

Front Range CrossFit

Nutrition Information Packet



The CrossFit Dietary Prescription:

Finely tuned, a good diet will increase health, energy and sense of well being while reducing fat, packing on muscle and optimizing physical performance. Your nutrition will amplify or diminish the effects of your training efforts.

Nutrition is the foundation that your fitness is built upon. (CFJ Oct 2002)

Sport – performance
Weightlifting – the control of external weight
Gymnastics – the control of our bodies in space
Metcon (metabolic conditioning) – Cardio/Respiratory
Nutrition – solid molecular foundation



Food & Hormones:

Think of food as a drug that effects your hormone production. Food is made up of the **Macronutrients: protein, carbohydrate & fat**. (Micronutrients are vitamins & minerals) Eating carbohydrates effects your production of the hormone insulin and eating protein effects your production of the hormone glucagon. Glucagon releases stored energy (glucose) out of the liver and into the bloodstream where insulin pulls that energy out of the bloodstream into your cells to be used as fuel. We need to maintain a healthy balance of these two hormones for optimal health, mental & emotional balance, and physical performance. (Eating fat is hormonally neutral and supports the balance.)

We need a balance of Carb/Sugar/Insulin (lets energy into the cell) and Protein/Glucagon (lets energy out of the cell) to maintain optimum health.



Carbohydrates: (CFJ Nov 2002)

Insulin is the hormone – produced in the pancreas – that allows glucose into cells where it can be utilized as fuel. Though insulin is absolutely essential to life, chronic and acute elevation of insulin (through heredity or eating too much carbohydrate) will decrease the cells sensitivity to it. This causes the pancreas to secrete more insulin than is normal to get glucose inside the cell. This process is known as “**insulin resistance**” and the resultant condition is “Hyperinsulinemia”.

Hyperinsulinemia is the chronic & acute elevation of insulin as a result of habitual consumption of excess carbohydrate. Chronically elevated levels of insulin will wreak havoc on your health. Diseases like Diabetes Type II, coronary heart disease, depression, Alzheimer’s, hypertension, osteoporosis & obesity have all been scientifically linked to a diet too high in processed carbohydrate.

The food we eat also elicits a hormonal response that determines how energy is stored in the body. **Sugar drives the Insulin response & Insulin drives fat storage & slows the metabolism.**

Protein:

Eating protein along with carbohydrate in the correct proportions will negate the insulin reaction and the fat storage trigger. In the absence of ingested protein, your body will break down muscle to fulfill its protein requirement.

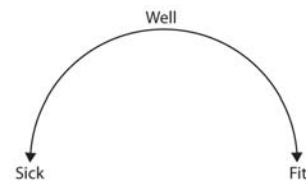
Fat:

Fat is your optimal energy source. It contains over 2 times the calories of protein or carbs. Eating “Good” fat (**polyunsaturated fatty acids, Omega-3, DHA, EPA**) does not slow metabolism, subjects do not feel hungry and energy is released from fat storage. The “Good” fats can actually increase insulin sensitivity and reduce insulin resistance. (Gary Taubes - “Good Calories, Bad Calories”). **The human body can not produce these fatty acids, they must be ingested.** These essential fatty acids also help in hormone production, regulating blood pressure, blood clotting, immune response & inflammation response. The human heart and skeletal muscles prefer fatty acids as fuel where the brain prefers glucose. Good fats are found in nuts & seeds, avocado and fish. “Bad” fats are the trans-fats, man-made fats and animal fats and have none of the beneficial effects of the good fats.

Sickness & Health:

A balanced diet allows for optimal health & fitness and guards against sickness. If you are fit, you first have to get well before you can get sick.

Fitness provides a margin of protection against sickness.
Wellness is the state of not being sick.



A Balanced Diet:

A balanced diet is essential to maintaining good health. It begins with good **quality** and the right **quantity** of food. Real food is perishable. The stuff with a long shelf life is circumspect.

