

## Reduced fat, high protein, high energy diet

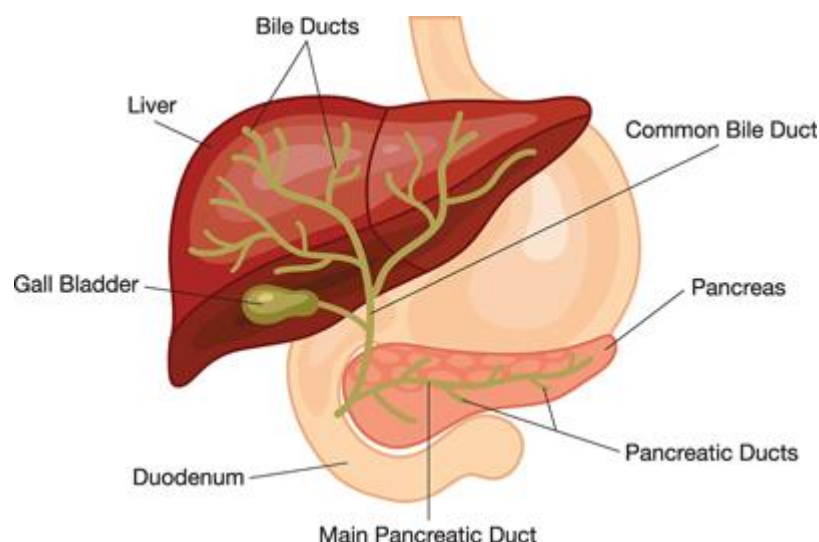
### Why do I need to reduce the fat in my diet?

You have been given this information sheet because your body is not able to properly digest (break down) and absorb the fat from the food you eat. You may have experienced a change in your bowel function such as frequent, pale, floating, oily or foul smelling stools. You may experience discomfort or pain when you eat higher fat foods. These are signs that you struggle to digest fat. Fat is usually a good source of energy in your diet, so if your body can't break it down, you miss out on that energy and you may lose weight and strength.

To digest fat and prevent the above symptoms your body needs bile (produced in the liver and stored in the gall bladder) and digestive enzymes (produced in the pancreas). If either of these systems are disrupted, it is difficult to digest fat properly. Not getting the enzymes from the pancreas (also known as pancreatic exocrine insufficiency) can be treated with pancreatic enzyme replacement therapy such as Creon, Nutrizym, Pancrex or Pancrease. Most people taking these enzymes can eat a full, normal diet.

However, there are some situations where people need a reduced fat diet, these include;

- The liver being unable to produce or release enough bile
- A blockage in the bile duct which is stopping or reducing the flow of bile into the small intestine
- Difficulty reabsorbing enough bile in the small intestine, this is known as 'bile acid malabsorption'
- Symptomatic gallstones (where pain occurs after eating fat containing foods)



Reducing the amount of higher fat foods you eat is part of enabling better digestion and absorption of nutrients from your food. Your body will cope better with small amounts of fat at a time. This should improve your bowel habit and help to reduce any weight loss.

## How can I eat less fat?

The table below will help to guide you to choose lower fat foods. It is important to remember that everyone is different, and you may tolerate more or less fat than other people. Try to judge how much fat your body can manage by reducing the amount of fat you are eating gradually until you see your symptoms improve. The aim is to keep enough fat in your diet in order to prevent unwanted weight loss or nutritional deficiencies, but reduce your symptoms so they are manageable.

