Nutrition Resource Pack for Care Homes

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Produced by Community Dietitians Bath, Swindon & Wiltshire.

Adapted with kind permission from Western Sussex Hospitals NHS Foundation Trust. & Frimley Park Trust

Community Dietitians Contact Details

Bath Community Dietitians

Base: St. Martins Hospital, Clara Cross Lane, Bath, BA2 5RP

No: 01225 833916

At present, a referral from the GP to community dietitians is required: ruh-tr.referralssmhdietitians@nhs.net

Swindon Community Dietitians

Most care homes are under CCG Care Home Team—please refer on 01793987667

Referrals can also be made to the Community Team on

gwh.swindoncommunitydietitians@nhs.net

Wiltshire Community Dietitians

Telephone number: 01722 746781 (Wilton) or 01249 456512 (Chippenham)

Community Team email for referrals: whc.wiltshiredietetics@nhs.net

The advice in this document is for individuals who are having a normal texture diet and fluids.

If you suspect any swallowing difficulties , please refer the individual to the SLT team for assessment and advice.

Regulation 14: Meeting nutritional and hydration needs (*Regulation 14 of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014)*

Key Line of Enquiry under 'Effective' domain (E3) for CQC Inspections

The intention of this regulation is to make sure that people who use services have adequate nutrition to sustain life and good health and are protected from the risks of malnutrition and dehydration. To meet this regulation, where it is part of their role, service providers must make sure that:

- ☑ Service users have their nutritional needs assessed and that they are provided with sufficient food and drink to meet those needs
- ☑ Service users receive the support needed to eat and drink sufficient amounts
- ☑ Preferences, religious and cultural backgrounds are taken into account when providing food and drink.

For further information visit : CQC regulation 14 Nutrition & Hydration

Nursing and Midwifery Council 2015: The Code - Professional standards of practice and behaviour for nurses and midwives

'The fundamentals of care include, but are not limited to, nutrition, hydration, bladder and bowel care, physical handling and making sure that those receiving care are kept in clean and hygienic conditions.

This includes making sure that those receiving care have **adequate access** to nutrition and hydration, and making sure that you **provide help** to those who are not able to feed themselves or drink fluid unaided.'

For further information visit https://www.nmc.org.uk/standards/code/

National Institute for Health and Care Excellence (NICE) has developed clinical guidance and quality standards for nutrition in all settings, including care homes.

- Nutrition support in adults (CG32)
- Nutrition support in adults (QS24)
- Patient experience in adult NHS services (QS15) - Quality Statement 10

For further information visit www.nice.org.uk

Section 1:
Healthy Eating & Hydration

Healthy Eating

The Eatwell Guide on page eight shows how much of what we eat during the day should come from each food group to achieve a balanced diet for the general population.

For healthy individuals, it is important to encourage a healthy, balanced diet and an active lifestyle in order to avoid obesity and associated health problems such as cardiovascular disease and type 2 diabetes.

Weight Management

Recent international guidance recommends that there is usually no need for overweight older people to lose weight, as overall mortality risk is lowest in healthy older people within the overweight range[1]. Weight reducing diets for overweight older people should generally be avoided to prevent age-related loss of muscle mass (sarcopenia) and functional decline.

Any decision to promote weight loss in these individuals should be made on an individual basis, by weighing up the possible risks and benefits, including the possible impact on the individual's quality of life. Aiming to avoid further weight gain by using the Eatwell Guide recommendations and moderate calorie restriction can often be a suitable aim of nutritional care in this situation. Strict diets, including very low calorie diets, are not recommended for older people.

See pages 52 for additional information sources on this topic

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods

Each serving (150g) contains

Energy	Fat	Saturates	Sugars	Salt
1046kJ 250kcal	3.0g	1.3g	34g	0.9g
	LOW	LOW	HIGH	MED
13%	4%	7%	38%	15%

of an adult's reference intake

Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables

Raisins

Chopped tomatoes

Frozen peas

Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates

Potatoes

Whole grain cereal

Cous Cous

Porridge

Bagels

Whole wheat pasta

Rice

Spaghetti

Beans, pulses, fish, eggs, meat and other proteins

Lentils

Beans lower salt and sugar

Tuna

Lean mince

Plain nuts

Chick peas

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Dairy and alternatives

Semi skimmed milk

Soya drink

Choose lower fat and lower sugar options

Oil & spreads

Choose unsaturated oils and use in small amounts

Sauce

Crisps

Eat less often and in small amounts

6-8 a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

Hydration

How much do we need to drink?

Current guidelines recommend that older men should aim to drink 2000ml daily while older women should aim to drink 1600ml daily unless they have a medical condition that requires a different amount[1].

What counts as fluid?

Remember that **all fluid counts** (except alcohol over 4%) including water, tea, coffee, milk, juice and squash. Food accounts for 20-30% of total fluid intake, and some foods, such as fruit, ice lollies, soups and sauces, are particularly high in fluid content and should be encouraged

What problems can dehydration cause?

Poor fluid intake can contribute to many issues, including:

- Constipation
- UTIs, kidney stones and incontinence issues
- Cognitive impairment and functional decline
- Increased risk of pressure ulcers and poor wound healing
- Low blood pressure and falls

How can we tell if a resident is dehydrated? Is there a screening tool?

Dehydration is difficult to diagnose without blood testing as the symptoms can be quite non-specific e.g. fatigue, headaches, dry skin. Concentrated urine is also not a reliable indicator of dehydration due to the way kidney function changes with age[2]. Unfortunately there is no specific screening tool that monitors risk of dehydration, therefore clinical judgement alongside observation of fluid intake is required.

Will increasing fluid intake worsen my resident's incontinence?

Many older people deliberately reduce their fluid intake to reduce how often they need to go to the toilet. In fact, poor hydration leads to concentrated urine which irritates the bladder and makes incontinence and frequency worse. It is therefore important to educate staff and residents and encourage good fluid intake.

What can I do to help my resident drink more?

CAN DRINK	Unaware of how much to drink daily	• Education of individual
	Drinks independently but forgetful	• Regular prompting • Promote routine
CAN'T DRINK	Swallowing problems	• Speech & Language Therapist input
	Unable to drink independently	• Provide appropriate assistance and aids if required, whilst maintaining resident dignity
WON'T DRINK	'Lifelong Sipper'	• Gradual approach of education and reinforcing positive drinking habits of residents that have never drunk well
	Fear of urinary incontinence or increased frequency	• Reassurance and support • Continence team advice • Empathy and understanding, maintaining dignity
	Refusing to drink e.g. clamping mouth shut, spitting	• Not necessarily simply a deterioration in behaviour • Consider right person, right drink, right time
	End of life	• Seek specialist support

Adapted from Mentes (2013) [3]

See page 52 for additional information sources on this topic

Section 2:
MaInutrition, ‘MUST’
& Management Guidelines

Introduction to Malnutrition

What is Malnutrition?

Malnutrition is a state of nutrition in which a deficiency of energy, protein and/or other nutrients causes measurable adverse effects on the body including its composition, the way it functions and clinical outcome[4].

Groups at risk of malnutrition include individuals with[4]:

- Acute illness e.g. chest infections, UTIs
- Chronic diseases e.g. COPD, cancer, inflammatory bowel disease
- Chronic progressive diseases e.g. dementia, neurological conditions
- Debility e.g. frailty, immobility, depression, recent hospital discharges
- Social issues e.g. poverty, inability to cook and shop, poor support

Did You Know?

More than **3 million people** in the UK are malnourished or at risk of malnutrition; of these, 93% are living in the community[5]

The cost of malnutrition in England was estimated to be **£19.6 billion per year**, or more than 15% of the total public expenditure on health and social care. About half of this is spent on people over the age of 65[6]

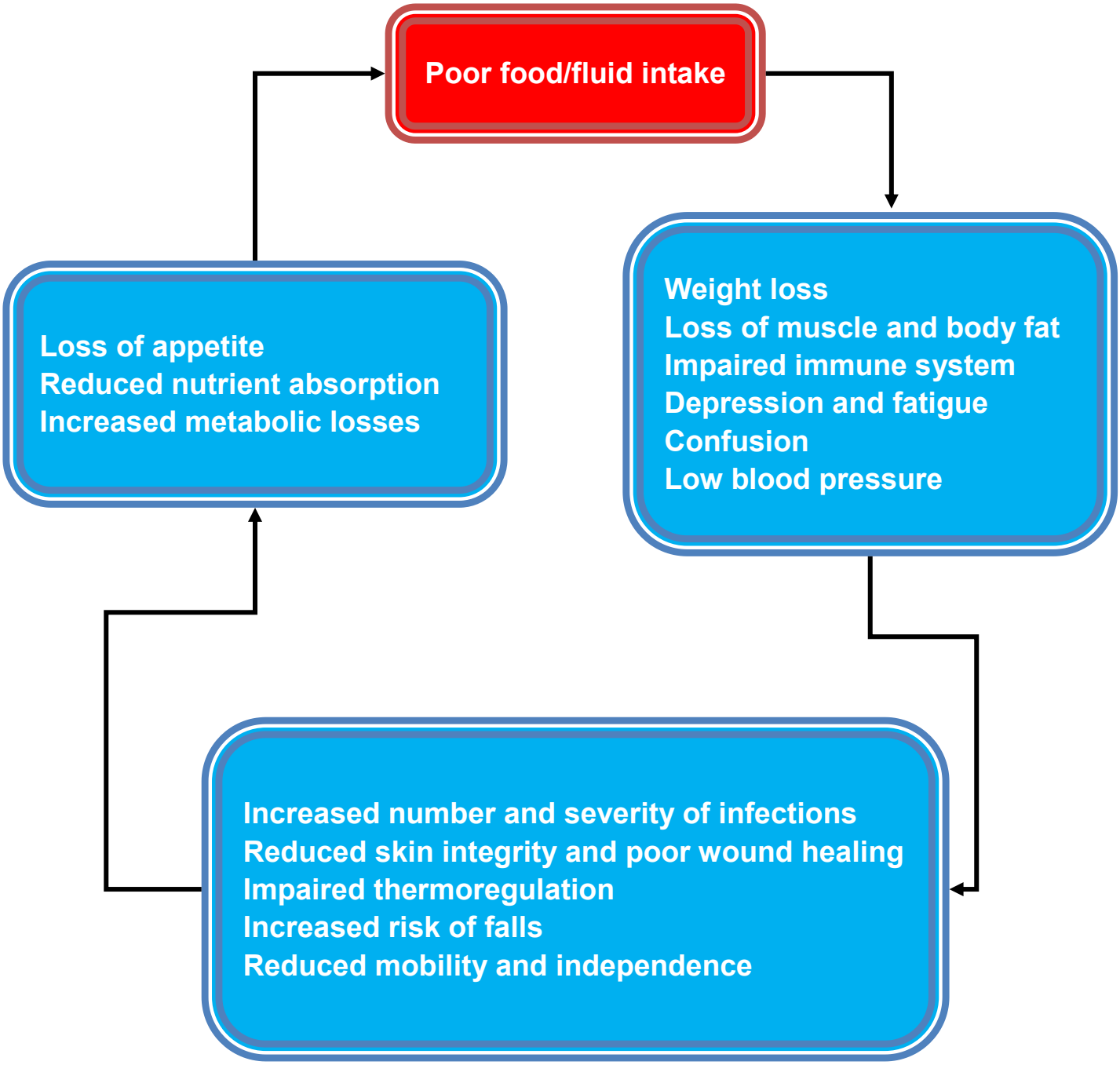
37% of people aged 70 years and over who had recently moved into a care home were found to be malnourished or at risk of malnutrition[7]

