

# Fat Restricted Diet

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# Fat Restricted Diet

- **Heart Healthy Diet (HHD).**
- **Therapeutic Lifestyle Change Diet (TLC).**
- **Low-Fat Diet**

# Fat Restricted Diet/ HHD

- Heart Healthy Diet (HHD), known as Cholesterol / Saturated Fat Restricted
- Step 1 Diet
- **Use :**
  - This diet is prescribed to reduce cholesterol or lipids in the blood.
  - The goal is to **reduce total blood cholesterol**, “bad” low-density lipoprotein (**LDL**) cholesterol, triglycerides, and to increase “good” high-density lipoprotein (**HDL**) cholesterol.

# Fat Restricted Diet/ HHD

- **Adequacy**

- Dietary Reference Intakes (DRIs).
- A Heart Healthy Diet is recommended for the general population.

- **Diet Principals**

- Complex carbohydrates including whole grains, fruits, and vegetables should provide most of the calories from carbohydrates.
- When blood triglycerides are high and HDL cholesterol is low, replace simple and refined carbohydrate calories with monounsaturated fats to allow up to 35% of total calories from fat.

# Fat Restricted Diet/ HHD

- Consume foods high in omega-3 fatty acids, including fatty fish, two times weekly.
- Sources include **salmon, walnuts, flaxseed, omega-3 fortified food, and oils such as and soybean.**

- **Diet Guidelines**

- Less than 30% total calories from fat
- Total of 8–10% calories from saturated fat
- Less than 1% of calories from trans fats
- Less than 300mg of dietary cholesterol per day
- Limit sodium to 2,400mg per day, 1 tsp
- Maintain healthy body weight

# Cholesterol & other lipids content of foods

Dairy Products	Portion	Cholesterol (mg)	Total Fat (g)	Saturated Fat (g)
Milk (non-fat)	1 cup	4	0	0
Milk (low-fat)	1 cup	10	3	2
<b>Milk (whole)</b>	1 cup	<b>33</b>	<b>8</b>	<b>5</b>
Yogurt (non-fat)	1 cup	10	0	0
<b>Yogurt (whole)</b>	1 cup	<b>29</b>	<b>7</b>	<b>5</b>
<b>Cheddar Cheese</b>	1 <u>oz</u>	<b>30</b>	<b>9</b>	<b>6</b>
Cottage Cheese (low-fat)	1 cup	10	2	2
<b>Cottage cheese (Regular)</b>	1cup	<b>36</b>	<b>9</b>	<b>3.6</b>

# Cholesterol & other lipids content of foods

Fats	Portion	Cholesterol (mg)	Total Fat (g)	Saturated Fat (g)
<b>Butter</b>	<b>1 tsp</b>	<b>10</b>	5	<b>≈ 2</b>
Margarine	1 tsp	0	5	<b>≈ 1</b>
Corn Oil	1 tsp	0	5	<b>≈ 1</b>

# Cholesterol & other lipids content of foods

Meats & Protein	Portion	Cholesterol (mg)	Total Fat (g)	Saturated Fat (g)
Tofu	1/2 cup	0	11	2
Pinto beans	1/2 cup	0	1	0
<b>Egg</b>	1	<b>212</b>	<b>5</b>	<b>2</b>
Halibut	3 ½ oz	41	3	0
Salmon	3 ½ <u>oz</u>	63	<b>12</b>	2
Oysters	3 ½ <u>oz</u>	55	2	1
Crab	3 ½ oz	52	1	0
Lobster	3 ½ oz	71	1	0
Tuna (in water)	3 ½ oz	30	1	0
<b>Shrimp</b>	3 ½ <u>oz</u>	<b>194</b>	1	0
<b>Squid</b>	3 ½ <u>oz</u>	<b>231</b>	1	0



# Cholesterol & other lipids content of foods

Meats & Protein	Portion	Cholesterol (mg)	Total Fat (g)	Saturated Fat (g)
Beef (ground, lean)	3 ½ oz	78	18	7
Beef (short ribs)	3 ½ oz	94	42	18
Beef (sirloin)	3 ½ oz	89	12	5
<b>Beef Liver</b>	3 ½ oz	<b>389</b>	5	2
Veal (top round)	3 ½ oz	135	5	2
Lamb (foreshank)	3 ½ oz	106	14	6
Ham	3 ½ oz	53	6	2
Pork (tenderloin)	3 ½ oz	79	6	2
Pork (chop)	3 ½ oz	85	25	10
<b>Chicken Liver</b>	3 ½ oz	<b>631</b>	6	2
Chicken (no skin)	3 ½ oz	85	5	1

# Fat Restricted Diet/ HHD

**Table 7.3** Common Sources of Trans Fat

- 
- Food prepared with partially hydrogenated vegetable oils (baked goods such as cookies, crackers, and snack cakes)
  - Commercially prepared fried foods
  - Some margarines
  - Fried foods served in restaurants and fast food restaurants such as French fries, chicken nuggets, fish patties, and fried pies
  - Look for the words *partially hydrogenated oil* in the ingredients list
-