	<b>Likely to be well tolerated</b>	<b>Eat in moderation if tolerated</b>	<b>Unlikely to tolerate unless eaten in very small amounts</b>
<b>Cooking method</b>	Grill, bake, microwave, steam, boil, poach	Low fat foods cooked in a minimal amount of fat e.g. vegetables stir-fried in ½ teaspoon of oil	Foods fried or roasted in fat. High fat takeaways e.g. fish and chips, creamy curry, pizzas.
<b>Fats</b>	Spray cooking oils, coconut oil might be tolerated.	Low fat/light spreads	Butter, margarine, lard, suet, all oils such as olive oil, vegetable oil, sunflower oil.
<b>Sauces and spreads</b>	Pickles/chutney, ketchup, BBQ sauce, brown sauce, chilli & sweet chilli sauce, cranberry sauce, gravy made with granules & water, mango chutney, lighter than light mayonnaise, mint sauce, mustard, piccalilli, soy sauce, Worcestershire sauce, herbs and spices, garlic, lemon juice, yeast extract, vinegar, jam, marmalade, honey, low fat salad dressings, white sauce (made with corn flour and low fat milk), tomato-based sauces	Guacamole, horseradish sauce, reduced fat houmous, light mayonnaise, sweet & sour sauce, thousand island dressing, white sauce.	Béarnaise sauce, salad dressings that are cream or oil based, hollandaise sauce, houmous, peanut butter, chocolate spread, mayonnaise, pesto, salad cream, tartar sauce, gravy made with meat juices, cheese sauce, tinned coconut milk based sauces

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<b>Meat, meat alternatives, fish and eggs</b>	<p>Chicken, turkey, white fish (remove visible fat/skin before cooking), seafood, lean mince (5% fat), Quorn, tofu, fat free vegan bacon.</p> <p>Potato topped pies (if vegetables and/or meat from low fat section chosen)</p> <p>Poached &amp; boiled eggs, scrambled eggs (no added fat, use low fat milk), omelette (no added fat) – limit to 2 eggs</p>	<p>Mince (&lt;20% fat), chicken/turkey (cooked in skins but removed after cooking), red meat such as pork chop, rump steak. Small portion oily fish e.g. salmon, trout, herring, mackerel, sardines, tuna in brine, breaded fish e.g. fish fingers.</p>	<p>Battered meat or fish. Fried or processed meats e.g. sausages, burgers, salami, meatballs, meat paste or pate. May need to be careful with fattier meats/game such as lamb and duck. Fish tinned in oil.</p> <p>Pastry products e.g. sausage rolls, quiche, pasties and pies.</p> <p>Fried Eggs</p>
<b>Dairy products</b>	<p>Skimmed or semi-skimmed milk, Soya milk. (Note that oat, rice, almond &amp; coconut based milk alternatives are low fat but also very low in protein)</p> <p>Low fat/fat free/high protein low fat yogurts or virtually fat free fromage frais, soya yogurts</p> <p>Cottage cheese, thin spreading of light cream cheese. Low fat quark</p>	<p>Whole milk, evaporated or condensed milk. Half fat cream/crème fraiche, light soured cream, fromage frais</p> <p>Full fat yogurts</p> <p>Softer cheeses like ricotta, feta, mozzarella, camembert, brie, cream cheese, light cream cheese or low-fat hard cheeses (these cheeses are still high in fat, but small portions may be tolerated).</p>	<p>Double/soured/clotted/whipped/single cream, crème fraiche</p> <p>Hard cheeses such as cheddar, parmesan, edam, blue cheese.</p>
<b>Starchy carbohydrates</b>	<p>Bread, rolls, bagels, baps, tea-cake, English muffin, crumpet, panini, ciabatta, sourdough, spelt bread, tortilla, roti/chapatti</p> <p>Porridge, Breakfast cereals without nuts</p> <p>Pasta, spaghetti, gnocchi, rice, noodles, potatoes, oven chips, sweet potatoes, couscous, quinoa</p>	<p>Croutons, banana bread, focaccia, paratha, naan, brioche, waffles, fruit cakes, sponge cakes without cream</p> <p>Nut based cereals e.g. granola, muesli</p> <p>Chips roast potatoes, wedges, baked hash brown, waffles, potato croquette, fried rice, thin crust pizza, baked potato with small amount of margarine / butter</p>	<p>Taco, poppadum, puri, croissant, pain au chocolate, buttered or fried breads, pastries, sweet tarts, cream cakes</p> <p>Dauphinoise potatoes, potato au-gratin, baked potato with cheese.</p>