The Paleo Diet:

You should base your diet on **lean meats, vegetables, nuts and seeds, some fruit, little starch and no sugar.** This is based on Dr. Cordain’s “Paleo Diet”. The Paleo Diet mimics the types of foods a person (hunter-gatherer/stone tools) ate prior to the Agricultural Revolution (from 2.5 million years ago to 12,000 years ago, about 10,000 BC). This period of time comprises 99% of human history and is the diet to which the human species is genetically adapted.

The Zone Diet:

To optimize your performance you need to pay attention to quantity as well as the quality of food. The “Zone Diet” is a calorically restricted diet that balances the intake of the macronutrients. Your metabolism is like a fire. If you put the right amount of fuel in the fire it will burn hot, too much fuel and it will smolder. There is an optimal quantity that you will thrive on. You should strive to keep intake to levels that will support exercise but not body fat.

Paleo – Eat quality food

Zone – Weighing and measuring proportions of food

Zone/Paleo – for optimal health and wellness.



Balancing Macronutrients:

CrossFit believes that Barry Sears’ “Zone Diet” closely models optimal nutrition. The Zone Diet accelerates and amplifies the effects of the CrossFit regimen by managing blood glucose, proper macronutrient proportion and caloric restriction. These are the three pillars of sound nutrition whether your concern is athletic performance, disease prevention & longevity, or body composition.

The Zone diet neither prohibits nor requires any particular food. It can accommodate paleo or vegan, organic or kosher, fast food or fine dining, while delivering the benefits of high performance nutrition.

The information that follows on the Zone Diet is taken from the CrossFit Journal issue 21, May 2004 and Barry Sears’ Zone books.

What should I eat?

It is worth repeating that you should base your diet on **lean meats, vegetables, nuts and seeds, some fruit, little starch, no sugar** and keep intake to levels that will support exercise but not body fat.

- **Protein** should be lean and varied and account for about **30%** of your total caloric load.
- **Carbohydrates** should be predominantly low-glycemic and account for about **40%** of your total caloric load.
- **Fat** should be predominantly monounsaturated and account for about **30%** of your total caloric load.

What foods should I avoid?

Modern diets are ill suited for our genetic composition. Evolution has not kept pace with advances in agriculture and food processing resulting in a plague of health problems. Diabetes Type II, coronary heart disease, depression, Alzheimer’s, hypertension, osteoporosis & obesity have all been scientifically linked to a diet too high in processed carbohydrate. High glycemic carbohydrates are those that raise blood sugar too rapidly. They include rice, bread, pasta, cereals, candy, potato, sweets, sodas, and most processed carbohydrates.

Caloric Restriction and Longevity

Current research strongly supports the link between caloric restriction and an increased life expectancy. The incidence of cancers and heart disease sharply decline with a diet that is limited in caloric intake. The CrossFit prescription allows a reduced caloric intake and yet still provides ample nutrition for rigorous activity.

- Calories should be set at between .7 and 1.0 grams of protein per pound of lean body mass depending on your activity level. The .7 figure is for moderate daily workout loads and the 1.0 figure is for the hardcore athlete.
(Lean body mass x .7) / 7 grams = blocks per day

What is a Block?

The Zone Diet is based on a block system of measuring food proportions. A block is a unit of measure used to simplify the process of making balanced meals.

Block Chart Grams:

7 grams of protein (cooked) = 1 block of protein

9 grams of carbohydrate = 1 block of carbohydrate

1.5 grams of fat = 1 block of fat.

The block chart assumes that there is about 1.5 grams of fat in your protein source. If the protein source is specifically labeled “non-fat” then double the usual fat blocks for that meal to 3 grams of fat per block.

When a meal is composed of equal blocks of protein, carbohydrate, and fat, it is made up of 40% carbohydrate calories, 30% protein calories and 30% fat calories.

