



Metabolic.ie

National Centre for Inherited Metabolic Disorders



on a
Low Protein Diet

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Introduction

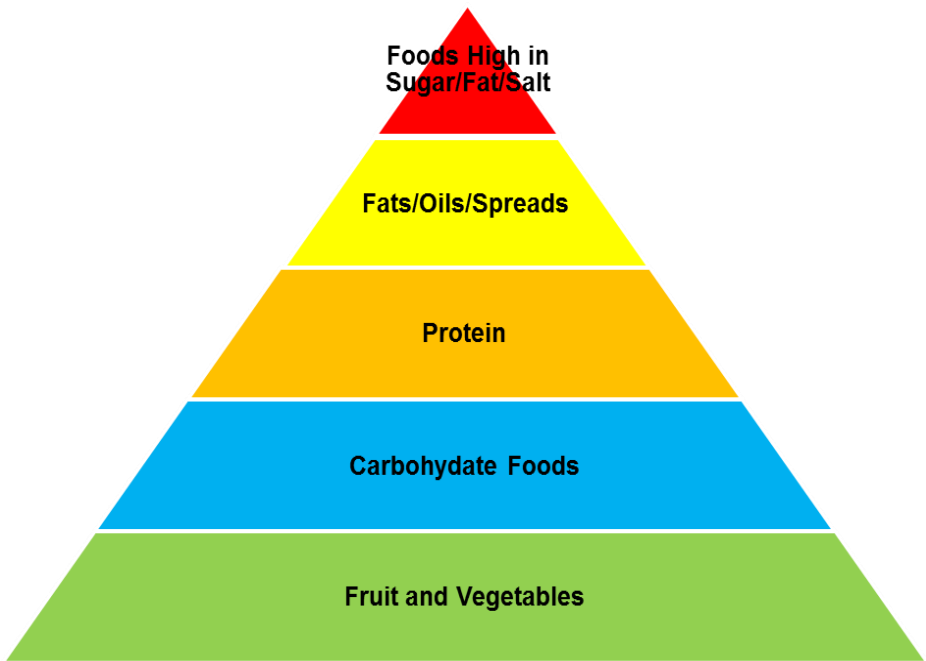
Levels of overweight and obesity in Ireland have doubled. Findings of our own study have suggested that there are higher rates of overweight and obesity in our patients on a low protein diet in comparison to the general Irish population.

This highlights the importance of living a healthy lifestyle by making good food choices and getting regular exercise.

When following a low protein diet, you can sometimes fall into the trap of choosing convenience foods and drinks such as cereal bars, potato waffles, crisps, sweets and fizzy drinks which are easy to count as exchanges or because they are free from or low in protein. These can be high in calories and are not nutritious. If eaten too frequently, this can lead to excessive weight gain.

There are lots of exchange foods and low protein snack and meal options that are healthy. The same principles of healthy eating apply to a low protein diet. This guide will help you make healthier choices.

The Low Protein Food Pyramid



The Food Pyramid is designed to make healthy eating easier. It helps you to include the right amount of each food in your diet.

Fruit and Vegetables:

Fruit and vegetables are a key part of all healthy diets. Use fruit and vegetables as the base for all of your meals and snacks. Aim to fill half your plate with them at meal times! They contain essential vitamins, minerals, antioxidants and are low in calories. They also contain fibre which helps to keep us feeling fuller for longer and keeps our gut healthy. Aim to eat a 'rainbow' of different coloured fruit and vegetables for maximum health benefits

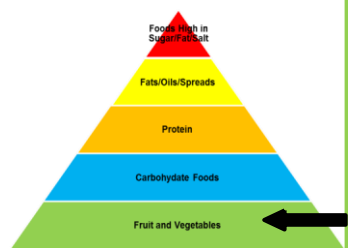
Fruit is a great option when you're craving something sweet. Limit juices and smoothies though as they are high in sugar and lack fibre.

Keep servings of fruit juice/smoothies to 150ml a day for a healthy weight and to protect teeth.