Research has shown that the cost of treating care home residents diagnosed with malnutrition is **twice** that of screening and monitoring the general care home population[8]

The Care Quality Commission's Dignity and Nutrition inspection Programme inspected 500 care homes for the quality of nutritional care and found that **1 in 6 care homes did not meet the required standard**[9]

What are the Causes and Consequences of Malnutrition?

When the body does not get the right combination of food and fluid to work properly, things can quickly deteriorate into a vicious circle where the consequences of malnutrition can make the problem worse. This is why it is important that malnutrition is detected and treated as soon as possible.



‘Malnutrition Universal Screening Tool’

Nutritional screening is essential to identify the risk of malnutrition and implement appropriate care plans for every individual living in a care home.

An individual is considered at risk of malnutrition if they have:

- A body mass index (BMI) of less than 20kg/m^2

  and/or

- Unintentional weight loss of greater than 5% in the last 3-6 months

The ‘Malnutrition Universal Screening Tool’ (‘MUST’) is a validated screening tool that can be used across care settings to identify individuals aged 18 years and over who are malnourished or at risk of malnutrition.

Each individual should be screened on admission to the care home and then at monthly intervals (minimum) to monitor their level of risk.

The following pages will guide you through the process of calculating a ‘MUST’ score and appropriate care planning depending on the identified level of risk.

‘MUST’ Overview

STEP 1 + STEP 2 + STEP 3

STEP 1 BMI Score	STEP 2 Weight loss score	STEP 3 Acute disease effect score
>20kg/m^2 Score 0	<5% Score 0	Unlikely to apply in the community
18.5—20kg/m^2 Score 1	5-10% Score 1	If acutely ill and no intake for >5 days Score 2
<18.5kg/m^2 Score 2	>10% Score 2	

STEP 4

Overall Risk of Malnutrition

Add scores together: Step 1 + Step 2 + Step 3

‘MUST’ Score 0	Low Risk of Malnutrition
‘MUST’ Score 1	Medium Risk of Malnutrition
‘MUST’ Score ≥2	High Risk of Malnutrition

STEP 5

Recommended Management Guidelines

See Page 24

STEP 6

Repeat MUST monthly

See Page 25

To use the 'MUST' tool you will need:

☑ Current weight

☑ Weight history (past 3-6 months ideally)

☑ Height

Measuring Height

- Use a height stick/stadiometer where possible.
- The individual should be stood upright and looking straight ahead, with shoes removed and feet flat with heels against height stick
- Measure in metres or use the **Height Conversion Chart** (Appendix A)
- If you are unable to measure height:
  - use self-reported height (if reliable)
  - use visual assessment
  - consider using **ulna length** (see Appendix E) although be aware that this measurement is only an estimate and should be used alongside clinical judgement e.g. visual assessment

Measuring Weight

- Ensure your scales are regularly calibrated (at least yearly)
- Use the same scales and try to weigh in the same room, at the same time of day, ideally in similar clothing
- If using chair or hoist scales, ensure the individual's body is not touching the bed or floor whilst taking the measurement
- Measure in kilograms (kg) or use the **Weight Conversion Chart** (Appendix B)

What if the individual has lost/gained a lot of weight quickly?

- If the individual appears to have lost or gained a lot of weight (more than 2kg in a month), re-weigh them to ensure the reading is accurate.
- Consider other potential causes of significant weight loss or gain:
  - **Fluid disturbances**: Oedema/fluid retention can affect weight by as much 10kg in severe cases. If a resident is started on a diuretic e.g. furosemide and loses fluid initially this may cause rapid weight loss.
  - **Plaster casts** can weigh up to 4kg depending on material, size and site
  - **Amputations:** there are calculations that can be used to estimate total body weight for amputees; contact a dietitian for further information. If the individual wears a prosthesis when being weighed, then you can simply use the weight measured on the scales.

What if the individual cannot be weighed/refuses to be weighed?

Being weighed may cause physical discomfort and/or distress, particularly if the resident requires manual handling and/or hoisting. Weighing and measuring should be done to help inform your care planning, not just to 'tick the box'. There may be instances where it is not appropriate to weigh the individual, for example if they are receiving end of life care.

If your resident refuses to be weighed, discuss the importance of monitoring and why the procedure is necessary. It may be easier or more convenient to do it at a different time.

You should not weigh a resident against their wishes. Ensure you document their refusal on their monitoring charts and/or in their care plan

If you cannot weigh the individual for whatever reason, you will need to use subjective measures such has visual assessment, changes in clothes/jewellery size, ill-fitting dentures. However, you will not be able to calculate a 'MUST' score, and will need to estimate if the individual is at low, medium or high risk based on your observations.

Step 1: Body Mass Index (BMI) Score

Step 1 looks at Body Mass Index (BMI) which provides an indication of whether an individual is underweight, healthy weight or overweight based on height and weight measurements.

You can use **BMI Score Chart (Appendix C)** to determine step 1 score

Find individual's height along the top (feet/inches) or bottom (metres)

1. Find individual's weight along the left side (kg) or right side (stones/pounds)
2. Determine where the height and weight measurement cross on the chart

   - the small black number is the individual's BMI (kg/m^2)

   - the coloured bands (red, yellow, green, white) relate to step 1 score

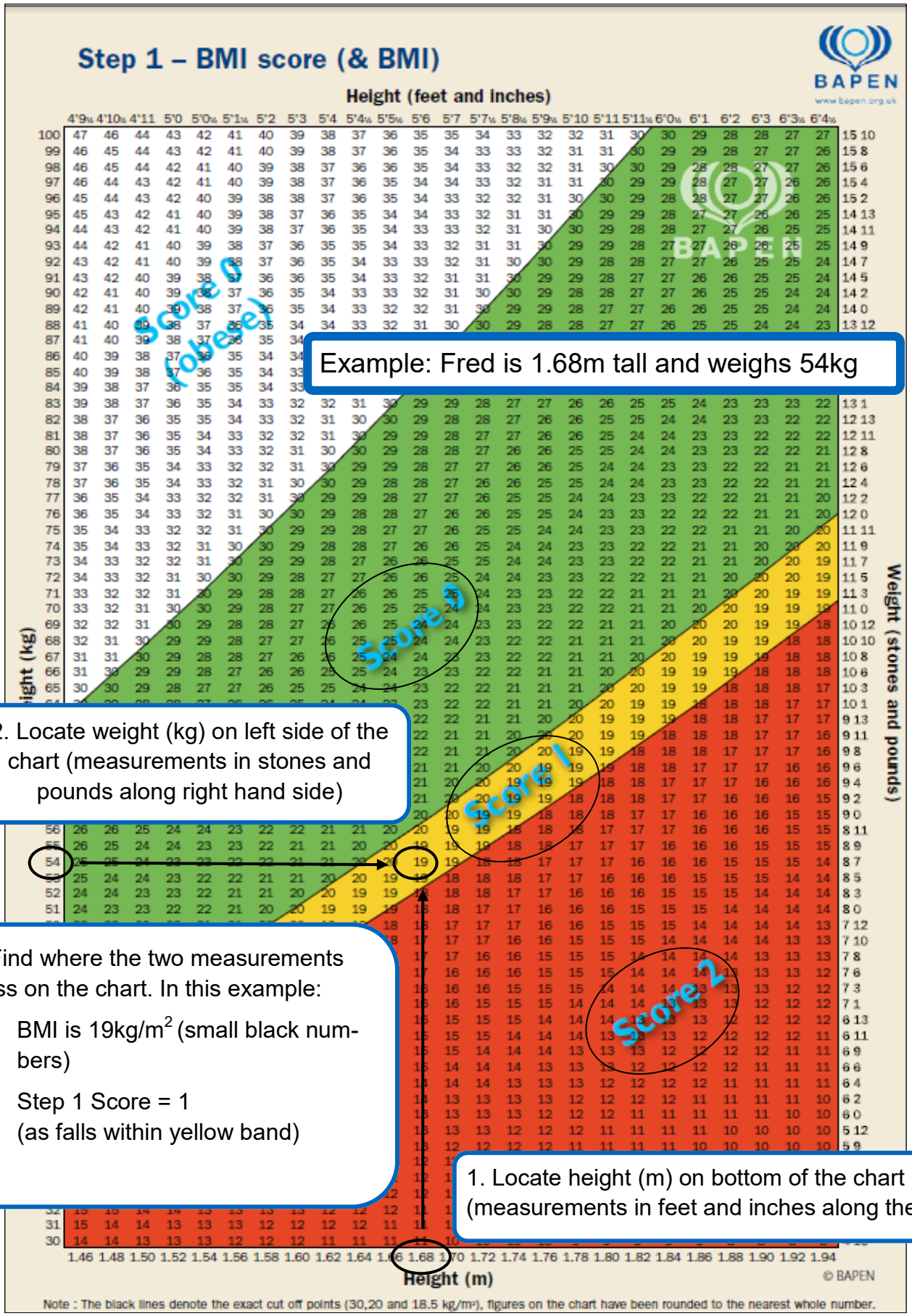
Step 1 (BMI) Score

Once you have calculated BMI, you can calculate the **Step 1 score:**

BMI 20kg/m^2 or more	**Score 0**
BMI between 18.5 – 20kg/m^2	**Score 1**
BMI below 18.5kg/m^2	**Score 2**

If you do not have a current weight you will need to use subjective measures (see previous page). You could consider **mid-upper arm circumference (MUAC**) (see Appendix E) but this will only give you a rough estimation of the individual's BMI range. You will not be able to calculate a 'MUST' score, and will need to estimate if the individual is at low, medium or high risk based on your observations.

