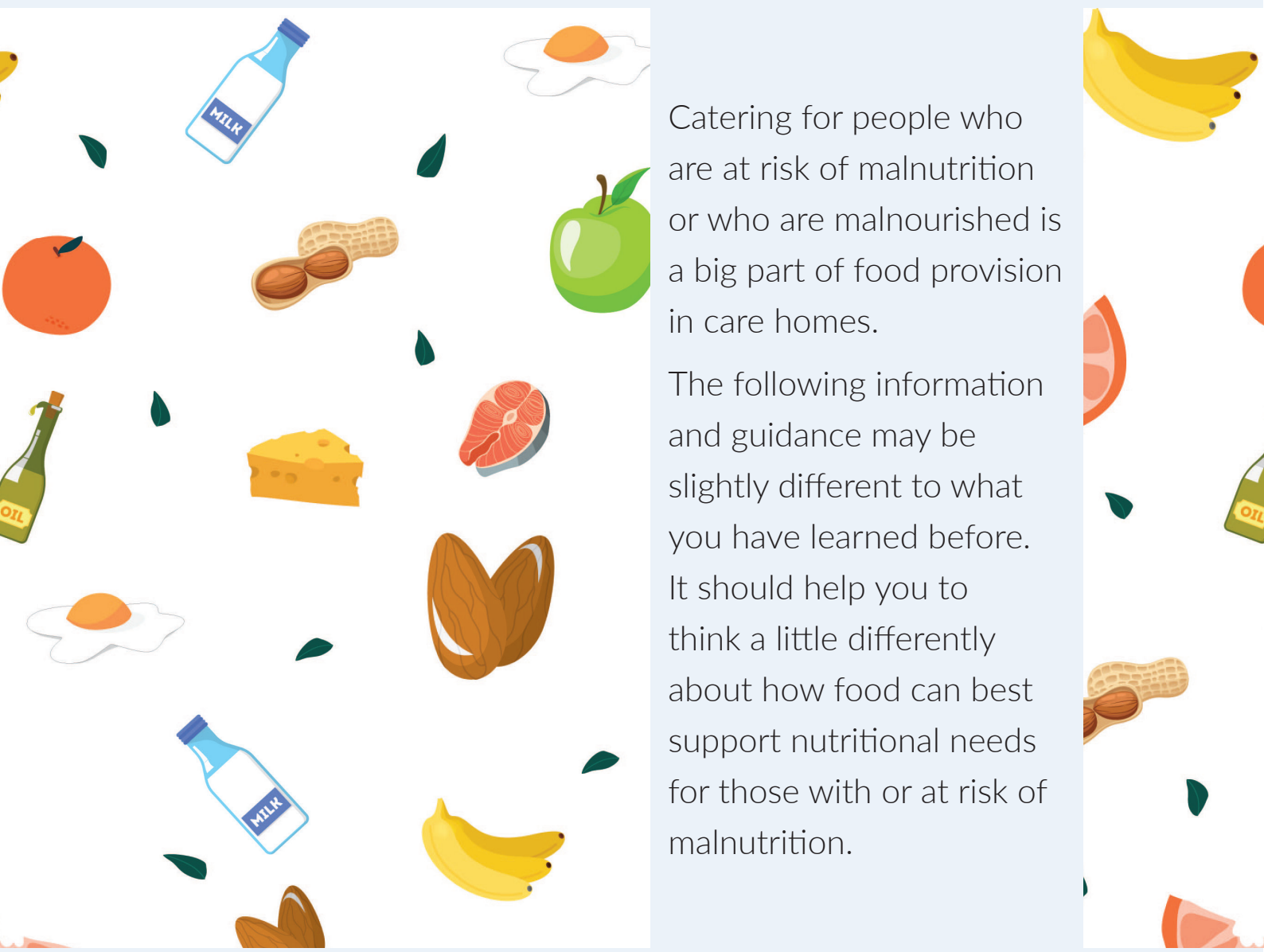


Creating a fortified diet for care home caterers

HOW TO OPTIMISE NUTRITION USING FOOD



Catering for people who are at risk of malnutrition or who are malnourished is a big part of food provision in care homes.

The following information and guidance may be slightly different to what you have learned before. It should help you to think a little differently about how food can best support nutritional needs for those with or at risk of malnutrition.

Contents

Introduction	3	~ Examples of savoury recipes based on eggs, cheese and milk	14
Nutritional needs of people with or at risk of malnutrition	3	• Cheese and bacon puffs	14
Changing how we think about a food-based approach to managing malnutrition	4	• Smoked salmon coddled eggs	15
Nutrient dense instead of energy dense	4	• Banitsa	15
What caterers can do	5	~ Examples of savoury recipes based on nuts	16
Prevention and management	6	• Savoury granola	16
How to practically apply a food-based approach to managing malnutrition	6	• Savoury nut biscuits	17
Food fortification	6	• Pistachio dip	18
~ Fortified milk	7	Nutrient dense recipe ideas - Sweet	19
Nutrient dense snacks	7	~ Examples of sweet recipes based on nuts	19
Drinks	9	• Blueberry bostock	19
Oral health	9	• Almond florentines	20
		• Chocolate and raspberry pots	20
Homemade supplement recipes	9	~ Examples of sweet recipes based on nut butter	21
~ Fortified milkshake	10	• Peanut butter crumble	21
~ Fortified fruit juice	11	• Apple 'doughnuts'	22
Nutrient dense recipe ideas - Savoury	12	• Peanut butter cookies	22
~ Examples of savoury recipes based on gram flour or chickpea	12	~ Examples of sweet recipes based on milk and eggs	23
• Socka	12	• Bread and butter pudding fingers	23
• Chickpea gnocchi	13	• White chocolate crumble	23
• Gram flour pancake	13	• Clafoutis	24
		Appendix 1: Comparison between prescribed oral nutritional supplements (ONS) products and homemade milkshake type supplements	25

Introduction

National guidance is clear that meeting residents full nutritional requirements (which includes energy, protein, vitamins, minerals, fibre and fluid) is important.

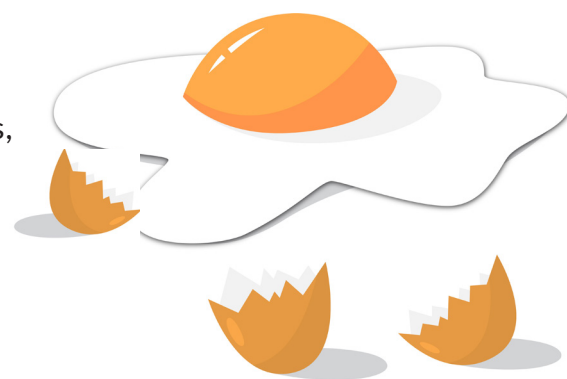
When working in a care home setting the most important guidance to be aware of is the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014: Regulation 14 Meeting nutritional and hydration needs. This makes it clear that care homes must meet the nutritional and hydration needs of service users and states that:

“A variety of nutritious, appetising food should be available to meet people’s needs”.

We all need a wide range of nutrients in our diets every day and this can be achieved by eating a variety of foods from different food groups every day.

The main food groups are:

- ~ Starchy carbohydrate (including bread, pasta, rice, cereals, potatoes)
- ~ Protein (including meat, fish, eggs, nuts, beans/lentils, Quorn, soya)
- ~ Milk and milk containing foods (including yogurt, fromage frais, cheese)
- ~ Fruit and vegetables
- ~ Fluid.



