

Nutrition in COPD

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Disclaimer

The information included in this booklet is generalised nutrition advice that is intended for adults living with COPD. It may not be suitable for all medical conditions. It is not intended to replace individualised dietetic advice.

Additional Resources

A number of additional resources are referenced throughout this booklet. Links to these resources are provided at the back of this booklet.

Nutrition in COPD

Good nutrition is important for everyone, but it is particularly important for individuals with COPD, because it is associated with:

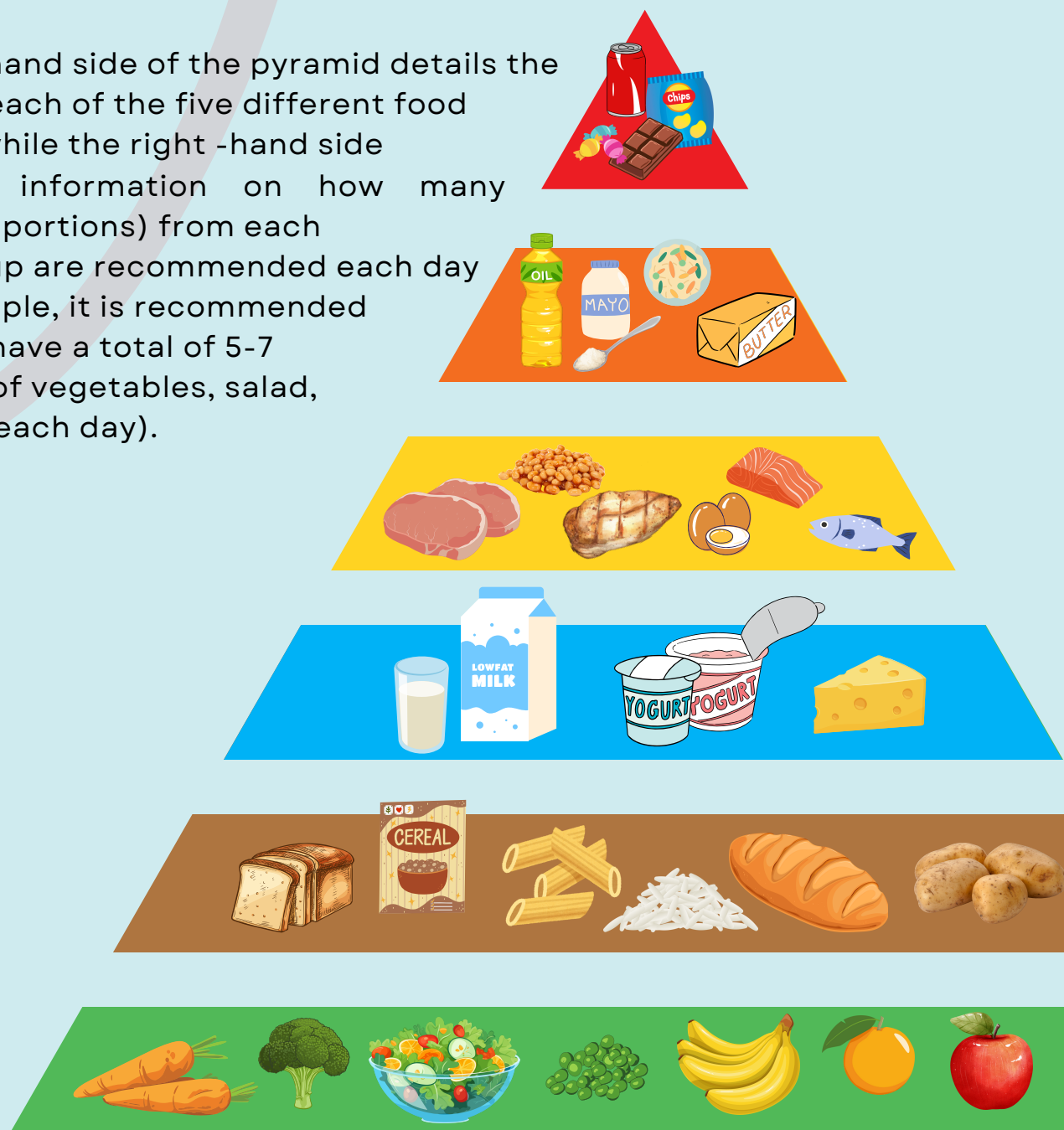
- Improved lung function
- Increased muscle strength
- Reduced shortness of breath & fatigue
- Improved exercise ability
- Reduced risk of infections
- Reduced risk of hospital admissions
- Improved quality of life

In other words, good nutrition can help keep people with COPD fitter and stronger.

How can I follow a healthy diet?

A healthy diet includes a variety of foods to provide your body with all the nutrients it needs. The food pyramid is an evidenced-based resource that provides recommendations on how to follow a healthy, balanced diet. Each shelf of the pyramid represents a different food group, which will provide you with different nutrients.

The left-hand side of the pyramid details the name of each of the five different food groups, while the right-hand side provides information on how many servings (portions) from each food group are recommended each day (for example, it is recommended that you have a total of 5-7 portions of vegetables, salad, and fruit each day).



The Food Pyramid*

Not needed for good health

Food & drinks high in fat, sugar and salt



Fats, spreads & oils



Meat, poultry, fish, eggs, beans & nuts



Milk, yoghurt & cheese



Wholemeal cereals & breads, potatoes, pasta & rice



Vegetables, salad & fruit



Needed for good health. Enjoy a variety every day.

* The food pyramid provides general recommendations for healthy eating at a population level. Not all of these recommendations will be appropriate for every individual, for example, people with or at risk of malnutrition (see section on unintentional weight loss for further details).

For adults, teenagers and children aged five and over

Not every day

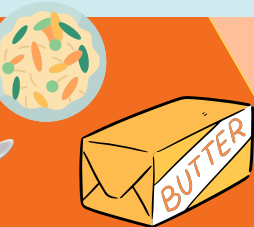


Most people consume foods high in fat, sugar and salt and sugar sweetened drinks up to 6 times a day (Healthy Ireland survey 2016). There are no recommended servings for Top Shelf food and drinks because they are not needed for good health.



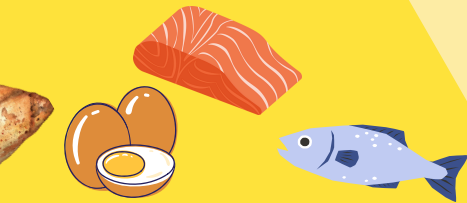
in very small amounts

Use as little as possible. Choose mono or polyunsaturated reduced-fat or light spreads. Choose rapeseed, olive, canola, sunflower or corn oils. Limit mayonnaise, coleslaw and salad dressings as they also contain oil. Always cook with as little fat or oil as possible - grilling, oven-baking, steaming, boiling or stir-frying.



