

# Managing Cholesterol

**What is Cholesterol?** Cholesterol is lipid (fat like substance) that makes up the cell membranes. Cholesterol moves through our bodies as packages of lipoproteins made by our liver. There are three types of cholesterol: **LDL** (low-density lipoproteins), **VLDL** (very-low density lipoproteins), and **HDL** (high-density lipoproteins.) The first two are the so called “bad” cholesterol which deposit fat and cholesterol into the body. HDL, or the “good” cholesterol helps your body by removing excess cholesterol from artery walls and returns it to the liver for processing. All the bad cholesterol in our bodies is from our own doing from animal food products – *all* the cholesterol we need is naturally produced by our bodies.

**Why High Cholesterol Matters.** High cholesterol is directly linked to coronary health. When you have excess cholesterol in your body it sticks to the arterial walls in your heart. When cholesterol sticks to your heart it narrows the passages the blood has to pass through. The narrower the passages (arteries) the harder your heart must push to circulate the blood throughout your body. This puts extra pressure on your heart and can lead to a heart attack.

**Types of Fat. Tryglycerides** are the fats in your bloodstream that come from the foods you eat. They make the blood thicker and increase the chance of clotting when blood levels are high. It also increases the risk of heart disease when high. **Saturated fats** are solid at room temperature and come from animal fat, palm oil and coconut oil. They increase bad cholesterol build-up in arteries and increase coronary heart disease (CHD) risk. **Unsaturated fats** are liquid at room temperature and come from vegetable oils. They lower CHD risk by lowering bad cholesterol. **Hydrogenated fats** and **trans-fatty acids** are artificially saturated and made solid although they are vegetable oils. They increase bad cholesterol and increase CHD risk.

## Blood cholesterol health risk table

Total	Ideal	Desirable	At Risk	High Risk
Cholesterol	> than 160	> than 200	200-239	240+
LDL	> than 100	> than 130	130-159	160+
HDL	60 or higher	50 or higher	> than 40	> than 35
Total cholesterol minus HDL	130 or less	160 or less	161-189	190 or higher

## 9 Steps To Reduce Your Cholesterol Levels!

1. Reduce your intake of saturated fats to 7% or less of all calories consumed.
2. Reduce dietary cholesterol – eat smaller portions of meat with the fat trimmed, limit your consumption of eggs and cook your food more often by baking, broiling, steaming and boiling.
3. Reduce total fat in your diet.
4. Increase dietary fiber – fruits, vegetables, legumes and whole grains.
5. Eat more vegetable proteins and less animal proteins – soy products, nuts, brown rice and beans.
6. Manage your weight.
7. Increase antioxidants in your diet as they may help prevent cholesterol buildup in your arteries.
8. Increase your physical activity – it increases HDL, burns fat, and helps control weight.
9. Consult a physician about medication if necessary.

**Keep In mind:**

- High total cholesterol and low HDL levels increase your risk of coronary heart disease.
- Choosing healthy fats is the preferred way to lower total cholesterol levels.
- More than half of all adult Americans have borderline high or high blood cholesterol levels.
- **There are no obvious early symptoms of high cholesterol!**
- Diet and exercise can lower bad cholesterol and raise good cholesterol levels
- There are three things that you should be aware of:
  - **Age** – your risk increases with age
  - **Heredity** – know your family history for heart health as part of high cholesterol may be genetic
  - **Gender** – men are slightly higher risk than women.

*Source: WellAssured Guide to Managing Cholesterol, 2006*

# Blood Pressure

Blood is carried from the heart to all parts of your body in vessels called arteries. Blood pressure is the force of the blood pushing against the walls of the arteries. Each time the heart beats (about 60-70 times a minute at rest), it pumps out blood into the arteries. Your blood pressure is at its highest when the heart beats, pumping the blood. This is called systolic pressure. When the heart is at rest, between beats, your blood pressure falls. This is the diastolic pressure.