Nutritional needs of people with or at risk of malnutrition

Just like everyone else, people who have, or who are at risk of malnutrition also need a wide range of nutrients. If people have a small appetite, eating enough of ordinary foods to meet their needs can be more difficult.

Prescribed or purchased supplement drinks are often suggested as a way to support people who have small appetites to meet their nutrient needs. However, there isn't actually anything in these products which can't easily be found in food.

It's also good to remember that eating and drinking are important for so much more than the nutrient content of the food and drinks.

Research tells us that:

- ~ Eating together is a core human activity and is important for building social groups
- ~ Mealtimes reflect identity and enable us to make and maintain connections with others
- ~ Eating with others can also help increase appetite and food intake
- ~ Food is often an important part of living with purpose for older adults, including those resident in care settings

Changing how we think about a food-based approach to managing malnutrition

Food can provide all the nutrients that we need every day even if someone is malnourished, but often advice about how add nutrition to food (food fortification) focuses on adding energy by:

- ~ Fortifying food and drinks with ingredients that just provide calories such as butter, cream, oil, mayonnaise, sugar, syrup, jam etc.
- ~ Providing snacks that provide mainly calories (such as cakes, biscuits, crisps etc.)

Just like everyone else, people with, or at risk of malnutrition, need lots of different nutrients, so it follows that food fortification and snacks need to provide lots of different nutrients and not just calories (energy).

Nutrient-dense instead of energy-dense

This food-based approach focuses on 'nutrient-dense' food fortifiers and snacks. Nutrient-dense foods contain a wide range of nutrients including energy, protein, vitamins and minerals, and may also contain fibre.

The easiest way to tell if an ingredient is 'nutrient dense' is to ask yourself whether it is something designed by nature to support a new life, e.g. egg (which could 'grow' a baby bird), whole seeds or nuts (from which a new plant could grow) or milk (which would 'grow' a baby animal).

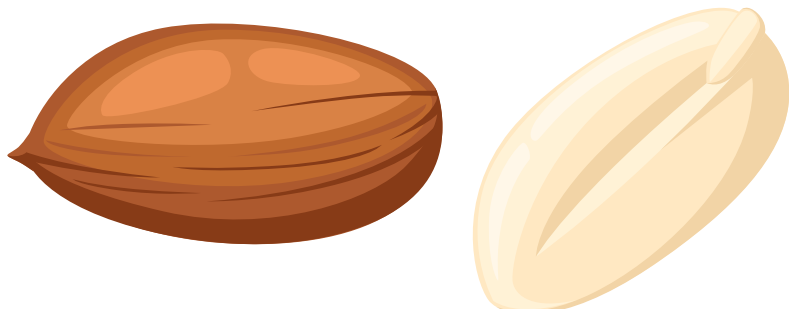
If the answer is yes, then it is likely to be a useful ingredient for fortifying food for people who have, or are at risk of malnutrition.

Ingredients that are plant based, such as seeds and nuts, are likely to also contain fibre as a part of their nutrient density.

Nutrient-dense snacks are simply ones that are either:

- ~ Nutrient-dense foods in their own right (e.g. hard-boiled egg, nuts) or
- ~ Snacks which contain a lot of nutrient dense ingredients.

Snacks which are made from nutrient dense ingredients and include some fruit and vegetables will also contain more fibre and vitamins.



So, what can caterers do?

One of the most important things to remember is that a food-based approach to managing malnutrition **does not mean** trying to shoe-horn every calorie you can find into every food you offer.

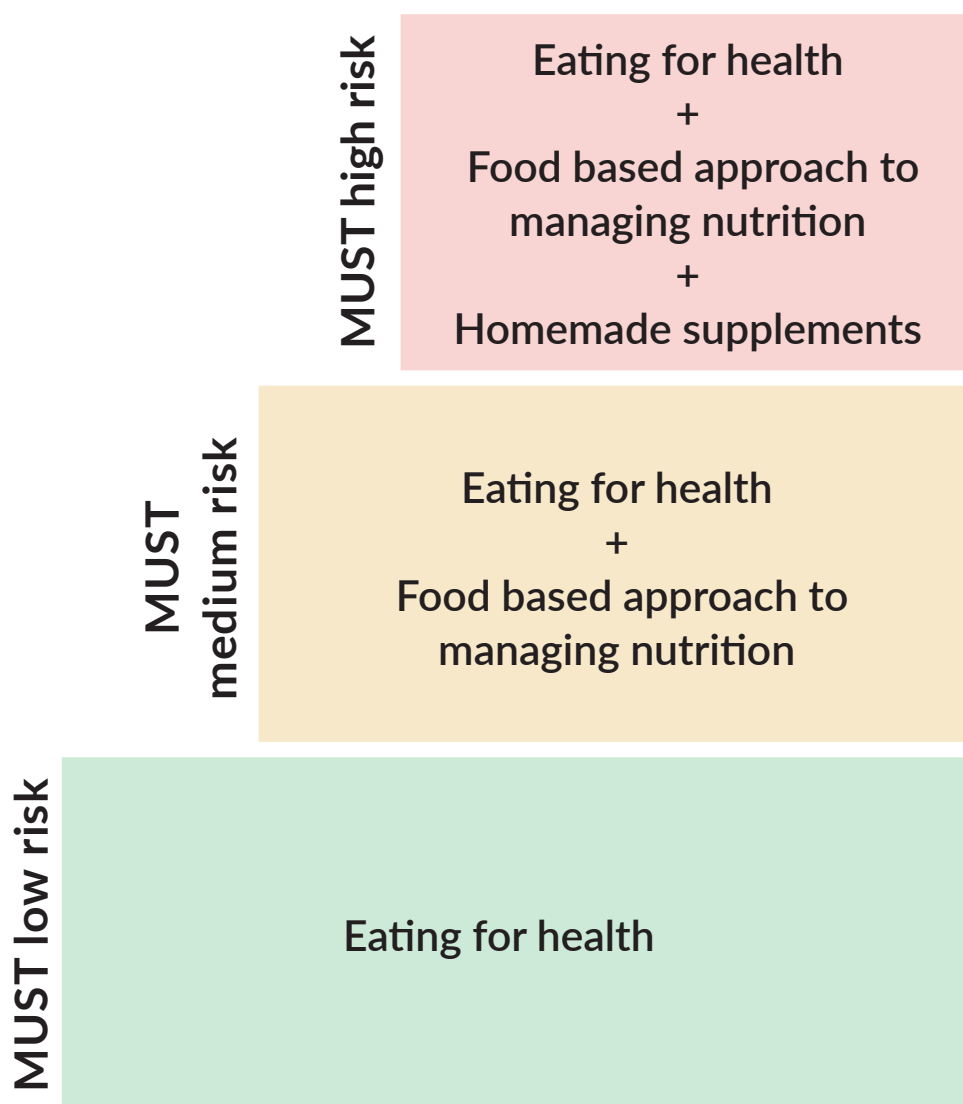
The aim of a food-based approach is to provide residents with, or who are risk of malnutrition, (usually those at medium – high risk according to MUST) with about an extra 500 calories per day **using food fortifiers and snacks which are nutrient dense** (so providing more than just calories).

Usually this only means making 3-4 changes to someone's diet each day.

This resource provides ideas and some suggested recipes for nutrient-dense, food-based management of malnutrition, which all aim to provide more than just extra calories.

Prevention of malnutrition

The following diagram demonstrates how a food-based approach to managing malnutrition is simply part of the eating and drinking continuum for older adults which starts with prevention. Prevention is the first stage of managing malnutrition and isn't covered by this guidance.



