

Nutritional Resource Pack for Care Homes

Malnutrition Universal Screening Tool (MUST) and Nutrition Support

Version:	V1.0	
Summary:	<i>This pack provides education to help care homes manages malnutrition and screen residents for malnutrition. It has advice to overcome eating difficulties also.</i>	
Ratified by	<i>Evidence Based Medicines Group</i>	Date: <i>3rd December 2021</i>
Has an Equality Impact Assessment been carried out?	<i>No</i>	Date:
Name of originator/author:	<i>Kirklees Care Home Support Team Dietitians</i>	
Name of responsible committee:	<i>Evidence Based Medicines Group</i>	
Target audience:	<i>Colleagues working in care homes</i>	
Date issued:	<i>14th February 2022</i>	
Next Review date:	<i>December 2024</i>	

Review and Amendment Log

Version No	Type of Change	Date	Description of Change
<i>V1.0</i>	<i>New resource</i>	<i>Dec 2021</i>	

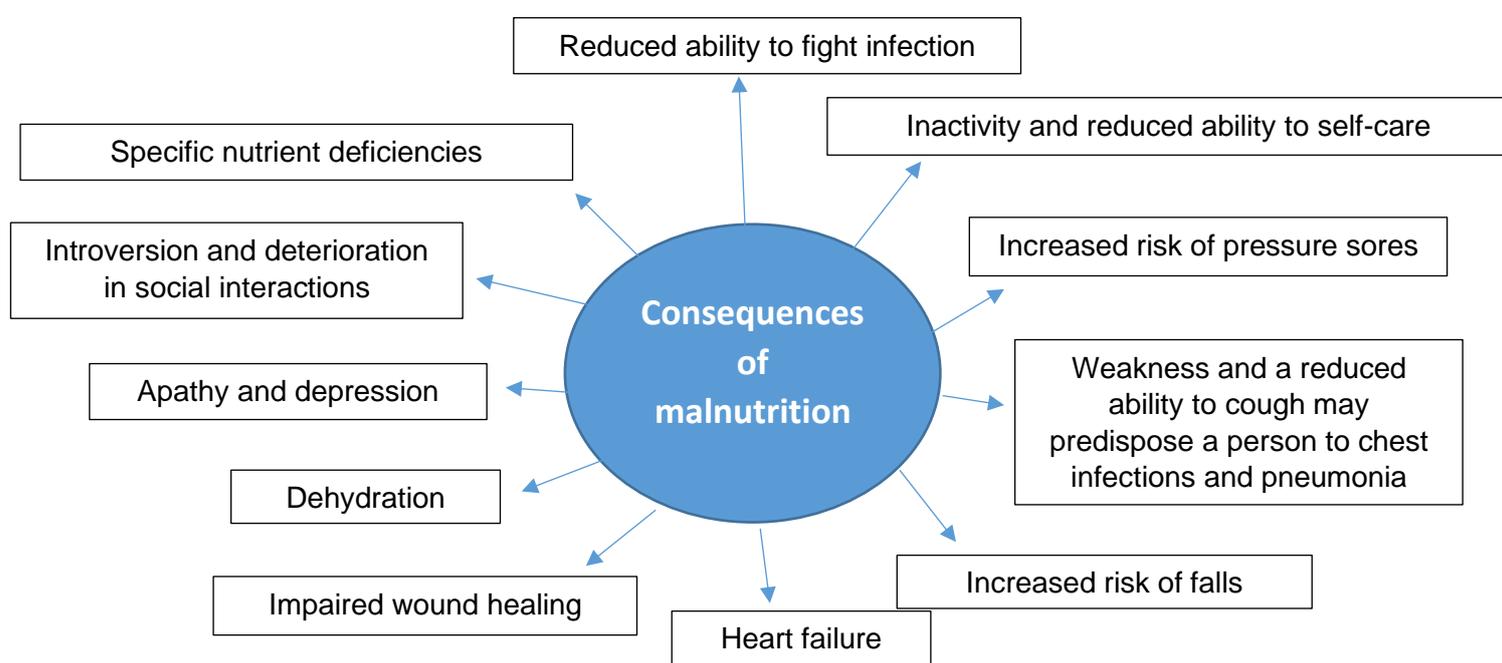
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Introduction

What is Malnutrition?

Malnutrition is a serious condition which occurs when your body does not have the right amount of nutrients. This often stems from a lack of food, or a lack of certain nutrients and can lead to different diseases associated with deficiency such as Scurvy, anaemia, Wernicke syndrome and Kwashiorkor. However in serious cases, malnutrition can lead to death. Most people associate malnutrition with being underweight, however it can also happen to people who are overweight or obese who are equally at risk of deficiency for certain nutrients. However the focus for the purpose of this document shall be on undernutrition.



Please note: the consequences outlined above are not exhaustive, and include many other consequences.

How prevalent is malnutrition?

Malnutrition in the UK is estimated to affect over 3 million people, and over a third of these are people aged over 65 years. Surveys have shown that 30-42% of patients admitted to care homes are at risk of malnutrition. Malnutrition in England for both adults and children was estimated to cost almost £20 billion in 2011-2012 and is only set to increase with our aging population, and the rising cost of health and social care.

How do we treat Malnutrition?

Identifying the problem is the first step. The way we identify the risk of the malnutrition in the UK, is to use the Malnutrition Universal Screening Tool (MUST). This resource pack has been produced to ensure you are confident in delivering basic nutritional care to minimise the risk of malnutrition developing, and in identifying those who are at risk, and the strategies used to treat them.

Requirements for Delivering Basic Nutritional Care

It is important to ensure that **all** residents receive good nutritional care to minimise their risk of developing any consequences associated with malnutrition. This will require effort and involvement from a range of individuals. Here are some requirements for delivering good nutritional care in the care home setting for all residents:

- Good leadership skills:
 - Ensure all staff have accessed the relevant training and updates
 - Clear processes are in place to identify, record and action malnutrition risk and its treatment
 - Routine auditing of nutrition related practices
 - Promote an open and transparent culture of incident reporting and shared learning
 - Incorporation of nutritional care practices into appraisals
 - Adherence to local and national policies on nutritional provision

- Staff access to:
 - Scales (calibrated at least annually), height sticks, tape measures, food blenders and shakers that are in full working order
 - Foods and drinks that are used to fortify meals such as skimmed milk powder and cream
 - Relevant IT, paper and time resources to refresh their knowledge and undergo training

- Excellent communication:
 - Between care staff, catering staff, residents and their families, and health professionals
 - Written communication evidencing malnutrition risk, monitoring practices and actions taken
 - To ensure timely referrals as needed
 - At handover with care home staff to ensure continuity of care
 - With residents where appropriate to identify barriers to good nutritional care
 - With residents' families to acquire details on eating habits, preferences, height and weights

- Implementation of actions taken to reduce and treat malnutrition risk:
 - Identify malnutrition risk by completing MUST
 - Record malnutrition risk and appropriate actions needed
 - Implement actions required and communicate to appropriate staff
 - Review actions alongside monitoring practices

MUST Training

Online training can be accessed here: <http://www.bapen.org.uk/bapenlearning/mle/> For locally developed training, please contact the Care Home Support Team Dietitian for any support related to nutrition support and MUST via email at layla.brown@locala.org.uk

What is MUST?

MUST stands for **Malnutrition Universal Screening Tool**. It is the gold standard assessment that has been clinically proven to identify risk of malnutrition in our population in the community and within hospital settings. It contains 5 steps and includes management guidelines, which can be used to develop a care plan or action plan to treat the risk.