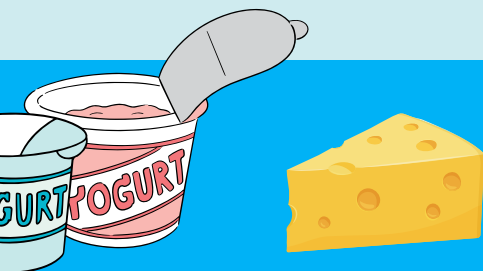
2 servings a day

Choose lean meat, poultry (without skin) and fish. Eat oily fish up to twice a week. Choose eggs, beans and nuts. Limit processed salty meats such as sausages, bacon and ham.



3 servings a day

Choose reduced-fat or low-fat varieties. Choose low-fat milk and yogurt more often than cheese in small amounts. Women who are pregnant or breastfeeding need 3 servings a day.



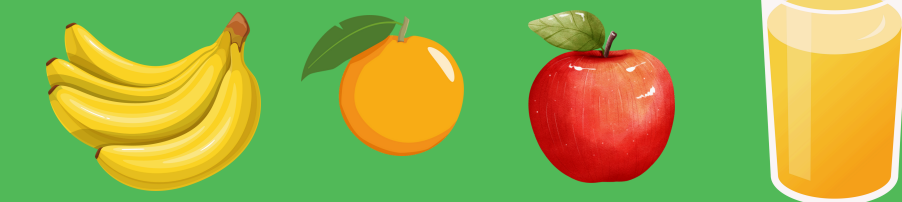
3-5 servings a day

Wholemeal and wholegrain cereals are best. Enjoy at each meal. The number of servings depends on age, size, if you are a man or a woman and on activity levels. Watch your serving size and use the daily servings guide on the next page.



5-7 servings a day

Base your meals on these and enjoy a variety of colours. More is better. Limit fruit juice to unsweetened, once a day.







5 for children age 9-12 and teenagers age 13-18



Up to 7* for teenage boys and men age 19-50

Daily servings guide

*Daily servings guide - wholemeal cereals and breads, potatoes, pasta and rice

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

Average daily calorie needs for all foods and drinks for adults



Active 2000kcal

Inactive 1800kcal



Active 2500kcal

Inactive 2000kcal

Source: Department of Health, December 2016



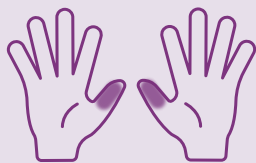
Cereals, cooked rice and pasta, and vegetables, salad and fruit

Use a 200ml cup to guide serving size



Meat, poultry, fish

The palm of the hand, width and depth without fingers and thumbs, shows how much you need a day



Cheese

Use two thumbs, width and depth to guide serving size.



Reduced-fat spread

Portion packs found in cafes can guide the amount you use. One pack should be enough for two slices of bread



Oils

Use one teaspoon of oil per person when cooking or in salads

Get Active!



To maintain a healthy weight adults need at least 30 minutes a day of moderate activity 5 days a week (or 250 mins a week); children need to be active at a moderate to vigorous level for at least 60 minutes every day



Drink at least 8 cups of fluid a day - water is best!

The Food Groups

Vegetables, salads & fruit (5-7 portions a day)

These foods are rich in vitamins, minerals, and fibre. They contain antioxidants and anti-inflammatories, which can reduce inflammation in the lungs. Research has found that a diet rich in fruit and vegetables is associated with better lung function and a reduced risk of exacerbations (flare-ups) in individuals with COPD.

How many portions do I usually get each day? _____

If I am getting in less than the recommend number of portions, what can I do to improve this?

for example: add chopped fruit to breakfast

Cereals, breads, potatoes, pasta, rice (3-5 portions a day for average adult/young person. Up to 7 portions for teenage boys and men aged 19-50)

These foods provide your body with valuable energy (called 'calories'). Your body uses food as the fuel for everything it does, including breathing. Choosing wholemeal or wholegrain options will provide your body with extra fibre. High fibre foods are associated with beneficial effects on lung function and heart health

How many portions do I usually get each day? _____

If I am getting in less than the recommend number of portions, what can I do to improve this?

for example: choose wholegrain varieties and try to include at least 1 portion with each main meal such as wholemeal pasta with dinner

Milk, yogurt, cheese (3 portions a day for average adult. 5 portions per day for those aged 9-18)

These foods are high in calcium. Calcium plays an important role in keeping your bones strong. Calcium intake is particularly important in COPD, as commonly used medications (such as steroids) can draw calcium out of your bones. This causes bone to become weaker, increasing fracture risk. Many people believe that consuming dairy products will cause their body to produce extra mucus, but research has shown that this isn't the case. It is important not to avoid these foods, as they are rich in nutrients. In order to help absorb calcium, your body needs vitamin D (see section on vitamin D).

How many portions do I usually get each day? _____

If I am getting in less than the recommend number of portions, what can I do to improve this?

for example: have a glass of milk with dinner

Meat, poultry, fish, eggs, beans, nuts (2 portions a day)

These foods are high in protein. Adequate protein intake is needed to help build and maintain muscle mass and strength. Low muscle mass is common in COPD, and it is associated with worsening lung function, increased shortness of breath, and reduced physical fitness. Maintaining a healthy muscle mass is associated with better outcomes.

How many portions do I usually get each day? _____

If I am getting in less than the recommend number of portions, what can I do to improve this?

for example: have a meat/fish filling in lunchtime sandwich

Fats, spreads & oils (in very small amounts)

These foods are high in energy (calories). For good heart health, choose rapeseed, olive, canola, sunflower, or corn oils.

Food and drinks high in fat, sugar, and salt

There is no recommended number of portions for these foods as they are not needed for good health. They should not be eaten every day (maximum 1 to 2 per week).

Recommended number of servings



Self-assessment

Did I meet my recommended daily servings? How many did I have?