# Fat Restricted Diet/ HHD

**Table 7.1** Heart Healthy Diet

Food for the Day		
	Recommended	Restrict
<b>Vegetables</b> 1–4 cups	All fresh, frozen, or canned vegetables (choose low sodium varieties or rinse before serving); 100% vegetables juice.	Commercial fried vegetables, vegetables in butter, cream sauce, or cheese sauce, fried potatoes, French fries, chips
<b>Fruits</b> 1–2.5 cups	Any fresh, frozen, dried, or canned fruits or 100% fruit juice.	Dried fruit with added sugar, fried fruit, fruit served with added fat.
<b>Grains</b> 3–10 ounce- equivalents	Whole-grain breads, cereals, rice, pasta, crackers, and tortillas; brown rice, quinoa, whole wheat couscous, barley, oats. Products made with oat bran. Flaxseed, chia seed.	Egg noodles; fried rice; commercial muffins, biscuits, doughnuts, sweet rolls, croissants; egg or cheese breads; party crackers; regular granolas, regular granola bars, sweets made with partially hydrogenated oils.

# Fat Restricted Diet/ HHD

**Table 7.1** (Continued)

Food for the Day		
	Recommended	Restrict
<b>Dairy Products</b> 2–3 cups	Fat-free or low-fat (1%) milk, fat-free dry milk, evaporated fat-free milk, buttermilk made from fat-free milk, fat-free soy milk or milk substitutes; almond milk, fat-free and low-fat yogurt including Greek yogurt, low-fat cottage cheese, low-fat cheese.	Cream, sour cream, whole or reduced fat milk, regular evaporated milk, whole or reduced fat yogurt, cheese, whole milk ice cream, half and half
<b>Protein Foods</b> 2–7 ounce-equivalents <b>Note: Eggs</b> <i>limit yolks to 1 per day</i>	Lean beef, and pork (loin, leg, round, extra lean hamburger), lamb, veal, skinless poultry, 95–99% fat-free luncheon meats, fish, dried beans, nuts and nut butters, meat alternatives / substitutes. Egg whites, egg substitutes or omega-3 fortified eggs; hard-cooked or scrambled.	High fat cuts of beef, pork, lamb. Bacon, salt pork, hot dogs, sausage, regular cold cuts, canned meats, skin of chicken or turkey, fish canned in oil, or organ meats. Whole eggs and egg yolks especially fried in partially hydrogenated ( <i>trans fat</i> ) oils.

# Fat Restricted Diet/ HHD

<b>Oils. Solid Fats</b> <i>Use sparingly</i>	Unsaturated oils (Canola oil, olive oil, sesame oil, flax seed oil, soy); nonhydrogenated margarines, low-fat or nonfat salad dressings or those made with canola or olive oil; see Fat List in Appendix 17.	Butter, margarine, solid shortening, lard, salt pork, chicken fat, coconut oil, palm oil, palm kernel oil, creamy salad dressings; nondairy creamers, partially hydrogenated oils ( <i>trans fat</i> )
<b>Added Sugars</b> <i>Use sparingly</i>	70% dark chocolate, sugar-free gelatin desserts, angel food cake. Any low-fat cookies, pies, cakes, or other desserts. Sherbet, low-fat ice cream or frozen yogurt.	Any full fat cakes, cookies, pies, or other desserts. Milk chocolate, puddings, custards, and ice creams unless made with fat-free milk or fat-free dry milk.
<b>Fluids</b>	Water and other fluids, such as milk, coffee, tea, fruit or vegetables juice	High sugar beverages including sweetened fruit juices and pop

# Fat Restricted Diet/ TLC

- **Therapeutic Lifestyle Change Diet (TLC).**
  - Step II.
  - Recommended for those identified at high risk or have known cardiovascular disease.
- **Use:**
  - This diet is prescribed for those individuals who have LDL and VLDL cholesterol above the goal range for their category of risk for heart disease.
  - This diet specifically focuses on the reduction of LDL with food choices and incorporates functional foods
  - Functional foods are whole foods and fortified, enriched, or enhanced foods that have a potentially beneficial effect on health when consumed at effective levels as part of a varied diet on a regular basis.

# Functional Food

- Functional foods cover a variety of **foods minimally processed, whole foods along with fortified, enriched or enhanced foods**, can all be functional foods.
- Generally, these foods have a potentially beneficial effect on health when consumed on a regular basis and at certain levels.
- Examples:
  - [Functional Foods \(eatright.org\)](http://eatright.org)

# Fat Restricted Diet/ TLC

- **Adequacy**

- The amounts should cover the DRIs recommendations.

- **TLC Diet Principles**

- The TLC Diet follows the same diet principals as the Heart Healthy Diet but also incorporates functional foods.