The 5 steps of MUST

Step 1 – measure height, weight and calculate BMI, to give BMI score (see appendix 1 for conversion charts)

Step 2 – Calculate percentage of unplanned weight loss and score (see appendix 2 for weight loss table)

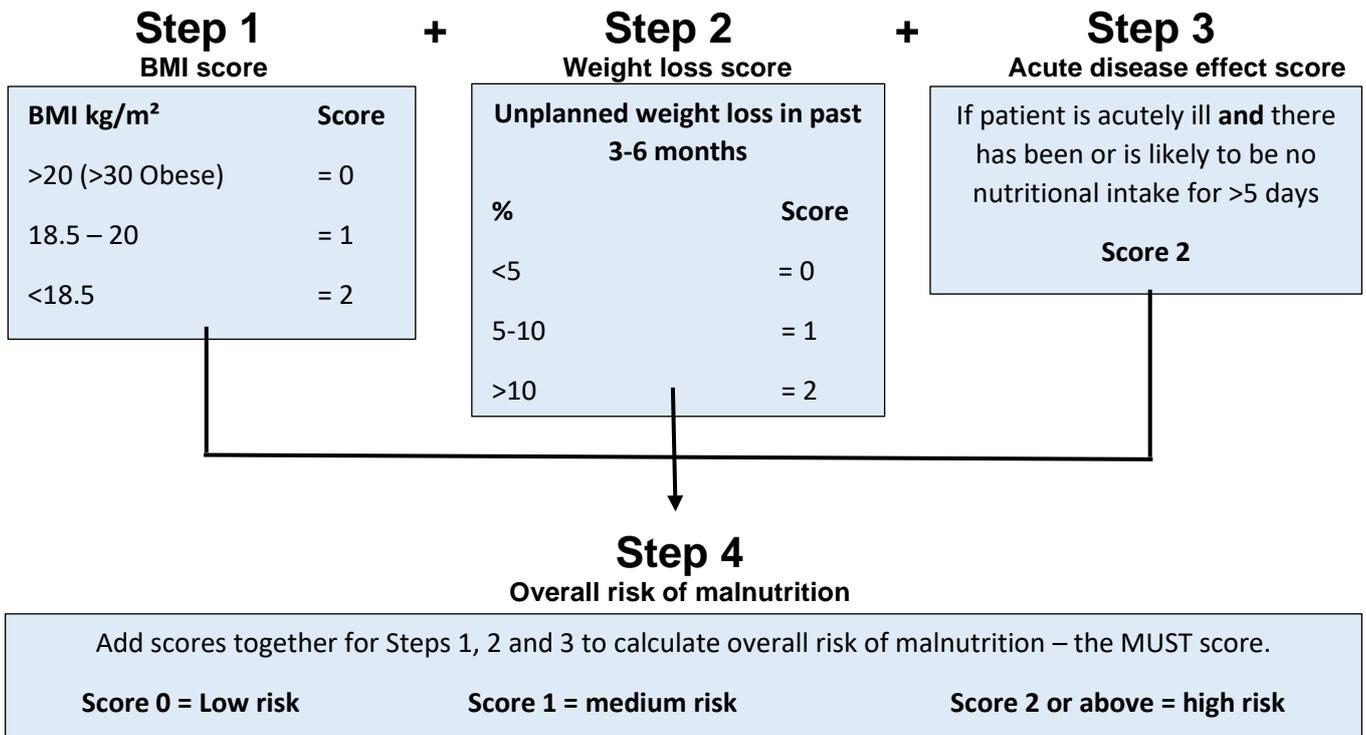
Step 3 - Establish acute disease effect and score (This is either a score of 2 or 0 – never score a 1)

Step 4 – Add the scores together from steps 1, 2 and 3 to obtain the MUST score

Step 5 – Implement the appropriate action plan depending on the result of the MUST score

The action plan for MUST presented in this pack has been tailored specifically to the needs of our care home population.

Malnutrition Universal Screen Tool (MUST)



(See appendix 1 and 2)

Step 5 action plans

MUST 0 (Low risk)

1. Continue following standard nutritional guidance*
2. Repeat MUST screening monthly.

¹Refer to Nourishing drinks guide

²Refer to Nourishing snacks guide

³ Refer to barriers to eating well guide

Palliative Care

If residents are in their terminal phase of illness and are unlikely to benefit from nutritional support, please refrain from referring to the Dietitian. See **“Eating and Drinking at End of Life”** (see appendix 4) and consider contacting GP for support.

MUST 1 (medium risk)

1. Continue following standard nutritional guidance*
2. Repeat MUST screening monthly.
3. Commence fortified menu.
4. Offer nourishing drink at least once daily¹
5. Offer nourishing snack at least once daily²
6. Encourage high calorie menu choices.
7. Consider possible barriers to eating well and try potential solutions³
8. Complete residents' nutrition support plan in file and implement changes.

MUST 2 and above (High risk)

1. Continue following standard nutritional guidance*
2. Repeat MUST screening monthly.
3. Commence fortified menu.
4. Offer nourishing drinks at least twice daily¹
5. Offer nourishing snacks at least twice daily²
6. Encourage high calorie menu choices.
7. Consider possible barriers to eating well and try potential solutions³
8. Complete residents' nutrition support plan in file and implement changes.
9. Commence Food Chart
10. If no improvement in MUST score after 4 weeks, refer to Dietitian.

Accessing referrals

For all referrals to Dietitians and other Locala services, please complete the appropriate e-referral online at: <https://www.locala.org.uk/your-healthcare/ereferrals-home/care-homes-ereferrals/>

In the north referrals have to be made via the GP to Mid Yorks dietetic service.

Alternative Measurements and Subjective Criteria

If you are unable to acquire the necessary measurements for steps 1 and/or 2, here are some alternative measures:

Height - if you are unable to measure a resident's height:

- ✓ Use recently documented or self-reported height (if realistic and reliable)
- ✓ Contact family member to acquire a reported height if possible
- ✓ If the resident is unable to report their height, use ulna length to estimate their height (appendix 3)

Recent unplanned weight loss:

- ✓ If weight 3-6 months ago is not available, use self reported weight loss (if realistic and reliable)
- ✓ Contact family member to acquire reported weight if possible

If the above cannot be obtained, then the **subjective criteria** below can be useful to assist your judgement of the resident's nutritional risk category. Please note, these subjective criteria should be used collectively (not separately), as alternatives to step 1 and 2 of MUST, and are not assigned a score, but will help form an overall clinical impression of an individual's malnutrition risk category (low, medium or high).

BMI

- Mid-upper arm circumference (MUAC) can be used to estimate BMI category (see appendix 3)
- Clinical impression – is the resident very thin (wasting), thin, acceptable weight, overweight, obese?

Unplanned weight loss

- Clothes and or jewellery have become loose fitting (indicates weight loss)
- History of decreased food intake, reduced appetite or swallowing problems over the last 3-6 months

Acute disease effect

- Acutely ill and no nutritional intake or likelihood of no intake for more than 5 days

Care should be taken when interpreting a resident's BMI or weight loss percentage if the following are present:

- **Fluid disturbances** – seen in some residents with heart failure, kidney problems and liver problems. Use MUAC to determine BMI if arms free of oedema. For weight changes, use subjective criteria above.
- **Plaster casts & braces** – If weight of cast or brace is known, deduct this from the actual weight. If unknown, use subjective criteria above.
- **Amputation** – Use calculations in appendix 5 or use subjective criteria above.

Standard Nutritional Guidance for Care Home Residents

All residents are to be offered the following:

- Varied, appealing and nutritious meals and snacks regularly throughout the day
- 1.5- 2.5 litres fluid daily to include non-caffeinated options
- Special diets as required for medical, religious or cultural purposes
- Support in making appropriate menu choices and assistance and encouragement with eating and drinking as appropriate
- MUST assessment within 24 hours of admission and appropriate action taken
- Referral to Speech and Language Therapist for any identified swallowing difficulties
- Referral to Occupational Therapy and/or Physiotherapy to support independent eating as needed
- Referral to Dietitian for specialist input as needed (e.g. tube feeding)

CQC Regulation 14 on Nutrition and Hydration

The intention of this regulation is to make sure that people who use services have adequate nutrition and hydration to sustain life and good health and reduce the risks of malnutrition and dehydration while they receive care and treatment.

To meet this regulation, where it is part of their role, providers must make sure that people have enough to eat and drink to meet their nutrition and hydration needs and receive the support they need to do so.

People must have their nutritional needs assessed and food must be provided to meet those needs. This includes where people are prescribed nutritional supplements and/or parenteral nutrition. People's preferences, religious and cultural backgrounds must be taken into account when providing food and drink.

CQC can prosecute for a breach of this regulation or a breach of part of the regulation if a failure to meet the regulation results in avoidable harm to a person using the service or a person using the service is exposed to significant risk of harm. In these instances, CQC can move directly to prosecution without first serving a warning notice. Additionally, CQC may also take any other regulatory action.

CQC must refuse registration if providers cannot satisfy us that they can and will continue to comply with this regulation.