	MON	TUES	WED	THURS	FRI	SAT	SUN
Meat, poultry, fish, eggs, beans & nuts	week 1						
	week 2						
	week 3						
	MON	TUES	WED	THURS	FRI	SAT	SUN
Milk, yoghurt & cheese	week 1						
	week 2						
	week 3						
	MON	TUES	WED	THURS	FRI	SAT	SUN
Wholemeal cereals & breads, potatoes, pasta & rice	week 1						
	week 2						
	week 3						
	MON	TUES	WED	THURS	FRI	SAT	SUN
Vegetables, salad & fruit	week 1						
	week 2						
	week 3						

Vitamin D

Vitamin D deficiency is common in COPD. It is associated with poorer lung function and reduced bone health. Research has shown that Vitamin D supplementation reduces the risk of COPD flare-ups in individuals who are deficient (have low vitamin D levels). Vitamin D is naturally present in a limited number of foods (e.g. oily fish, egg yolks), and as a result, it is difficult to get the recommended amount from food alone. Our main source of vitamin D comes from direct sunlight on our skin. Unfortunately, the sun in Ireland is not strong enough for your body to make enough Vitamin D all year round. The Food Safety Authority of Ireland (FSAI) recommends that adults living in Ireland take a vitamin D supplement (tablet). Their recommendations are summarised in the table below.

Recommendations for adults under 65 years

For healthy adults who get sunlight exposure during the summer months:

A daily Vitamin D supplement providing 15 micrograms (600 IU) should be taken from the end of October to March for those with fair skin

For those with darker skin, a daily Vitamin D supplement providing 15 micrograms (600 IU) should be taken all year round

Recommendations for adults over 65 years

For healthy older adults who get sunlight exposure during the summer months:

A daily Vitamin D supplement providing 10 micrograms (400 IU) should be taken from the end of October to March for those with fair skin

For those with darker skin, a daily Vitamin D supplement providing 10 micrograms (400 IU) should be taken all year round

Who to talk to about supplements?

If you would like more information on vitamin D supplements and how to take them, you can talk to your doctor or pharmacist. Many vitamin D supplements are available over the counter and come in different forms including tablets, drops, and sprays.

These over-the-counter supplements can be taken to help maintain your vitamin D levels and prevent deficiency. However, if you are vitamin D deficient you will need to take a high strength dose for a short period of time to correct your levels. This high-strength dose is available on prescription from your doctor. If you would like to have your vitamin D levels checked, ask your doctor to arrange a blood test.

For housebound older adults with minimal sunlight exposure:

A daily Vitamin D supplement providing 15 micrograms (600 IU) should be taken all year round

The importance of hydration

Adequate hydration is important to help keep mucus thin. If you are dehydrated, mucus can become thick and sticky, making it difficult to clear. This increases your risk of developing a chest infection.

Irish guidelines recommend that, in general, women should drink 8 x 200mls glasses of fluid per day, while men should drink 10 x 200mls glasses. Water, milk, sugar-free drinks, tea and coffee all count towards your daily total.

Alcoholic drinks do not count towards your fluid intake due to their dehydrating effects. Research has found heavy alcohol intake to have a negative effect on lung function. Information on alcohol intake and low-risk guidelines can be found on www.askaboutalcohol.ie

Self-assessment

How much did I drink today?

Daily Goal

mls

week 1	MON	TUES	WED	THURS	FRI	SAT	SUN
QUANTITY (mls)							

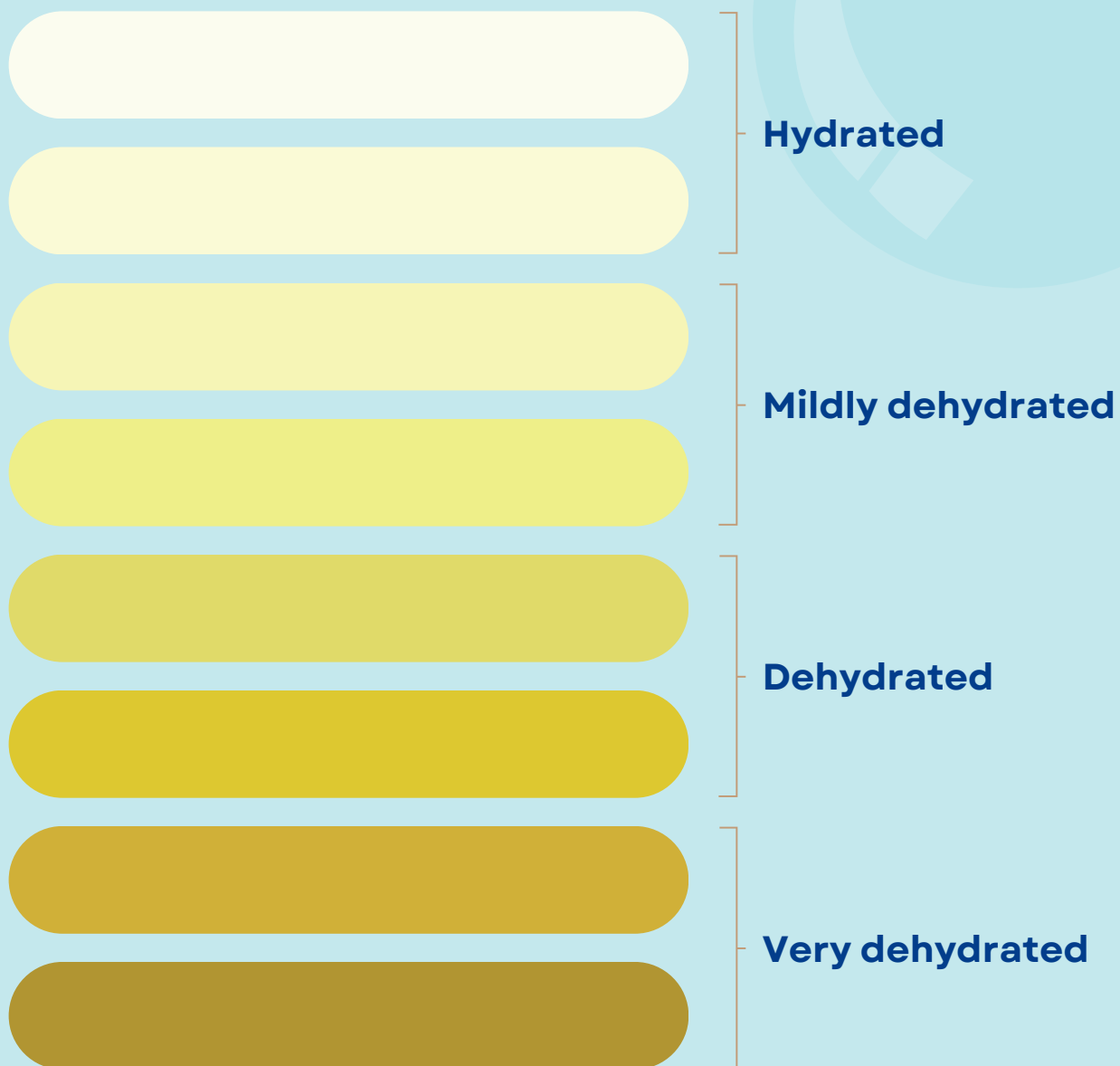
week 2	MON	TUES	WED	THURS	FRI	SAT	SUN
QUANTITY (mls)							

week 3	MON	TUES	WED	THURS	FRI	SAT	SUN
QUANTITY (mls)							

How do I know if I'm drinking enough?