Blood pressure is always given as these two numbers, the systolic and diastolic pressures. Usually they are written one above or before the other, such as 120/80 mmHg. The top number is the systolic and the bottom the diastolic. The systolic pressure or the top number is the pressure when the heart contracts. The diastolic pressure or the bottom number represents the pressure when the heart relaxes. Blood pressure changes during the day. It is lowest as you sleep and rises when you get up. It also can rise when you are excited, nervous, or active.

Still, for most of your waking hours, your blood pressure stays pretty much the same when you are sitting or standing still. That level should be lower than 120/80. When the level stays high, 140/90 or higher, you have high blood pressure. With high blood pressure, the heart works harder, your arteries take a beating, and your chances of a stroke, heart attack, and kidney problems are greater.

## What is high blood pressure?

A blood pressure of 140/90 or higher is considered high blood pressure. Both numbers are important. If one or both numbers are usually high, you have high blood pressure. If you are being treated for high blood pressure, you still have high blood pressure even if you have repeated readings in the normal range.

There are two levels of high blood pressure: Stage 1 and Stage 2 (see the chart below).

**Categories for Blood Pressure Levels in Adults\*** (In mmHg, millimeters of mercury)

Category	Systolic (Top number)	Diastolic (Bottom number)
Normal	Less than 120	Less than 80
Prehypertension	120-139	80-89
<b>High Blood Pressure</b>	<b>Systolic</b>	<b>Diastolic</b>
Stage 1	140-159	90-99
Stage 2	160 or higher	100 or higher

Note: When systolic and diastolic blood pressures fall into different categories, the higher category should be used to classify blood pressure level. For example, 160/80 would be stage-2 high blood pressure. There is an exception to the above definition of high blood pressure. A blood pressure of 130/80 or higher is considered high blood pressure in persons with diabetes and chronic kidney disease.

# ESSENTIAL FATTY ACIDS (EFA)

## *Can fat be good for us?*

There is a huge misperception when it comes to eating fat. Can consuming fat be healthy for us? As a matter of fact, it can! We just have to be educated on what types of fats are the most beneficial for us.

The main components of all fats are the fatty acids. Fatty acids are saturated or unsaturated (monounsaturated or polyunsaturated). Fats containing a high proportion of saturated fatty acids are solid at room temperature. These are commonly known as saturated fats and are usually derived from animal sources e.g. lard and butter. Most plant fats are high in either polyunsaturated or monounsaturated fats, except palm and coconut fat which are highly saturated.

Saturated and monounsaturated fats are not necessary in the diet as they can be made in the human body.

Two polyunsaturated fatty acids (PUFAs) that cannot be made in the body are linoleic acid and alpha-linolenic acid. They must be provided by the diet and are known as **Essential Fatty Acids (EFA)**.....eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

In the body PUFAs are important for maintaining the membranes of all cells, for making prostaglandins that regulate many body processes (inflammation and blood clotting), for enabling the fat-soluble vitamins A, D, E and K to be absorbed from food, and for regulating body cholesterol metabolism.

- **Polyunsaturated fats** [ie: Omega-3 (EPA and DHA) and Omega-6]
  - liquid at room temperature
  - helps decrease blood fat (triglycerides)
  - helps decrease cholesterol (or keeps LDL low)
  - helps keep blood thin
  - helps lower risk of heart disease
  - may benefit overall metabolism
  - helps with joint mobility
  - helps with skin and hair appearance
  
- **Monounsaturated fats** [ie: canola oil, olive oil, peanut oil, soft tub margarine]
  - may help decrease cholesterol
  
- **Saturated fats** [ie: lard, butter, cheese, cream, red meats]
  - solid at room temperature
  - raises blood cholesterol and blood fat levels
  - should be less than 5 grams per serving on the food label
  
- **Trans fats** (ie: shortening, some butter/margarine, some sprays)
  - hydrogenated products (process from liquid to solid)
  - hardens arteries
  - diet high in trans fats leads to heart attacks, diabetes, and some cancers
  - look for 0 grams of trans fats on the food label

## \*ESSENTIAL Polyunsaturated Fatty Acids - Dietary Sources

\*Essential = body cannot produce; therefore, we have to ingest!