Regulation 14.1-14.4 provides clear guidance on what homes must comply with. This can be found at

[Regulation 14: Meeting nutritional and hydration needs | Care Quality Commission \(cqc.org.uk\)](https://www.cqc.org.uk/regulation/14)

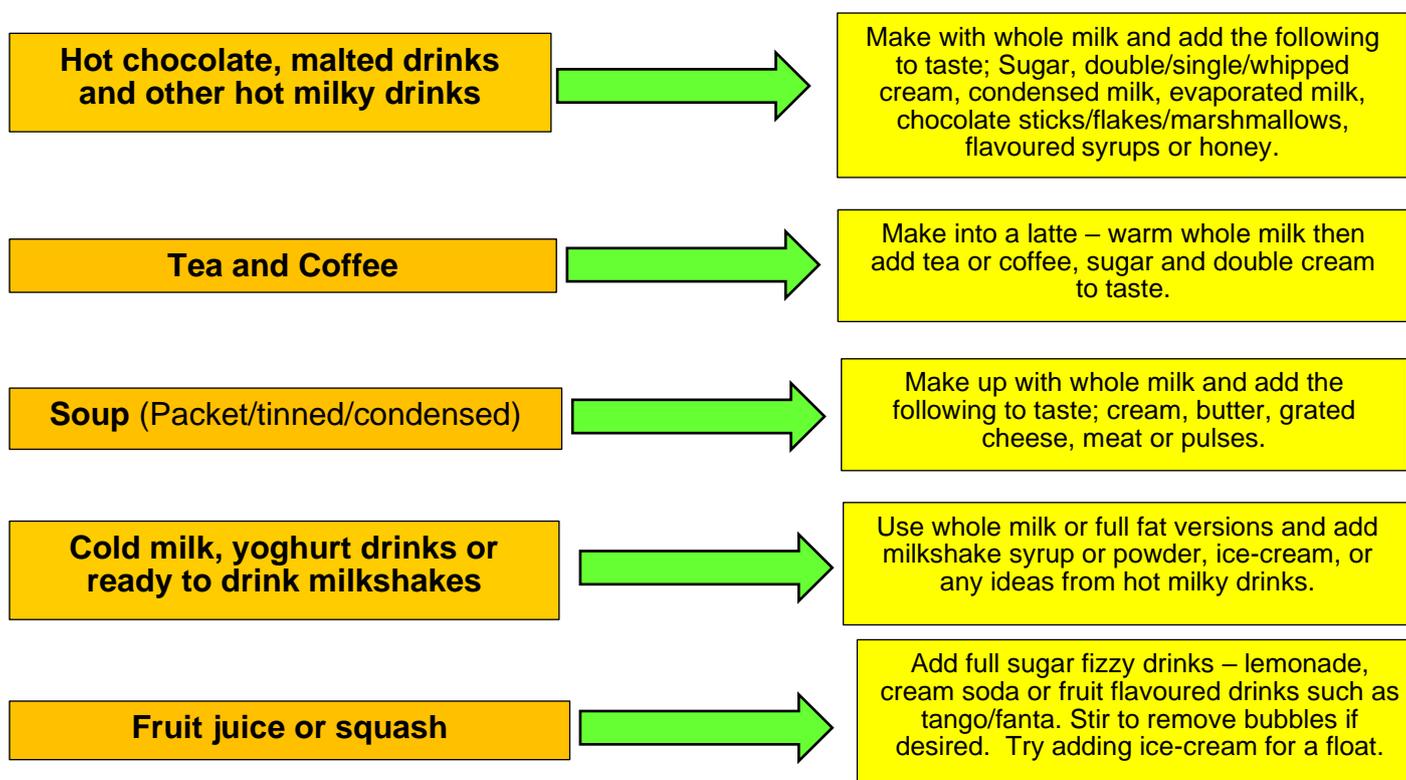
Nourishing Drinks Guide

Nourishing drinks provide essential nutrition when appetite is low or when the body requires extra nourishment i.e. when eating less and losing weight. These drinks also provide fluid to keep the person hydrated.

Homemade supplements **should** contain a broad range of vitamins and minerals as well as calories and protein – and in a milkshake/hot milk drink this can be achieved by using a vitamin fortified milkshake mix (Nesquik, Asda Milkshake Mix, Morrisons Milkshake Mix or Lidl Goody Cao) or by using ‘Ovaltine Original Add Milk’ or ‘Horlicks Original Add Milk’. Regarding homemade juices, vitamin enriched types should be used.

The Patient/carer information sheet provides ‘food first’ homemade milkshake recipes which should be made by the home as a **first choice**. This can be seen on the following page.

Fortification of drinks- ideas for increasing the nutritional content of standard drinks



Exclude sugar, full sugar fizzy drinks, flavoured syrups and honey for diabetics

Alcohol: If permitted, alcohol can be added to some of the above drinks (e.g. liquor coffee). Alcohol is high in calories and may have the added benefit of stimulating the appetite. Encourage alcohol within the recommended daily limits. Men and women are advised not to drink more than 14 units per week.

Fortified Milk

To add even more nourishment to the above drinks, substitute whole milk for fortified milk. This can also be used in breakfast cereals, porridge, sauces, custard and other puddings requiring milk.

Add 4 heaped tablespoons of skimmed milk powder to 1 pint of whole milk

Make a paste with milk powder and a little whole milk then gradually add the remaining milk whilst whisking. This will provide 600kcal and 40g protein.

Home-made Supplements

Patient/carer information: Food First - Homemade supplements

Fortified milkshake Makes 1 portion

- Most nutritionally complete choice

<p>Ingredients</p> <ul style="list-style-type: none"> • ½ pint/180ml full fat milk • 2 generous tablespoons/30g skimmed milk powder • 4 heaped teaspoons/20g <u>vitamin fortified</u> milkshake powder (<u>Nesquik</u>, <u>Asda Milkshake Mix</u>, <u>Morrisons Milkshake Mix</u> or <u>Lidl Goody Cao</u>) <p>OR</p> <p>5 heaped teaspoons (25g) '<u>Ovaltine Original Add Milk</u>' powder</p> <p>OR</p> <p>5 heaped teaspoons (25g) '<u>Horlicks Malted Food Drink</u>' powder</p>	<p>Directions</p> <p>Mix milk powder and milkshake powder together in a glass. Gradually mix in milk and stir well.</p> <p>1 portion = 220ml Serve 2 portions per day</p> 
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Product comparison, per portion	Calories	Protein	Carbohydrate	Fat	Cost
Homemade fortified milkshake	305	17g	44g	7.5g	£0.35
Homemade fortified Horlicks	319	19.3g	43.8g	8.6g	£0.47
Homemade fortified Ovaltine	319	18.4g	44.3g	7.9g	£0.55
Purchased Complan + full fat milk	310	12.5	44g	8.1g	£0.93
Purchased Meritene + full fat milk	247	16.6	26g	8.3g	£1.07

Fortified fruit juice (flavour ideas below) Makes 1 portion

- Suitable for those who do not like or cannot take milky drinks

<p>Ingredients</p> <ul style="list-style-type: none"> • 180ml fruit juice • 40ml undiluted high juice squash or cordial (<u>not</u> sugar free/ diet/ no added sugar) • 10g (2 x 5g sachets) egg white powder* 	<p>If possible use fruit juice with <u>added vitamins</u> - such as <u>Vitafit (Lidl)</u> or <u>Tropicana Multivitamins</u></p>	<p>Directions</p> <p>Put egg white powder in a glass. Gradually stir in undiluted cordial or squash (do not whisk). When mixed, gradually mix in fruit juice.</p> <p>1 portion = 220ml Serve 2 portions per day</p> 
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*this can be found in the home-baking section of most supermarkets or larger, better value packs can be purchased online

Product comparison, per portion	Calories	Protein	Carbohydrate	Fat	Cost
High juice blackcurrant squash + cranberry juice	212kcal	8.4g	42.4g	0g	£0.80
High juice orange squash + pineapple juice	205kcal	8.4g	38g	0g	£0.80
High juice cranberry squash + orange juice	182kcal	9.4g	34.2g	0g	£0.82
Elderflower cordial (e.g. <u>Belvoir</u> or <u>Bottlegreen</u>) + apple juice	238/250kcal	8.6g	46.6/52g	0g	£0.94

Fortified lemon cream
Makes 3 portions

- Suitable for those with very small appetites who would not manage 2 x 220ml supplements per day

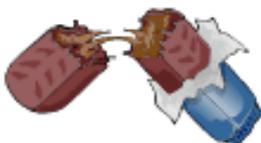
Ingredients <ul style="list-style-type: none"> • 300ml double cream • 70g caster sugar • Juice of 1 – 1½ lemons • 30g skimmed milk powder 	Directions Put cream and milk powder in a small saucepan. Gently heat until milk powder has dissolved. Add sugar. Bring to the boil and boil for 3 minutes. Thoroughly mix in lemon juice to taste. Pour into 3 small dessert bowls and chill. Serve 1 portion per day only Will keep (covered) in fridge for 3 days.
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1 portion = 100ml 	1 portion contains: <ul style="list-style-type: none"> • 618kcal • 5g protein • 31.6g carbohydrate • 53g fat 	1 portion costs: £0.45 – 0.60
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Fortified chocolate caramel cream
Makes 3 portions

- Suitable for those with very small appetites who would not manage 2 x 220ml supplements per day

Ingredients <ul style="list-style-type: none"> • 150ml double cream • 30g skimmed milk powder • 30ml full fat milk • 2 x standard size (approx 50g) Mars Bars or similar nougat- caramel chocolate bars 	Directions Put cream, milk and milk powder in a small saucepan. Gently heat until milk powder has dissolved. Add finely chopped chocolate bars. Heat gently, stirring all the time, until chocolate bars have completely melted. Pour into 3 small dessert bowls and chill. Serve 1 portion per day only Will keep (covered) in fridge for 3 days.
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1 portion = 80ml 	1 portion contains: <ul style="list-style-type: none"> • 440kcal • 6g protein • 30.1g carbohydrate • 32.8g fat 	1 portion costs: £0.64
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All costs calculated from major supermarket prices on 24/7/18

Other Nourishing Drinks Recipe Ideas

Iced Coffee

200ml fortified milk
2 teaspoons instant coffee **2**
teaspoons sugar
1 scoop ice-cream

Dissolve coffee in a little hot milk then add remaining milk and ingredients and whisk.

