

A Guide to using your Pancreatic Enzyme Replacement Therapy (PERT)

Name:

Date:

Your Dietitian:

Contact Number:

Why do I need to take pancreatic enzymes?

The pancreas normally produces enzymes that help digest and absorb the foods we eat (fats, protein and carbohydrate). In some people the pancreas is not able to produce enough of these enzymes, which can lead to food being absorbed poorly.

Symptoms of malabsorption include weight loss, abdominal pain, altered bowel habit e.g. diarrhoea or change in stool (faeces) colour, consistency (fatty), smell and difficulty in flushing away the stool.

You have been prescribed a special enzyme supplement, which will replace the enzymes that are usually produced by the pancreas. This will help your body to digest the food (fat, protein and carbohydrate) that you eat and reduce the symptoms of malabsorption.

The pancreatic enzyme supplement you have been prescribed is:

How many enzymes should I take?

There are many preparations available and they differ considerably in their effectiveness. Everyone's body is different therefore the dosage of pancreatic enzymes will be different from person to person.

Please be aware the enzymes are made by the pancreas of pigs and therefore are an animal derived product. If you have concerns about this please discuss it with your doctor.

Pancreatic enzymes must be taken with all foods and drinks containing the following:

- **Fats** e.g. butter, oil, fried foods
- **Protein** e.g. meat, fish, pulses, nuts, milk, cheese, eggs
- **Carbohydrate** (starch) e.g. potatoes, bread, pasta, rice, cereals, biscuits

The dosage you require also depends on the fat content and the size of a meal or snack. For example you may need to take more enzymes with a meal of fried fish and chips than with roast chicken, boiled potatoes and peas.

You do **not** need to take the enzyme with foods and drinks containing simple sugars e.g. boiled sweets/pastilles, mints, jam, honey, sugar and syrup, jelly, fresh and tinned fruit, fruit juice, squash, fizzy drinks, alcohol, tea, coffee and water.

The initial starting dose is usually 1-2 capsules with meals and 1 capsule with a snack but your doctor will advise you on what to take.

It is recommended that the total dose per day should not exceed 10,000 units of lipase per kg body weight.

How to take your enzymes

Taking your pancreatic enzymes correctly will ensure you digest your food well. Try to follow these guidelines to maximise the action of your pancreatic enzymes.

DO

- Swallow the capsule whole (if you are unable to swallow the capsule they can be opened and the contents mixed with a little fromage frais, jam or fruit puree and taken immediately – do not sprinkle over a meal).
- Take them before and during meals/snacks. Spread the dose if taking more than one capsule/dose.
- Vary the number of capsules you take according to the fat content and the size of your meal or snack.
- Always carry the enzymes with you.
- Store in a cool dark place (room temperature).
- Check you are on an antacid (proton pump inhibitor) e.g. omeprazole to reduce gastric acid as these help the enzymes to work more effectively.
- If you have diabetes please monitor your blood sugar levels. When you start taking pancreatic enzymes your blood sugar levels may increase with improved digestion and absorption of your food.

DON'T

- Take them after eating (if you forget to take them before/during a meal it is better to take them immediately after eating than not at all).
- Miss enzymes with your snacks, milky drinks and nutritional supplements.
- Use enzymes that are out of date.
- Store near a heat source i.e. keep away from fridge/microwave tops, window sills, radiators, direct lighting or trouser pockets. The enzymes can be damaged at high temperatures.

Try to monitor your bowel habit and symptoms. If there is no improvement consult your doctor or dietitian.

How do I know I am taking the correct amount of pancreatic enzyme?

After you have started to take pancreatic enzymes your symptoms of malabsorption should improve.

Check your stools (faeces) if they are pale/light in colour, loose, greasy, difficult to flush away it may be that you require a higher dose of pancreatic enzymes.

If you are constipated it can be a sign that you are taking too many pancreatic enzymes. Treatment and medications e.g pain relief and chemotherapy can also make you constipated and in this case a laxative may be required rather than reducing the dose of pancreatic enzymes.

Monitor your weight. If you are unintentionally losing weight it may be a sign that your body is not receiving all of the nutrients from the food that you are eating and that you require a high dose of pancreatic enzymes.

For further guidance consult your doctor or dietitian.

Try to use this guide on fat contents to adjust your pancreatic enzyme intake depending on what you are eating.

High fat foods

All foods which have been fried or cooked with oil or fat.

- **Dairy** - double/whipping cream, butter, margarine.
- **Eggs and cheese** - quiche, egg mayonnaise, fried egg, cheddar cheese, cream cheese, danish blue or stilton, processed cheese, camembert or brie, macaroni or cauliflower cheese, pizza.
- **Meat** - steak and kidney pie, cornish pasty, fried liver, sausage roll, meat pies, pork pie, scotch eggs, breaded chicken, chicken kiev, lasagne, cannelloni, moussaka, beefburgers, pate, salami.
- **Fish** - fish in batter, fried scampi, mackerel or herring, tinned fish in oil.

