

# Following a very low fat diet for a chyle leak (adults)

Nutrition and Dietetic Service

Information for Adult Patients

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## What is a chyle leak?

Chyle is a fatty fluid produced when normal fat is digested and absorbed into our body. It travels within our lymph system. The lymph system is a network of channels and glands in our body that fights infection and remove excess fluid. Chyle fluid contains nutrients such as protein, fat, electrolytes and white blood cells.

A chyle leak happens when there is damage to a part of the system called a lymphatic duct. This might be caused by surgery, injury or other disease conditions. When chyle fluid leaks into the chest or tummy (abdominal cavity), the loss of the fluid may result in the wound not healing as well, electrolyte disturbance, problems with the immune system and malnutrition.

## How does my diet help?

The aim of this diet is to lower the amount of chyle made. This allows the lymph system to heal and lower the risk of more leaks.

The normal fats we have in our diet are known as long chain triglyceride (LCT). By severely restricting this fat, it will reduce the amount of chyle fluid made.

### **Lower normal fat in diet = Lower chyle fluid production**

Medium chain triglyceride (MCT) oil is absorbed differently into our system. This allows lymph vessels to heal. It will be introduced into the diet to increase flavour and calories in your diet. This aims to keep your LCT fat intake as low as possible whilst making sure you eat enough to maintain your weight.

## How long do I need to follow the diet?

Your consultant will let you know how long you will need to be on this diet. The end date of the diet is written on the last page of this diet sheet.

**Health information and support is available at [www.nhs.uk](http://www.nhs.uk)  
or call 111 for non-emergency medical advice**

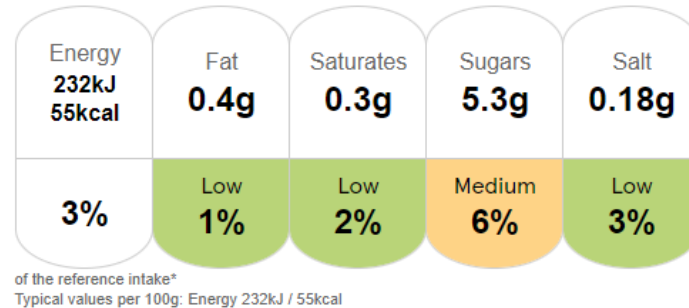
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	Foods allowed	Foods to avoid
<b>Dairy products</b>	<ul style="list-style-type: none"> <li>• Skimmed milk (red top)</li> <li>• Very low fat*/ Fat free soft cheese</li> <li>• Very low fat*/ Fat free yogurt</li> <li>• Very low fat*/ Fat free ice-cream</li> <li>• Meritene shake or Nesquik (avoid chocolate flavour)</li> <li>• Skimmed milk powder or fat free protein powder</li> </ul> <p>Please speak to your dietitian if you would like a dairy free alternative</p> <p>*Aim for less than 0.5g fat per serving</p>	<ul style="list-style-type: none"> <li>• Whole milk (blue top)</li> <li>• Semi skimmed milk (green top)</li> <li>• Condensed and evaporated milk</li> <li>• Single, double or clotted cream</li> <li>• Full fat and low fat yogurt</li> <li>• Ice-cream</li> <li>• All cheeses including regular cottage cheese</li> </ul>
<b>Egg and seafood</b>	<ul style="list-style-type: none"> <li>• Egg white, BakeRite egg replacer</li> <li>• White Fish (without skin) e.g. haddock, sole, plaice, cod</li> <li>• All shellfish</li> <li>• Tinned tuna (in brine or spring water only), seafood stick</li> </ul>	<ul style="list-style-type: none"> <li>• Egg yolk</li> <li>• Oily fish e.g. salmon, sardine, mackerel, kipper, herring</li> <li>• Any tinned fish in oil</li> <li>• Fish or shellfish in breadcrumbs or batter e.g. fish fingers, scampi</li> </ul>
<b>Meat</b>	<ul style="list-style-type: none"> <li>• Lean cut meat without skin and visible fat e.g. chicken and turkey breast</li> <li>• Lean ham, chicken and turkey slices</li> <li>• Very low fat minced (2% turkey mince)</li> </ul>	<ul style="list-style-type: none"> <li>• Any other meats</li> <li>• Animal skin and organs</li> <li>• Any processed meat e.g. salami, spam, corned beef, Pâté, sausages, chicken nuggets, meat pies</li> </ul>
<b>Meat substitute</b>	<ul style="list-style-type: none"> <li>• Quorn</li> <li>• Seitan</li> </ul>	<ul style="list-style-type: none"> <li>• Tofu</li> <li>• Tempeh</li> </ul>
<b>Beans and pulses</b>	<ul style="list-style-type: none"> <li>• Most beans e.g. baked beans, red or white kidney beans, black eye beans</li> <li>• Peas e.g. chick peas, split peas</li> <li>• All lentils</li> </ul>	<ul style="list-style-type: none"> <li>• Soy bean</li> <li>• Edamame</li> </ul>
<b>Nuts and oil</b>	<ul style="list-style-type: none"> <li>• Medium chain triglyceride (MCT) oil from hospital</li> </ul>	<ul style="list-style-type: none"> <li>• All nuts, nut based food (peanut butter, hazelnut spread)</li> <li>• All seeds, seed based food (tahini)</li> <li>• All other fats and oil</li> </ul>
<b>Fruit and vegetable</b>	<ul style="list-style-type: none"> <li>• Most fresh, frozen, tinned and dried fruit</li> <li>• Most fresh, frozen and tinned vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Avocado</li> <li>• Olives</li> <li>• Coleslaw, potato salad</li> <li>• Tinned or bottled vegetable in oil</li> </ul>