	<b>Likely to be well tolerated</b>	<b>Eat in moderation if tolerated</b>	<b>Unlikely to tolerate unless eaten in very small amounts</b>
<b>Fruit, vegetables and pulses</b>	Most fruit and vegetables including salads, peas, beans and lentils (tinned, frozen, dried or fresh)	Roasted vegetables, low fat coleslaw	Salad with high fat salad dressings, coleslaw, avocado, olives
<b>Snacks and desserts</b> <i>*If you have diabetes discuss this section with your dietitian, diabetes nurse or doctor</i>	Crispbreads, rice cakes, pretzels, marshmallows, boiled/jellied/gummed sweets  Jelly, sorbet, low fat milk puddings and custard, strawberry delight, meringue, tinned fruit, low fat yoghurt	Fig rolls, plain semi-sweet biscuits, oat biscuits, ginger biscuits, iced rings, Jaffa cakes, scones, cream crackers, water biscuits, oatcakes. Home-made popcorn, baked crisps Ice cream, full fat milk puddings and custard. Very small portions of mousse, panna cotta, lemon meringue pie, sticky toffee pudding, trifle with no cream	Filled, coated or fancy biscuits, cookies, shortbread, chocolate, pastry  All nuts & seeds, crisps, Bombay mix, chocolates  Chocolate torte, crème brulé, cheesecake, profiteroles, any desserts with cream added

Please note that the fat content of the foods in the table above will vary depending on the brand and how it is made.

You may find it helpful to read some food labels to check the fat content.

<b>Low fat means:</b>	<b>High fat means:</b>
3g of fat or less per 100g	17.5g of fat or more per 100g

You do not need to stick rigidly to these cut off levels but the information will help guide you towards lower fat options.

It is also important to recognise that the bigger portion you have of something, the more fat you will get from it. You may find it easier to eat small amounts of higher fat foods at a time. For example, you might be fine eating one slice of pizza and salad, but you might not manage two slices of pizza or one slice with low fat coleslaw on the salad.

You may find it helpful to limit the overall content of fat per meal to **15g** and spread the amount of fat eaten evenly throughout the day.

## How do I get enough nutrients in my diet whilst following a reduced fat diet?

Lower fat foods will often have less calories, providing less energy. By having less fat in your diet you are therefore at risk of losing weight, muscle stores and strength. To help prevent this, you can:

- Eat little and often
- Aim for 5-6 small meals and snacks per day rather than 3 main meals
- Ensure each meal or snack has a source of protein by including lower fat protein foods (e.g. lean red meat, chicken or turkey, white fish, eggs, beans, lentils, meat alternatives, milk and low fat yoghurts)
- Include lower fat sources of carbohydrates (e.g. bread, pasta, cereals, potatoes, rice)

It is important that you have enough protein in your diet in order to stop you losing muscle. The following high protein products may be useful to help you meet your needs:

- High protein milkshakes (e.g. Weetabix on the go Protein<sup>®</sup>, UFIT<sup>®</sup>, Avonmore protein milk<sup>®</sup>, Alpro Plant Protein<sup>®</sup>)
- High protein yoghurts (e.g. Skyr<sup>®</sup>, Quark<sup>®</sup> (low- fat option), Greek style yogurt 0% fat<sup>®</sup>), these could be dairy or plant based, look at the labels for protein and fat content to help make the best choice
- High protein breakfast cereals (e.g. Special K Protein Plus<sup>®</sup>, Weetabix Protein<sup>®</sup>, Oats so simple protein<sup>®</sup>)

Foods that have more fibre such as wholemeal bread, brown rice, oats, beans and lentils can make you feel fuller for longer, making it more difficult to eat more often. You may find it helpful to choose foods lower in fibre and avoid filling your plate with a lot of fruit and vegetables.