How to practically apply a food-based approach to managing malnutrition

- ~ For those at medium or high risk, aim to increase nutritional intake by an additional 500 calories a day using nutrient-dense food fortifiers and nutrient-dense snacks.
- ~ This does not mean that everything offered to the person has to be fortified or that it has to be nutrient dense.
- ~ It also does not mean that foods like butter and cream are off the menu – it is still fine to provide them as part of ordinary meals. They just shouldn't be used as food fortifiers.
- ~ For those at high risk, aim to provide two homemade supplements per day in addition to the above.

Nutrient-dense food fortification

It goes without saying that food and drinks need to be attractive to look at and taste nice, so fortifying food should not really change portion size or the taste and texture of the food or drink.

Practical, nutrient dense food fortifiers (which can be used within recipes as well as being added to finished dishes) include:

Nutrient dense food fortifier	Amount which could be added to 1 portion of food	Protein content (g)	Energy content (kcal)	Could be added to a portion of:
Cheese, grated	1 tablespoon (10g)	2.5	40	Potatoes, vegetables
Egg	1 egg	6	75	Custard, milk puddings, mashed potato
Dried, skimmed milk powder	1 tablespoon (15g)	5.5	55	Custard, milk puddings, 'cream of' soups, porridge, mashed potato
Greek yogurt	1 tablespoon (45g)	2	61	Porridge, curries, dhals,

Nutrient dense food fortifier	Amount which could be added to 1 portion of food	Protein content (g)	Energy content (kcal)	Could be added to a portion of:
Ground almonds	1 tablespoon (15g)	3	92	Vegetable soups, stews, curries, dhals, casseroles, porridge
Nut butter (e.g. peanut, almond, cashew)	1 tablespoon (15g)	4	94	Porridge, soups, curries, dhals
Pea protein powder	1 tablespoon (17g)	11	60	Vegetable soups, stews, casseroles
Soy protein powder	1 tablespoon (14g)	14	50	Vegetable soups, stews, casseroles

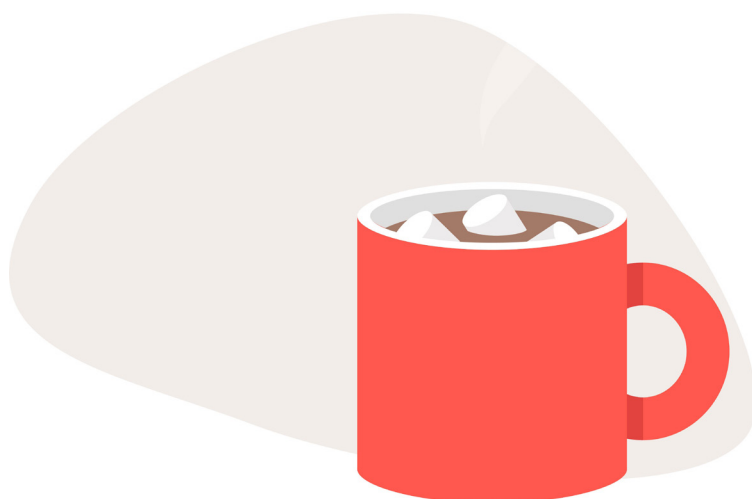
Fortified milk

Fortified milk means whole (full fat) milk that has been fortified with skimmed milk powder in the ratio:

1 pint (568ml) whole milk: 4 rounded tablespoons (60g) skimmed milk powder.

Fortified milk can be used in any of the following:

- ~ Tea and coffee (usually 12.5kcal and 0.7g protein or 25kcal and 1.5g protein) - Using fortified milk instead of whole milk adds an additional 4kcal & 0.7g protein per cup and 20kcal/1.7g protein per mug)
- ~ Hot chocolate (usually 180kcal and 7g protein when made with full fat milk) - Using fortified milk instead of whole milk adds an additional 74kcal & 6g protein per 200ml mug)
- ~ To drink on its own (usually 140kcal and 7g protein) - Using fortified milk instead of whole milk adds an additional 74kcal & 6g protein per 200ml glass)
- ~ With breakfast cereal (usually 63kcal and 3.4g protein) - Using fortified milk instead of whole milk adds an additional 37kcal & 3g protein per bowl of cereal



Nutrient dense snacks

All the nutrient dense recipes that follow can be provided either as a snack or as part of a meal, however there are also some 'readymade' snacks which are already nutrient dense:

'Readymade' nutrient dense snack	Portion size	Protein content (g)	Energy content (kcal)
Cheese & cracker	1 cracker + 1 small chunk cheese	5.5	112
Cheese scone	1	5.8	161
Custard	150g tub	3.6	144
Falafel	1	3.8	111
Greek yoghurt	150g tub	9.2	198
Hard boiled egg	1	7.2	75
Mixed nuts	Small handful (40g)	8.6	246
Rice pudding	150g tub	4.7	141

Examples - How to increase intake by 500 calories (plus all other nutrients) per day using nutrient dense foods

For the person who likes milk	507kcal + 27.7g protein
Hot chocolate made with fortified milk	254kcal
1 tub of greek yoghurt	198kcal
1 tablespoon of skimmed milk powder added to custard	55kcal

For the person who can't take milk or who likes savoury flavours	511kcal + 26.8g protein
1 small handful of mixed nuts	246kcal
1 falafel	111kcal
1 tablespoon pea protein powder added to vegetable soup	60kcal
1 tablespoon nut butter on toast or crackers	94kcal

For the person who likes sweet flavours	516kcal + 18.6g protein
1 bread and butter pudding finger (see recipe page xx)	118kcal
Hot chocolate made with fortified milk	254kcal
1 tub of custard	144kcal

Drinks

Drinking enough fluid each day is important to help prevent dehydration. There are currently no validated screening tools for dehydration and no validated tests (except plasma osmolarity which is rarely measured) which can identify dehydration in older adults. Therefore the best idea is to assume risk of dehydration for all dependent older adults.



The minimum fluid intake that older adults should aim for is 1,600ml fluid per day for women and 2,000ml fluid per day for men. It is not unusual to find that an older person does not drink this much each day and it may not always be possible to enable them to fully meet this requirement. However if an older person has a small fluid intake, any increase is positive, even if their overall intake is lower than 1,600/2,000ml per day.

Care should be taken when thinking of this guidance in terms of number of cups/ mugs/glasses of fluid needed, unless you know the volume of the cups/mugs/glasses which the person uses, and how much of that they drink. It can be a good idea to measure drinking vessels so you know their volume, then some older adults can use this information to take responsibility for managing their own fluid intake.

Oral health

Supporting good mouthcare is important. Poor oral health is linked with many commonly occurring diseases and disorders in older adults including diabetes, dementia and dysphagia (where it could lead to chest infections).

Oral healthcare guidance advises regular tooth brushing and reducing intake of sweet foods and drinks, especially between meals. Helpfully, nutrient-dense foods also tend to be tooth friendly too, so their use is in line with oral care guidance.

The sweet recipes given do contain some sugar however there is always a need for balance between advice to manage mouthcare and advice to manage malnutrition. It is not intended that these dishes will be the only or main nutrient-dense foods used and good mouthcare when eating these sorts of foods remains essential.