300kcal **19g protein**

Fortified cup-a-soup

200ml fortified milk
1 sachet of cup-a-soup

Make up the cup-a-soup with fortified milk by gently heating and stirring until you reach a smooth consistency.

300kcal **15g protein**

Malted Milk Drink

150ml fortified milk
3 teaspoons malted drink powder
2 teaspoons double cream

Gently heat fortified milk and add remainder of ingredients whilst whisking.

350kcal **13g protein**

Chocolate Mallow

300ml fortified milk
1 tbsp drinking chocolate **2**
teaspoons sugar
4 marshmallows

Blend drinking chocolate, sugar and a little milk. Heat remaining milk with 2 marshmallows then add to chocolate and top with remaining marshmallows.

460kcal **24g protein**

Snickers Milkshake

300ml fortified milk
30g chocolate spread
30g peanut butter
1 tbsp caramel sauce
1 scoop vanilla ice-cream

Blend all ingredients together in a blender. Serve chilled - can be separated into 2 servings.

760kcal **32g protein**

Chocolate milkshake

200ml fortified milk
2 tablespoons chocolate spread

2 scoops vanilla/chocolate ice cream

Combine milk and ice-cream and whisk before adding chocolate spread. Whisk together then serve.

500kcal **16g protein**

Fruit smoothie

300ml fortified milk
1 ripe banana
5 strawberries / other fruit **150g thick creamy yoghurt**

Combine all ingredients and liquidise in a blender. Serve chilled.

600kcal **27g protein**

Cinnamon Spice

200ml fortified milk
1 tablespoon golden syrup
Pinch of mixed spice
Pinch of ground cinnamon

Heat milk then stir in golden syrup before adding mixed spice and cinnamon.

237kcal **12g protein**

Ice-Cream Float

½ glass fruit juice or cola
½ glass full sugar lemonade
1 tablespoon sugar
1 scoop vanilla ice-cream

Add all ingredients to a glass and stir. Serve straight away

200kcal **4g protein**

For those with diabetes: Exclude adding sugar, golden syrup, caramel sauce and full sugar fizzy drinks

See section on Nutrition Support and Diabetes for more information.

Try using the above ideas to create your own nourishing drinks. You could try incorporating themed days to include nourishing drinks to evoke memories and stimulate appetite.

Thickened fluids: For residents requiring thickened fluids, ensure all drinks are thickened to Speech and Language Therapy recommendations using the appropriate thickener.

Over the counter supplements

Over the counter shakes can also be offered and are available at most supermarkets and chemists and are available online. These are already fortified with vitamins and minerals which are essential for good health. Aymes Retail, Complan and Meritene are good choices.

Fortified Dessert Recipes

<p><u>Chocolate mousse</u></p> <p>1 sachet instant chocolate dessert 4 tablespoons milk powder 150ml double cream 150ml whole milk</p> <p><u>Method</u> Whisk all the ingredients together with a fork or whisk until thickened.</p> <p>501kcal and 12g protein</p>	<p><u>Fruit fool</u></p> <p>300ml fruit puree 150g custard 2 tablespoons milk powder Skim Instant 150ml evaporated milk 1tablespoon honey</p> <p><u>Method</u> Whip the evaporated milk to a thick consistency. Mix the fruit puree and custard and fold in the milk. Chill before serving</p> <p>819kcal and 22g protein</p>
<p><u>Banoffee surprise</u></p> <p>1 small banana 150ml fortified milk 1 pot crème caramel 1 teaspoon golden syrup</p> <p><u>Method</u> Mash a small banana and mix with 150ml fortified milk. Add 1 pot of crème caramel and a teaspoon of golden syrup. Liquidise until smooth.</p> <p>431kcal and 11g protein</p>	<p><u>Decadent Rice Pudding</u></p> <p>200g of Rice pudding (1/2 tin) 1 tbsp jam 1 tablespoon of dried skimmed milk powder 1 tablespoon of double cream</p> <p><u>Method</u> Mix in all ingredients together and serve warm or cold</p> <p>353 kcal 12g Protein</p>

Food Fortification

A fortified diet describes meals, drinks and snacks to which additional nutrients have been added through foods such as cream, butter, milk and milk powder. The aim is to provide a diet which has a higher nutrient density without increasing portion size.

The following can be added to many foods to increase the energy and/or protein content of the meal. Liaise with your kitchen staff on how these items could be incorporated into fortified meals.

- Grated cheese / cream cheese / cottage cheese / quark
- Dips / dressings / sauces / chutney / mayonnaise / salad cream
- Condensed milk / evaporated milk / double cream / single cream
- Thick and creamy full fat yoghurt / Greek yoghurt / high protein yoghurt
- Ice-cream / custard / syrup /honey / sugar / lemon curd / jam / hazelnut chocolate spread
- Skimmed milk powder / ground nuts or seeds / nut butters
- Olive oil / rapeseed oil / butter and margarine

Examples

Mayonnaise, dips and salad cream can be used on → salads, sandwiches or with chips as a dip

Evaporated milk, double cream, skimmed milk powder can be added to → porridge / milky puddings / mash

Butter, peanut butter and margarine thickly spread on → bread or crumpets

Honey, jam, marmalade, syrup, lemon curd, chocolate or caramel spread, hazelnut spread on → bread, biscuits & scones. Add to cereals, milky puddings, yogurts, pancakes

Oil to → soup / frying foods in this

Ground nuts / seeds / nut spread to → breakfast cereals / porridge / puddings

Cheese / quark / cottage cheese / cream / evaporated milk to → mash

Margarine / butter / honey to → vegetables

Before and after fortification

Before	calories	protein	After	calories	Protein
Mash potato (1 scoop)	45	1	Add knob of butter and 2 tbsp of double cream	195	1
Porridge 160g with full fat milk	185	8	1 tbsp of cream and 2 tsp of sugar	300	8
Vegetables 60g	15	0	Knob of butter	90	0
Baked beans 150g	125	7	Matchstick box size of Cheese	250	15
Tinned peaches 205g	98	0.6g	Evaporated milk 50g	178	4.1

Nourishing Snacks Guide

Providing a little and often approach can often be the best way to increase a person's nutritional intake when poor appetite or early satiety are the main barriers. Here are some ideas for in-between meals.

Higher calorie snacks - normal diet

- Breadsticks / cheese straws / pretzels / crisps
- Cakes / pastries / scones / pain au chocolate / croissant
- Chocolate / flapjack / doughnuts / cookies / pancakes / sweet muffin
- Biscuits – chocolate coated / cream filled / shortbread
- Cereal bar / rice crispies squares / granola bar
- Toffee or butter popcorn
- Toast / crumpet / current teacake / English muffin
- Fruit loaf / malt loaf
- Any snacks listed in modified textures section
- Yoghurts – thick and creamy full fat yoghurts with or without fruit compote

Some people will need to focus on higher protein snacks, if they have higher requirements or have a low intake of protein from their main meals. The dietitian may request higher protein snacks for some residents, so here are a few ideas of what can be offered.