If you have diabetes you should check with your dietitian before reducing your fibre intake. Reducing your fibre intake may also affect your bowels, if you experience constipation, you can seek advice regarding laxatives from your GP.

If you cannot manage a lot of fat in your diet, it is important to try to include as much as you can feel comfortable with. Vitamins A, D, E and K are absorbed in your gut alongside fat, so, if you are not eating enough fat, you may not absorb enough of these for your needs. For this reason it is a good idea to take a general multivitamin and mineral tablet. You may be advised to take higher doses of specific vitamins than usual recommendations if your blood results indicate you have low levels of these vitamins.

You should aim to include one small portion of oily fish per week for the beneficial omega 3 fats they have in them (e.g. salmon, trout, kippers, mackerel, pilchards, anchovy & sardines). White fish and seafood can also be included but they have lower levels of omega 3. If you do not eat fish, you can take omega-3 supplements, this is something you could discuss with your pharmacist.

## **What shall I do if I am losing weight or muscle unintentionally or would like to gain weight?**

It can be more difficult to put on weight whilst following a reduced fat diet. It is recommended that you try to follow the advice above and establish a regular meal and snacking pattern.

If you can only manage small portions at a time, it can be helpful to fortify your food so that each mouthful is higher in calories. However, you will need to avoid adding high fat foods such as cream/butter/oil/full fat cheese to foods. Instead you could try to:

- Add skimmed milk powder to milk (4 tablespoons to 1 pint milk)
- Add skimmed milk powder to soup (1-2 tablespoons to 1 bowl)
- Add pulses such as chickpeas/beans/lentils to soups and casseroles
- Add high protein yogurt to mashed potato, smoothies and salads
- Add tofu to stir fries/smoothies/desserts
- Add cottage cheese to smoothies

Your dietitian will also consider if you would benefit from nutritional supplement drinks. There are many types and brands of supplement drinks – such as milk-based, juice type, yogurt style and powdered varieties.

To reduce the fat content, you can make supplement shakes using powders made up with low fat milk, or juice based supplements (fat free) may be prescribed.

## **Different types of fat**

Most fats in our food are made up of 'long chain fats', these are called long chained triglycerides (LCTs). There is also a type of fat called medium chained triglycerides (MCTs), which are digested and absorbed differently in the gut and do not need the help of bile or pancreatic enzymes. This means they can be useful in providing you with energy in a way that does not increase your symptoms. There is information below about how you can add these fats into your diet. Do not try this type of diet without specialist supervision by a dietitian.

MCTs are not often found naturally in food. However, coconut oil has more MCTs than standard cooking oils and can be used as an alternative. It is only suitable for cooking at low temperatures as it has a low flash point, so be really careful if you are cooking with this, especially on a gas stove or where there is an open flame. Specialist MCT oils can be found in health stores, a small amount such as a teaspoon of these or coconut oil can be added to hot drinks or salad dressings. There are also supplements available that are high in MCT fats (e.g. Vital 1.5<sup>®</sup>, Peptamen<sup>®</sup> and MCT Procal<sup>®</sup>) that can be prescribed by your GP.

When you start taking MCT products, start with small portions and increase the amount you have fairly gradually as they can cause stomach upset if you start with larger amounts. They can also be expensive.

## **What to do if I am still losing weight?**

If after following this advice you are still struggling to eat enough and are losing weight, let your dietitian know and they will discuss with you other ways of providing your body with the nutrition you need. This may include discussing giving you nutrition via a feeding tube.

## **What if I have diabetes?**

It is possible to follow the advice in this booklet if you have diabetes. Your dietitian will liaise with your doctor/diabetes nurse to ensure you are taking the most appropriate diabetes medication or insulin regimen to allow you to eat as freely as possible.