Body Type and Block Requirements

CrossFit has simplified the process for determining your block requirements and meal size. They assume that you are a CrossFitter, i.e. very active. Choose your body type from the chart below to determine how many blocks you require for your 3 meals and 2 snacks per day.

Choose which body type best fits you to determine your block requirement.

Breakfast	Lunch	Snack	Dinner	Snack	Total daily blocks	Body type
2	2	2	2	2	10	Small female
3	3	1	3	1	11	Medium Female
3	3	2	3	2	13	Large Female
4	4	1	4	1	14	Athletic - well muscled female
4	4	2	4	2	16	Small male
5	5	1	5	1	17	Medium male
5	5	2	5	2	19	Large male
4	4	4	4	4	20	X-Large male
5	5	3	5	3	21	Hard gainer
5	5	4	5	4	23	Large hard gainer
5	5	5	5	5	25	Athletic - well muscled male

The Block Chart

Once you decide how many blocks you need, it is simple to use the block chart and select how much of each food you require.

Every meal, every snack must contain equivalent blocks of protein, carbohydrate and fat. Simply choose 1 item from the protein list, 1 item from the carbohydrate list, and 1 item from the fat list to compose a 1 block meal. Or choose 2 items from each column to compose a 2 block meal, etc.

Within a week of weighing and measuring you'll have developed an uncanny ability to estimate the mass of common-food portions, but, more importantly, you'll have formed a keen visual sense of your nutritional needs.

FAQ:

What is a Calorie?

A calorie is a measure of potential energy in food. Technically, one calorie is the amount of energy it takes to raise the temperature on 1 gram of water by 1 degree Celsius.

How does the body convert calories to energy?

Enzymes in your digestive system break down the chemical bonds that hold food molecules together. Your digestive system then releases the energy contained in those bonds, making it available for use.

What does the body do with that energy?

It fuels everything from basic activities like breathing, thinking, and growing hair to bigger tasks like Olympic Weightlifting or running a marathon. However, when you don't use the calories you've consumed, those calories get shuttled to your liver to refill your glycogen stores. Glycogen is the body's quick, easy-access energy reserve. Your ability to store it means you don't have to eat continuously to keep your body revved up. Still, it gets depleted every 3-4 hours. When the liver is holding as much glycogen as it can, some of it is converted to glucose and passed on to the muscles for short-term storage then oxidized into ATP and used as fuel.

Between your liver and muscles, you have a ready supply of calories (roughly 300 to 400, depending on your weight and metabolism) that you can access as necessary throughout the day. When you eat more than you can save in these temporary "accounts," the calories get converted to fat and distributed throughout your body.

How do scientists determine the number of calories in a food?

Typically, they use different laboratory methods to separate the caloric components of food – the macronutrients protein, fat and carbs from the non caloric substances like water and minerals. They figure out the weight of each macronutrient in grams and then multiply by the following to get the caloric count:

Fat has 9 calories per gram. Protein and Carbs have 4 calories per gram.

How do scientists figure out how many calories a person burns during exercise?

They place a plastic tube over the exerciser's mouth and measure the amount of oxygen he/she inhales while engaging in a specific activity (e.g., walking, rowing, biking). Every liter of oxygen consumed is equivalent to 4.8 calories burned. As your fitness level increases, you're able to take in and use more oxygen, which lets you work out harder, longer and burn more calories.

How many calories do you have to burn to lose a pound of body fat?

About 3,500. That means you can eat 100 fewer calories a day for 35 days, or 500 fewer calories for 7 days, or walk an hour a day for 22 days to lose one pound. The calories-in, calories-out rule still applies: If you take in more calories than you burn, you'll store fat. But this does not take the hormonal response to foods into account.

The Hormonal Response to Food:

The food we eat elicits hormonal responses that determine how energy is stored in the body. Sugar drives an insulin response and insulin drives fat storage and slows the metabolism. A "Good" fat (polyunsaturated fatty acids, Omega-3, DHA, EPA), lean protein, low-carb diet does not slow metabolism, subjects do not feel hungry and energy is released from fat storage.