Higher protein snacks

- Cheese / cheese spread and biscuits / crackers
- Rice pudding / custard / semolina / tapioca / macaroni
- Yoghurts – high protein e.g. Arla Skyr / Arla Protein / Nestle - Lindahls Kvarg
- Angel Delight made with whole milk, cheesecake, egg custard
- Nuts - flavoured or plain, peanut butter on plain biscuits / bread / toast
- Protein bars / wholefood bars e.g. Trek / Nakd / Grenade / Nutramino / Clif
- Pâté or houmous on bread / toast or crackers
- Hard boiled eggs with dips / mayonnaise / salad cream
- Mini cocktail sausages / sausage rolls / scotch eggs / falafel

Nourishing Snacks Guide for Modified Textures

IDDSI Level 7 – Easy to chew

- Soft maize based crisps – e.g. Skips, Quavers
- Crustless sandwiches with soft moist fillings – e.g. tuna / egg mayonnaise
- Soft, well buttered crustless toast
- Sponge cake, cake bars, sponge fingers and Jaffa cakes
- **Dunked** plain biscuits – e.g. plain digestives
- Soft tinned, fresh or stewed fruit with no skin and evaporated milk, cream, ice cream or full fat yoghurt
- Milky Way chocolate bar
- Fruit pie or crumble with extra sauce/custard to soften the crumble or pie crust

Unsuitable foods: High risk food textures. Be careful with mixed consistencies such as cornflakes and muesli

IDDSI Level 6 – Soft and bitesized

- Steamed pudding, sponge cake, cake bars or sponge fingers with a lot of custard or cream
- Soft tinned, fresh or stewed fruit with no skin and evaporated milk, cream, ice cream or full fat yoghurt
- Milky way (cut into bitesize pieces no bigger than 1.5cm x 1.5cm in size)
- Fruit crumble with lots of custard or full fat yogurt with or without bits
- Soft, maize-based crisps e.g. Skips, Quavers (broken into bitesize pieces no bigger than 1.5cm x 1.5cm in size)

Unsuitable foods: High risk food textures. Bread is NOT allowed

IDDSI Level 5 – Mince and Moist

- Soft Stewed fruit with thick custard or cream (excess juice drained away)
- Soft tinned or fresh fruit, mashed (excess juice drained away) with thick custard or cream
- Rice pudding, semolina, tapioca, sago, angel delight
- Mashed trifle / tiramisu (no hard bits of fruit)
- Plain cake (no bits e.g. fruit, chocolate chips, nuts) mashed into custard or cream
- Cold pudding pots – e.g. mousse, thick n creamy yoghurt and desserts
- Houmous, Guacamole, sourced cream and other dips

Unsuitable foods: High risk food textures. Be careful with mixed consistencies

IDDSI Level 4 – Pureed Diet

- Angel Delight, Instant Whip, mousse, blancmange, Crème Caramel, Custard, smooth fruit fools
- Smooth yoghurt or fromage frais, cheese cake topping
- Puréed semolina, rice or other milk pudding
- Puréed stewed fruit and custard (fruit may need sieving)
- Cake puréed with custard or cream, thick smooth or creamy soup

Tips: Some high risk food textures are difficult to puree – ensure the texture is smooth with no lumps

IDDSI Level 3 – Liquidised Moderately Thick Diet

- Angel Delight, Instant Whip, mousse, blancmange, Custard
- Smooth yoghurt or fromage frais
- Pureed semolina, rice or other milk pudding
- Pureed stewed fruit and custard – fruit may need sieving
- Smooth fruit fools
- Cake pureed with custard or cream
- Thin smooth or creamy soup

Tips: It may need to be sieved to achieve smoothness. Add extra milk, cream, juice, sauce to achieve correct consistency. If food is too thin, thickener can be added.

Nourishing Snacks Guide - High Risk Food Textures

Difficult texture	Examples
Mixed textures	<ul style="list-style-type: none"> • Solid items in runny liquid <ul style="list-style-type: none"> - cereals in milk – try it completely soaked - Soup with lumps in – e.g. minestrone • Meat or vegetables in runny sauce – e.g. mince and thin gravy • Tablets taken with a drink – consult your GP or pharmacist for advice • Smooth textures with hard textures – e.g. fruit and nut chocolate
Floppy, fibrous or stringy items	<ul style="list-style-type: none"> • Food items with husks or stringy outer shells, seeds, pith or pips <ul style="list-style-type: none"> - E.g. peaches, rhubarb, pineapple, tomatoes, celery, onion, cabbage, green or runner beans, lettuce, cucumber, peas, sweetcorn, raw spinach, granary bread • Food items with skins – e.g. grapes, orange segments, gooseberries, tomatoes, sausages (try skinless and casseroled sausages) • Tough stringy meat
Sticky or cloggy foods	<ul style="list-style-type: none"> • Fresh bread • Malt loaf • Cheese chunks • Marshmallows
Bitty foods	<ul style="list-style-type: none"> • Rice, cous cous • Mixed vegetables, sweetcorn • Sultanas, raisins • 'Bitty' porridge or cereal
Dry, crispy or crumbly foods	<ul style="list-style-type: none"> • Toast - Try adding lots of butter and jam • Dry biscuits or cake - Try dunking biscuits into a cup of tea • Crusty rolls, pastry or pie crusts • Nuts, muesli • Crisps - try soft snacks e.g. Wotsits or Quavers but these can be cloggy • Battered or fried fish
Crunchy, chewy or hard foods	<ul style="list-style-type: none"> • Tough meat • Bones, gristle & skin of fish or meat • Boiled sweets, toffee, mints • Nuts • Pizza • Large lumps or chunks of food such as round or long shaped foods <ul style="list-style-type: none"> • E.g. Sausages, grapes and sweet

High risk food textures place you at higher risk of choking and should therefore be avoided where possible. If eaten, please follow the advice of the Speech and Language Therapist and ensure they are finely chopped, mashed down and/or have a thick sauce added to reduce the risk.

Finger foods

Finger foods can provide a nutritious and enjoyable alternative to plated meals. They can also be used to provide extra nutritious snacks to those who need them.

They can be particularly useful for people who forget to eat or find co-ordination difficult, such as with dementia or following a stroke.

If a person has a swallowing difficulty, finger foods are not usually suitable.

Finger foods can be:

- served at the table in place of a plated meal
- offered as snacks between meals
- left in different places to pick up and eat throughout the day.

Benefits of finger foods

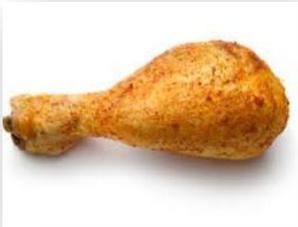
- Enable people to feed themselves, helping maintain independence
- Help preserve eating skills
- Can renew interest in food and stimulate appetite
- Can improve food intake
- Can boost confidence and self-esteem at mealtimes
- Offer more choice and freedom to eat as desired
- Don't need to be served hot, good for people who need time to eat

Different food groups

Suggestions are divided into the following food groups to help plan a balanced menu:

High protein		<p>Especially important in older and malnourished people to help reduce risk of falls, infections and pressure ulcers.</p> <p>Include in all main meals.</p>
Starchy carbs		<p>Important for fibre, vitamins and minerals and energy.</p> <p>Include in all main meals.</p>
Fruit and veg		<p>Normally these should represent a third to a half of daily diet. But for someone who is malnourished these are less important because they are lower in calories and protein.</p>
High fat/sugar		<p>High in energy (calories) so good for weight gain, but low in protein.</p>

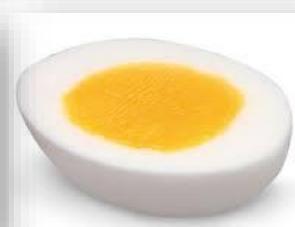
High protein finger foods



cold meat pieces
 chicken drumsticks
 mini sausages
 mini burgers
 rolled-up ham
 pieces of meatloaf
 fish fingers/goujons
 crab sticks

cooked prawns
 scampi pieces
 meat/fish on skewer
 sushi
 boiled egg halved
 scotch egg
 mini quiche
 nut loaf

nuts
 cheese cubes
 cream cheese rolls
 ice-cream cone
 frozen yoghurt on sticks
 chicken/meat spring rolls
 chicken/meat/lentil
 samosas or pakoras



To increase calories:

add dip eg full fat mayonnaise, cream cheese, tartare sauce, Greek yogurt.
 Offer as extra snacks between meals.

To reduce calories:

cut off visible fat, grill/oven bake rather than frying, choose lower fat, lower calorie options.

Starchy carbohydrate finger foods

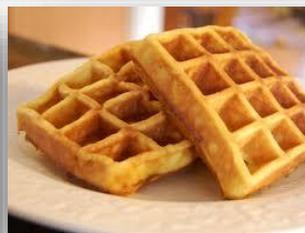


toast fingers
cereal bars
small bread rolls
finger sandwiches
eggy bread squares
malt/fruit loaf
crumpets

oatcakes/crackers
digestive biscuits
waffles
mini naan slices
pitta slices
small chapatti
pizza slice

quiche slice
chips or potato wedges
new potatoes
small roast potatoes
potato or corn crisps
rice cakes
popcorn

Ideas for fillings/toppings: try meat/fish paste, cold meats, squashed tinned fish, tuna or egg mayonnaise, marmite, cream cheese, cheese spread, houmous.



To increase calories:
add butter, full fat mayonnaise, jam, set honey, peanut butter, chocolate or hazelnut spread, clotted cream

To reduce calories:
eat in moderation. Rice cakes and popcorn (without butter/sugar) are lower in calories.

Fruit and vegetable finger foods

mini or sliced banana

orange segments

sliced apple/pear

grapes and berries

melon/ pineapple chunks

peach/nectarine/mango
slices with stone removed

fruit kebab

dried fruit

salad sticks (carrot, celery,
pepper, cucumber)

cherry tomatoes

sugar snap peas

baby corn

cooked vegetables –
broccoli spears, cauliflower
florets, green beans



To increase calories: Add dip eg houmous, cream cheese, Greek yogurt, clotted cream. Try frying fruit slices in butter and sugar.