Step 1: BMI Score Chart - Example



Step 2: Weight Loss Score

Step 2 looks at the amount of **unintentional** weight loss in the past 3-6 months.

To calculate percentage weight loss you need:

- The individual's **current** weight
- The individual's **previous** weight:

Which 'Previous Weight' Should I Use?

- If available, use the **highest weight measured in the last 6 months**
- If you have less than 6 months of weights available, use the highest weight that you have measured for that resident in that time period
- If you only have previous weights from more than 6 months ago, use the most recent
- If you have no weight history at all, use clinical judgement and visual assessment to estimate if patient has recently lost weight. You will not be able to calculate a 'MUST' score, and will need to estimate if the individual is at low, medium or high risk based on your observations.

You can use **Weight Loss Score Chart (Appendix D) to work out** step 2 score

1. Find current weight in left hand column (rounding up/down to nearest whole kg)
2. Read across the coloured columns and find where the individual's previous weight lies to determine step 2 score

Step 2 (Weight Loss) Score

Once you have calculated percentage weight loss you can calculate **Step 2 score**:

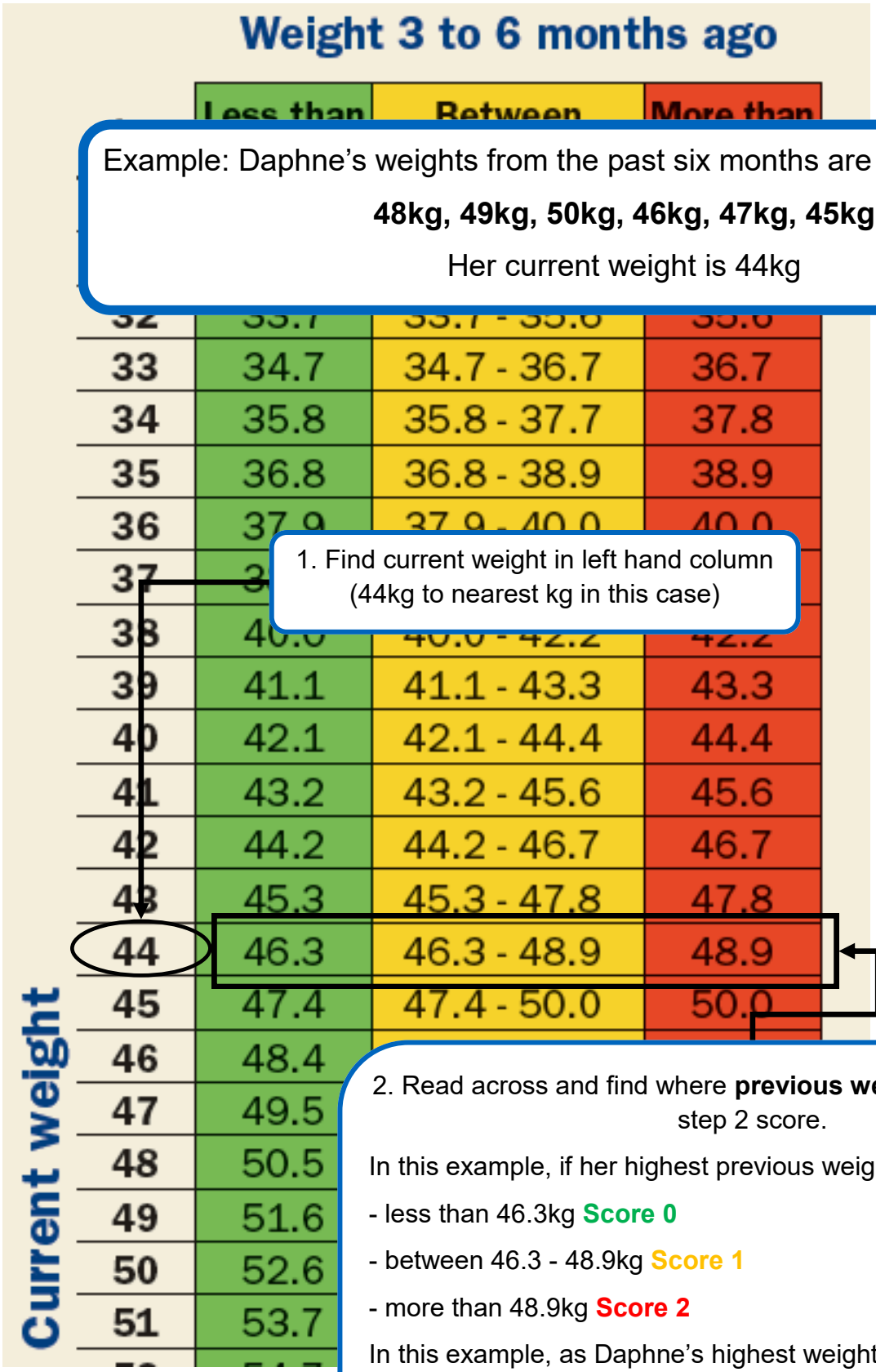
Less than 5% weight loss	**Score 0**
Between 5-10% weight loss	**Score 1**
More than 10% weight loss	**Score 2**

Step 2: Weight Loss Score Chart - Example

Example: Daphne's weights from the past six months are as follows:

48kg, 49kg, 50kg, 46kg, 47kg, 45kg

Her current weight is 44kg



Current weight	Less than	Between	More than
33	34.7	34.7 - 36.7	36.7
34	35.8	35.8 - 37.7	37.8
35	36.8	36.8 - 38.9	38.9
36	37.9	37.9 - 40.0	40.0
37	39.0	39.0 - 41.1	41.1
38	40.0	40.0 - 42.2	42.2
39	41.1	41.1 - 43.3	43.3
40	42.1	42.1 - 44.4	44.4
41	43.2	43.2 - 45.6	45.6
42	44.2	44.2 - 46.7	46.7
43	45.3	45.3 - 47.8	47.8
44	46.3	46.3 - 48.9	48.9
45	47.4	47.4 - 50.0	50.0
46	48.4		
47	49.5		
48	50.5		
49	51.6		
50	52.6		
51	53.7		

2. Read across and find where **previous weight** lies to determine step 2 score.

In this example, if her highest previous weight was:

- less than 46.3kg **Score 0**
- between 46.3 - 48.9kg **Score 1**
- more than 48.9kg **Score 2**

In this example, as Daphne's highest weight in the last 6 months was 50kg she would score 2 (as this is more than 48.9kg)

Step 3: Acute Disease Effect Score

The Acute Disease Effect Score is unlikely to apply to individuals in care homes

therefore **Score 0**

Score 2 only if the individual is acutely unwell and there has been or is likely to be no nutritional intake for 5 days or more as they will be at risk of malnutrition.

This usually only applies in the hospital setting.

This includes those who are critically ill and those who have swallowing difficulties (e.g. after stroke).

Step 4: 'MUST' Score

Add scores together to calculate 'MUST' score and overall risk of malnutrition.

Step 1 BMI Score	+	**Step 2** Weight Loss Score	+	**Step 3** Acute Disease Effect Score	=	**Step 4** 'MUST' score

'MUST' Score 0	**Low Risk**
'MUST' Score 1	**Medium Risk**
'MUST' Score 2 or more	**High Risk**

Step 5: Recommended Management Guidelines

Score 0 = Low Risk

- Record 'MUST' and weight in care plan
- Record aims of treatment and actions*
- For printable information on Healthy Eating, choose the Green Leaflet on Eating Well Advice for patient and carers https://www.malnutritionpathway.co.uk/leaflets-patients-and-carers

Score 1 = Medium Risk = FOOD FIRST

- Record 'MUST' and weight in care plan
- Record aims of treatment and actions*
- Complete food chart for 7 days
- Manage factors which affect food intake **
- Promote FOOD FIRST approach (See pages 34-39 for ideas/information)
- For printable information on FOOD FIRST choose the Yellow Leaflet on Making the most of your food; https://www.malnutritionpathway.co.uk/leaflets-patients-and-carers

Score 2 or more = High Risk = FOOD FIRST

- As per 'Score 1 Medium Risk' box above
- Promote FOOD FIRST approach (See pages 34-39 for ideas/information
- Remember
  - Use fortified milk in tea, coffee, cereal etc
  - Promote 2 x nourishing drinks
  - Promote 2 x nourishing snacks
  - Promote 2 x nourishing desserts
- For printable information on FOOD FIRST choose the Yellow Leaflet on Making the most of your food; https://www.malnutritionpathway.co.uk/leaflets-patients-and-carers
- Weigh weekly

If patient cannot implement Food First advice, consider following 'Score 2 or more on review' box—see page 25

*Aims of treatment could include weight maintenance or gain, improved nutritional intake, wound healing, pressure area care, improvements in psychological or physical health

**Factors which may affect appetite include nausea and/or vomiting, constipation, diarrhoea, alcohol and drug use, social concerns (ability to shop, cook and eat), availability of suitable meals

Step 6: Repeat MUST Monthly

Score 0 on REVIEW

- Reduce then discontinue ONS.
- Return to normal, balanced diet

Score 1 on REVIEW

- Continue with FOOD FIRST approach As per ''Score 1 Medium Risk' box
- Complete review care plan
- Repeat 'MUST' monthly

If deteriorating or ongoing concerns, consider treating as high risk (see 'Score 2 or more on review' box below)

Score 2 or more on REVIEW

- Continue with FOOD FIRST approach, complete review on care plan, repeat 'MUST' monthly
- If weight decreased in the last month or patient unable to implement FOOD FIRST advice trial 2 x first choice powdered supplements***
- If powder not appropriate, consider ready-to -drink supplement in line with oral nutritional supplement (ONS) formulary
- For further printed information on nutritional supplements choose the Red Leaflet on Oral Nutritional Supplements

https://www.malnutritionpathway.co.uk/leaflets-patients-and-carers

If ongoing concerns after 1 month on first line ONS consider referral to Dietitian**

***If appropriate; consider lactose intolerance, renal impairment
****Unless detrimental or no benefit expected from nutritional support e.g. terminal stage of illness

Implementing Recommended Guidelines

The management guidelines on page 24/25 are the recommended first-line actions to take after 'MUST' screening and identifying an individual's risk of malnutrition.