	Foods allowed	Foods to avoid
<b>Cereal and bread</b>	<ul style="list-style-type: none"> <li>• Plain cereal (Cornflakes, Frosties, Sugar Puffs, Special K Cocopops, Rice Crispies, Weetabix)</li> <li>• Plain bread (White or wholemeal)</li> <li>• Chapatti and Naan made with MCT oil</li> <li>• Plain flour, rice, rye, cornflour</li> </ul>	<ul style="list-style-type: none"> <li>• All Bran flake, muesli, granola, Readybrek, oat</li> <li>• Cereals containing chocolate, nuts and seeds</li> <li>• Bread containing nuts, seeds and cheese</li> <li>• Naan bread, chapatti, focaccia</li> <li>• Any pastry, bread rolls</li> <li>• Soya flour, semolina</li> </ul>
<b>Potato</b>	<ul style="list-style-type: none"> <li>• Boiled, steamed, baked in skins, mashed with skimmed milk (using MCT oil)</li> </ul>	<ul style="list-style-type: none"> <li>• Homemade potato with normal oil/fat</li> <li>• Processed potato e.g. frozen oven chips, potato waffles, croquette</li> <li>• Potato crisps, cheese puffs</li> </ul>
<b>Pasta and Noodles</b>	<ul style="list-style-type: none"> <li>• Plain rice (white or brown), rice noodles</li> <li>• Boiled or tinned pasta</li> </ul>	<ul style="list-style-type: none"> <li>• Fried rice, egg noodles</li> <li>• Pasta in creamy or white sauce e.g. mac and cheese, carbonara, mascarpone sauce</li> <li>• Pasta based ready meals</li> </ul>
<b>Savoury Snacks</b>	<ul style="list-style-type: none"> <li>• Matzo, ice-cream wafers</li> <li>• Crispbread, Ryvita (seedless)</li> </ul>	<ul style="list-style-type: none"> <li>• Samosa, breadstick</li> <li>• Indian snacks (Chakri, Balti mix)</li> </ul>
<b>Sweets</b>	<ul style="list-style-type: none"> <li>• Jellied sweets, liquorice, boiled sweets and mints, marshmallow, chewing gum, Turkish delight</li> <li>• Plain meringues, plain rice cake (not chocolate or yogurt coated)</li> </ul>	<ul style="list-style-type: none"> <li>• Scottish tablet, toffee, fudge, chocolate, butter mints</li> <li>• Most cakes, biscuits and cookies</li> </ul>
<b>Desserts</b>	<ul style="list-style-type: none"> <li>• Jelly, sorbet, ice lollies</li> <li>• Rice pudding, sago and tapioca made with skimmed milk</li> </ul>	<ul style="list-style-type: none"> <li>• Dairy puddings made with semi-skimmed or full fat milk</li> <li>• Trifle, cakes, sponge puddings, mouse, brownies, fruit crumble, gateaux</li> <li>• Ordinary or instant custard</li> </ul>
<b>Sauces and other</b>	<ul style="list-style-type: none"> <li>• Tomato ketchup, vinegar, brown, soy, oyster and barbeque sauce</li> <li>• Fat free dressing e.g. fat free mayonnaise, stock cube, gravy granules</li> <li>• All herbs and spices</li> <li>• Sugar, syrup, honey, jam, marmalade, chutney, treacle</li> <li>• Marmite, Oxo, Bovril</li> </ul>	<ul style="list-style-type: none"> <li>• Salad cream, Dijon mustard, mayonnaise, pesto sauce, vinaigrette</li> <li>• Pre-made tomato sauce and gravies</li> <li>• Creamy soup</li> <li>• Guacamole and hummus</li> <li>• Fruit curd, chocolate spread</li> </ul>
<b>Drinks</b>	<ul style="list-style-type: none"> <li>• Fizzy drinks, squash, cordial, fruit juice</li> <li>• Tea and coffee made with skimmed milk</li> <li>• Milkshakes flavourings</li> </ul>	<ul style="list-style-type: none"> <li>• Instant chocolate drinks, Horlicks, Ovaltine, Milo, malt drinks</li> <li>• Full fat milk shakes, fruit Lassi, Kefir</li> <li>• Irish cream, cream liqueurs</li> </ul>