High fat/sugar finger foods and dessert ideas

sausage rolls

mini pork pies

mini scotch eggs

spring rolls

bhajis, pakoras, samosas

mini croissants, pastries,
pain au chocolate

mini brioche rolls

mini muffins

fun-size cake bars
(remove wrapper)

iced buns

cake pieces

flapjacks

chocolate cornflake cakes

funsize chocolates

biscuits

ice lolly

mini fruit pie

jam tarts, mince pies

baklava



Example finger food menus

Adapt these menus to take into account individual likes, dislikes and dietary requirements. See tips in earlier sections for ideas to increase or decrease calories.

Example Menu 1

Breakfast

Cereal bar and 3-4 dried apricots

Orange juice

Tea or coffee

Mid morning

Eggy bread squares, fruit slices

Tea or coffee

Lunch

Mini beef burgers (90g) in mini bread buns (40g) with tomato sauce, potato wedges, baby corn,

Malt loaf

Mid afternoon

Squares of toast with pate or cream cheese

Tea or coffee

Evening meal

Chicken and vegetable skewers with yogurt dip, salad sticks, pitta slices

Slice of cake

Bedtime

Milky drink eg Horlicks, Ovaltine, hot chocolate, milkshake

Example Menu 2

Breakfast

Hard-boiled egg in quarters

Toast squares with butter/jam

Apple juice

Tea or coffee

Mid morning

Flapjack, fruit slices

Tea or coffee

Lunch

Mini quiche (100g), baby potatoes (100g), broccoli spears

Mini fruit pie

Mid afternoon

Cheese cubes and grapes

Tea or coffee

Evening meal

Mini sandwiches eg tuna mayonnaise, egg mayonnaise, soft cheese, salad sticks

Mini chocolate cornflake cakes

Bedtime

Milky drink eg Horlicks, Ovaltine, hot chocolate, milkshake

Tips when offering a finger food menu

- Menu needs to be creative and varied
- Present food attractively, e.g. attractive plate, different coloured foods
- Use foods that are easy to hold. For people who wander choose foods that can be eaten on the move or carried in a pouch
- People's capabilities can change, finger foods might be better at certain mealtimes and plated meals at others
- Show the person what to do so they can copy
- Allow time to look at the food and explore it
- Take time to describe the food
- Some foods will lose their freshness and appeal if left out for too long, so may need replacing
- Provide wipes or hot flannels to wipe hands before/after meals

Barriers to Eating Well Guide

Potential barrier	Suggestions for overcoming barrier
Eats too slow	<ul style="list-style-type: none"> • Serve food on warmed plates • Offer small portions and second helpings • Consider offering 5 smaller meals per day instead of 3 • Assist with eating if appropriate
Eats too fast	<ul style="list-style-type: none"> • Serve one item at a time; high calorie/high protein first • User verbal cues and demonstrate slower eating • Reassure there is plenty of food and will not run out
Hoards, hides or plays with food	<ul style="list-style-type: none"> • Serve small portions of individual foods
Food left uneaten or refused or spits food out	<ul style="list-style-type: none"> • Offer smaller portions • Check texture and consistency of food is appropriate • Discuss food preferences if possible • Assist with eating if appropriate • Remove meal for 5-10 minutes, keep warm then serve again
Interrupts servers	<ul style="list-style-type: none"> • Give the person a role in meal service • Ensure adequate staff at meal times.
Demonstrates impatient or agitated behaviour during or before meals	<ul style="list-style-type: none"> • Serve their meal first • Minimise waiting time • Allow them to eat where they feel most comfortable
Distracted from eating	<ul style="list-style-type: none"> • Ensure mealtimes are calm with no distractions • Make sure they have everything they need for the meal (e.g. glasses/dentures/hearing aid, been to the toilet) • Use verbal or manual cues – place cutlery in hand • Sit together and model eating • Use simple plates with colour contrast between plate and table • Consider finger foods
Eats other people's food	<ul style="list-style-type: none"> • Keep other people's food out of reach • Encourage the person to eat from their own plate.
Eats non-food items	<ul style="list-style-type: none"> • Remove non-food items and replace with food and drink • Consider solid teething ring • Make sure diet offered is well balanced
Walks around during mealtimes	<ul style="list-style-type: none"> • Ensure mealtimes are calm with no distractions • Provide finger foods that can be eaten on the go • Take a walk together and end in the dining room • Eat together as modelled eating • Offer food on occasions where more likely to sit down
Difficulty using cutlery or drinking utensils	<ul style="list-style-type: none"> • Use verbal and manual cues – e.g. place cutlery in hand • Swap cutlery type or cup type • Provide adapted cutlery and crockery – liaise with OT • Offer finger foods or cut food into smaller pieces • Offer assistance where appropriate
Difficulty chewing	<ul style="list-style-type: none"> • Check dentures correctly fitted and not loose/missing • Investigate possible toothache or impact of missing teeth on ability to chew if has own teeth • Provide a softer diet to chew • Provide verbal cues

<p>Swallowing difficulties</p>	<ul style="list-style-type: none"> • Liaise with SALT • Use verbal cues to chew and swallow.
<p>Holds food in mouth or doesn't open mouth</p>	<ul style="list-style-type: none"> • Use verbal cue to chew or open the mouth • Massage the cheek gently or touch the lips with a spoon • Offer smaller amounts of a variety of foods

Diabetes and Nutrition Support

Diabetes is a chronic metabolic disease which causes raised levels of sugar (glucose) in your blood. There are different types of diabetes, but the main types are Type 1 and Type 2. Raised blood sugars can cause damage to various parts of the body if left uncontrolled for a long time. What a person eats can greatly affect the blood sugar levels, so it is important to understand what foods and drinks we can offer those who need nutrition support, without causing too much disturbance to a person's blood sugars.

Everyone is individual, and may at times require different advice at the recommendation of a health care professional, however, below are some good points on how to provide good nutritional care:

Good Nutritional Care for those with Diabetes

- ✓ There is no need to follow a special diabetic diet
- ✓ There is no need to routinely check blood sugars for all residents with diabetes (unless requested)
- ✓ It is not necessary to avoid sugar completely especially if this causes distress to the resident
- ✓ Small servings of cake, sweets and preserves are acceptable especially when eaten after a main meal
- ✓ Regular carbohydrate (e.g. bread, rice, pasta, cereals) consumption is essential as part of a balanced diet
- ✓ If supplement drinks cause blood sugars to rise, do not stop these, and request a medication review
- ✓ Discourage the items to exclude highlighted in **red** in the nourishing drinks guide which include:
 - Sugar
 - Full sugar pop
 - Honey
 - Caramel sauce
 - Golden Syrup
 - Flavoured syrups
 - Maple syrup

Foods outlined in the sections “Nourishing Drinks Guide” and “Nourishing Snacks Guide” can be used for people with diabetes if the above good nutritional care for those with diabetes is followed. Simply adapt the Nourishing Drinks Recipes to exclude the ingredients outlined in red underneath the recipes, which are also listed above.

Diabetic diet choices	Diabetic drink choices
<p>Full fat dairy products (milk, cheese, yoghurt)</p> <p>‘Fortification’ with fats such including butter, margarine, cream, mayonnaise, peanut butter (not sugars such as syrup/honey/treacle)</p> <p>‘Cream of’ soups</p> <p>Eggs, meat & fish with sauces</p> <p>Snacks such as:</p> <p>Cheese and biscuits/crackers, scone with butter, milky puddings, sandwiches, peanut butter on toast, creamy yoghurt/fromage frais, nuts teacakes/crumpets, bowl of cereals with fortified milk</p>	<p>Milkshakes</p> <p>Dietitians will advise on savoury/milk-based ONS instead of sweeter juice-based varieties</p> <p>Encourage individuals to sip ONS slowly</p> <p>Full fat milk/fortified milk</p> <p>Yoghurt drinks</p> <p>Tea/coffee lattes</p> <p>Limit sugary drinks such as juices/fizzy drinks</p>

If you have any concerns regarding a resident’s diabetes, please refer to their diabetes team or GP.

Vitamin D

What is Vitamin D?

Vitamin D is a hormone which we can make in our body, under our skin from being exposed to sunlight. It works with the minerals Calcium and Phosphate, to maintain healthy bones, muscles and teeth. It is therefore **important in protecting muscle strength and preventing falls** as well as bone disease.

Even if you consume a good amount of Calcium, you will not be able to absorb this into your cells without Vitamin D. Adults who are not able to get enough Vitamin D can develop **Osteomalacia** which makes bones softer and causes bone pain and muscle weakness. Vitamin D may have other important roles, but further research is needed to conclude this.