The following pages discuss these guidelines in more detail and provide practical information:

- Setting aim of nutritional care
- Considering underlying causes of malnutrition
- Food & fluid charts
- Principles of 'Food First' for residents at medium or high risk of malnutrition
- Over-the-counter supplements
- Oral nutritional supplements
- Frequently asked questions

Remember

There may be situations e.g. certain medical conditions, where following the recommended guidelines is not appropriate for a specific individual.

Always seek advice from a GP or dietitian, and ensure that the agreed course of action is documented in the individual's care plan.

Aim of Nutritional Care

The 'MUST' score only indicates the risk of malnutrition.

This risk must be discussed with the individual and/or others involved in their care to develop an appropriate care plan, in line with mental capacity act principles.

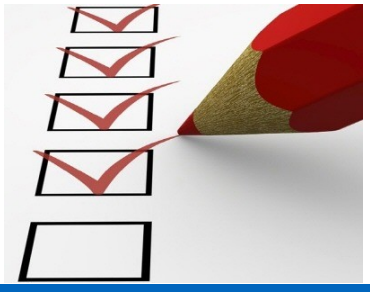
The **aim of nutritional care** is essentially what you aim to achieve with the care plan you have in place for each individual. This could be:

- Preventing further weight loss
- Promoting weight gain
- Improving strength/function
- Promoting wound healing
- Promoting good quality of life (particularly towards end of life)

Consider the individual's condition and ensure the aim is **realistic and achievable**. For example, an individual who is receiving end of life care is unlikely to eat enough to maintain their body weight or physical function, but a good nutrition care plan can still aim to promote good quality of life.

Once your aim of nutritional care has been agreed for the individual you are caring for:

- Document clearly in their care plan along with appropriate actions required to achieve this aim. Try to be as specific as possible to make the aim of nutritional care and the care plan personal to the individual e.g. *'Offer regular nourishing drinks throughout the day. Fred currently would like to have a strawberry or banana fortified milkshake in the afternoon, and a drink of Horlicks before bed'.*
- Monitor progress regularly
- Update the aim of nutritional care if/when the individual's condition changes



Consider Underlying Causes of Malnutrition

Malnutrition can be caused by a variety of physical, mental and social issues. If you have identified that a resident is at risk of malnutrition, it is important to consider the reasons why.

Below and overleaf are some common causes of poor intake and actions that may help.

Medical condition causing poor appetite

- ☑ Seek GP advice
- ☑ Review medication

Drowsiness throughout the day

- ☑ Seek GP advice
- ☑ Consider general condition, are they deteriorating?
- ☑ Review medication, as drowsiness could be a side effect
- ☑ Maximise intake when alert
- ☑ Always try to rouse the individual to offer food and fluids, document if refused

Mental health issues e.g. low mood, depression, anxiety, bereavement

- ☑ Seek GP or Mental Health team advice

Nausea and vomiting

- ☑ Seek GP advice
- ☑ Try to keep individual hydrated
- ☑ Offer small, frequent meals and snacks
- ☑ Dry foods e.g. crackers, biscuits, bread may bet better tolerated
- ☑ Encourage the individual to remain upright for at least 30 minutes after food/ fluid

Consider Underlying Causes of Malnutrition

Constipation

- ☑ Maximise fluid intake
- ☑ Increase fibre intake gradually to avoid discomfort/bloating
- ☑ Encourage resident to mobilise if able
- ☑ Seek GP advice

Poor dentition

- ☑ Seek dentist advice
- ☑ Check oral hygiene routine is suitable
- ☑ Ensure dentures fit

Swallowing difficulties (dysphagia)

- ☑ Refer to a speech and language therapist (SLT) for swallowing assessment
- ☑ Check oral hygiene routine is suitable

Difficult/unable to communicate preferences

- ☑ Consider pictorial or large print menus
- ☑ Ensure residents have correctly fitting hearing aids, glasses and dentures

Unable to feed self or difficulty using utensils

- ☑ Consider occupational therapist referral
- ☑ Review need for assistance with eating and drinking and ensure appropriate support is available

Food and Fluid Charts

What are food and fluid charts?

Food and fluid charts are simply a record of the food and fluids that are offered and taken by an individual. Food and fluid charts should assist you in nutritional care planning for your residents. Review them regularly and update the care plan as and when needed.

When should a resident be on a food and fluid chart?

- Regular records are not necessary for low risk/stable individuals.
- Consider for new residents to establish their current baseline and individual preferences.
- Consider for any individuals identified at risk of malnutrition or if staff are reporting a change in the individual's condition

How long should someone be on a food and fluid chart?

- Usually 3-7 days worth of records are enough to get an overview of eating and drinking patterns.
- You may choose to monitor a resident's intake for longer periods if they are having particular issues.
- Make sure you are using the information to inform your care planning, and not just 'doing it for the sake of it'.

What should be documented on a food and fluid chart?

- Type of food/fluid offered; be as descriptive as possible and ideally list all the items served separately - 'cooked meal' or 'pudding' can mean different things to different people
- Amount of food/fluid offered e.g. 1 scoop, 3 spoonfuls, 100ml tea
- Amount of food/fluid taken; be as accurate as possible and **always document refusal**
- Any comments that may assist with care planning e.g. noting clinical condition e.g. nausea, or physical issues such as spitting food out or struggling to chew

Below is an example food and fluid chart with guidance on how and what to record.

Noting the time is useful as it can help to identify patterns and problems. Here, the individual was offered a snack only an hour after eating a good breakfast. Timings of meals and snacks may need to be altered in order to increase intake.

Here, there is lots of useful description and items are listed individually, which makes it easy to review intake.

'Amount Taken' can be documented in different ways depending on the type of food. Try and be as accurate as possible whatever you use.

Time	Description of Food/Fluid Offered	Amount Taken	Comments	Signature
10:00	2 Weetabix, full fat milk and 2 sugars 2 pieces of toast ,butter and jam Cup of tea	All 3/4 All	Ate well	ABC
11:00	Cup of tea and biscuit	Declined	Feels full	ABC
13:00	Chicken casserole - small 2 scoops mashed potato with 2 teaspoons extra butter 3 tablespoons carrots/peas Rice pudding	1/2 1 scoop None All	Struggled to chew meat Enjoyed	ABC
17:30	Dinner and pudding	Not all		DEF
20:00	Horlicks made with full fat milk	200ml	Enjoyed	DEF

This provides **no** description of what dinner and pudding consisted of and how much was eaten, therefore making it difficult to review intake.

It is important to include details of drinks as they can account for a significant amount of calories.

Comments can also help identify patterns and problems. Here, the individual struggled to chew the meat and enjoyed the pudding. To help improve intake, you could provide a softer meat choice and/or offer more pudding.

Below are some of the typical problems you may identify using a food and fluid chart along with some suggestions on how to deal with them.

Refusing meals

- ☑ Review and discuss preferences with individual/family, including types of food and drinks, as well as timings of meals, snacks and drinks
- ☑ Check if requires increased prompting and/or assistance

Poor intake at certain times of the day

- ☑ Maximise intake during periods when eating well
- ☑ Try 'little and often' snacks and drinks rather than full meals
- ☑ Finger foods may be useful

Preference for sweet over savoury foods (or vice versa)

- ☑ Often a normal result of the ageing process, particularly if individual has dementia
- ☑ Continue to offer both savoury and sweet choices, but be prepared to offer extra portions of preferred dishes

Often leaves certain part of meal e.g. meat

- ☑ Review and discuss preferences with individual/family
- ☑ Check consistency is suitable, may require softer/easier to chew options or extra sauce
- ☑ Consider speech and language therapist referral if dysphagia suspected

Limited variety or limited intake of specific food groups e.g. dairy, fruit and vegetables

- ☑ Review and discuss preferences with individual/family
- ☑ Consider alternatives to what is currently being offered
- ☑ Consider over-the-counter A-Z multivitamin and mineral supplement if particularly concerned

‘Food First’ Approach

The ‘Food First’ approach is a way of adding extra calories and protein to an individual’s diet using everyday food items. It is important to consider using this for anyone at risk of malnutrition (‘MUST’ score of 1 or more) or those with a small appetite.

The basic principles of ‘Food First’ include trying to include the following to an individual's diet on a daily basis to maximise their intake:

- **Fortified milk and nourishing drinks**
- **Nourishing snacks**
- **Food fortification**

The following pages describe these in more detail and provide hints for incorporating them into daily routine for those that need it.

‘Food First’: Nourishing Drinks

☑ Encourage nourishing drinks in between your meals, not in place of one!

☑ Choose full fat and full sugar products rather than ‘diet’, ‘sugar free’ or ‘skimmed’ varieties as these provide more calories.

☑ Use milk, dairy-free milk alternatives (e.g. soya rather than nut milk as this has more calories and protein) or fruit juice as base ingredients in your drinks rather than water.

☑ Offer a warm milky drink such as Horlicks®, Ovaltine® or drinking chocolate before bed.

Make Fortified Milk (1 pint)

- Add 5 tablespoons of dried milk powder to 1 pint of full fat milk
- Stir until dissolved and use like regular milk. Marvel or supermarket-own brands are available.