Homemade supplement recipes

These must contain a broad range of vitamins and minerals as well as calories and protein. In a milkshake/hot milk drink this can only be cost effectively achieved by using a vitamin fortified milkshake mix (Aldi Cowbelle, Asda Milkshake Mix, Lidl Goody Cao or Nesquik®) or by using 'Ovaltine® Original Add Milk' or 'Horlicks® Original Malted Drink'.

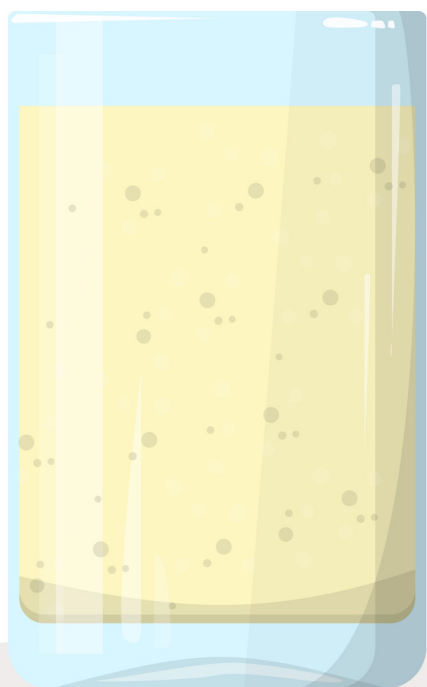
A full nutritional analysis of the 'Homemade fortified milkshake' recipe provided (see appendix 1) demonstrates that there is only a small nutritional difference between it and either a prescribed:

- ~ Standard, adult, ready to drink milkshake style oral nutritional supplement or
- ~ A reconstituted, powder, milkshake style oral nutritional supplement.

This difference is in the content of a small number of micronutrients, all of which can be obtained in adequate amounts from small portions of ordinary foods (see appendix 1).

The 'Homemade fortified milkshake' should be encouraged for the majority of patients for whom a homemade supplement is considered because it has the closest nutritional content to prescribed products.

FORTIFIED MILKSHAKE Makes 1 portion | 1 portion = 220ml | Serve 2 portions per day



INGREDIENTS

- 1/3 pint/180ml whole milk
 - 2 generous tablespoons/30g skimmed milk powder
 - 4 heaped teaspoons/20g vitamin fortified milkshake powder (Aldi Cowbelle, Asda Milkshake Mix, Lidl Goody Cao, or Nesquik®)
 - OR 5 heaped teaspoons (25g) 'Ovaltine® Original Add Milk' powder
 - OR 5 heaped teaspoons (25g) 'Horlicks® Original Malted Drink'
-

DIRECTIONS

- Mix milk powder and milkshake powder/Ovaltine powder/Horlicks powder together in a glass or mug
- Gradually mix in hot or cold milk and stir well

Product comparison, per portion	Calories	Protein	Carbohydrate	Fat	Cost
Fortified milkshake or fortified hot chocolate (made with chocolate milkshake powder)	295-310kcal	17g	39.4-44.2g	6.9g	£0.45
Homemade fortified Horlicks®	319kcal	19.3g	43.8g	8.6g	£0.53
Homemade fortified Ovaltine®	319kcal	18.4g	44.3g	7.9g	£0.65
Purchased Complian® + full fat milk*	310kcal	12.5g	44g	8.1g	£1.15
Purchased Meritene® + full fat milk*	247kcal	16.6g	26g	8.3g	£1.32

*Included for comparison purposes

FORTIFIED FRUIT JUICE

Makes 1 portion | 1 portion = 220ml | Serve 2 portions per day

Prescribed juice style oral nutritional supplements are not nutritionally complete. Therefore, the fortified fruit juice recipe given here is also not nutritionally varied, however the closest micronutrient content can be achieved by using a vitamin fortified fruit juice.



INGREDIENTS

180ml pure fruit juice (If possible use fruit juice with added vitamins such as Kubus 100% Multivitamin Juice (Tesco), Naturis Multivitamin Juice (Lidl) or Tropicana Multivitamin Boost)

40ml undiluted premium cordial (not sugar free/diet/no added sugar) e.g. Belvoir, Bottlegreen, Ribena, Rocks Organic

10g (2 x 5g sachets) egg white powder (this can be found in the home-baking section of most supermarkets or larger, better value packs can be purchased online)

DIRECTIONS

Put egg white powder in a glass. Gradually stir in undiluted cordial or squash (do not whisk)

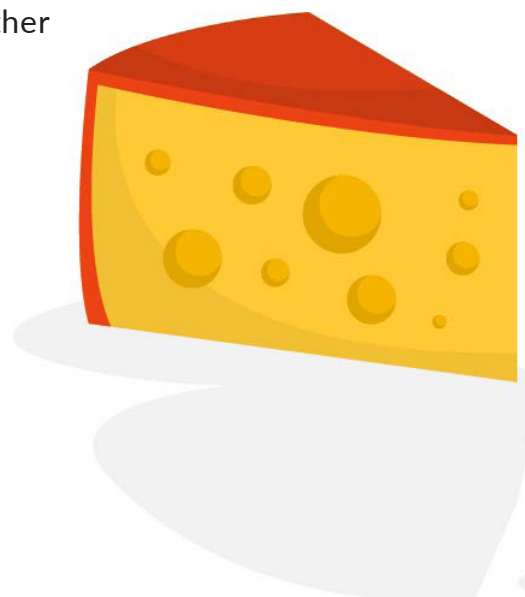
When mixed, gradually mix in fruit juice

Product comparison, per portion	Calories	Protein	Carbohydrate	Fat	Cost
Fortified Fruit juice	178-250kcal	8.4-9.4g	38-52g	0-0.2g	£0.84-£1.00
Fortified Fruit juice using Kubus 100% Multivitamin Juice/Naturis Multivitamin Juice/Tropicana Multivitamin Boost	191-246kcal	8.4-9.4g	38-52g	0-0.2g	£1.06-£1.45

Nutrient dense recipe ideas - Savoury

These should include fruit/vegetables if possible, together with a large proportion of nutrient dense ingredients such as:

- ~ Nuts or nut butter
- ~ Milk
- ~ Milk powder
- ~ Yoghurt
- ~ Cheese
- ~ Gram (chickpea) flour
- ~ Eggs



Examples of savoury recipes based on gram flour or chickpea

SOCKA (OLIVE MAGAZINE)

Serves 2 | Contains 349kcal and 14.6g protein

INGREDIENTS

120g gram flour

240ml water

2 teaspoons lemon juice

2 tablespoons olive oil

¼ teasp bicarbonate of soda

Salt and pepper

30g cooked frozen peas

DIRECTIONS

Slowly mix water into gram flour

Add lemon juice

Cover and rest mixture overnight

Add 1 tablespoon of oil to an ovenproof frying pan and put in oven heated to 230°C (210°C fan assisted)