How we make Vitamin D



It is important to remember to balance the risk of sun exposure with vitamin D synthesis. **Be sure to cover up or apply sunscreen before skin turns red or burns.** In the UK, the sun's rays are not strong enough to promote Vitamin D synthesis between October and March, and therefore we must rely on other sources.

Dietary sources of Vitamin D

It is very difficult to meet your vitamin D requirements from diet **alone**. Here are a few sources:

- Oily fish (e.g. Salmon, Kippers, Mackerel) are reasonable sources
- Egg yolk, meat, offal and milk contain small amounts with seasonal variety
- Fortified breakfast cereals, margarine, butter and yoghurts have added Vitamin D

Vitamin D Supplementation

Care home residents are at increased risk of Vitamin D deficiency as the skin of people aged over 65 years is not as good at making Vitamin D as younger people. Residents may also spend little time outside, and may well be covered up when they do leaving little exposure to sunlight. **Public Health England** therefore **recommends**, that care home residents take:

A daily supplement of 10 micrograms (400IU) of Vitamin D throughout the year

This information does not replace individual plans of care for those who are already being treated with Vitamin D and does not replace patient centered clinical advice.

You must not take more than one supplement containing Vitamin D. Vitamin D supplements are widely available and can be purchased from supermarkets, health food shops, pharmacies and online.

Note: - Care homes are responsible for providing Vitamin D supplements for all residents where appropriate. <https://www.cqc.org.uk/guidance-providers/adult-social-care/vitamin-d-supplements-supporting-people-who-receive-adult>
<https://www.gov.uk/government/publications/vitamin-d-for-vulnerable-groups/vitamin-d-and-care-homes-guidance>

Residents in care home should be supported to follow the above recommendation to ensure their nutritional needs are met, and to reduce the risk of developing a deficiency in Vitamin D.

If you have concerns about purchasing Vitamin D supplements on behalf of residents or being brought in by relatives for the resident to use, please discuss with your community pharmacist or GP Practice.

Common Issues and solutions

CONSTIPATION

<p>Possible symptoms:</p> <ul style="list-style-type: none"> Abdominal bloating Abdominal pain Early satiety Lack of appetite Irritability Faecal incontinence Nausea Irregular bowel motions 	<p>Management suggestions:</p> <ul style="list-style-type: none"> Ensure good fluid intake (1500 – 2000mls daily) non-caffeinated Increase activity levels such as walking Support resident to open bowels when they feel the urge Raise feet onto a stool whilst seated on the toilet Gradually increase fibre intake by choosing: <ul style="list-style-type: none"> More fruits and vegetables Higher fibre breakfast cereals (porridge / Weetabix / all Bran) Legumes / beans / lentils
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DIARRHOEA

<p>Possible symptoms:</p> <ul style="list-style-type: none"> Abdominal cramps / pain Nausea Poor appetite Loose watery stools Dehydration symptoms <ul style="list-style-type: none"> Headaches Dizziness Dry mouth 	<p>Management suggestions:</p> <ul style="list-style-type: none"> Eat smaller, more frequent meals Ensure good fluid intake to avoid dehydration from extra fluid losses Limit foods that increase gut transit (e.g. chilli / coffee / alcohol) Discourage nicotine Ensure laxatives aren't being given unnecessarily Encourage the resident to toilet before meals Consider any recent medication changes – liaise with pharmacist/GP Consider possible infection risk – liaise with GP if suspected
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Common Issues and Solutions (continued)

NAUSEA AND VOMITING / OR TASTE CHANGES

Possible symptoms:

- Poor appetite
- Complaints of nausea/vomiting
- Retching
- Avoiding dining room
- Avoiding meal times
- Altered bowel habits
- Dehydration symptoms
- Infection (chest / UTI)
- Food preference changes

Management suggestions:

- Check recent bowel movements for signs of constipation / diarrhoea
- Consider any recent medication changes – liaise with pharmacist/GP
- Ensure good fluid intake (1500 – 2000mls daily)
- Ensure good oral hygiene with regular mouth cleansing
- Ensure appropriate food offered – patient preferences and likes
- Consider posture / positioning whilst eating, and fresh air
- Consider potential for any pain – liaise with pharmacist / GP
- Eat “little and often”. Small frequent meals and snacks
- Avoid drinking whilst eating. Have drinks between or after meals
- Try to keep away from strong odours with nausea
- Avoid very spicy and fatty foods for nausea/vomiting
- Try foods containing ginger
- Peppermint tea may help too
- Consider if reflux related
- With taste changes try adding flavour to foods with herbs and/or spices in cooking or serving savoury food with chutneys and dressings.
- Plain bland foods may help depending on circumstance

POOR DENTITION/ORAL HEALTH

Possible symptoms:

- Poor appetite
- Spitting out food
- Closing mouth when feeding
- Signs of pain on chewing
- Opting for softer meals
- Coated tongue
- Smell on breath

Management suggestions:

- Check dentures present and not missing
- Check dentures fit well without movement on eating
- Liaise with resident about any possible discomfort / pain
- If own teeth and many missing – consider dental review
- If dental review not appropriate, consider softer options for meals and pain relief
- Offer more nourishing drinks and soft diet if awaiting dental review
- Check tongue for possible thrush

Covid-19 and the Effects on Appetite

Covid-19 can cause:

- a dry mouth
- shortness of breath
- loss or changes to taste and smell
- fatigue/overall poor appetite

These symptoms can affect a person's appetite and ability to eat, making it difficult to meet their nutritional needs.

Dry mouth

- Make sure residents are drinking plenty of fluids and include nourishing drinks such as milk, fruit juice and supplements if required.
- Encourage sips of fluid to help moisten the mouth but avoid filling up on fluid during mealtimes, encourage drinks between meals.
- Add sauces such as gravy, mayonnaise, salad cream and cheese sauce to their foods, and offer moist dishes like tender stews.
- Encourage rinsing and gargling with water after using an inhaler to keep mouth fresh.
- Offer sugar-free boiled sweets to suck as this stimulates saliva.

Shortness of breath

- Offer soft, easy to chew, moist foods (served with a sauce/gravy).
- Encourage drinking between meals rather than with meals.
- Offer smaller, more manageable, portions of energy and protein rich foods frequently throughout the day.
- Ensure residents have time during eating and between mouthfuls to calmly breathe whilst ensuring that food keeps warm if extra time is needed to consume meals.

Sleepiness

- Make use of the times when more alert i.e. offer more then.

Poor appetite and fatigue

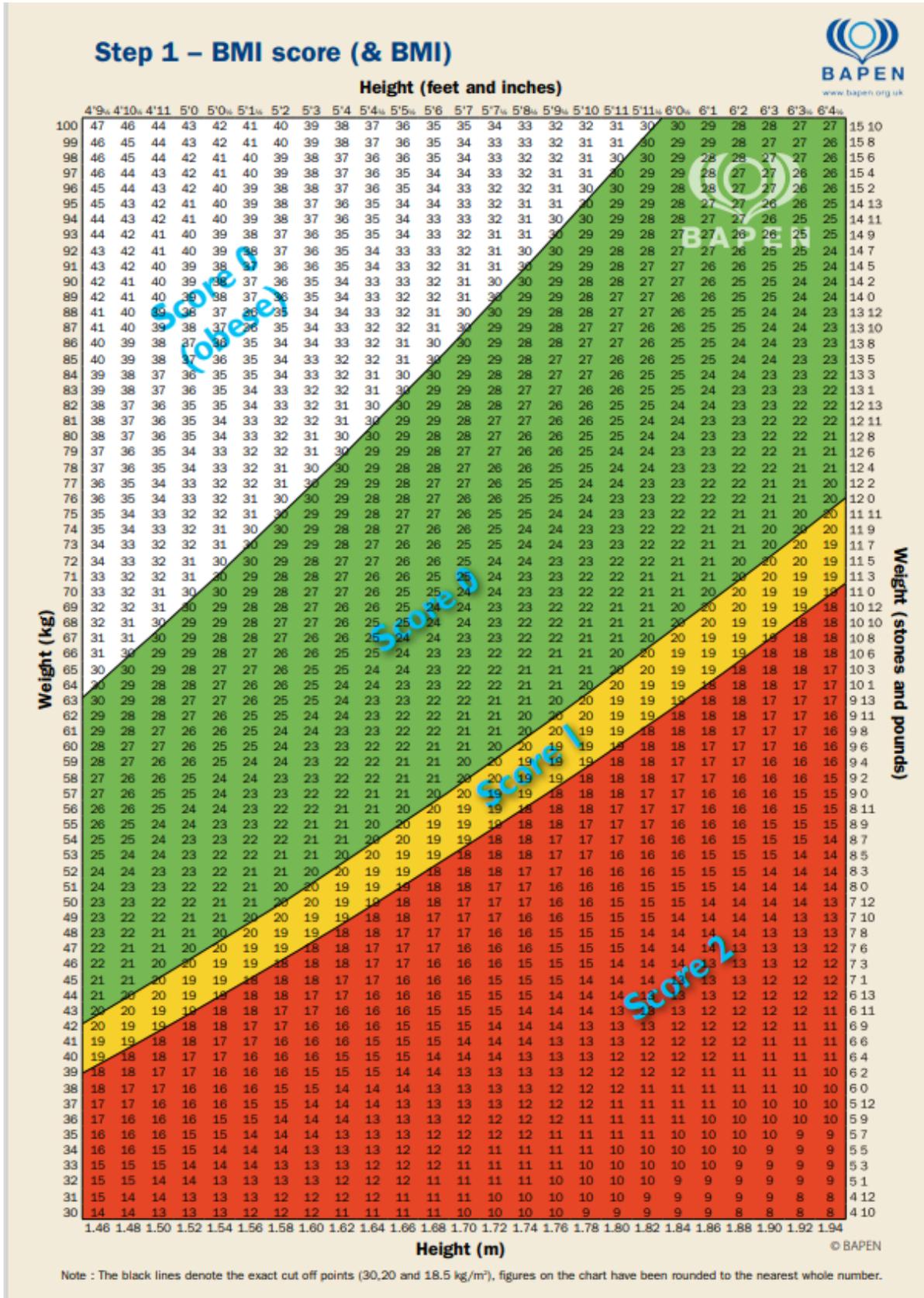
- Follow the high-risk care plan.

