

# 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>	1 cup	<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

<b>Meats &amp; Protein</b>	<b>Portion</b>	<b>Cholesterol (mg)</b>	<b>Total Fat (g)</b>	<b>Saturated Fat (g)</b>
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

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

# Fat Restricted Diet/ HHD

**Table 7.3** Common Sources of Trans Fat

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- 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
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# Fat Restricted Diet/ HHD

**Table 7.1** Heart Healthy Diet

<b>Food for the Day</b>		
	<b>Recommended</b>	<b>Restrict</b>
<b>Vegetables</b> <i>1–4 cups</i>	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> <i>1–2.5 cups</i>	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> <i>3–10 ounce-equivalents</i>	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
<p><b>Dairy Products</b> 2–3 cups</p>	<p>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.</p>	<p>Cream, sour cream, whole or reduced fat milk, regular evaporated milk, whole or reduced fat yogurt, cheese, whole milk ice cream, half and half</p>
<p><b>Protein Foods</b> 2–7 ounce-equivalents</p> <p><b>Note: Eggs</b> limit yolks to 1 per day</p>	<p>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.</p> <p>Egg whites, egg substitutes or omega-3 fortified eggs; hard-cooked or scrambled.</p>	<p>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.</p> <p>Whole eggs and egg yolks especially fried in partially hydrogenated (<i>trans</i> fat) oils.</p>

# 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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