Mix remaining oil and bicarbonate of soda into batter

Remove pan from oven and pour in batter

Scatter peas over the top and add seasoning

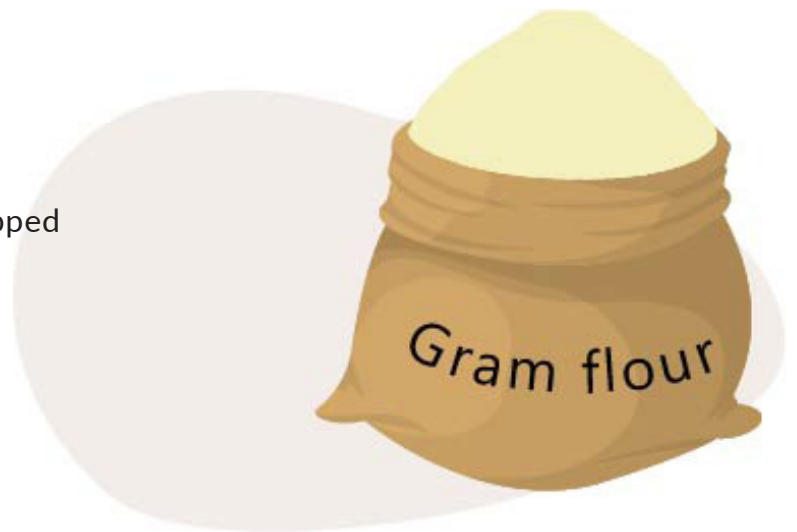
Bake for 20 mins

CHICKPEA GNOCCHI (DELICIOUS MAGAZINE)

Serves 6 | 240kcal and 19.2g protein per portion

INGREDIENTS

750g Greek yogurt
210g gram flour
375ml water
1 tablespoon fresh ginger, finely chopped
½ teaspoon ground turmeric
½ teaspoon nigella seeds
½ teaspoon fennel seeds
½ teaspoon sugar
Salt and pepper
1 tablespoon oil



DIRECTIONS

Mix all ingredients except oil together in a pan
Cook for 12-15 mins until thickened and shiny
Pour into a 18 x 28cm baking tin lined with baking paper
Cool
When set turn out onto a board and cut into 24 squares
Heat oil in frying pan. In batches fry gnocchi on each side for 2-3 mins

GRAM FLOUR PANCAKE (BBC GOOD FOOD)

Makes 1 pancake | Contains 333kcal and 19.4g protein per pancake

INGREDIENTS

70g gram flour
1 tablespoon (12g) nutritional yeast
¼ teaspoon chilli flakes
¼ teaspoon baking powder
120ml water
½ tablespoon rapeseed oil

DIRECTIONS

Mix together all dry ingredients then mix in water
Heat oil and fry as 1 large pancake for 4-5 mins per side

Examples of savoury recipes based on eggs, cheese and milk

CHEESE AND BACON PUFFS (GOOD HOUSEKEEPING)

Makes 24 | Contains 172kcal and 5.9g protein per 3 puffs

INGREDIENTS

75g streaky bacon, finely chopped

75g unsalted butter

75ml whole milk (fortified milk could be used here to increase nutritional content)

75ml water

½ teaspoon mustard powder

½ teaspoon paprika

Ground black pepper

75g plain flour

2 eggs, beaten

25g parmesan, finely grated

Handful parsley, finely chopped

DIRECTIONS

Fry bacon until crisp

Mix milk, water, butter, mustard powder, paprika and pepper together in a pan and heat up

When the mixture boils take off heat and mix in flour

Continue to mix until mixture comes away from sides of pan

Cool

Mix eggs into flour mixture to give dropping consistency

Mix bacon, parmesan and parsley into mixture

Put teaspoonfuls onto greased baking sheets

Cook at 200°C (180°C fan assisted) for 10-12 mins until puffed up and golden



SMOKED SALMON CODDLED EGGS (BBC GOOD FOOD)

Serves 1 | Contains 405kcal and 25.7g protein (not including toast)

INGREDIENTS

5g butter, melted
1 egg
1 tablespoon double cream
25g hot smoked salmon, flaked
15g gruyere, grated
Ground, black pepper

DIRECTIONS

Brush a ramekin with butter
Crack an egg into it
Add cream then salmon and cheese
Season with pepper
Bake at 200°C (180°C fan assisted) for 10 min
Serve with toast soldiers



BANITSA (SAINSBURY'S MAGAZINE)

Serves 6 | Contains 281kcal and 13g protein per portion

INGREDIENTS

3 eggs
125g yogurt
2 tablespoon oil
8 small sheets filo pastry
200g feta, crumbled
30g butter

DIRECTIONS

Whisk together eggs, yoghurt and oil
Drizzle some of the mixture over 1 sheet of filo pastry then sprinkle with feta
Roll up from a short side then place in a greased, round 20cm baking tin
Repeat with the remaining filo sheets and make a spiral in the tin
Add any remaining egg and feta to any gaps in the tin
Dot with the butter
Cook at 200°C (180°C fan assisted) for 45 mins until risen and golden brown
Serve cut into wedges while warm

Examples of savoury recipes based on nuts

SAVOURY GRANOLA (OLIVE)

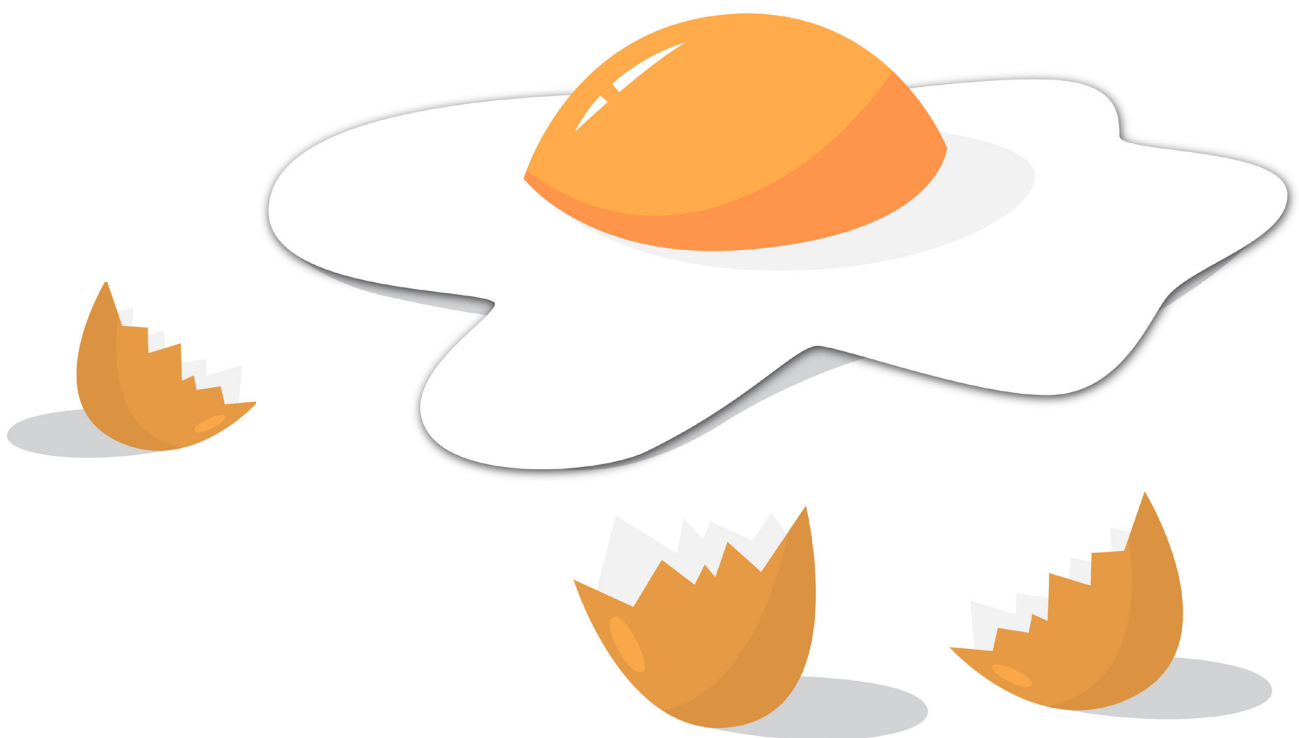
Serves 6 | Contains 253kcal and 7.8g protein per portion