The Hormonal Response to Intense Exercise:

(Tony Leyland – CFJ March 2008)

The hormonal response to high-power activities includes testosterone & human growth hormone, but many others are involved. The intense work also causes cellular damage that forces the body to rebuild tissue & strengthen, there are important hormones involved in the rebuilding process. And, your metabolism will stay elevated for much longer after a high power activity due to the action of adrenal gland hormones. Performing only long-slow, low-powered aerobic work is clearly inadequate for driving healthy hormonal response & truly healthy body composition - one that includes adequate musculature in all regions of the body, good bone & connective tissue density, and healthy body fat levels.

BLOCK CHART

Protien (cooked quantity)	
chicken breast	1 oz
turkey breast	1 oz
ground turkey	1 1/2 oz
veal	1 oz
beef	1 oz
ground beef	1 1/2 oz
canadian bacon	1 oz
corned beef	1 oz
duck	1 1/2 oz
ham	1 oz
lamb	1 oz
ground lamb	1 1/2 oz
pork	1 oz
ground pork	1 1/2 oz
calamari	1 1/2 oz
calfish	1 1/2 oz
clams	1 1/2 oz
crabmeat	1 1/2 oz
flounder/sole	1 1/2 oz
lobster	1 1/2 oz
salmon	1 1/2 oz
scallops	1 1/2 oz
swordfish	1 1/2 oz
shrimp	1 1/2 oz
tuna steak	1 1/2 oz
canned tuna	1 oz
protein powder	1 oz
soy burgers	1/2 patty
soy sausage	2 links
soy cheese	1 oz
firm tofu	2 oz
soft tofu	3 oz
whole egg	1 large
egg whites	2 large
egg substitute	1/4 cup
cottage cheese	1/4 cup
cheese	1 oz
feta cheese	1 1/2 oz
ricotta cheese	2 oz

Carbohydrate (cooked)	
oatmeal	1/3 cup
artichoke	1 small
asparagus	12 spears
green beans	1 cup
black beans	1/4 cup
broccoli	1 1/4 cup
brussel sprouts	3/4 cup
cabbage	1 1/3 cup
cauliflower	1 1/4 cup
chick peas	1/4 cup
dill pickles	3 (3 in)
eggplant	1 1/2 cup
kidney beans	1/4 cup
leeks	1 cup
lentils	1/4 cup
onions	1/2 cup
suarkraut	1 cup
spagetti squash	1 cup
spinach	1 1/3 cup
tomato sauce	1/2 cup
tomatoes	3/4 cup
yellow squash	1 1/4 cup
zucchini	1 1/3 cup

Combo Items (quantity)	
milk	1 cup
yogurt (plain)	1/2 cup
soybeans	1/4 cup
soymilk	1 cup

* note: combo items contain 1 block of protien & 1 block of carbohydrate.

Carbohydrate (raw)	
alfalfa sprouts	7 1/2 cups
broccoli	2 cups
cabbage	2 1/4 cups
cauliflower	2 cups
celery	2 cups
cucumber	1 (9 in)
lettuce, iceburge	1 head
lettuce, romaine	6 cups
mushrooms	3 cups
onions	2/3 cup
peppers	1 1/4 cup
radishes	2 cups
salsa	1/2 cup
snow peas	3/4 cup
spinach	4 cups
tomato	1 cup
apple	1/2
apple sauce	3/8 cup
apricots	3 small
blackberries	1/2 cup
cantaloupe	1/4 cup
cherries	7
fruit cocktail	1/3 cup
blueberries	1/2 cup
grapes	1/2 cup
grapefruit	1/2
honeydew	1/2 cup
kiwi	1
lemon	1
nectarine	1/2
orange	1/2
peach	1
pear	1/2
pinapple	1/2 cup
plum	1
raspberries	2/3 cup
strawberries	1 cup
tangerine	1
watermelon	2/4 cup