Fortified Milk V	Full fat milk
600kcal, ~45g protein	386kcal, 19g protein

Custard (makes 1 pint)

2 tablespoons custard powder

2 tablespoons sugar

1 pint of fortified milk

Mix the custard powder and sugar together with a splash of milk to make a paste. Warm the rest of the milk through, then pour onto the paste mixture while stirring. Add back to the pan, bring to the boil and stir unitl thickened.

White Sauce (makes 1 pint)

25g butter

25g plain flour

1 pint fortified milk

Melt butter in pan, add flour and cook for 1-2 minutes. Take the pan off the heat and gradually stir in the milk. Return to the heat and simmer for 8-10minutes, stirring all the time unitl thickened.

‘Food First’: Nourishing Drinks Recipes

Blend all the recipes below until smooth. Each recipe below makes 1 serving

Basic Homemade Milkshake recipe

170ml full fat milk

2 tablespoon double cream

1 tablespoon dried milk powder

1 tablespoon Nesquik/milkshake powder

Per serving approx. 360kcal, 13g

Malted Honey Drink

200ml full fat milk

4 teaspoons Ovaltine or Horlicks powder

1 scoop ice cream

1 tablespoon honey or sugar

Per serving approx. 310kcal, 10g protein

Banutty Smoothie

150ml full fat milk

1 scoop ice-cream

1 tablespoon dried milk powder

½ banana

1 tablespoon smooth peanut butter

1 tablespoon sugar or honey

Per serving approx. 420kcal, 17g protein

Fruit Blast

100ml fresh fruit juice

100ml lemonade (not sugar free)

1 scoop ice-cream (can be dairy free)

1 tablespoon sunflower or vegetable oil

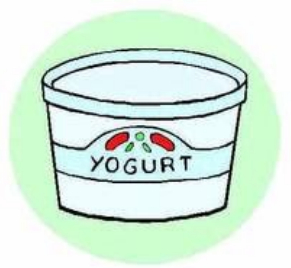
2 heaped teaspoons sugar

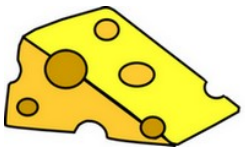
Per serving approx. 300kcal (minimal protein)

‘Food First’: Nourishing Snacks

Snacks are a useful way to provide extra calories during the day.

Aim to provide nourishing snacks (i.e. over 100kcals each) **at least twice a day** to residents at medium or high risk of malnutrition in addition to normal meals.





Dairy Foods

1 pot full fat/creamy yoghurt

30g (matchbox size) hard cheese

30g (2 tablespoons) soft cheese and cracker

1 scoop of ice cream

Fruit & Nuts

1 small banana

5-6 dried apricots/prunes

1 small handful of cashew nuts/peanuts

How about adding some cream or custard to fruit for an extra boost?

Savoury Snacks

1 small bag of crisps

½ crumpet and a teaspoon of butter

½ mini pork pie

1 small sausage roll

¼ buttered sandwich and e.g. cheese, chicken

Sweet Snacks

2 KitKat fingers

2 digestive biscuits or custard creams

1 jam tart

½ doughnut

½ small pot of trifle

1 small pot of custard/rice pudding

‘Food First’: Food Fortification

Food fortification is an easy way of adding extra calories to foods and drinks without significantly increasing the volume. This is particularly useful for those with a poor appetite

Aim to use **at every opportunity** for residents at risk of malnutrition.

Single Cream	Two tablespoons (30mls) provides **60 calories**

- Add to mashed potato, puddings, sauces, soups, fruit salad, milky drinks

Double Cream	Two tablespoons (30mls) provides **140 calories**

- Add to mashed potato, puddings, sauces, soups, fruit salad, milky drinks

Cheese	Matchbox size (30g) provides **120 calories**

- Add to mashed potato, vegetables, crackers, crumpets, sandwiches, toast

Butter	One teaspoon (10g) provides **75 calories**

- Add to mashed potato, vegetables, crackers, crumpets, sandwiches, toast

Oil	One tablespoon (15ml) provides **130 calories**

- Add to pasta, salad dressing, use for frying

Peanut Butter	One teaspoon (15g) provides **100 calories**

- Add to crumpets, toast, sandwiches

Jam/Honey	One tablespoon (20g) provides **55 calories**

- Add to crumpets, toast, porridge, rice pudding

Mayonnaise (Full Fat)	One tablespoon (15g) provides **100 calories**

- Add to sandwiches, salad, vegetables

Skimmed Milk Powder	One tablespoon (15g) provides **50 calories**

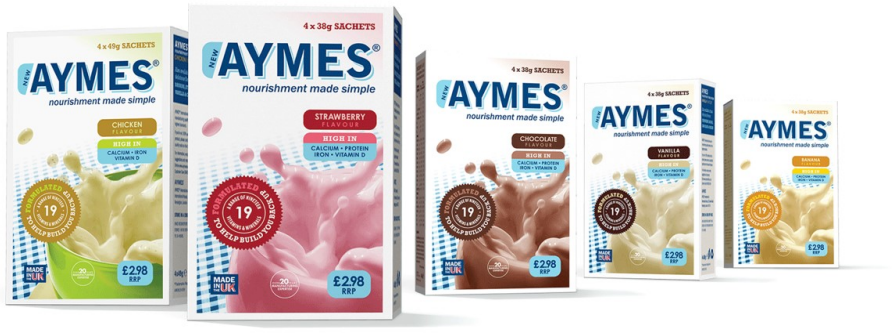
- Mix into yogurt, custard, milk, milky puddings, use to fortify milk

‘Food First’: Over-the-Counter Supplement Soups/Milkshakes

Another option for nourishing drinks are over-the-counter nutritional supplement milkshakes and soups which are available from most pharmacies and supermarkets.

Most products can be made up with water (if not ready to drink). However, making up the products with **full fat/fortified milk** where possible to maximise nutritional content is recommended.

Available brands (at time of writing) include Complan, Meritene Energis, Nurishment and Aymes. For further information please visit the manufacturer websites.



Don’t forget, other ingredients e.g. cream, ice-cream can also be added to increase the nutritional content further.

See page 52 for additional information sources on this topic

FAQ: 'Food First' & Dairy Allergy/Intolerance

The 'Food First' approach can be more difficult if the individual is allergic or intolerant to milk or if they simply do not like it. Try to include dairy-free (e.g. soya-based or lactose free if lactose intolerant) alternatives e.g. milk, cream, spread where possible, although bear in mind that they may not be as high in calories as the equivalent dairy-containing products.

Consider the alternatives below when following the management guidelines for residents at risk of malnutrition:

Fortified Milk Alternatives: try the dairy-free nourishing drink recipes below by blending the ingredients together for 15 seconds and serving. Adjust the ingredients and flavours according to personal preference.

Fruit Boost

150ml orange juice
50ml pineapple juice
1 banana
100g berries (fresh or frozen)

Fruit Blast

100mls fresh fruit juice
100mls lemonade
1 scoop dairy free ice cream
1 tablespoon sugar

Citrus Chiller

150g soya yoghurt or alternative
2 tablespoons soya cream
1 tablespoon lemon curd
1 scoop lemon sorbet
Juice of lemon or lime to taste

Coconut Date Shake

60g peanut butter
5 medjool dates
200ml coconut milk
5 ice cubes

Nourishing Snacks: dairy free ice-cream, fruit, nuts, savoury snacks

Food Boosters: peanut butter, oil, jam/honey, soya cream

Oral Nutritional Supplements (ONS)

What are they?

ONS are classified as foods for special medical purposes which are available on prescription. They may be required to increase energy and/or protein intake when diet alone is insufficient to meet nutritional requirements. Prescribed ONS should **not** be given to residents who have not been prescribed them.

First-line ONS, usually a powdered milkshake e.g Foodlink Complete, Aymes Shake, can be prescribed by a GP.

How should they be used?

ONS should only be used alongside the 'Food First' approach, unless otherwise advised by a dietitian. They should **not** be used to replace food.

Check the manufacturer's instructions on the packaging with regards to storage of ONS once made up/. Typically, they should be drunk straight away or sealed and refrigerated for up to 24 hours once made up/opened, but the guidance does vary between products. Ensure that the resident is regularly re-offered and finishes the refrigerated product before opening a new one to avoid waste.

What if the individual doesn't like them?

ONS need to be taken as prescribed on a regular basis to be effective. If the individual is struggling to take their ONS consider the following:

- Consider alternative flavours
- Serve milkshake-style ONS cold and savoury ONS warm (but do not boil)
- Serving ONS in a glass/cup may make them more appealing
- Encourage ONS use between meals to avoid filling up on them

Contact the GP/dietitian if the resident frequently fails to drink the prescribed quantity.

Refer the individual to a dietitian if there is no improvement or if further advice is required. Patients who are prescribed a thickener for their fluids should be referred to a dietitian, as standard ONS may not be suitable for their needs.

What if an individual is discharged to the care home from hospital with ONS?

- It is important that ONS are not just routinely continued because they were provided in hospital
- Remember to repeat your MUST score post-discharge and base your plan on this assessment.
- Hospitals often don't have the same capacity to provide home-made nourishing drinks or nourishing snacks in the same way care homes do.
- Individuals often start to eat better back in their own environment.
- Should the MUST score indicate that ongoing supplementation with oral nutritional supplements be necessary consider if they could be switched to a powder style supplement or other first line supplement
- You can contact your local dietetic department to discuss individual cases if you have concerns.
- Refer to the local BSW guidelines on prescribing ONS in the community.