Paying attention to the colour of your pee is a good way to check how hydrated you are. It should be clear or pale straw in colour. If your pee is darker than this, it is a sign that you may be dehydrated and need to drink more fluids (see hydration chart below).

Are you drinking enough?



How to improve your fluid intake:

- Know your daily fluid goal. Fill up a jug/beaker with the amount of fluid that you need to drink each day
- Choose drinks and flavours that you enjoy and vary your selection. For example, if you like blackcurrant flavour you can add blackcurrant cordial/squash to water.
- It is not only drinks that hydrate us. Eating foods such as fruit, vegetables, jelly, yogurts, custard and ice cream can also provide you with a good source of hydration

What a healthy weight is for you

Body Mass Index (BMI) is a measure of weight divided by height squared. The healthy BMI range for individuals with COPD is 20-25 kg/m². Individuals with a BMI of <20 are considered to be underweight, while individuals with a BMI of >25 are considered overweight (a BMI of >30 indicates obesity).

A BMI calculator can be found on the SafeFood website.

For individuals with COPD, it is important to achieve and maintain a healthy weight, as health complications can result from being underweight or overweight. Being underweight is associated with an increased risk of infections, reduced muscle mass and strength (including the muscles involved in breathing), and an increased number of hospital admissions. Being overweight can increase strain on the lungs, making breathing more difficult. It also increases your risk of developing other medical conditions such as sleep apnoea, high blood pressure, and type 2 diabetes.

It is important to note that losing a significant amount of weight unintentionally is a risk factor for becoming malnourished (this applies to all BMI categories, including those in the underweight, healthy/'normal' weight, overweight, and obese categories). Weighing yourself once a month can help you to identify any unintentional weight loss, which should be discussed with your healthcare provider

How to Calculate your BMI

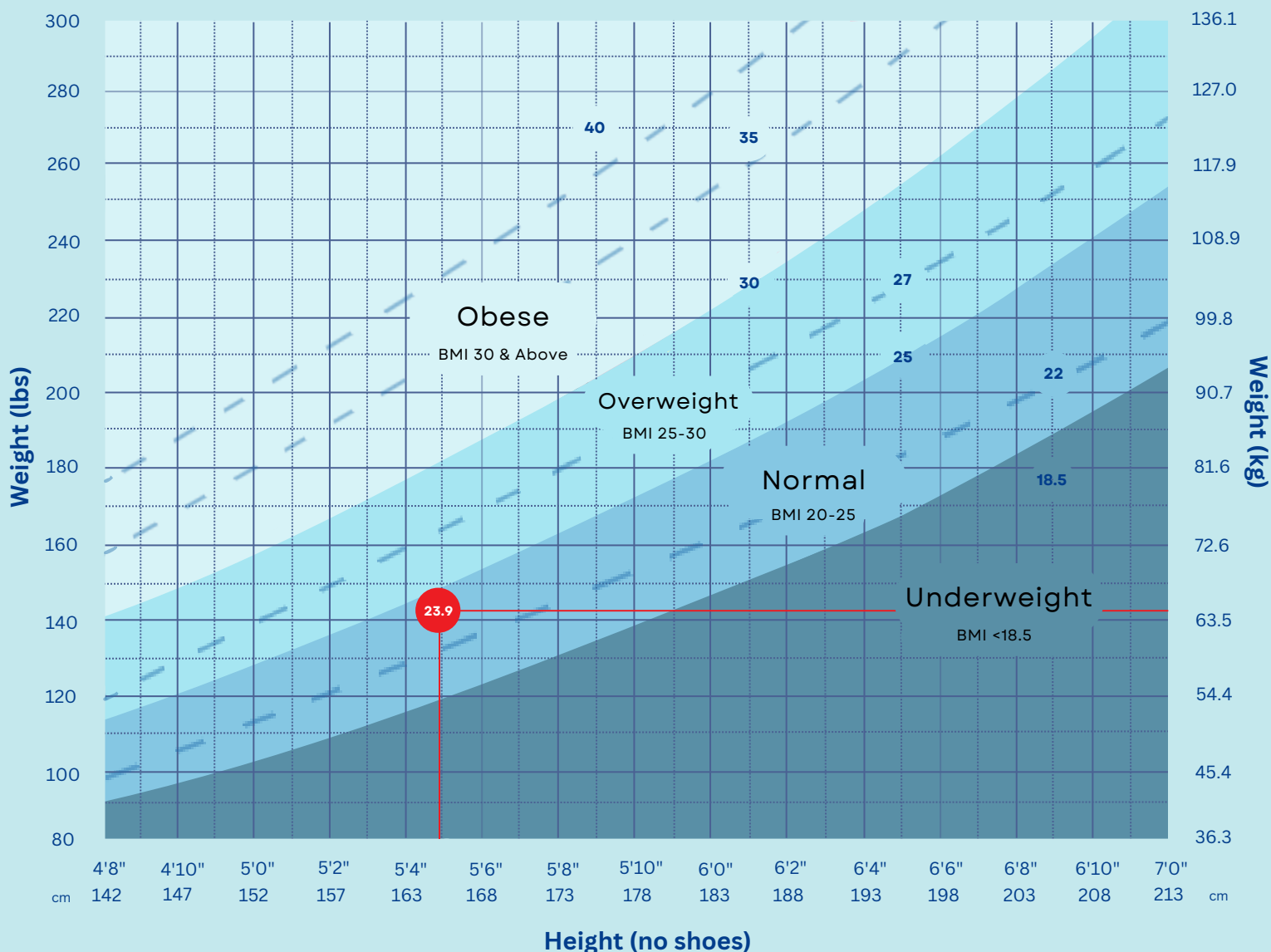
$$\frac{\text{Weight (kg)}}{\text{Height x Height (m)}}$$

Example: Anne weighs 65kg and is 1.65 meters tall.

$$\text{BMI} = \frac{65}{1.65 \times 1.65} = \frac{65}{2.7225} = 23.9 \text{ kg/m}^2$$

You can also use a BMI chart to find out what category your BMI is in by drawing a straight line through your weight and your height and noting where these lines meet. For example, you can see from the chart below that Anne's BMI is in the normal (or 'healthy') weight category (highlighted in red).