Aim to include **5-7 serving** of fruit and vegetables in your diet each day. 1 serving is:

- 1 medium piece of fruit- apple, pear, banana
- 2 small pieces of fruit- mandarin oranges, kiwis, plums
- ½ cup cooked vegetables
- 1 bowl of salad
- 1 bowl of homemade vegetable soup

Remember to count exchanges if applicable (sweetcorn, peas)



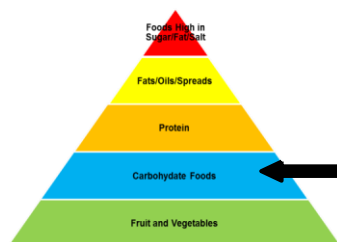
Carbohydrate:

All varieties of breads, cereals, pasta, potatoes and rice are what we call 'carbohydrate' foods and they provide the energy you need. You can use a combination of low protein products and exchange foods. Make sure not to use up all of your exchanges at one meal with these foods!

Everyone needs different amounts of these foods depending on activity level, age and gender.

Daily Servings Guide for Carbohydrates

	Child (5-12 years)	Teenager (13-18 years)	Adult (19-50)	Adult (51+)
Active Female	3-4	4	4-5	3-4
Active Male	3-5	5-7	5-7	4-5
Inactive Female	*	3	3-4	3
Inactive Male	*	4-5	4-6	4



1 serving is:

- 2 slices of low protein bread (Juvela/Loprofin)/1 slice of Promin Fresh Bread
- 1 bread roll (Juvela /Loprofin)
- 2 medium or 4 small (baby) potatoes
- 3 dessert spoons of low protein rice/pasta or regular varieties
- 2 low protein crackers/regular crackers
- 3 dessert spoons of low protein/regular cereal

Remember to count exchanges if applicable

Four of these baby potatoes is one serving



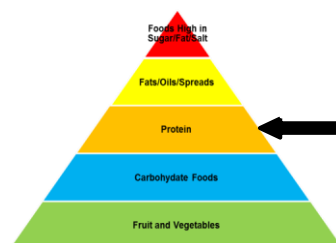
Protein:

The third shelf of the food pyramid is the protein shelf. In the PKU diet, protein comes from your synthetic protein drink/gel and exchange foods. Together, this gives all the right protein for growth and repair of body tissues and helps you to stay healthy.

As well as protein, your synthetic protein drink/gel provides all the vitamins and minerals that we need to be healthy.

Aim to spread out your exchanges and synthetic protein drink approximately 3 times per day every day (or as advised by your dietitian). Remember, your synthetic protein drink must be taken **every day**.

Protein is important to muscle and bone health, especially following exercise or a training session. If you play sport, aim to have one of your drinks/gels after your session to fuel your body and allow it to recover well.



Fats, Oils and Spreads:

Fats, spreads and oils should only be used in very small amounts. This is because they are very high in calories. Fats, spreads and oils vary in terms of 'healthiness'; some contain saturated or 'bad' fats while others contained unsaturated or 'good' fats.

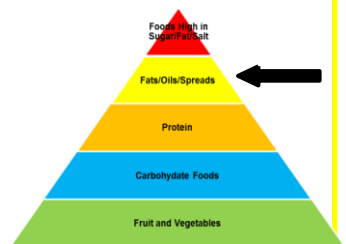
Avoid those containing lots of saturated fats such as margarine, coconut oil or butter. Choose oils and spreads which contain the healthier 'good' fats such as rapeseed, olive or walnut oil based spreads. However, be aware that these 'good fats' are high also in calories so remember, a little goes a long way!

1 serving is:

- 1 teaspoon of rapeseed / olive /walnut oil
- 1 pat of butter / reduced fat / light spread for 2 slices of bread



**A teaspoon of this
olive oil is a healthy option**



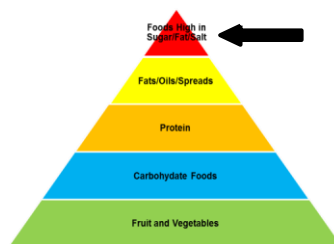
Foods High in Sugar, Fat or Salt:

Top shelf foods include crisps, fizzy drinks, sweets, lollypops, cereal bars, chips/potato wedges, biscuits, chocolate, buns and cakes. This includes both low protein and regular varieties.