## Checking food labels

Always read food labels to check level of fat. Aim for green coded labels or food that contains less than 0.5g fat per serving.



## Cooking tips

- We encourage you to boil, poach, blanch, steam, bake and air fry.
- Avoid deep, shallow or pan frying and sautéing.
- Add herbs and spices to increase the flavour of meals.
- Cooking from scratch to avoid unwanted fat, e.g. using tinned tomato rather than pre-made pasta sauce.
- Using fat-free yogurt and fat-free soft cheese to make creamy sauce.
- Increase use of beans, lentils and peas as low fat source of protein.

## Instructions when using MCT oil

- A bottle of 500ml Nutricia MCT oil will be given to you on discharge. This can be used in meal preparation and cooking at home. Please see the recipe book given to you for further ideas.
- **MCT oil has a lower smoking/ flash point than other cooking oils, so it is important not to overheat it, as it is more flammable than cooking oil and may produce a bitter taste. Do not leave it unattended when cooking.**
- Store in closed containers, protected from light and in a cool place at 4 to 25°C. Once opened, replace the container lid and use within 1 month. Always close the container lid after use.

## Nutritional supplements

Your dietitian may advise taking some other oral nutritional supplements to avoid weight loss. These supplements will be either low in fat or may contain MCT oil. An example of this is Liguigen. Liguigen is available in a liquid form that can be added to milk based drinks, or can be taken alone in small quantities as a medicine. Please see recipe book for further ideas on how to incorporate Liguigen into your diet.

Your dietitian may advise taking vitamin, mineral and essential fatty acid supplements, if you are on this diet for a long time.

**Meal ideas**

<b>Breakfast:</b>	Plain cereal with skimmed milk or plain toast (2 slices) with jam or syrup and tea with skimmed milk
<b>Mid-morning snack:</b>	Piece of fruit with fat free yogurt and Meritene shake
<b>Lunch:</b>	Sandwich (2 slices of plain bread, choice of vegetable, slices of lean ham and fat free mayonnaise) Homemade skimmed rice pudding and piece of fruit
<b>Mid-afternoon snack:</b>	Plain rice cake with fat free soft cheese and cherry tomatoes
<b>Evening meal:</b>	<ul style="list-style-type: none"> <li>• Chicken breast or Quorn chow mein (stir fry vegetable pack) with MCT oil and soy sauce</li> <li>• Greek style roast fish (skinless cod baked in chopped tomato, onion, garlic, mixed herbs) and mash potato with skimmed milk</li> <li>• Very low fat chilli con carne with 2% turkey mince</li> </ul> <p>Plain rice cake with sliced pear, honey and cinnamon OR sorbet with ice-cream wafers</p>

**Contact details**

Dietitian: -----

Telephone number: -----

Start date: -----

Finish date: -----

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