Body Mass Index (BMI) Chart for Adults with COPD



Keep track of your weight and BMI using the record chart below.

Date	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Weight (kg)	<input type="text"/>									
BMI	<input type="text"/>									

Looking out for signs of weight loss




I've lost weight without trying, what can I do?


Weight loss is common in people with COPD for a number of reasons, with many people experiencing a poor appetite. Feeling short of breath at mealtimes can cause difficulty eating. Gasping for breath can cause you to swallow large amounts of air, which leads to a false feeling of fullness. When you have COPD, your body needs extra energy (or calories) just to do the work of breathing, with even more calories needed to help fight infections. Weight loss can occur when your body is not getting in the calories that it needs. Therefore, to help you maintain or increase your weight, you will need to increase the number of calories that you are eating each day. Research has found that a weight increase of over 2kg is associated with an increase in muscle strength (including the muscles involved in breathing) and an increase in quality of life.

If you have lost weight unintentionally, it is recommended that you follow a high calorie, high protein diet (calories are needed to help prevent any further weight loss, while protein is needed to keep your muscles strong).


Here are some tips on how you can do this:



Eat little and often- you may find it easier to eat 3 x small meals (and 2-3 x snacks in between) rather than eating 3 large meals. Some people find large meals or portions off-putting. Try to eat something, no matter how small, at every meal time. Some intake is always better than none



Avoid drinking large volumes of fluid for half an hour before mealtimes, as this can fill you up



Fruit and vegetables can be very filling, but they are low in calories. When your appetite is poor, don't fill up on these foods. Always eat the meat/fish, and the potatoes/rice/pasta on your plate before filling up on vegetables.

If you smoke, try to avoid doing so before mealtimes as this can reduce your appetite even more.

If the energy it takes to prepare food and drink makes you short of breath, choose items that are quick and easy to prepare such as ready meals, and tinned and frozen foods.

Try to eat a high protein food with every meal, for example, cheese, meat, chicken, fish, eggs, beans, nuts, milk, yogurts. For extra protein, choose options with 'high protein' written on the label.

Choose full fat foods, for example, whole milk. Avoid low fat or 'diet' options.

Make use of nourishing drinks that are high in calories and protein by aiming to have at least 2 each day. Examples include full fat milk, milkshakes, hot chocolate, and smoothies.

Have a dessert every day, for example, ice cream, cake, custard, rice pudding.

Food fortification or 'enrichment':

If you are struggling to eat more, it is important that you make your foods more nutritious by increasing their calorie and protein content without increasing the volume or portion size. This is called food fortification or enrichment

Here are some tips on how you can fortify foods:

▶ Add butter, cream, oil, cheese, mayonnaise, full fat milk, and milk powder into savoury foods such as soup, scrambled eggs, and mashed potatoes.

▶ Add sugar, honey, cream, jam, full fat milk, milk powder, nuts and nut butters into sweet foods/breakfast foods such as porridge, cereal, custard, rice pudding, and yogurts.

▶ Add cream, sugar, ice cream and custard to desserts.

▶ Add extra butter to vegetables, potatoes, bread, and scrambled eggs.

▶ Fortify your milk by adding 4 tablespoons of milk powder into 1 pint of full fat milk daily (this can be used as a drink by itself, and added in to cereals, tea/coffee, scrambled eggs, and mash potatoes).

▶ Add mayonnaise, salad cream or dressing to sandwiches and salads.

How calories and protein can be increased by food fortification

Food	Amount	Fortification	Calories (kcal)		Protein	
			before	after	before	after
Full Fat Milk	200mls	add 4 tsp milk powder	130	210	7g	11g
Porridge (made with milk)	145g	add 2 tbsp cream, 2 tsp milk powder, 1 tsp honey	160	330	7g	11g
Packet soup (made with water)	1x packet	add 2 tbsp double cream, 30g grated cheese, 1 tsp olive oil	80	360	2g	10g
Mash Potato	1 scoop	add 1 tsp butter, 1 tbsp double cream, 1 tsp olive oil	70	235	2g	3g

tsp = teaspoon
tbsp = tablespoon

High Protein High Calorie Recipes

The following high protein high calorie recipes have been taken from the 'Making the Most of Every Bite Cookbook'. This cookbook includes over 100 pages of recipes and is available for free online

Breakfast

Scrambled Eggs on Toast

Ingredients

- 2 eggs (100g)
- 1 egg yolk (20g)
- 50mls double cream
- Knob of butter (10g)
- Salt and pepper
- 2 slices wholemeal bread

Per serving:

Energy 802kcal

Fat 68.8g

Carbohydrates 23g

Fibre

Protein 21.8g

Salt 1.1g

Method

- Whisk together the eggs, yolk, cream and seasoning in a bowl. Heat the oil in a pan.
- Cook the egg mixture over a medium low heat for about 5 minutes, occasionally stirring to scramble to eggs.



French Toast

Ingredients

- 1 slice day-old white or wholemeal bread (45g)
- 1 egg (50g)
- 1 egg yolk (20g)
- 2 Tbsp. of full-fat milk (30ml)
- 1 Tbsp. olive oil (15ml)

Per serving:

Energy 341kcal

Fat 24g

Carbohydrates 17.3g

Fibre 0.8g

Protein 13.5g

Salt 0.7g

Method

Beat the egg, egg yolk, and milk together and pour into a wide bowl or plate.

Heat the oil in a frying pan over a medium heat. Meanwhile soak the bread in the egg mix until the mixture is absorbed by the bread.

Place the soaked bread in the hot pan and cook for 2-3 minutes on either side, until golden.