Loss and changes to taste and smell

- See barriers to eating section

Appendix 1: Weight, height and BMI conversion chart

Body Mass Index = weight in kg/height in m/height in m



Appendix 3: Ulna length and Mid-upper arm circumference (MUAC)

Alternative measurements: instructions and tables



If height cannot be obtained, use length of forearm (ulna) to calculate height using tables below. (See The 'MUST' Explanatory Booklet for details of other alternative measurements (knee height and demispan) that can also be used to estimate height).

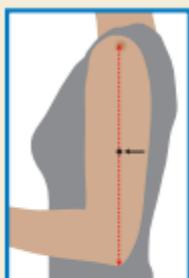
Estimating height from ulna length



Measure between the point of the elbow (olecranon process) and the midpoint of the prominent bone of the wrist (styloid process) (left side if possible).

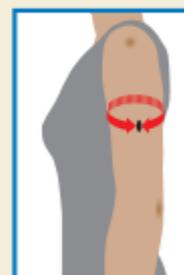
Height (m)	men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	men (≥65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
Ulna length (cm)		32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5
Height (m)	Women (<65 years)	1.84	1.83	1.81	1.80	1.79	1.77	1.76	1.75	1.73	1.72	1.70	1.69	1.68	1.66
	Women (≥65 years)	1.84	1.83	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.66	1.65	1.63
Ulna length (cm)		32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5
Height (m)	men (<65 years)	1.69	1.67	1.66	1.64	1.62	1.60	1.58	1.57	1.55	1.53	1.51	1.49	1.48	1.46
	men (≥65 years)	1.65	1.63	1.62	1.60	1.59	1.57	1.56	1.54	1.52	1.51	1.49	1.48	1.46	1.45
Ulna length (cm)		25.0	24.5	24.0	23.5	23.0	22.5	22.0	21.5	21.0	20.5	20.0	19.5	19.0	18.5
Height (m)	Women (<65 years)	1.65	1.63	1.62	1.61	1.59	1.58	1.56	1.55	1.54	1.52	1.51	1.50	1.48	1.47
	Women (≥65 years)	1.61	1.60	1.58	1.56	1.55	1.53	1.52	1.50	1.48	1.47	1.45	1.44	1.42	1.40
Ulna length (cm)		25.0	24.5	24.0	23.5	23.0	22.5	22.0	21.5	21.0	20.5	20.0	19.5	19.0	18.5

Estimating BMI category from mid upper arm circumference (MUAC)



The subject's left arm should be bent at the elbow at a 90 degree angle, with the upper arm held parallel to the side of the body. Measure the distance between the bony protrusion on the shoulder (acromion) and the point of the elbow (olecranon process). Mark the mid-point.

Ask the subject to let arm hang loose and measure around the upper arm at the mid-point, making sure that the tape measure is snug but not tight.



If MUAC is <23.5 cm, BMI is likely to be <20 kg/m².
If MUAC is >32.0 cm, BMI is likely to be >30 kg/m².

The use of MUAC provides a general indication of BMI and is not designed to generate an actual score for use with 'MUST'. For further information on use of MUAC please refer to *The 'MUST' Explanatory Booklet*.

Appendix 4: Eating and Drinking at End of Life

End of life

In the final stages of a life-limiting illness, when someone is approaching the end of his or her life the focus of care for the person may change and tends to be centred on helping them to be as comfortable as possible.

Food and drink

At this time, people often experience a decrease in appetite and a loss of interest in food and drink.

This can be worrying for families and carers but it is a natural and expected part of the dying process. Most people at the end of life do not experience hunger or thirst. The body is slowing down, and if someone eats or drinks more than they really want to it can cause them discomfort.

Families and carers may be concerned about the effects of reduced food intake or dehydration on the person who is dying, and it is natural for families to want to continue providing nourishment at this time.

Nutrition or nourishment?

At this stage of life, meeting nutritional needs becomes less important than providing comfort, and even very small amounts of the person's favourite food and drink can provide comfort.

Tube feeding Fluid via a drip or 'food' via a feeding tube do not usually provide comfort, improve quality of life or prolong life and can be distressing for the person who is dying.

Prescribed nutritional products do not contain anything which can't be found in food, and most people seem to prefer the flavour of ordinary food. Food means much more to most people than simply nutrition, and at the end of life enjoyment of even small amounts of food and fluid is more important than its nutritional content.

Many families find it helpful to look at other ways in which they can provide 'nourishment', comfort and support for their loved one.

Other ideas that may help

- Keep asking "what is helpful for this person at this time?" - there is no single 'right' answer as it depends on each person's individual situation
- Continue to offer other forms of support such as gentle massage, skin care, music and conversation
- Keep the person company - talk to them, read to them, watch films together, or simply sit and hold their hand
- Even when people cannot speak or smile, their need for companionship remains. The person may no longer recognise you, but may still draw comfort from your touch or the sound of your voice.

What about food?

- Let the person choose if and when they want to eat or drink
- Offer small amounts of food, especially the person's favourite flavours
- Don't worry about providing a balanced diet
- See below for ideas for small snacks and nutritious drinks and see [Food first – Homemade supplements](#) for homemade supplement recipes

What about drinks?

- Frequent mouth care (gently brushing teeth with a soft toothbrush) can prevent the person feeling thirsty, even if they cannot drink very much
- Keep lips moist with lip balm
- Use a small spray bottle to mist the mouth with water, being careful not to give too much
- Offer small pieces of ice or small ice lollies instead of drinks

Small snacks

Small portions of food, which do not need a lot of chewing may be easier to manage.

Suggestions:

- Mini tub of yogurt, fromage frais, dessert or custard (often sold in multipacks)
- Mini ice cream lolly or mini tub of ice cream
- Small pieces of prepared, soft fruit e.g. mango, melon, grapes, orange segments
- Favourite sweets or squares of chocolate
- Small pieces of scone with butter and jam or lemon curd
- Mini tub of cream cheese or cheese spread – these could be served with soft bread
- Quarter of a sandwich with a soft filling e.g. egg mayonnaise, tuna mayonnaise, pâté
- Cocktail sausages, mini sausage rolls, mini quiches or mini scotch eggs
- Squares of cheese
- A few 'soft' crisps such as Quavers or Wotsits

Nutritious drinks

Small cups or glasses may be easier to manage. If the person can only manage half a glass or cup, they may still find it easier to drink from a full cup or glass. This can make swallowing easier because the person does not have to tip their head back as far.

Sips of citrus flavour drinks may help if the person has a dry mouth.

Suggestions:

- Milkshakes
- Milky coffee
- Hot chocolate
- Malted milk drinks
- Smoothies
- Fizzy drinks or fruit squash (try to avoid sugar free, diet and no-added-sugar varieties)
- Fruit juice

Acknowledgements: Victoria Hospice, Vancouver

Appendix 5: Calculations to obtain pre-amputation weights

Amputation	Calculation
Below knee	Current weight (kg) x 1.063
Full leg	Current weight (kg) x 1.18
Forearm	Current weight (kg) x 1.022
Full arm	Current weight (kg) x 1.05

Acknowledgements

Thanks to Alison Smith the Prescribing Support Dietitian at Herts Valley CCG for allowing us to use the Patient/Carers information sheet on Home Made milkshakes and the Eating and Drinking at End of Life guide.

Thanks also to Airedale NHS Foundation Trust for allowing us to use the Finger Food guide.