad, chicken salad, and tuna salad. Make enough for several meals at one time. They will keep fresh, tightly covered, in the refrigerator for about five days.
- Cook a large roast, ham, or turkey at least once a week. Serve it hot to your family the day you cook it. Cut up the rest and package it into meal size portions in plastic storage containers to eat throughout the week.
- You do not need to have traditional breakfast foods for breakfast. If you don't like eggs and sausage you can have low-fat lunchmeat, leftover chicken, fish, hamburger, steak etc.
- Don't hesitate to serve low carbohydrate foods to your family. There is no reason to make two separate meals. You can add bread, potatoes, pasta, or rice to the table for your family to eat.
- If you are hungry between meals, you can have a serving of meat or eggs, a piece of cheese, an ounce of nuts or seeds, a piece of fruit, a cup of bullion, sugar free Jell-O, sugar free fat-free instant pudding, fat-free sugar free yogurt, a tablespoon of peanut butter, dill pickles. It is OK to eat between meals if you are hungry, but make a healthy choice.
- Eat at least 3 meals per day. This is very important if the low carbohydrate diet is to work correctly. Three meals and a high protein snack or four to five small meals a day is even better.
- Serve yourself a normal portion of food. Now cut that in half and remove half of each item from your plate. Eat only what is left. Other tricks for portion control include using a smaller dinner plate, not keeping serving bowls of food on the table, cooking only enough for one meal, or packaging any extra food and putting it away before you start to eat.

The Reduced Carbohydrate Diet Revolution

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- It takes about 20 minutes after eating for our stomachs to feel full. Measure out an appropriate amount of food and eat it. If you are still hungry after eating wait 20-30 minutes. If you are still hungry after waiting 20-30 minutes, eat a little more.
- Chewing gum may help you stay on the diet. Trident sugar free or other gums that are sweetened with aspartame or saccharine are allowable. Check the number of carbohydrates per stick of gum. It should be one or zero. You still must limit yourself to 3-4 sticks a day.
- Unlimited items include diet Jell-O, diet soda, crystal lite, diet kool-aid, ice tea, coffee, bouillon or other zero calorie foods. Zero carbohydrate sweeteners like nutra-sweet, aspartame, equal, saccharine, and sweet-and-lo are allowed.
- Try to drink enough water and other liquids. Water and liquids will help keep you full and flush out waste products and decrease constipation. Six to eight glasses of fluids a day is a goal to shoot for. Diet soda, coffee, and tea are allowable.
- **MOST IMPORTANTLY:** Keep a diet diary. Be truthful. Write down everything you put in your mouth every day, as close to the time that you eat as possible. Just writing down what you eat helps you make better food choices.

THE BIGGEST BARRIER TO WEIGHT LOSS

The biggest barrier to weight loss is in your mind. To be successful with long-term weight loss you need to change the way you think about food. Food should no longer be something you eat because it tastes good, but something you eat because it is **good for you**. This means you may need to eat things that you don't particularly care for. "I don't like ____", is **not an acceptable excuse** for not changing your eating habits. Eating and food itself should not be a main source of pleasure or satisfaction in your life. Think of food as medicine. Medicine does not always taste good, but we take it because it is good for us. Think about how the food on the low carbohydrate diet will help you loose weight and eat with that goal in mind. Taking care of your body and your health needs to become a priority in your life. Eating right, having the time to prepare appropriate meals, having time to exercise, and getting enough sleep are important for success in anything you do.

IN SUMMARY

The number of servings and serving sizes listed here are geared to the needs of an average size, moderately active woman. A very tall woman or a man will need larger serving sizes or more servings. Someone who doesn't get much exercise will need to eat smaller portions or fewer servings. If you exercise a lot, you will be able to eat a little bit more and enjoy greater variety.

2 servings of vegetables (a serving is $\frac{1}{2}$ -1 cup of cooked vegetables or 1-2 cups of raw vegetables from the allowable vegetable list

2-3 servings of meat (a serving is 4-8 oz of raw meat, 3-6 oz of cooked meat)

1 serving of nuts or seeds (a serving is $\frac{1}{4}$ cup of nuts or seeds or 1 tablespoon of peanut butter)

2-4 eggs daily

If you are doing well you may add:

- Starchy high fiber vegetables (corn, peas, beans, legumes)
- 1-3 serving of fruit
- 4 oz cheese
- 1-2 cups low fat or fat free milk, yogurt, cottage cheese or ricotta cheese

SAMPLE MENU

This is an example of what someone on this diet might choose to eat. Your particular choices will depend on how hungry you are and what foods you like. The amount that you eat depends on how tall you are, your age, your gender, and how active you are.

Breakfast	Breakfast	Breakfast
2 egg omelet cooked with Pam cooking spray ½ cup chopped green pepper 3 slices crisp fried bacon Coffee with equal and cremora	Broiled steak Hot tea with lemon and equal	3 Scrambled eggs Canadian bacon Swiss Miss diet cocoa mix made with water
Lunch	Lunch	Lunch
6 oz can of tuna packed in water 2 cups salad with lettuce, radish, celery, olives, cucumber 2 tablespoons Ranch dressing Crystal lite lemonade	1 Grilled chicken breast, no skin 2 tablespoons caesar dressing 1 cup spinach salad with bacon and hard-boiled egg Iced tea with equal	1/4 pound lean ground beef taco seasoning 2 cups lettuce, black olives, green onions 4oz cheddar cheese
Snack	Snack	Snack
4 oz cheddar cheese Diet soda	Diet soda Hard boiled egg	Crystal lite slushee Slim Jim
Dinner	Dinner	Dinner
1 grilled chicken breast without skin marinated in Italian dressing 6 spears of steamed asparagus 1 cup of beef bouillon	1/4 pound steamed shrimp sautéed in chicken bouillon and garlic 2 cups stir-fried chinese vegetables with soy sauce, sesame seeds and hot peppers	1/4 pound Salmon fillet with lemon and soy sauce 1 cup green beans with crumbled bacon
Snack	Snack	Snack
1 oz peanuts	Hard-boiled egg	1 oz almonds