INGREDIENTS

- 50g oats
 - 50g hazelnuts
 - 50g sunflower seeds
 - 50g pumpkin seeds
 - 2 tablespoon sesame seeds
 - 1 tablespoon smoked paprika
 - 1 tablespoon cumin seeds
 - 1 egg white
-

DIRECTIONS

- Mix all ingredients together with a pinch of salt
- Spread out on a baking tray and roast at 180°C (160°C fan assisted) for 10 mins
- Remove from oven and mix well then bake for a further 10 mins until golden
- Allow to cool then serve sprinkled over vegetables, hummus or Greek yoghurt
- Can also be blended to a powder before using



SAVOURY NUT BISCUITS (GREAT BRITISH CHEFS)

Makes 16 biscuits | Contains 94kcal and 3.4g protein per biscuit

INGREDIENTS

100g ground walnuts
30g chopped walnuts
60g gram flour
30g polenta
50g Stilton, or other strong cheese, roughly grated
Freshly ground black pepper
1 teaspoon dried thyme
1 egg

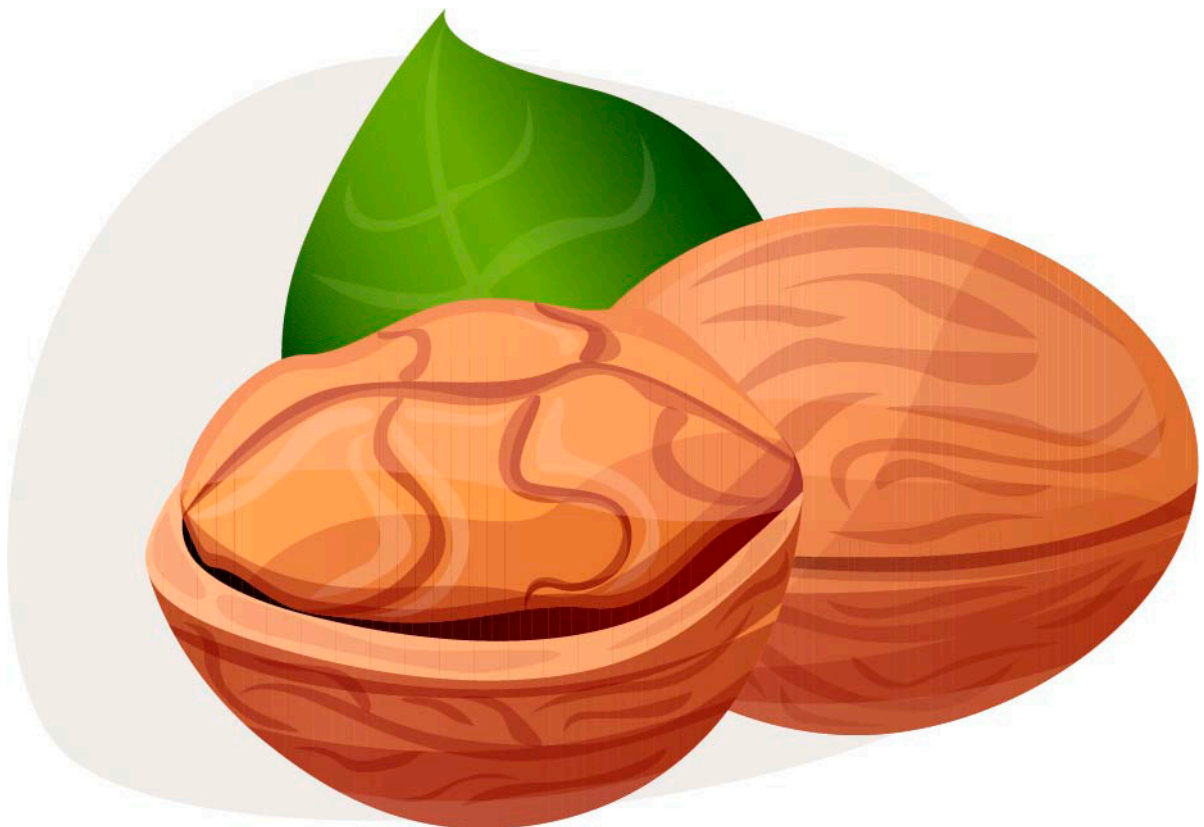
DIRECTIONS

Mix together ground and chopped walnuts, gram flour, polenta, grated cheese, pepper and thyme in a large mixing bowl and then mix in the egg

Form the mixture into a ball, wrap the dough in cling film and rest in the fridge for 30 minutes

Roll the dough out to a thickness of 4mm then using a 6cm round cutter, cut out 16 biscuits

Bake at 200°C (180°C fan assisted) for 15 mins



PISTACHIO DIP (ADAPTED FROM THE DOMESTIC DIETITIAN)

Serves 6 | Contains 314kcal and 12.1g protein per portion

INGREDIENTS

200g pistachios
1 clove garlic minced
1 teaspoon lemon zest
1 teaspoon fresh lemon juice
4 tablespoon olive oil
Salt and pepper to taste
250g Greek yogurt
1 tablespoon parsley chopped

DIRECTIONS

Process the pistachios, garlic, lemon zest and lemon juice in a food processor or blender until you achieve a very fine consistency and smooth texture

With the motor running, slowly drizzle in the olive oil and combine until a paste forms

Taste and season with salt and pepper as needed. In a bowl mix the pistachio paste into the yogurt and parsley

Serve with raw or cooked vegetable sticks



Nutrient dense recipe ideas - Sweet

These should include fruit/vegetables if possible, together with a large proportion of nutrient dense ingredients such as:

- ~ Nuts or nut butter
- ~ Milk
- ~ Milk powder
- ~ Yoghurt
- ~ Eggs

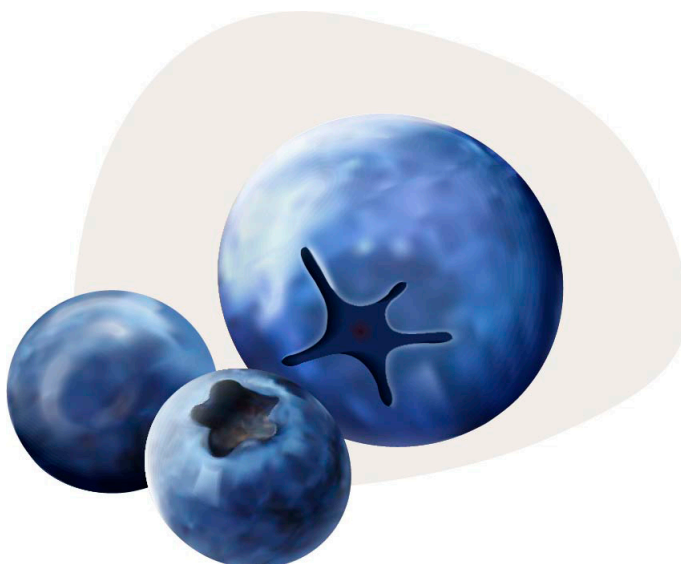
Examples of sweet recipes based on nuts

BLUEBERRY BOSTOCK (BBC GOOD FOOD)

Serves 6 | Contains 637kcal and 12g per portion

INGREDIENTS

- 3 tablespoons + 100g caster sugar
- 1 strip of lemon zest
- 6 slices day old brioche
- 100g blueberries
- 50g flaked almonds
- 100g butter
- 75g ground almonds
- 1 tablespoon plain flour
- 1 egg
- ¼ teaspoon almond extract (optional)