- **Nuts** - peanuts/peanut butter, brazil, almond, cashew, coconut, hazelnut, macadamia, pecan, pine, pistachio, walnut.
- **Vegetables** - homemade chips or chip shop chips, hash browns, fried potatoes.
- **Snacks** - crisps, pot noodle, chocolate bars.
- **Takeaways** - all Indian (e.g. curries, samosa, pakora), Chinese (e.g. pancake rolls), fish and chips and burger meals.
- **Cakes/desserts/puddings** - cheesecake, lemon meringue pie, danish pastries, fresh cream cakes, flapjack, suet pudding, gateaux, fruit pie and mince pie, doughnut, croissant, trifle, christmas pudding, Battenburg cake, Cornetto, Mars ice-cream, pancakes, custard tart, tiramisu.
- **Supplements** - Enshake (Abbott Nutrition), Calshake (Fresenius Kabi), Scandishake (Nutricia), Calogen/Extra (Nutricia), Pro-Cal shot (Vitaflo), Fresubin 5kcal Shot (Fresenius Kabi), Vitasavoury soups (VitaFlo)
- **Biscuits** - chocolate coated biscuits, digestive biscuits, custard creams.
- **Cakes/desserts/puddings** - milk puddings made with full fat milk e.g. Angel delight, custard, egg custard, blancmange, gingerbread, fruit cake, jam tart, currant bun, swiss roll, chocolate mousse, Artic roll, jam filled sponge.
- **Supplements** - Complian/Complan Shake made with full fat milk (Nutricia), Fresubin Energy/2kcal/2kcal crème (Fresenius Kabi), Meritene Energis milkshakes/soups made with full fat milk (Nestle), Fortisip Extra/Compact/Yogurt style/Savoury Multi Fibre and Forticreme (Nutricia), Ensure Plus Milkshake/2kcal/Shake/Savoury/Yogurt style/Creme (Abbott Nutrition), Nutriplen/Nutriplen Protein/Nutricreme (Naultra), Aymes Shake/Complete (made with full fat milk) (Aymes).

Medium fat

- **Dairy** - full cream milk, evaporated milk, single cream, thick and creamy yoghurts, fruit corner type yoghurts, Greek yoghurts, milkshakes, (including thick shakes), ice-cream.
- **Eggs and cheese** - boiled/scrambled/poached eggs. Medium fat soft cheeses, reduced fat cheddar.
- **Meats** - grilled bacon, minced beef, roast meats (lean only), beef stew, chilli con carne, lamb and pork chops (lean only), corned beef, grilled steak.
- **Fish** - fish in parsley sauce, fish pie (potato topping), tuna, salmon (grilled/poached), grilled trout.
- **Nuts** - chestnuts.
- **Vegetables** - roast potatoes, oven chips, mashed potatoes (with butter and milk), coleslaw, potato salad, avocado pear, soya beans.
- **Bread and cereals** - garlic bread, Yorkshire pudding, chappatis, filled pasta e.g. ravioli, tortellini, fried rice.
- **Dairy** - semi skimmed milk, skimmed milk, low fat yoghurt.
- **Cheese** - cottage cheese.
- **Bread and cereals** - all breakfast cereals, wholemeal and white bread or rolls, pasta (except filled), boiled rice, crumpets and muffins, noodles, tinned spaghetti.
- **Fish** - white baked fish (grilled or steamed), prawns.
- **Fruit and vegetables** - boiled or jacket potato, any vegetables boiled or raw, any plain salad, baked beans.
- **Puddings** - jelly, plain meringue, milk puddings (made with semi skimmed/skimmed milk).
- **Supplements** - Meritene Energis shakes/soups made with water/semi skimmed milk (Nestle), Fresubin Jucy (Fresenius Kabi), Fortijuce (Nutricia), Ensure Plus Juce (Abbott Nutrition), Ensure Shake (made with water/semi skimmed milk) (Abbott Nutrition), Complian/Complan Shake (made with water/semi skimmed milk) (Nutricia), Aymes Shake (made with water/semi skimmed milk) (Aymes)

Low fat foods

Remember when adding butter/fat/oil/cheese to foods e.g. bread, pasta, potatoes this will change these to medium/high fat foods.

If you have a poor appetite the following tips may help

- Eat little and often - have nourishing snacks or drinks between meals.
- Drink less tea, coffee, squash and water, especially at mealtimes as these tend to fill you up but have little nutritional value.
- If cooking smells put you off, avoid cooking. Ask family and friends to cook, use convenience foods or eat cold foods.
- When your appetite is good, make the most of it. Keep snacks handy.
- Food supplements - there are a number of commercial products available from the chemist which can be taken to supplement your diet if your appetite is poor e.g. Meritene Energis (Nestle), Complan (Nutricia) both are available in milkshakes and soups.

If you begin to lose weight and don't need to

You can boost the energy content of your meals without making them any larger by doing the following;

- Add grated cheese to soups, fish, sauces, pasta, omelettes and vegetables e.g. potatoes, cauliflower, broccoli.
- Be generous with butter and margarine – add to vegetables.
- Add cream or evaporated milk to soups, sauces and desserts.
- Add sugar, honey or jam to puddings and cereals, plus sugar to drinks.
- Have a snack in between meals and choose milky drinks e.g. hot chocolate, Ovaltine, Horlicks, milkshakes.

Remember you may need to take additional pancreatic enzymes if adding extra fat to meals or snacks.

If you need further advice please contact your dietitian.

Suggested Menu

Meal	No. of capsules
Breakfast	
Snack	
Lunch	
Snack	
Evening Meal	
Snack	

Further contact and support

Upper GI Dietitians

Tel: **01392 406237**

Department of Nutrition & Dietetics

Tel: **01392 402044**

Written information cannot replace personalised recommendations. For further advice please seek a dietetic referral from your consultant or GP.

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by RD&E staff undertaking procedures at the RD&E hospitals.

© **Royal Devon and Exeter NHS Foundation Trust**

Designed by Graphics (Print & Design), RD&E