There are no recommended servings for this group because they are not essential. Limit servings from this shelf to a **maximum of once or twice a week** - not every day. They should be taken in small servings. These are usually the main cause of weight gain and tooth decay. Even though some of these foods are protein free, this does not mean that they should be eaten freely or in large amounts.



Even low protein varieties of cake should not be eaten on a daily basis



Top Tips for Limiting Top Shelf Foods:

- Sugary drinks such as Cola should be avoided. Cordials should be used sparingly. Remember, many diet drinks are not allowed in PKU as they contain aspartame so make sure you check the label.
- Keep count of how many top shelf food you have in a week. You might be surprised how many top shelf foods you consume in a day or over a week. It may be helpful to keep a food diary for this.
- Have a set day of the week when a top shelf food is allowed, for example, a Friday evening.
- Include the treat as part of a meal such as once a week after dinner as dessert.
- Make small, gradual changes to your diet. Trying to make too many changes at once can make it more difficult to stay motivated and keep going.
- Swap top shelf foods for healthier options. For example, try snacking on fruit or a Koko yogurt instead of sweets, crisps & biscuits.

How Do I Know If a Food is on the 'Top Shelf'?

To figure out whether a food bought from the supermarket is 'top shelf' have a look at the label for the amount of calories, sugar and saturated fat!

Follow this example below:

Per 100g means you can compare

Per serving tells you what a portion is and what's in a portion

Amount of calories

NUTRITION INFORMATION		
	Per 100g	Per 3 Chunks (13.8g)
Energy	2210 kJ/530 kcal	305 kJ/73 kcal
Fat	30.5g	4.2g
of which Saturates	18.5g	2.6g
Carbohydrate	56.5g	7.8g
of which Sugars	56g	7.7g
Fibre	0.7g	0.1g
Protein	7.5g	1g
Salt	0.23g	0.03g

Carbohydrate: all carbohydrates contain sugars

Low Sugar= <5g sugar per 100g

High Sugar = >22.5g sugar per 100g

Saturated Fat: these are the 'bad' fats found in food

Low saturated fat = <1.5g per 100g

High saturated fat = >5g per 100g












Ask your dietitian for one of these handy cards to bring shopping with you!




What Low Protein Products from the Pharmacy are on the Top Shelf?

Sometimes the low protein products from your pharmacy do not come with the nutritional label. The next three pages detail some of the low protein products that are top shelf foods (see the current Low Protein Manufactured Food List on www.metabolic.ie for a full list of products with traffic light colours).

One or two of these foods can be included in your diet per week as a treat, not every day!

Products	Kcal	Sugar	Portion
Promin Hot Breakfast 	135	10g	Per 100g
	225	10g-16.7g	Per sachet
Fate Low Protein Chocolate/Cake Mix 	367	37g	Per 100g
Loprofin Low Protein Chocolate Cake Mix/Mix 	366	37.9g	Per 100g
Taranis Low Protein Lemon/Apricot/Pear Cakes 	372	33.5	Per 100g
	149	13g	Per cake

Products	Kcal	Sugar	Portion
PK Foods Low Protein Jelly Mix (All Flavours) 	356	87g	Per 100g
	285	70g	Per Sachet
Taranis Low Protein Shortbread 	476	16.7g	Per 100g
Taranis Biscuits with Caramel Shards 	486	15.8g	Per 100g
VitaFlo Vitabite Bars 	549	59g	Per 100g
	137	14.8	Per bar
Promin Low Protein Dessert (All Flavours) 	400	49g	Per 100g
	148	18g	Per sachet

Products	Kcal	Sugar	Portion
Promin Low Protein Rice Pudding (All Flavours) 	118	8g	Per 100g
	250	18g	Per sachet
Taranis Dessert Drinks (All Flavours) 	428	45	Per 100g
	85	9.8g	Per 20g
Taranis Low Protein Hazelnut Flavour Spread 	347	7g	Per 100g