Fat (quantity)	
almonds	~3
avocado	1 Tbs
canola oil	1/3 tsp
macadamia nuts	~1
olives	~5
peanut butter	1/2 tsp
peanuts	~6
cashews	~3
peanut oil	1/3 tsp
olive oil	1/3 tsp
tahini	1/3 tsp
guacomole	1/2 Tbs
vegetable oil	1/3 tsp
mayonnaise	1/3 tsp
mayo, light	1 tsp
seseme oil	1/3 tsp
sunflower seeds	1/4 tsp
bacon bits	1 1/2 tsp
butter	1/3 tsp
half and half	1 Tbs
cream, light	1/2 tsp
cream cheese	1 tsp
sour cream	1 tsp
tartar sauce	1/2 tsp
lard	1/3 tsp
veg. shortening	1/3 tsp

Unfavorable Carbohydrates	
Vegetables	
acorn squash	3/8 cup
baked beans	1/8 cup
beets	1/2 cup
butternut squash	1/3 cup
cooked carrots	1/2 cup
corn	1/4 cup
french fries	5
lima beans	1/4 cup
peas	1/3 cup
pinto beans	1/4 cup
potato, boiled	1/3 cup
potato, mashed	1/5 cup
refried beans	1/4 cup
sweet potato, baked	1/3 (5 in)
sweet potato, mashed	1/5 cup
Fruit	
banana	1/3 (9 in)
cranberries	1/4 cup
cranberry sauce	4 tsp
dates	2
figs	3/4
guava	1/2 cup
kumquat	3
mango	1/3 cup
papaya	2/3 cup
prunes	2
raisins	1 Tbs
Fruit Juice	
apple juice	1/3 cup
cranberry juice	1/4 cup
fruit punch	1/4 cup
grape juice	1/4 cup
grapefruit juice	3/8 cup
lemon juice	1/3 cup
orange juice	3/8 cup
pinapple juice	1/4 cup
tomato juice	3/4 cup

Grains & Breads	
bagel	1/4
barley	1 Tbs
biscuit	1/4
baked potato	1/3 cup
bread crumbs	1/2 oz
bread	1/2 slice
bread stick	1
buckwheat	1/2 oz
bulgur wheat	1/2 oz
cereal	1/2 oz
corn bread	1 sq in
comstarch	4 tsp
croissant	1/4
crouton	1/2 oz
donut	1/4
english muffin	1/4
flour	1 1/2 tsp
granola	1/2 oz
grits	1/3 cup
muffins	1/4
noodles	1/4 cup
instant oatmeal	1/2 pkt
pasta, cooked	1/4 cup
pancake	1/2 (4 in)
pita bread	1/4
popcorn	2 cups
rice	3 Tbs
Rice cakes	1
Roll (hamburger, hot dog)	1/4
taco shell	1
tortilla (corn)	1 (6 in)
Tortilla (flour)	1/2 (6 in)
waffle	1/2

* note: When building meals with "unfavorable carbohydrates" quantity becomes critical.

Condiments	
BBQ sauce	2 Tbs
catsup	2 Tbs
cocktail sauce	2 Tbs
Honey	1/2 Tbs
Jelly/jam	2 tsp
plum sauce	1 1/2 Tbs
molasses	2 tsp
pickle (bread & butter)	6 slices
relish (sweet)	4 tsp
steak sauce	2 Tsp
brown sugar	1 1/2 tsp
granulated sugar	2 tsp
confectioners sugar	1 Tsp
maple syrup	2 tsp
teriyaki sauce	1 1/2 Tbs
Alcohol	
Beer	8 oz
liqour	1 oz
wine	4 oz
Snacks	
Chocolate bar	1/2 oz
corn chips	1/2 oz
graham crackers	1 1/2
ice cream	1/4 cup
potato chips	1/2 cup
pretzels	1/2 oz
Tortilla chips	1/2 oz
saltine crackers	4