# Fat Restricted Diet/ TLC

- **TLC Diet Guidelines**

- Total of 25–35% calories from fat
- Less than 7% total calories from saturated fats
- Less than 1% of calories from trans fats
- Up to 10% calories from polyunsaturated fat
- Up to 20% of calories from monounsaturated fats

# Fat Restricted Diet/ TLC

- **TLC Diet Guidelines- continue**

- Less than 200mg dietary cholesterol per day
- Total of 50-60% calories from carbohydrate
- Total of 15% calories from protein
- Consume 2 grams per day of plant stanols/sterols.
- Most natural foods are below 500mg per/ 0.5g serving, therefore food manufactures supplement foods to meet the recommendations.

# Sterols and Stanols

‘Plant stanols and sterols, also known as **phytosterols**, are **cholesterol-like compounds** that are found naturally in a range of plant-based foods including vegetable oils, grain products such as breads and cereals, seeds, nuts, legumes, and fruits and vegetables’.

# Sterols and Stanols

- Along with a healthy diet, eating foods that provide you with around 2g of plant stanols and sterols every day has been shown to reduce blood cholesterol levels.
- A healthy diet typically contains **around 200-400mg** of sterols and stanols a day. However, this intake is too low to bring about a significant cholesterol-lowering effect.
- Plant stanols and sterols are added to certain foods such as **dairy-type foods like milk, yoghurt and yoghurt drinks.**

# Sterols and Stanols

- **How do they lower cholesterol?**
- Plant sterols and stanols have a similar chemical structure to cholesterol.
- Reducing the absorption of cholesterol in the gut so more is lost in the faeces.
- There is evidence to show that eating 2g (between 1.5g to 3g) of plant stanols and sterols can lower LDL by 7.5 - 12% when eaten regularly as part of a healthy diet.
- If you take **statins** (cholesterol-lowering medication), eating stanols or sterols will further lower non-HDL cholesterol ( 30% additional).

# Sterols and Stanols

- You can achieve 2g per day of plant stanol and sterol by consuming:
  - 1- One plant stanol or sterol fortified mini yoghurt drink (one bottle) per day which contains all the 2g recommended **OR**
  - 2- Two to three portions of foods with at least 0.8g of added plant sterol/stanol per day such as:
    - Two teaspoons (10g) fortified spread.
    - One fortified yoghurt
    - One glass (250ml) fortified milk **OR**
  - 3- Stanols and sterols are also available in supplements/ no evidence of difference.

# Sterols and Stanols

- These products are safe for people taking cholesterol-lowering medication such as statins and fibrates.
- As they work in different ways to reduce cholesterol, the effect of taking both can decrease cholesterol levels more than just taking a statin or fibrate.
- They are not a replacement for any cholesterol-lowering medications.
- Plant sterols/stanols are generally safe for most healthy people. There is no benefit for people with normal levels of cholesterol.
- They are not recommended for those who are pregnant or breastfeeding or for children aged under five, as there is limited reliable information of their safety in these groups.

# Sterols and Stanols

**Table 7.5** Food Sources of Plant Sterols

<b>Food Sources</b>	<b>Amount (grams)</b>
Avocado, 1 small	0.13
Sunflower seeds, ¼ cup	0.19
Nature Valley Healthy Heart®, 1 bar	0.40
Corazonas Chips	0.40
Rice Dream® Heart Wise Rice Milk, 8oz	0.65
Silk Heart Health Soymilk, 8oz	0.65
Lifetime® Low-Fat Cheese Slices 1 slice	0.65
Minute Maid HeartWise®, 8oz	1.00
Benecol®, Take Control®, 1 Tbsp	1.00
Kardea Bar	1.00
Smart Balance® Heart Right Buttery Spread, 1 Tbsp	1.70



# Fat Restricted Diet/ TLC

- **TLC Diet Guidelines- continue**

- Consume 10–25 grams per day of fiber. Sources include oat bran, beans, legumes, flax seed, and chia seed.
- Maintain desirable body weight and prevent weight gains
- Moderate exercise.
- Soy protein can be used to replace animal products. Sources include tofu and soy milk.

# Fat Restricted Diet/ Low-Fat Diet

- This diet allows only 40–50 grams of fat per day
- **Use**
  - Use The Low-Fat Diet may be prescribed to reduce the fat intake for clients with diseases of the gallbladder, liver, or pancreas.
  - If disturbances in digestion and absorption of fat occur.
- **Adequacy**
  - Provide the DRIs
  - Restriction of fat (the most concentrated source of calories) may result in a diet low in calories.
  - Medium chain triglycerides (MCT) may be useful in meeting energy needs.

# Fat Restricted Diet/ Low-Fat Diet

<b>Oils, Solid Fats</b> <i>Limit to 1 tablespoon</i>	Canola oil, olive oil, sesame oil, flax seed oil, soy oil, nonhydrogenated margarines, low-fat or nonfat salad dressings. Fats from seeds and nuts, nut butters, and avocados.	Butter, margarine; solid shortening, lard, salt pork, chicken fat, coconut oil, palm oil, palm kernel oil; creamy salad dressings; nondairy creamers, partially hydrogenated oils.
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