Handy Hints for Healthy Eating

- **Breakfast:** Don't skip breakfast. If you miss breakfast, you are more likely to snack on unhealthy foods later in the day. A good breakfast will help you to concentrate and perform well at school, college or work. Breakfast is a good opportunity to get in a serving of fruit.
- **Cooking:** Try different methods of cooking vegetables such as stir frying, grilling, boiling, steaming or oven baking. Try to avoid frying. Use oils sparingly.
- **Snacks:** Chop up some peppers, cucumbers and carrots and have as a healthy snack. Fruit such as apples and pears can easily be picked up from shops when you're out.
- **Desserts:** Chop up some of your favourite fruits to make a fruit salad for a healthy dessert or snack. Strawberries, blueberries, watermelon and pineapple are all tasty free foods.
- **Chips:** Chips should be limited. Use healthier exchange options such as potatoes, pasta or rice. They contain very little fat compared to chips. You can also make your own homemade chips by chopping up regular or sweet potatoes, carrots and parsnips and roasting them in the oven with a small amount of oil. Remember to count exchanges.



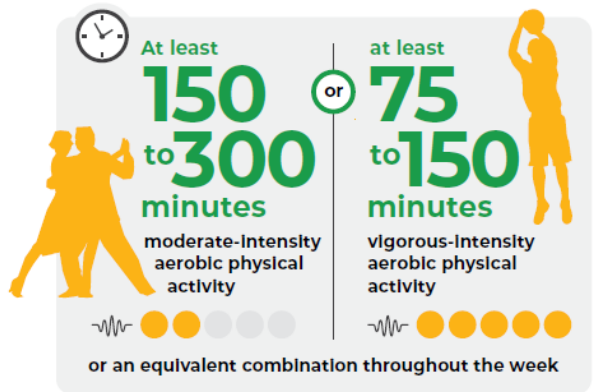
- **Herbs & Spices:** Add different spices and herbs to your foods to add variety and make your foods more exciting.
- **Drinks:** Water is best to drink for health and your teeth. 150ml of unsweetened fruit juice can be drunk once daily at a meal. Juice is naturally high in sugar and low in fibre.
- **Portions:** Try using a smaller plate or bowl to reduce your portion sizes. Your synthetic protein drink/gel provides calories and protein and are filling so you need smaller portions compared to others at mealtimes.



Get Fit, Get Active

As well as improving heart health, mental health and sleep, doing more physical activity can help you to maintain a healthy weight. It is recommended that adults get at least 150–300

minutes of moderate-intensity aerobic physical activity (e.g. brisk walking or dancing) per week or at least 75–150 minutes of vigorous intensity aerobic physical activity (e.g. jogging or tennis) per week.



Adults should also do muscle strengthening activities that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits. Muscle strengthening activities are any activities that involve weight bearing, e.g. yoga, pilates and weight lifting.



If you have a sedentary (inactive) occupation or routine, you should try to replace as much sitting time with physical activity as possible and aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity every week.



Simple ways to get active every day:

- Walking or cycling to work/shops etc
- Getting off the bus a stop earlier and walking
- Parking the car further away from shops
- Going for a walk in the evening
- Incorporate exercise into social activities – you could go for a walk, a hike or a swim with friends/family instead of meeting for meals
- Take the stairs instead of the elevator
- If you sit at a desk all day, aim to get up and move every hour

It's important to remember:

- Doing some physical activity is better than doing none.
- Even if you are not meeting these recommendations, doing some physical activity will benefit your health.
- Start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time.

Sleep

Sleep is a very important part of a healthy lifestyle. Getting a good night's sleep decreases your risk of becoming obese and getting diseases like diabetes.



- Limit screen time before bed time. The blue light emitted from screens can interfere with your body falling asleep. Try reading a book instead.
- Keep phones, tablets and laptops out of the bedroom.
- Get into a relaxing pre bed routine.
- Have a set bed time.
- Avoid drinking caffeine in the evening.

Useful Websites

www.metabolic.ie

www.healthyreland.ie

www.INDI.ie

www.getirelandactive.ie

<https://www.lowproteinconnect.com/Recipes/>



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