### ***Omega-6 (Linolenic Acid)***

<b>Food Sources:</b>	<b>Oils:</b>
Vegetables	Safflower
Fruits	Sunflower
Nuts	Corn
Grains	Soya
Seeds	Evening Primrose
	Pumpkin
	Wheatgerm

### ***Omega-3 (Alpha-Linolenic Acid)***

<b>Food Sources:</b>	<b>Oils:</b>
Fish (salmon, sardines, trout, anchovy)	*Fish oil
Flaxseeds (linseeds) and Flaxmeal (ground seeds)	*Flaxseed oil
Mustard seeds	Canola oil (rapeseed)
Soya beans	Soya
Walnut Oil	
Green leafy vegetables	
Grains	

#### ***Important Notes:***

Most of us do get enough Omega-6s in our diets already. We seldom get enough Omega-3s though! The best forms of Omega-3 are Fish Oil and Flaxseed Oil. They are critical for health.

**\*\*\*It is highly recommended that prior to supplementing, one should consult a doctor – especially if one is already on blood pressure medication, blood thinner, or any other heart medication as Omega-3 supplements can thin the blood.**

**\*\*\*If there is a fish allergy, do not take a Fish Oil Supplement. Instead, try Flaxseed Oil.**

## Omega-3 Capsule Supplement Tip List

If you choose to consume Fish Oil as a supplement, here is a list of what to look for on the label!

Front Label should read:

- Fish Oil
- Salmon Oil
- Omega-3
- Or a combination (ie: Salmon and Fish Oils)
- At least 1000 mg capsule

Side Label should read:

- DHA (ie:120 mg)
- EPA (ie:180 mg)
- Add both concentrations together and it should equal 300 mg (at least!!)

Enteric Coated:

- Helps with fish repeats
- Capsule digests in the small intestine and not in the stomach versus the capsules that have softer shells.

## Ingestion Tips

- Take 3 per day....why? We should be ingesting approximately 1000 mg of DHA and EPA. Most concentrations are 300 mg on a label (out of the 1000 mg capsule...with the remaining 700 mg being glycerine and water for preservation).
- If the label reads more than 300 mg (DHA + EPA), adjust intake accordingly....
- Take with food to limit 're-visiting'
- Take altogether (so you don't forget during the day) or one, three times per day if you prefer.



# Fat Intake Log Sheet

Every gram of fat contains 9 calories

Time: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

Day	Breakfast			Morn. Snack			Lunch			Aft. Snack			Supper			Total Grams of Fat
	Food	Grams of Fat Unsat / Sat		Food	Grams of Fat Unsat / Sat		Food	Grams of Fat Unsat / Sat		Food	Grams of Fat Unsat / Sat		Food	Grams of Fat Unsat / Sat		
MON																
TUES																
WED																
THURS																
FRI																
SAT																
SUN																

Out of your total calories per day 25-30% should come from fats.

No more than 10% of this should come from saturated fats.

Total Daily Caloric Intake \_\_\_\_\_ x 25-30% = \_\_\_\_\_ calories divided by 9 \_\_\_\_\_ grams of fat/day.



# Program Evaluation

Name of Program: Extreme Lifestyle Makeover – EDGE Edition

Name of Presenter(s): \_\_\_\_\_

Date: \_\_\_\_\_

Circle one of the following

	Not at all		Some-what		Very
Was this program informative?	1	2	3	4	5
Were the group sessions easy to follow?	1	2	3	4	5
Was/were the presenter(s) clear and easy to understand?	1	2	3	4	5
Was this program worth your time?	1	2	3	4	5

- What information, discussed during this program, will you apply in your daily life?

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- Was there any information that was not discussed that you would recommend we add to the program in the future?

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- Additional comments:

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Thank-you for your time!