Serve with

Honey/jam
Bacon & maple syrup
Fresh fruit



Lunch

Vegetable Soup

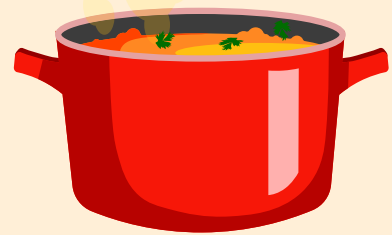
Ingredients

- 3 Tbsp. olive oil (45ml)
- 1 medium onion, peeled and finely chopped (150g)
- 2 large carrots, peeled and finely chopped (200g)
- 2 sticks celery, finely chopped (100g)
- 1 medium leek, thoroughly washed and finely chopped (150g)
- ½ turnip, peeled and finely chopped diced small (250g)
- 1x400g tin butterbeans, drained
- 1 medium potato, peeled and finely chopped (150g)
- ½ tsp. fresh thyme (2g)
- 600ml stock
- 250ml full-fat milk
- 120g skimmed milk powder
- 100ml double cream

Method

- Heat the oil in a pot and cook the onion for 5 minutes.
- Add in the remaining vegetables, except the potato. Cook for 10 minutes.
- Add in the butterbeans, potato, thyme, and stock. Bring to the boil for 2 minutes and then simmer for 20 minutes, until the vegetables are soft.
- Mix together the milk and skimmed milk powder. Add this to the soup along with the cream.
- Blend the soup until completely smooth. Adjust consistency by adding more liquid if required.

Per 350g:
Energy 371kcal
Fat 21g
Carbohydrates 32.6g
Fibre 7g
Protein 14.7g
Salt 1.8g



Creamy Salmon Sandwich

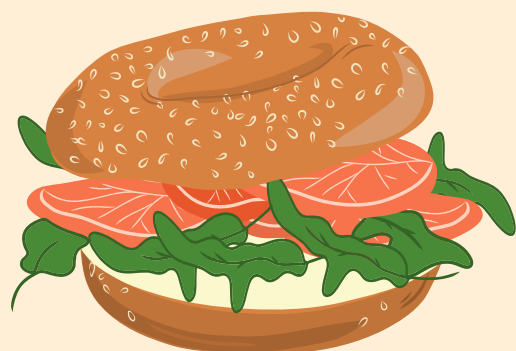
Ingredients

- 1 small tin pink or red salmon, drained (110g)
- 2 Tbsp. full-fat cream cheese (30g)
- Juice and zest of ½ a lemon (10ml)
- 1 tsp. chives or herb of your choice (5g)
- 2 slices of bread, buttered

Per 350g:
Energy 617kcal
Fat 40.6g
Carbohydrates 32.3g
Fibre 2g
Protein 30g
Salt 2.5g

Method

- Mash the salmon, cream cheese, lemon and herbs together using a fork.
- Make a sandwich with soft, buttered loaf bread, pita bread or serve as an open sandwich on buttered brown bread.



Dinner

Vegetarian Casserole

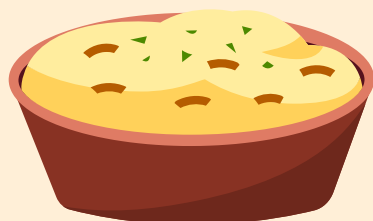
Ingredients

- 1 red pepper, chopped (150g)
- 1 yellow pepper, chopped (150g)
- 1 carrot, diced (100g)
- 1 courgette, diced (100g)
- 1 red onion, sliced (100g)
- 1 fennel bulb, sliced (150g)
- 4 cloves garlic, chopped (10g)
- 2X400g tins plum tomatoes
- 1X400g tin butter beans or mixed beans, drained
- 1X400g tin kidney beans, drained
- ½ tin of chickpeas, drained (120g)
- 2 Tbsp. tomato puree (30g)
- 1 Tbsp. olive oil (15ml)
- 1 tsp. brown sugar (5g)
- 1/2 tsp. dried oregano (3g)
- 50g pine nuts
- 600g Baby potatoes (roughly 4-5 per person)

Method

- Pre heat oven to 200°C. Chop peppers, courgette and carrots and toss them with olive oil and roast in oven. Set aside when ready. Boil the potatoes until almost fully cooked, strain and set aside.
- While the vegetables are roasting slice the onion and fennel thinly and chop the garlic. Sweat these ingredients together for 15 minutes, stirring occasionally.
- Add in the chopped tomatoes, tomato puree, and teaspoon of dried oregano. Cook for 20-30 minutes on a low heat until the sauce has thickened.
- Stir in the roast vegetables, kidney beans, butter beans, chickpeas and baby potatoes. Season with some pepper. Add a pinch of brown sugar. Simmer for a further 5 minutes.
- Sprinkle with pine nuts and serve.

Per 350g:
Energy 371kcal
Fat 21g
Carbohydrates 32.6g
Fibre 7g
Protein 14.7g
Salt 1.8g



Shepherd's Pie

Ingredients

- 350g minced beef
- 2 Tbsp. olive oil (30ml)
- 1 small onion, chopped (60g)
- 100g mushrooms, chopped
- 2 medium carrots, chopped (150g)
- 2 Tbsp. tomato relish (30g)
- 4 potatoes, peeled and chopped (600g)
- 80ml full-fat milk
- 80ml cream
- 40g butter
- 350ml beef stock
- 100g roux (50g butter + 50g flour) 100g grated cheddar cheese

Method

- Boil the potatoes until soft.
-
- Heat the olive oil in a pan and add the onions and soften. Add the mince and allow to brown.
-
- Add the mushrooms and carrots. Cover the pan with a lid and leave to cook on a medium heat, stirring regularly.
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- To make the roux, melt the butter in a small saucepan. Using a whisk add the flour and whisk until well combined.
-
- Add the beef stock, a little at a time, to the roux whisking very well with each addition to make a thick sauce.
-
- Add this sauce and the tomato relish to the minced beef and stir well. Replace the lid.
-
- Mash the potatoes well. Heat the milk, cream and butter in a pan and add to the potatoes.
-
- In a casserole dish place the meat mixture in the bottom and layer the creamy mash on top.
-
- Sprinkle the grated cheese over the top and bake/grill for 10 minutes until melted

Per 350g:
Energy 738kcal
Fat 52g
Carbohydrates 34g
Fibre 4.5g
Protein 30g
Salt 1.3g



Dessert

Cheesecake

Ingredients

- 100g shortbread biscuits, crushed
- 1 x 300g tub full-fat soft cheese
- Zest and juice of 1 lemon (20ml)
- 60g icing sugar
- A punnet of berries

Per serving:

Energy 440kcal

Fat 30.2g

Carbohydrates 31.9g

Fibre 3.3g

Protein 8.4g

Salt 0.8g



Method

- Divide the crushed biscuits between 4 glasses.
- Beat the soft cheese, lemon juice, zest and 3/4 of the sugar together and spoon this mixture on top of the biscuits.
- Heat the berries slightly and mix in the remaining icing sugar. Allow to cool.
- Spoon the berries over the cheesecake mixture. Leave to set in the fridge for a few hours.