  ONS formulary see Chapter 9 Nutrition & Blood

Section 3:
Nutrition Related Issues

The Mealtime Environment

The environment can have a significant impact on the mealtime experience. Consider the following to promote a positive mealtime experience for your residents:

Before the Mealtime

- Think carefully about how the tables are positioned, laid and presented. Too many patterns and decorations may be distracting for some residents. Make sure it has everything the residents need to eat and enjoy their meal.
- Use familiar sights, sounds and smells of cooking and food preparation to help stimulate the individual senses
- Try to encourage individuals to take part in tasks to help maintain interest e.g. preparing food, laying the table, folding napkins
- Ensure the individual has all the aids needed to experience the environment e.g. glasses, hearing aids, dentures.
- Ensure residents are not taken down to the dining area too early as they may get bored of waiting and want to leave

During the Mealtime

- Maintain a calm, relaxing eating environment with minimal background noise (although appropriate music can be used to create a pleasant atmosphere, perhaps ask your residents what they would like to listen to)
- Adapted cutlery/crockery may help to promote independence with feeding
- Try not to worry about mess; wipe clean surfaces and always ask the individual if they would like to wear a bib before putting one on them
- Encourage the individual to make as many choices as they are able to, so that they are engaged in the experience e.g. where would they like to sit, what drink would they like to have
- If possible, allow staff to eat and drink with residents to make it more of a social activity; residents may react positively by copying those around them

Dementia

Dementia is a syndrome associated with memory loss, reduced thinking speed, understanding and judgement, which can all have an impact on nutritional intake. Common issues that may affect eating and drinking in individuals living with dementia include:

Cognitive & Sensory Difficulties may include problems with recognising food/ drinks and concentration at mealtimes.

- Encouragement and prompting to eat, using pictures to explain menus and engaging person in mealtime-related activities e.g. laying the table
- Calm, relaxed environment, limiting distractions
- Finger foods, regular snacks and more frequent/flexible mealtimes may be helpful for individuals who become distracted or lose focus
- Ensure the individual is wearing hearing aids and glasses if required

Motor/Coordination Difficulties may include problems with co-ordination or chewing/swallowing issues.

- Consider 'finger foods' to promote independence
- Consider adapted cutlery – refer to occupational therapist for further advice on appropriate equipment
- Ensure dentures fit properly
- May require softer diet and/or thickened fluids

Behavioural Difficulties may include changes in behaviour or eating habits and preferences.

- It can be difficult to identify the problem, particularly if the individual has communication difficulties
- Try not to rush the individual, look for non-verbal cues
- If the individual becomes agitated, wait until the person has calmed down before encouraging more food and drink

Always consider underlying causes for malnutrition in an individual living with dementia e.g. pain, depression, constipation, infection, fatigue, medication, as it is not always just due to a deterioration in their condition.

See page 53 for additional information sources on this topic

Are diabetic diets necessary in a care home?

In general, the dietary requirements for somebody living with diabetes are the same as those for the general population as demonstrated by the Eatwell Guide (see page seven). Food labelling laws changed in 2016, meaning that food is no longer allowed to be labelled as 'diabetic' or 'suitable for diabetics'.

Food restriction, including strict restriction of sugar intake, is not usually recommended for any individuals living with diabetes in a care home, as they often have multiple conditions that may affect their food and fluid intake[10]. If you have any concerns, contact the GP or specialist diabetes service to review the individual. They may review their medication to optimise diabetes control, and ensure that other causes of poor control, such as underlying infections, are treated.

What if the individual living with diabetes is also at risk of malnutrition?

For an individual living with diabetes who has been identified as being at risk of malnutrition, the **aim of nutritional care** will usually be to deal with the malnutrition as the priority, whilst looking at other strategies to manage their diabetes. Food restriction is very unlikely to be appropriate in this situation, and may cause further harm. The 'Food First' approach can therefore still usually be safely recommended for these individuals.

If an individual living with diabetes has been prescribed ONS, consider:

- Using milk-based ONS instead of sweeter juice-based varieties
- Encouraging the individual to sip ONS slowly
- Increase frequency of blood glucose monitoring

If you have any concerns, contact the GP, specialist diabetes team or a dietitian.

See page 53 for additional information sources on this topic

If you suspect any swallowing difficulties , please refer the individual to the SLT team for assessment and advice.

Texture-Modified Diets

Individuals requiring a texture-modified diet can sometimes be at a higher risk of malnutrition due to:

- More limited food choices as not all food can be easily processed into the appropriate consistency for the individual
- Some individuals find mashed/pureed foods unpalatable, and therefore eat less in total
- Processing food often requires adding liquid e.g. stock, water, which 'dilutes' the nutritional value of the food. This means the individual has to consume more to receive the same level of nutrition, which is often unmanageable amounts

Food fortification e.g. cream, butter, cheese, milk powder are useful ways to add extra calories to mashed/pureed foods without adding significant volume.

Also ensure you are offering appropriate milky drinks and nourishing snacks e.g. milkshakes, custard, mousse, yogurts, soft cheese.

Thickened Fluids

Thickener is not always indicated for fluid swallowing difficulties and can potentially make some swallowing difficulties worse. Use of thickener may reduce fluid intake if the patient is non-compliant, leading to dehydration and associated problems. In addition it may also reduce quality of life.

Thickeners should only be used following a swallowing assessment performed by an SLT.

Follow the manufacturer's instructions carefully as they can differ between brands.

If an individual who is prescribed thickened fluids requires ONS, please contact a dietitian who can advise on suitable alternative products.

See pages 53 for additional information sources on this topic

Malnutrition, nutritional deficiencies, impaired ability to eat independently and obesity are all risk factors for the development of pressure ulcers[11]. However, currently there is a lack of evidence to show that nutritional interventions reduce the development of pressure ulcers or help them to heal[12].

In practice, national and international guidance documents advise that:

- ☑ Nutrition screening and early identification and treatment of individuals at risk of malnutrition is essential
- ☑ Good hydration is essential

For individuals who appear to be eating well and are not at risk of malnutrition

- ☑ Check for uncontrolled diabetes
- ☑ Use the Eatwell guide to assess adequacy of the diet
- ☑ Consider over-the-counter A-Z multivitamin and mineral supplement for individuals with poor vitamin and mineral intake
- ☑ ONS are not indicated for individuals with pressure ulcers who are not at risk of malnutrition

For individuals who are at risk of malnutrition

- ☑ Regular 'Food First' approach should be used
- ☑ Try to include high protein food e.g. dairy products, peanut butter, skimmed milk powder, and foods fortified with vitamins and minerals e.g. breakfast cereals, cereal bars, milkshake/malted drink powders
- ☑ ONS should be considered in line with local guidance

See pages 52-53 for additional information sources on this topic

End of Life Care

Nutrition and hydration towards the end of someone's life can be an emotive issue. During this process, the body begins to shut down and the desire for someone to eat and drink naturally begins to decrease.

The use of 'Food First' and ONS in end of life care should be decided on an individual basis and will be informed by the individual's condition and prognosis.

Early Palliative Care

- 'Food First' and/or ONS may be helpful if food intake is compromised
- Appropriate intervention may improve response to treatment and potentially reduce symptoms experienced

Late Palliative Care

- Individual may be experiencing symptoms such as nausea and pain, which may reduce their food and fluid intake further
- The main aim of nutritional care should be maximising quality of life, particularly focusing on comfort, symptom relief and enjoyment of preferred food and fluids
- Encourage intake of foods and drinks that the individual most enjoys
- Aggressive feeding is unlikely to be appropriate, and weight gain and/or reversal of malnutrition are unlikely to be realistic aims of nutritional care

Last Days of Life

- Likely to be bedbound, with very little desire to eat and drink at this stage
- Quality of life remains the appropriate aim of nutritional care
- Offer sips of fluid or mouthfuls of food as desired
- Ensure good mouthcare is maintained throughout all stages

Contact the GP or local palliative care/hospice team if you require further information or more specialist advice.

Section 4:
Useful Resources

How to Refer to a Dietitian

The process for referring to Dietetics differs slightly depending on whether your care home is in Bath, Swindon or Wiltshire. Please see the community dietitian contact details on page 4 for contact details. If you are unsure if a referral is appropriate please contact the dietitian first to discuss before sending.

Please ensure that the recommended management guidelines detailed in this resource pack have been implemented before referral.

The assessment will take place either as a telephone appointment or at the care home.

The following information is required in order for the dietitian to assess the individual fully:

- Medical history and current medication
- Current weight, height, BMI, weight history and 'MUST' score
- Bowel charts and fluid input/output
- Details of speech and language therapist assessment, particularly if the individual has been advised to have a texture-modified diet and/or thickened fluids.
- Details of food intake, including intake of ONS (completed food and fluid charts are the best way to record this)
- Details about any other healthcare professional involvement
- Details of any other issues that may be affecting the individual's intake

Please ensure any information provided is as up-to-date and accurate as possible.

After the assessment, the dietitian will write back to the GP/referrer with details of the assessment and treatment plan. The individual and care manager for the home will also get a copy of this letter for their records.

Reviews are normally done by telephone, but please do not wait for us to call if you have concerns or if the individual's condition changes significantly.

Additional Information Sources

Healthy Eating

NHS Choices - Healthy eating
http://www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx
Public Health England Healthier and more sustainable catering toolkit
www.gov.uk/government/publications/healthier-and-more-sustainable-catering-a-toolkit-for-serving-food-to-adults

Hydration

Wessex Hydration Toolkit . Please copy and paste the following link into your web browser;
https://wessexahsn.org.uk/img/projects/Hydration%20toolkit%20V1.pdf

Oxford AHSN Good Hydration!
https://www.patientsafetyoxford.org/clinical-safety-programmes/previous-programmes/hydration-project-in-care-homes-in-partnership-with-windsor-ascot-and-maidenhead-ccg/

Malnutrition and 'MUST'

BAPEN http://www.bapen.org.uk/screening-for-malnutrition/must/introducing-must
Managing Adult Malnutrition in the Community www.malnutritionpathway.co.uk
Malnutrition Taskforce https://www.malnutritiontaskforce.org.uk/

Over-The-Counter Supplements

Complan	www.complan.com
Meritene Energis	https://www.nestlehealthscience.co.uk/brands/meritene
Aymes	www.aymes.com/pages/aymes-retail
Nurishment	www.nurishment.co.uk

Additional Information Sources

Dementia

Alzheimers Society Factsheets
https://www.alzheimers.org.uk/get-support/publications-factsheets-full-list
Caroline Walker Trust www.cwt.org.uk/downloads/
Social Care Institute for Excellence www.scie.org.uk/dementia/

Diabetes

Diabetes UK Good clinical practice guidelines for care home residents with diabetes
https://www.diabetes.org.uk/professionals/resources/shared-practice/diabetes-care-in-care-homes

Dysphagia

International Dysphagia Descriptor Standardisation Initiative (IDDSI)
https://iddsi.org/

Pressure Ulcers

NHS Improvement
https://improvement.nhs.uk/resources/nutrition-and-hydration/
European Pressure Ulcer Advisory Panel - copy and paste the following link into your web browser;
http://www.epuap.org/wp-content/uploads/2016/10/quick-reference-guide-digital-npuap-epuap-pppia-jan2016.pdf

Other

BDA Food Facts Leaflets www.bda.uk.com/foodfacts/home
Coeliac UK www.coeliac.org.uk/home
Diabetes UK www.diabetes.org.uk

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9. Care Quality Commission. Time to listen in Care Homes. Dignity and nutrition inspection program 2012. Published 2013. Available electronically at http://www.cqc.org.uk
10. Diabetes UK. Good clinical practice guidelines for care home residents with diabetes. 2010. Available electronically at www.diabetes.org.
11. NHS Improvement. Eat well, drink well and keep the skin well Key nutrition and hydration messages to prevent pressure ulcers and promote wound healing. 2018. Available electronically at www.improvement.nhs.uk
12. Langer G, Fink A. Nutritional interventions for preventing and treating pressure ulcers. Cochrane Database of Systematic Reviews. 2014.