DIRECTIONS

Put 3 tablespoons of sugar, 3 tablespoons of water and lemon zest in a pan to make a sugar syrup

Bring to a simmer and bubble just until the sugar has dissolved

Beat together butter and 100g sugar

Add ground almonds, flour, almond extract (if using) and egg then beat until combined

Lay brioche on a parchment lined baking tray then brush sugar syrup over each slice

Divide the almond mixture between the brioche slices and spread to the edges

Add a handful of blueberries to the centre of each slice and press flaked almonds onto the almond mixture round the edges

Bake at 180°C (160°C fan assisted) for 25-30 mins until golden brown

Cool for at least 10 minutes before serving

ALMOND FLORENTINES (BBC EASY COOK)

Makes 18 florentines | Contains 165kcal and 4.5g protein per florentine

INGREDIENTS

2 tablespoon melted butter

2 egg whites

100g icing sugar

2 tablespoon plain flour

300g flaked almonds

DIRECTIONS

Mix butter, egg whites, sugar and flour until smooth

Mix in the almonds

Put 16 spoonfuls of the mixture onto parchment lined baking trays and flatten them

Bake at 160°C (140°C fan assisted) for 15-18 mins until golden

CHOCOLATE & RASPBERRY POTS (WOMAN & HOME MAGAZINE)

Serves 4 | Contains 350kcal and 11g protein per portion

INGREDIENTS

100g raspberries

3 eggs, separated

100g dark chocolate (70%), melted

3 tablespoons honey

2 teaspoons vanilla extract

50g ground almonds

DIRECTIONS

Divide raspberries between four ramekins

Whisk egg yolks with chocolate, honey, a pinch of salt, vanilla and ground almonds

In a separate bowl whisk the egg whites to stiff peaks

Gradually fold the egg whites into the chocolate mixture

Divide between the ramekins

Put ramekins in a roasting tin and pour boiling water into the roasting tray to come $\frac{3}{4}$ of the way up the ramekin sides

Bake at 180°C (160°C fan assisted) for 12 mins

Examples of sweet recipes based on nut butter

PEANUT BUTTER CRUMBLE (BBC GOOD FOOD)

Serves 6 | Contains 375kcal and 8g protein per portion

INGREDIENTS

800g frozen berries
1 tablespoon cornflour
2 tablespoon golden caster sugar
100g plain flour
50g porridge oats
50g golden caster sugar
85g crunchy peanut butter
50g unsalted butter, melted

DIRECTIONS

Put the fruit, cornflour and sugar in a pan and heat for 5 mins until the berries have defrosted and are starting to simmer and thicken

Tip into a baking dish measuring about 20 x 25cm

Mix the flour, oats, sugar and a pinch of salt in a large bowl

Rub in the peanut butter using your fingers until the mixtur looks like fine crumbs

Pour the melted butter over, and work everything to a lumpy mix with your fingers, ensuring there are no dry crumbs left

Scatter crumble over the fruit, then bake at 180°C (160°C fan assisted) for 25-30 mins until golden and crisp and the fruit is bubbling at the edges

Leave for 5 mins before serving



APPLE 'DOUGHNUTS' (BBC EASY COOK)

Makes 15 'doughnuts' | Contains 46kcal and 1.6g protein per 'doughnut'

INGREDIENTS

150g soft cheese
2 teaspoon honey
3 eating apples
4 tablespoon smooth almond or peanut butter
Coloured sprinkles

DIRECTIONS

Mix soft cheese with honey
Peel the apples and slice each, through the core, into 5 rings
Use an apple corer to remove the core from each slice
Pat the slices dry using kitchen paper
Spread nut butter over each slice then top with the cream cheese mixture
Add a few sprinkles to each slice

PEANUT BUTTER COOKIES (GOOD HOUSEKEEPING)

Makes 18 cookies | Contains 135kcal and 4g protein per cookie

INGREDIENTS

250g peanut butter
200g soft brown sugar
1 egg

DIRECTIONS

Beat all of the ingredients together
Scoop out spoonfuls of the mixture and roll into balls
Arrange on parchment lined baking sheets, spaced apart
Press down on each with a fork to flatten slightly
Bake at 180°C (160°C fan assisted) for 12 mins



Examples of sweet recipes based on milk and eggs

BREAD AND BUTTER PUDDING FINGERS (BBC GOOD FOOD)

Makes 24 fingers | Contains 118kcal and 2g protein per finger

INGREDIENTS

400g brioche loaf

3 eggs

120g whole milk

75ml Irish cream liqueur

100g unsalted butter

100g golden caster sugar

DIRECTIONS

Use a bread knife to remove the crusts and square up the brioche loaf

Cut the loaf into 3cm slices, then cut each slice into three rectangular fingers

Whisk together eggs, milk and Irish cream liqueur in a shallow dish

Put the brioche fingers in the egg mixture and leave for about 5 seconds on each side until they are soaked but still holding their shape

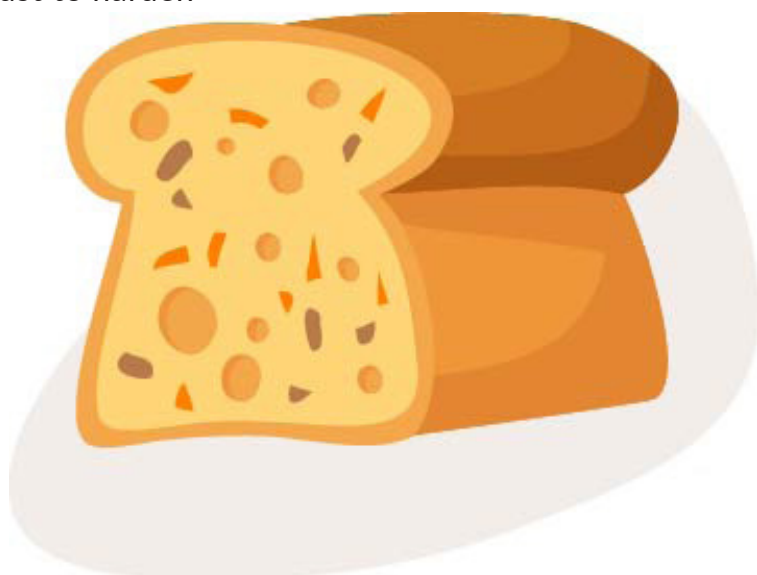
Put a large frying pan on a medium heat, add the butter and heat until sizzling

Add the brioche fingers to the pan and slowly cook on a medium-high heat, turning so all sides are an even, golden brown

Remove the toast from the pan and toss in the sugar, then transfer them to a baking tray or rack

Use a blowtorch to caramelize the sugar on all sides or, if you don't have a blowtorch, grill on each side for 1 min, or until the sugar has melted

Leave the brioche to cool and the sugar crust to harden



WHITE CHOCOLATE CRUMBLE (BBC GOOD FOOD)

Serves 6 | Contains 221kcal and 5g protein per portion

INGREDIENTS

60g skimmed milk powder
50g cornflour
10g light brown soft sugar
50g butter, melted
100g white chocolate, melted

DIRECTIONS

Mix the milk powder, cornflour and the sugar together, then pour over the melted butter and white chocolate

Mix until it forms a crumb, then scatter over a baking sheet and bake at 160°C (140°C fan assisted) for 10 mins until golden