Banana Dessert

Ingredients

- 1 medium banana, peeled and sliced into rounds (100g)
- 10g ground almonds
- 2 tsp. maple syrup (10ml)
- 2 Tbsp. double cream (30ml)
- 20g skimmed milk powder
- 1 tsp. vanilla extract (5ml)

Per serving:

Energy 392kcal

Fat 22.7g

Carbohydrates 38.2g

Fibre 2.5g

Protein 10.3g

Salt 0.6g

Method

- Freeze the banana pieces for at least 2 hours.
- Blend the frozen banana pieces, almonds, maple syrup, cream, skimmed milk powder and vanilla extract until the mixture is soft, creamy and pureed texture. Add some milk if it is difficult to blend.
- Serve or freeze for later.



Snacks

Yoghurt with Fruit & Seeds

Ingredients

- Custard style yogurt (125g pot)
- 100g fresh berries
- 25g of toasted seeds or nuts

Per serving:

Energy 371kcal

Fat 19g

Carbohydrates 35g

Fibre 7.4g

Protein 11g

Salt 0.2g

Method

- Place ingredients into a bowl and enjoy.



Rice Pudding

Ingredients

- 120g pudding rice
- 700ml full-fat milk
- 100g sugar
- 200ml cream
- Half a vanilla pod (or 1 tsp. vanilla extract)
- ½ tsp. ground cinnamon (2g)
- A pinch of salt
- 75g ground almonds
- 100g skimmed milk powder

Per serving:

Energy 422kcal

Fat 18.8g

Carbohydrates 50.6g

Fibre 1.7g

Protein 15g

Salt 0.8g

Method

- Blanch the rice in a pot of boiling water for 3 minutes.
- In another pot, mix 600ml milk with the sugar, cream, vanilla, cinnamon and salt and bring to the boil.
- Add the blanched rice and ground almonds and leave to simmer for 30 minutes, stirring occasionally.
- Combine the remaining 100ml milk with the skimmed milk powder and add to the pot. Stir well to combine.
- Fill into small ramekin dishes or cups. (Even if it seems too runny, it will firm up eventually and you can keep eating small portions regularly.) Serve warm or cold.



Nourishing Drinks

Frozen Fruit Smoothie

Ingredients

- 1 medium ripe banana, peeled (100g)
- 150g frozen strawberries
- 5 Tbsp. Greek-style yogurt (75g)
- 50g unsalted cashew nuts
- 50g oats 200ml full-fat milk
- 20g skimmed milk powder

Method

- Blend all of the ingredients together until smooth.

Per serving:

Energy 446kcal

Fat 21.3g

Carbohydrates 48.8g

Fibre 5g

Protein 17.4g

Salt 0.5g



Hot Chocolate

Ingredients

- 150ml full-fat milk
- 75ml single cream
- 50g chocolate, chopped
- 20g skimmed milk powder

Per serving:

Energy 570kcal

Fat 34.3g

Carbohydrates 50.5g

Fibre 1.9g

Protein 17.1g

Salt 0.8g

Method

- Heat the milk and cream in a saucepan, stirring gently.
- Once boiling, remove from the heat and add in the chocolate pieces and stir until melted.
- Add the skimmed milk powder and stir.
- Pour into a mug and serve.



What if I'm trying to lose weight?

You may find it difficult to manage your weight when you have COPD for a number of reasons. You may be less active than you used to be. Some medications (such as steroids) can affect your weight, and can cause an increase in appetite. The best way to lose weight, and to keep it off, is by taking things slow and steady. Extreme dieting is not healthy for your body and can be very hard to maintain. Rapid weight loss results in the loss of muscle and should be avoided. Losing weight in a slow and controlled manner helps to ensure that you are losing fat mass, while maintaining muscle. It is really important to make sure that you are getting enough protein to keep your muscles healthy and strong. High protein foods will also help you feel more full and satisfied for longer.

If you are looking to lose weight, you can aim to lose around half a kilogram per week (one pound). Here are some tips to help with weight loss:

- Write down or think about why you want to lose weight, as this can help with motivation.
- Start by setting 2-3 specific, realistic healthy eating goals, for example, swap out biscuits at 11am for a piece of fruit instead. Monitor your progress by keeping track of your goals in a diary.
- Don't skip meals. You are less likely to overeat if you have a regular meal pattern. Aim to have 3 x main meals each day and 2-3 x healthy snacks in between. Base your meals off the guidelines set out in the food pyramid.
- Try to eat a high protein food with every meal, for example, cheese, meat, chicken, fish, eggs, beans, nuts, milk, yogurts.
- Fill up on fruit and vegetables. These foods are low in calories, but high in vitamins and minerals. Eating fewer calories will help you lose weight. Try to make sure that half of your plate at meal times is taken up by vegetables or salad

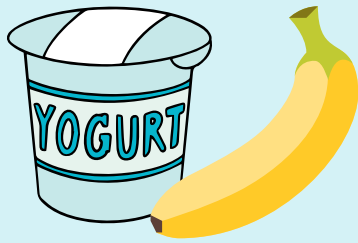
- Increase your physical activity levels. If you haven't been very active, try to gently increase the amount of activity that you are doing.
- Foods on the top shelf of the food pyramid (for example, biscuits, chocolates, cakes, sweets, crisps and sugary drinks) are high in calories and are not needed for good health. Try to gradually reduce your intake of these foods. Current Irish guidelines recommend that they should not be eaten every day, but rather once or twice a week at most.
- Choose low fat options such as low fat dairy products and lean cuts of meat.
- Base your portion sizes on the guidelines that have been set out in the food pyramid.
- Make a shopping list each week, and only buy foods off this list.
- Adopt healthier methods of cooking, such as grilling or boiling, rather than frying foods.

Losing weight can be difficult to achieve and complicated (some people spend their lives losing and regaining weight). This is not good for your physical or mental health. If you have experienced this, focus instead on being healthy at the weight you are.