Section 5: Appendices

*The 'Malnutrition Universal Screening Tool' ('MUST') is reproduced here with the kind permission of BAPEN (British Association for Parenteral and Enteral Nutrition). For further information on 'MUST' see www.bapen.org.uk. These resources are available for download at https://www.bapen.org.uk/screening-and-must/must/must-toolkit

Appendix A

Height Conversion Chart

Imperial		Metric
ft	in	m
4	0	1.22
4	½	1.23
4	1	1.25
4	1½	1.26
4	2	1.27
4	2½	1.28
4	3	1.30
4	3½	1.31
4	4	1.32
4	4½	1.33
4	5	1.35
4	5½	1.36
4	6	1.37
4	6½	1.38
4	7	1.40
4	7½	1.41
4	8	1.42
4	8½	1.44
4	9	1.45
4	9½	1.46
4	10	1.47
4	10½	1.49
4	11	1.50
4	11½	1.51
5	0	1.52
5	½	1.54
5	1	1.55
5	1½	1.56
5	2	1.57
5	2½	1.59
5	3	1.60
5	3½	1.61
5	4	1.63
5	4½	1.64
5	5	1.65
5	5½	1.66
5	6	1.68

Imperial		Metric
ft	in	m
5	6½	1.69
5	7	1.70
5	7½	1.71
5	8	1.73
5	8½	1.74
5	9	1.75
5	9½	1.77
5	10	1.78
5	10½	1.79
5	11	1.80
5	11½	1.82
6	0	1.83
6	½	1.84
6	1	1.85
6	1½	1.87
6	2	1.88
6	2½	1.89
6	3	1.91
6	3½	1.92
6	4	1.93
6	4½	1.94
6	5	1.96
6	5½	1.97
6	6	1.98
6	6½	1.99
6	7	2.00
6	7½	2.01
6	8	2.03
6	8½	2.05
6	9	2.06
6	9½	2.07
6	10	2.08
6	10½	2.10
6	11	2.11
6	11½	2.12
7	0	2.13

Appendix B

Weight Conversion Chart

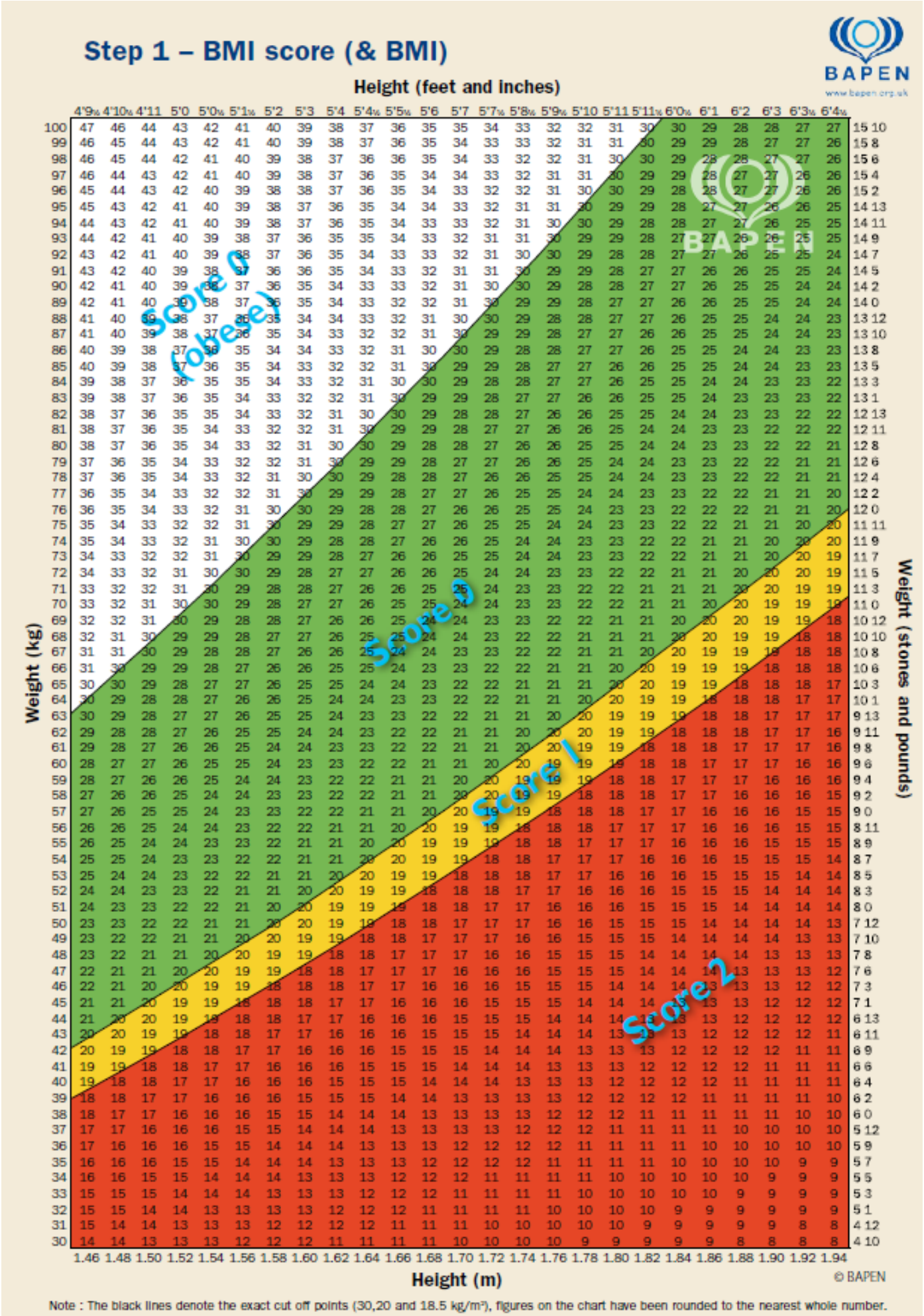
Imperial		Metric
St	lb	Kg
1	0	6.35
2	0	12.70
3	0	19.05
4	0	25.40
4	1	25.86
4	2	26.31
4	3	26.76
4	4	27.22
4	5	27.67
4	6	28.11
4	7	28.57
4	8	29.03
4	9	29.48
4	10	29.93
4	11	30.39
4	12	30.84
4	13	31.30
5	0	31.75
5	1	32.21
5	2	32.66
5	3	33.11
5	4	33.57
5	5	34.02
5	6	34.47
5	7	34.93
5	8	35.38
5	9	38.83
5	10	36.29
5	11	36.74
5	12	37.19
5	13	37.65
6	0	38.10
6	1	38.56
6	2	39.01
6	3	39.46
6	4	39.92
6	5	40.37
6	6	40.82
6	7	41.28
6	8	41.73
6	9	42.18
6	10	42.64

Imperial		Metric
St	lb	Kg
6	11	43.09
6	12	43.55
6	13	44.00
7	0	44.45
7	1	44.91
7	2	45.36
7	3	45.81
7	4	46.27
7	5	46.72
7	6	47.17
7	7	47.63
7	8	48.08
7	9	48.54
7	10	48.99
7	11	49.44
7	12	49.90
7	13	50.35
8	0	50.80
8	1	51.26
8	2	51.71
8	3	52.16
8	4	52.62
8	5	53.07
8	6	53.52
8	7	53.98
8	8	54.43
8	9	54.89
8	10	55.34
8	11	55.79
8	12	56.25
8	13	56.70
9	0	57.15
9	1	57.61
9	2	58.06
9	3	58.51
9	4	58.97
9	5	59.42
9	6	59.88
9	7	60.33
9	8	60.78
9	9	61.24
9	10	61.69

Imperial		Metric
St	lb	Kg
9	11	62.14
9	12	62.60
9	13	63.05
10	0	63.50
10	1	63.96
10	2	64.41
10	3	64.86
10	4	65.32
10	5	65.77
10	6	66.23
10	7	66.68
10	8	67.13
10	9	67.59
10	10	68.04
10	11	68.49
10	12	68.95
10	13	69.40
11	0	69.85
11	1	70.31
11	2	70.76
11	3	71.22
11	4	71.67
11	5	72.12
11	6	72.58
11	7	73.03
11	8	73.48
11	9	73.94
11	10	74.39
11	11	74.84
11	12	75.30
11	13	75.75
12	0	76.20
12	1	76.66
12	2	77.11
12	3	77.57
12	4	78.02
12	5	78.47
12	6	78.93
12	7	79.38
12	8	79.83
12	9	80.29
12	10	80.74

Imperial		Metric
St	lb	Kg
12	11	81.19
12	12	81.65
12	13	82.10
13	0	82.55
13	1	83.01
13	2	83.46
13	3	83.92
13	4	84.37
13	5	84.82
13	6	85.28
13	7	85.73
13	8	86.18
13	9	86.64
13	10	87.09
13	11	87.54
13	12	88.00
13	13	88.45
14	0	88.91
14	1	89.36
14	2	89.81
14	3	90.27
14	4	90.72
14	5	91.17
14	6	91.63
14	7	92.08
14	8	92.53
14	9	92.98
14	10	93.44
14	11	93.90
14	12	94.35
14	13	94.80
15	0	95.26

Appendix C


Step 1 – BMI score (& BMI)
BAPEN
www.bapen.org.uk
Height (feet and inches)
4'9¾ 4'10¾ 4'11 5'0 5'0¾ 5'1¾ 5'2 5'3 5'4 5'4¾ 5'5¾ 5'6 5'7 5'7¾ 5'8¾ 5'9¾ 5'10 5'11 5'11¾ 6'0¾ 6'1 6'2 6'3 6'3¾ 6'4¾
Weight (kg)
Weight (stones and pounds)
Score 0 (obese)
Score 0
Score 1
Score 2
BAPEN
1.46 1.48 1.50 1.52 1.54 1.56 1.58 1.60 1.62 1.64 1.66 1.68 1.70 1.72 1.74 1.76 1.78 1.80 1.82 1.84 1.86 1.88 1.90 1.92 1.94
Height (m)
© BAPEN
Note : The black lines denote the exact cut off points (30,20 and 18.5 kg/m²), figures on the chart have been rounded to the nearest whole number.