Remove from the oven and leave to cool

Sprinkle over cooked fruit

CLAFOUTIS (BBC GOOD FOOD)

Serves 3 | Contains 380kcal and 15g protein per portion

INGREDIENTS

450g cherries, pitted
2 tablespoons cherry, plum or apricot jam
Finely grated zest and juice of 1 lemon
50g plain flour
3 large eggs
450ml whole milk
½ teaspoon ground cinnamon
3 tablespoons golden caster sugar



DIRECTIONS

Gently heat the cherries and jam in a large saucepan, stirring all the time until the jam melts over the cherries

Tip into a greased, shallow 1.3 litre baking dish

Sprinkle over the lemon zest and juice

Whizz the flour, eggs, milk, cinnamon and sugar in a food processor for 30 seconds until smooth

Pour over the cherries, then put the dish on a baking tray and bake at 190°C (170°C fan assisted) for 25-30 minutes or until the custard is set and the jam is beginning to bubble through

Appendix 1: Comparison between prescribed ONS products and homemade milkshake type supplements

Micronutrients that are lower in a homemade milkshake type supplement (made to the recipes in this booklet) compared with prescribed products are highlighted and easy to access food sources are identified for each micronutrient.

Nutrient content	Recommended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Energy (kcal)	N/A	600	776	590 - 620	637	638		
Protein (kcal)	N/A	25	31.2	34.2	36.8	38.6		
Carbohydrate (g)	N/A	80.8	88.6	78.9 - 88.4	88.5	87.5		
Sugar (g)	N/A	26	58.2	74.5 - 83.1	73.1	875.2		
Fat (g)	N/A	19.68	32.8	13.8	15.8	17.22		
Sat fat (g)	N/A	1.8	18.4	8.8	9.2	8.5		
Vitamin A (mcg retinol equivalent)	600/700	468	760	398.6 - 536.4	809.7	729.7		
Vitamin C (mg)	40	48	76	46.66 - 99.20	55.2	39.2		

Nutrient content	Recommended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Vitamin D (mcg)	10	8	10.2	1.26 - 8.38	1.26	3.3	Older adults require supplementation (SACN/PHE & CQC advice*) and this should be purchased	
Vitamin E (mg)	3 - 4mg adequate	8.6	10.4	0.24 - 7.12	6.3	0.31	No LRNI Dietary sources: vegetable oils	10g polyunsaturated margarine provides 3mg; 10ml rapeseed oil provides 2mg
Thiamin (mg)	0.8/0.9	0.8	1.72	0.34 - 1.24	0.89	0.89		
Riboflavin (Vitamin B2) mg	1.1/1.3	1.08	2.8	1.84 - 3.04	2.54	2.48		
Niacin (mg)	12/16	10.4	18.2	1.34 - 13.96	9.34	8.54		

*SACN = Scientific Advisory Committee on Nutrition

PHE = Public Health England

CQC = Care Quality Commission

LRNI = Lower Reference Nutrient Intake

Nutrient content	Recomm- ended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Vitamin B6 (mg)	1.2/1.4	1.08	2.4	0.58 - 1.84	1.28	0.58	LRNI = 0.011mg/g protein/d Dietary sources: meat, fish, potatoes	1 small chicken breast contains 0.5mg; 50g tinned tuna contains 0.16mg; 1 small portion mashed potato contains 0.06mg
Folic acid (mcg)	200	160	260	60.20 - 212.14	160	140		
Vitamin B12 mcg	1.5	2.2	6	4.90 - 7.18	6.16	5.3		
Biotin (mcg)	No RNI	24	46	21.34 - 36.10	46.34	21.3		
Pantothenic acid (mg)	No RNI	4.4	8.6	4.12 - 8.74	7.12	4.1		
Calcium (mg)	700	480	1160	1206.0	1606	1526		
Phosphorus (mg)	550	400	920	927.2	927.2	1077.2		

Nutrient content	Recommended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Iron (mg)	8.7	8.4	8	0.28	7.27	5.9	LRNI = 4.7mg/d Dietary sources: red meat, fortified breakfast cereals. NB. <u>SACN Iron and Health 2010 states:</u> “The high proportions of the UK population with intakes below the LRNI and the relatively low prevalence of iron deficiency anaemia suggest that the Dietary Reference Values (DRV) for iron may be too high”	1 small portion branflakes contains 6.1mg; 1 slice liver contains 3.9mg; 1 small portion cooked beef mince contains 2.7mg; 1 small portion cornflakes contains 1.6mg
Magnesium (mg)	270 women 300 men	120	140	118.8	306.3	138.4		

Nutrient content	Recommended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Zinc (mg)	7/9.5	7.2	7.2	3.88	8.88	4.18	LRNI = 4mg/d Dietary sources: meat, cereals, milk, fish, eggs	200ml full fat milk contains 1mg; 1 small portion branflakes contains 1mg; 1 small chicken breast contains 0.8mg; 1 egg contains 0.8mg; 15g skimmed milk powder contains 0.6mg; 50g tinned tuna contains 0.5mg
Iodine (mcg)	140	88	240	205	205	205		
Selenium (mcg)	60/75	34	32	10.32	10.32	10.32	LRNI = 40mcg/d Dietary sources: bread, meat, fish, milk, nuts, eggs	50g tinned tuna contains 45mcg; 1 egg contains 6.3mcg; 1 slice white bread contains 2.2mcg

Nutrient content	Recomm- ended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Copper (mg)	1.2	0.72	0.6	0.04	0	0.05	No LRNI Dietary sources: organ meats, shellfish, beans, nuts, wholegrains	1 slice liver contains 1.2mg; 1 small portion rice pudding contains 0.13mg; 1 small portion branflakes contains 0.09mg; spreading of peanut butter (e.g. on a slice of bread) contains 0.08mg
Manganese (mg)	Safe intake >1.4mg for adults	2	0.7	0.08	0	0	No LRNI Dietary sources: cereals, bread, tea, fruit, veg, nuts	1 small portion porridge contains 0.6mg; 1 ring tinned pineapple contains 0.36mg; 1 cup of tea contains 0.23mg; spreading of peanut butter (e.g. on a slice of bread) contains 0.2mg; 1 slice white bread contains 0.18mg
Chromium (mcg)	No RNI	30	8	Not reported	Not reported	Not reported		
Vitamin K (mcg)	No RNI	48	60	2.22	Not reported	Not reported		

Nutrient content	Recommended nutritional intake for >50 yrs	Standard, prescribed, adult, ready to drink 1.5kcal/ml milkshake type ONS twice daily	Standard, prescribed, adult, powder milkshake prepared with whole milk twice daily	Homemade fortified milkshake twice daily	Fortified Ovaltine® twice daily	Fortified Horlicks® twice daily	Potential for improving over/ under provision from fortified milkshake	Dietary sources
Potassium (mg)	3500	640	1480	1529.2	1607.2	1872.2		
Molybdenum (mcg)	No RNI	64	18	Not stated	Not reported	Not reported		
Sodium (mg)	1600	368	480	489.6	541.2	734.6		



Creating a fortified diet: recipe book for caterers

HOW TO OPTIMISE
NUTRITION USING
FOOD

Version 2.0 September 2022

Author: Alison
Smith RD,
Prescribing Support
Consultant Dietitian
September 2022

Written in collaboration with the British Dietetic Association (BDA) Older People Specialist Group and the BDA Optimising Nutrition Prescribing Specialist Group and endorsed by the National Association of Care Catering (NACC)