For further advice, see the HSE's guide on developing healthy habits, which is available for free online



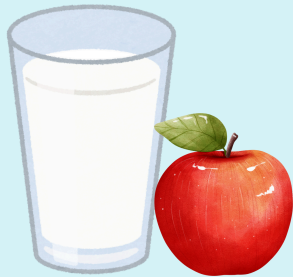
Examples of healthy snack options



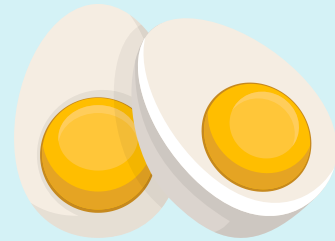
125g of low fat yogurt and a piece of fruit



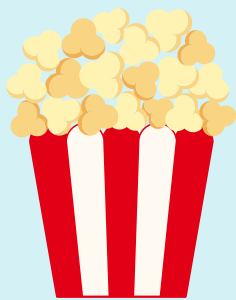
40g of low-fat hummus and vegetable sticks



200mls of low fat milk and a piece of fruit



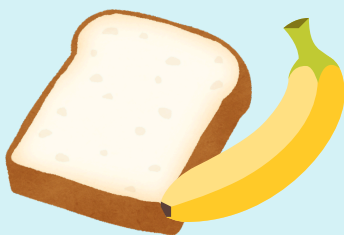
A boiled egg



A small bag of plain unsalted popcorn



A small handful of unsalted nuts e.g. almonds, brazil nuts



1 slice of wholemeal bread and a banana



A small bowl of wholegrain cereal with low-fat milk

Sample 2-Day Healthy Eating Meal Plan:

The following meal plan is based off the guidelines set out in the Irish food pyramid

Day one

Breakfast:

- 200mls low fat milk
- 2 wholemeal breakfast biscuits
- 1 apple

Mid-morning snack:

- 200mls low fat milk
- Grapes

Lunch:

- 125g low fat yogurt
- 2 thin slices of wholemeal bread with 2 eggs, lettuce, cucumber, and tomato
- 2 mandarin oranges

Afternoon snack:

- Kiwifruits

Dinner:

- 2 medium boiled potatoes
- 100g salmon
- Broccoli
- Carrots

Evening snack:

- 2 thin slices wholemeal toast
- Banana

Day two

Breakfast:

- 200mls low fat milk
- 1/3 cup porridge
- Raspberries

Mid-morning snack:

- 40g hummus
- vegetable sticks

Lunch:

- Wholemeal pitta bread with 50g tuna, sweetcorn, tomato, lettuce, cucumber
- Latte with low fat milk

Afternoon snack:

- 125g low fat yogurt
- Grapes

Dinner:

- 75g chicken
- 1 cup brown rice
- Peppers, onions, and mushrooms cooked in sauce
- 2 x mandarin oranges

Evening snack:

- Banana

Healthy Eating Recipes:

The HSE's '101+ square meals' cookbook is available for free online. It contains recipes for easy to prepare, low-budget, nutritious meals that are based off the food pyramid's healthy eating guidelines

Issues that may affect your food and nutrition:

Shortness of breath:

Feeling short of breath can cause difficulty eating. Many people who are breathless gulp air when eating, which can cause bloating and a feeling of fullness. The following tips may help:

- Try to have a rest before meal times
- Eat at times when your breathing feels more settled
- It may be easier to eat softer, moist foods when short of breath such as milk puddings, ice cream, casseroles, curries, smoothies, and milkshakes. You can make foods more moist by adding sauces and gravy
- Take your time when eating. Try to put your knife and fork down in between every bite
- Try not to have too many fizzy drinks or chew chewing gum, as this can cause bloating (peppermint tea may help to relieve this).

Reflux:

When you have COPD, you are more likely to develop reflux. It is caused by acid from the stomach leaking up into the food pipe (oesophagus), causing you pain. If you are overweight, losing weight has been shown to help reduce symptoms. Avoiding lying down too soon after eating may also help.

Some people, not everyone, find that reducing the following foods and drinks may help. It is extremely important to only exclude food and drink which have an impact on your symptoms.

- Alcohol
- Spicy foods
- Fatty or greasy foods (such as French fries and burgers)
- Fizzy drinks
- Caffeinated drinks such as coffee and tea
- Acidic foods such as fruit juices, tomatoes, garlic, and onions

Dry mouth:

You may find that your mouth feels very dry. This is a common side effect of oxygen treatment and steroid inhalers. Having a dry mouth can make food less appealing and make it more difficult to chew and swallow food. The following tips may help to relieve dry mouth:

- Choose softer, moist foods.
- Suck on sugar-free sweets, ice lollies, and ice-cubes.
- Chew sugar-free gum.
- Rinse your mouth with water after using steroid inhalers.
- Avoid using alcohol-based mouthwashes.
- Ensure adequate hydration (see the section on hydration).
- Pastilles or saliva sprays to help relieve dry mouth are available from your pharmacy or on prescription. You can chat to your GP or pharmacist about these products.

Constipation:

Many people with COPD will experience constipation at one time or another. This can result in you feeling sluggish and uncomfortable, and can reduce your appetite. It is important to discuss this with your healthcare provider. If you experience this it may help to:

- Stay hydrated. Aim for 8-10 cups (200mls each) of fluid per day. Water, tea, coffee, milk, juice, and sugar-free drinks all count towards your fluid intake.
- Choose whole meal or wholegrain options wherever possible such as breads, cereals, pasta or rice. You can add seeds and nuts to foods (such as porridge and cereals) to increase their fibre content. Fruit and vegetables are also a good source of fibre.

Taste changes:

Taste changes are a common side-effect of medications used to treat COPD. Changes in taste can cause a reduction in appetite and desire to eat. The following tips may help to improve taste:

- After using a steroid inhaler, rinse your mouth and gargle with water.
- Adopt good oral hygiene. Regularly clean your teeth/dentures.
- Try stronger tasting foods, such as spicy foods.
- Experiment with different sauces/seasoning such as spices, herbs, and chutneys.
- If you go off a particular food, try it again at a later point as your taste may continue to change.

What can I do?

If you are concerned about any of the issues covered in this booklet, or if you would like further nutrition-related advice, ask your healthcare provider to refer you to a dietitian.

Additional resources:

HSE food pyramid and healthy eating guidelines:

<https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/heal/healthy-eating-guidelines/>

Safe Food BMI calculator:

<https://www.safefood.net/bmi-calculator>

Making the Most of Every Bite cookbook:

<https://www.hse.ie/eng/services/list/2/primarycare/community-funded-schemes/nutrition-supports/making-the-most-of-every-bite-cookbook.pdf>

HSE Talking About Weight- A Guide to Developing Healthy Habits:

<https://www.hse.ie/eng/about/who/cspd/ncps/obesity/programme-resources/hse-talking-about-weight-guide-final-6.pdf>

101+ Square Meals cookbook:

<https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/heal/heal-docs/101square-meals.pdf>



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