Occasionally, if you are struggling with high blood glucose levels, you may be advised to reduce the portion sizes of foods such as cereal products, fruits, snacks and desserts.

This is only appropriate if you are maintaining your weight, eating well, and feel able to replace those foods with vegetables, pulses and protein to ensure you are getting enough energy. If your appetite is reduced, it may be more appropriate to review your diabetic medication to improve your blood sugar levels, and allow you to eat freely.

We know that the natural sugars in fruit can cause a rise in blood glucose levels so eating fruit in the right portion size is important. One portion of fruit can be eaten as a snack.

A portion of fruit is about one handful (e.g. one small apple, two small plums). For those who inject insulin, if you are snacking on carbohydrate foods or having fruit/dessert at the end of meals, then you should discuss with your diabetes team whether your insulin regimen needs to be adjusted to help manage your blood glucose levels.

Sugar, sugary drinks and sugary sweets should be avoided (unless being used to treat hypoglycaemia), as they can cause a rapid increase in blood glucose levels. Low sugar, or no added sugar alternatives and sweeteners are great alternatives. If you would like further information on diet and diabetes please ask your dietitian.

## **Suggested meal plan** – choose one option from each section

### **Breakfast:**

- Breakfast cereal with semi-skimmed / skimmed milk
- Fruit with high protein yoghurt
- Toast with baked beans/light cream cheese/turkey slices/jam
- Scrambled eggs/omelette and toast with low fat spread/light cream cheese
- Breakfast milk drink

### **Midmorning snack:**

- Glass of semi-skimmed / skimmed milk or milky drink and/or 1-2 plain biscuits or jaffa cakes®, sliced malt loaf or plain cake.
- High protein yoghurt with or without fruit
- Crackers with cottage cheese/turkey/lean ham slices
- Pretzels/popcorn
- Small portion of mousse

## **Lunch:**

- Sandwich/crackers with lean meat/fish/egg/low fat cheese
- Jacket potato/toast with baked beans/tuna and light mayonnaise and salad
- Soup (fortified with 1-2 tablespoons skimmed milk powder & 1 teaspoon MCT oil/coconut oil) with bread/crackers
- Pasta/rice/couscous with chicken/tuna/egg/Quorn® and salad with light salad dressing
- Scrambled eggs/omelette and toast with low fat spread/light cream cheese

## **Dessert:**

- Low fat yogurt/rice pudding
- Fruit and low-fat custard
- Meringue with fruit and sorbet
- Jelly

*You could try a very small portion of the 'Eat in moderation' desserts in the table on page 4 to see if you can tolerate these or not*

**Mid afternoon snack:** see mid-morning snack ideas

## **Evening meal:**

- Spaghetti bolognese made with lentils, Quorn® or 5% beef mince (not cooked in oil)
- Lean meat/chicken/turkey burgers/fish with boiled vegetables and potatoes (no butter/oil, add light cream cheese/light mayonnaise/high protein yogurt for flavour).
- Lean meat/fish/lentil curry (tomato-based sauce) with rice/½ chapatti 1/½ plain naan
- Cottage pie made with Quorn® or 5% fat beef mince

**Dessert:** see Lunch Dessert ideas

**Bedtime snack:** see mid-morning snack ideas

If you have any further questions after reading this, please contact your dietitian.

**The information in this booklet does not replace the advice given to you by your dietitian/doctor/nurse specialist.**

**The advice in this booklet is suitable for most people, but everyone is different.**

**The contents of this booklet may differ to the information given to you by your medical team as their advice is specific to you, and your condition.**





**Other leaflets available in this series with more information on specific areas are:**

- Pancreatic enzyme replacement therapy
- Type 3c diabetes (pancreaticogenic diabetes)
- Pancreatic disease and physical activity
- Nutrition and acute pancreatitis
- Chronic pancreatitis and your diet
- Chronic pancreatitis: high energy, high protein advice
- Chronic Pancreatitis: Advice to help with constipation
- Bile reinfusion

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