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Step 2 – Weight loss score

Current weight

Weight 3 to 6 months ago

kg	Less than (kg) Score 0 Wt loss < 5%	Between (kg) Score 1 Wt loss 5 - 10%	More than (kg) Score 2 Wt loss > 10%
30	31.6	31.6 - 33.3	33.3
31	32.6	32.6 - 34.4	34.4
32	33.7	33.7 - 35.6	35.6
33	34.7	34.7 - 36.7	36.7
34	35.8	35.8 - 37.7	37.8
35	36.8	36.8 - 38.9	38.9
36	37.9	37.9 - 40.0	40.0
37	38.9	38.8 - 41.1	41.1
38	40.0	40.0 - 42.2	42.2
39	41.1	41.1 - 43.3	43.3
40	42.1	42.1 - 44.4	44.4
41	43.2	43.2 - 45.6	45.6
42	44.2	44.2 - 46.7	46.7
43	45.3	45.3 - 47.8	47.8
44	46.3	46.3 - 48.9	48.9
45	47.4	47.4 - 50.0	50.0
46	48.4	48.4 - 51.1	51.1
47	49.5	49.5 - 52.2	52.2
48	50.5	50.5 - 53.3	53.3
49	51.6	51.6 - 54.4	54.4
50	52.6	52.6 - 55.6	55.6
51	53.7	53.7 - 56.7	56.7
52	54.7	54.7 - 57.8	57.8
53	55.8	55.8 - 58.9	58.9
54	56.8	56.8 - 60.0	60.0
55	57.9	57.9 - 61.1	61.1
56	58.9	58.9 - 62.2	62.2
57	60.0	60.0 - 63.3	63.3
58	61.1	61.1 - 64.4	64.4
59	62.1	62.1 - 65.6	65.6
60	63.2	63.2 - 66.7	66.7
61	64.2	64.2 - 67.8	67.8
62	65.3	65.3 - 68.9	68.9
63	66.3	66.3 - 70.0	70.0
64	67.4	67.4 - 71.1	71.1
65	68.4	68.4 - 72.2	72.2
66	69.5	69.5 - 73.3	73.3
67	70.5	70.5 - 74.4	74.4
68	71.6	71.6 - 75.6	75.6
69	72.6	72.6 - 76.7	76.7
70	73.7	73.7 - 77.8	77.8
71	74.7	74.7 - 78.9	78.9
72	75.8	75.8 - 80.0	80.0
73	76.8	76.8 - 81.1	81.1
74	77.9	77.9 - 82.2	82.2
75	78.9	78.9 - 83.3	83.3
76	80.0	80.0 - 84.4	84.4
77	81.1	81.1 - 85.6	85.6
78	82.1	82.1 - 86.7	86.7
79	83.2	83.2 - 87.8	87.8
80	84.2	84.2 - 88.9	88.9
81	85.3	85.3 - 90.0	90.0
82	86.3	86.3 - 91.1	91.1
83	87.4	87.4 - 92.2	92.2
84	88.4	88.4 - 93.3	93.3
85	89.5	89.5 - 94.4	94.4
86	90.5	90.5 - 95.6	95.6
87	91.6	91.6 - 96.7	96.7
88	92.6	92.6 - 97.8	97.8
89	93.7	93.7 - 98.9	98.9
90	94.7	94.7 - 100.0	100.0
91	95.8	95.8 - 101.1	101.1
92	96.8	96.8 - 102.2	102.2
93	97.9	97.9 - 103.3	103.3
94	98.9	98.9 - 104.4	104.4
95	100.0	100.0 - 105.6	105.6
96	101.1	101.1 - 106.7	106.7
97	102.1	102.1 - 107.8	107.8
98	103.2	103.2 - 108.9	108.9
99	104.2	104.2 - 110.0	110.0
100	105.3	105.3 - 111.1	111.1
101	106.3	106.3 - 112.2	112.2
102	107.4	107.4 - 113.3	113.3
103	108.4	108.4 - 114.4	114.4
104	109.5	109.5 - 115.6	115.6
105	110.5	110.5 - 116.7	116.7
106	111.6	111.6 - 117.8	117.8
107	112.6	112.6 - 118.9	118.9
108	113.7	113.7 - 120.0	120.0
109	114.7	114.7 - 121.1	121.1
110	115.8	115.8 - 122.2	122.2
111	116.8	116.8 - 123.3	123.3
112	117.9	117.9 - 124.4	124.4
113	118.9	118.9 - 125.6	125.6
114	120.0	120.0 - 126.7	126.7
115	121.1	121.1 - 127.8	127.8
116	122.1	122.1 - 128.9	128.9
117	123.2	123.2 - 130.0	130.0
118	124.2	124.2 - 131.1	131.1
119	125.3	125.3 - 132.2	132.2
120	126.3	126.3 - 133.3	133.3
121	127.4	127.4 - 134.4	134.4
122	128.4	128.4 - 135.6	135.6
123	129.5	129.5 - 136.7	136.7
124	130.5	130.5 - 137.8	137.8
125	131.6	131.6 - 138.9	138.9
126	132.6	132.6 - 140.0	140.0
127	133.7	133.7 - 141.1	141.1
128	134.7	134.7 - 142.2	142.2
129	135.8	135.8 - 143.3	143.3
130	136.8	136.8 - 144.4	144.4
131	137.9	137.9 - 145.6	145.6
132	138.9	138.9 - 146.7	146.7
133	140.0	140.0 - 147.8	147.8
134	141.1	141.1 - 148.9	148.9
135	142.1	142.1 - 150.0	150.0
136	143.2	143.2 - 151.0	151.1
137	144.2	144.2 - 152.2	152.2
138	145.3	145.3 - 153.3	153.3
139	146.3	146.3 - 154.4	154.4
140	147.4	147.4 - 155.6	155.6
141	148.4	148.4 - 156.7	156.7
142	149.5	149.5 - 149.5	157.8
143	150.5	150.5 - 158.9	158.9
144	151.6	151.6 - 160.0	160.0
145	152.6	152.6 - 161.1	161.1
146	153.7	153.7 - 162.2	162.2
147	154.7	154.7 - 163.3	163.3
148	155.8	155.8 - 164.4	164.4
149	156.8	156.8 - 165.6	165.6
150	157.9	157.9 - 166.7	166.7
151	158.9	158.9 - 166.7	167.8
152	160.0	160.0 - 168.7	168.9
153	161.1	161.1 - 170.0	170.0
154	162.1	162.1 - 171.1	171.1
155	163.2	163.2 - 172.2	172.2
156	164.2	164.2 - 173.3	173.3
157	165.3	165.3 - 174.4	174.4
158	166.3	166.3 - 175.6	175.6
159	167.4	167.4 - 176.7	176.7
160	168.4	168.4 - 177.8	177.8
161	169.5	169.5 - 178.9	178.9
162	170.5	170.5 - 180.0	180.0
163	171.6	171.6 - 181.1	181.1
164	172.6	172.6 - 182.2	182.2
165	173.7	173.7 - 183.3	183.3
166	174.7	174.7 - 184.4	184.4
167	175.8	175.8 - 185.6	185.6
168	176.8	176.8 - 186.7	186.7
169	177.9	177.9 - 187.8	187.8

Appendix E

Alternative measurements: Instructions and tables

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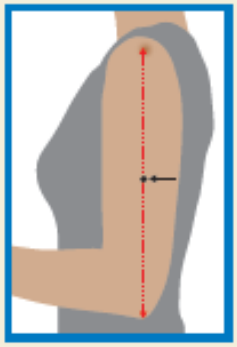
If height cannot be obtained, use length of forearm (ulna) to calculate height using tables below.
(See The 'MUST' Explanatory Booklet for details of other alternative measurements (knee height and demispan) that can also be used to estimate height).

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).

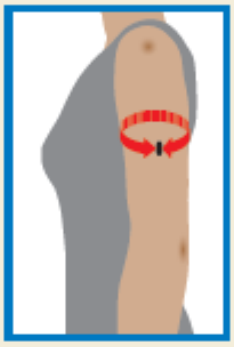
Height (m)	men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	men (≥65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
	Ulna length (cm)	32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5
Height (m)	Women (<65 years)	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
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

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 F (Page 1 of 2)

Food & Fluid Chart

Resident Name: Room Number:

Date:

NB: Guidance notes and space to document concerns/other observations can be found overleaf

Time	Description of Food/Fluid & Portion Size	Amount Taken					Signature
		0	¼	½	¾	All	

Appendix F (Page 2 of 2)

Document all food & fluid that is offered, taken and refused
List all foods individually and include portion size e.g. 2 spoons, 1 scoop
Document intake any snacks, nourishing drinks and oral nutrition supplements provided (particularly if not on a fluid chart)
Document any concerns or other observations which may be affecting dietary intake below; these can be used to help identify problems and assist when care planning for the individual

Concerns/Other Observations

Notes