

3rd
EDITION



Managing Adult Malnutrition in the Community

A guide to managing disease-related malnutrition, including a pathway
for the appropriate use of Oral Nutritional Supplements (ONS)
Produced by a multi-professional consensus panel



www.malnutritionpathway.co.uk

3rd Edition: 2021

1st Edition produced May 2012
(Document to be reviewed 2024)

Contents

Introduction	2
Overview of Malnutrition	3
Identification of Malnutrition: Nutrition Screening	4
Assessment: Identifying the Underlying Cause of Malnutrition	4
Management of Disease Related Malnutrition: Identifying Treatment Goals	5
Optimising Nutritional Intake	5 - 7
Monitoring the Intervention	7
Managing Malnutrition According to Risk Category	8
Pathway for using Oral Nutritional Supplements (ONS) in the Management of Malnutrition	9
Useful Information	10
References	11
Consensus Panel	12

Introduction

This document is a practical guide to support healthcare professionals in the community to **identify and manage** individuals at risk of malnutrition and particularly **disease-related malnutrition**, including the appropriate use of oral nutritional supplements (ONS). It has been written and agreed by a multi-professional consensus panel with expertise and an interest in malnutrition, representing their respective professional associations. Members of the public were involved in developing the patient/carer resources.

The aim of this document is to:

- Assist healthcare professionals to optimise patient outcomes through good nutritional care in settings outside of hospital e.g. primary care practice, care homes, outpatient clinics
- Address inappropriate prescribing whilst at the same time ensuring we are identifying those most at risk of malnutrition
- Raise awareness of key patient groups who are at particular risk of malnutrition and should benefit from intervention
- Reduce the financial impact of malnutrition on health and social care – across the UK malnutrition is estimated to cost in excess of £23.5 billion a year¹. In England this corresponds to ~£370 per capita of the population¹
- Promote multidisciplinary collaborative working

Topics covered:

- Disease-related malnutrition
- How to undertake nutritional screening to identify malnutrition
- Management according to the degree of malnutrition risk
- Evidence-based management pathway for using ONS

Topics not covered:

- Malnutrition arising solely from socio-economic or environmental issues
- Parenteral nutrition
- Enteral tube feeding
- Acute hospital setting
- Paediatrics (patients under 18 years of age)
- Eating disorders

This document is based on clinical evidence, clinical experience and accepted best practice.

Local guidance may be available; contact your local department of Nutrition and Dietetics for further information or refer to your local formulary.

The Malnutrition Pathway also provides specific guidance on a number of areas including:

- Chronic Obstructive Pulmonary Disease (COPD) - 'Managing Malnutrition in COPD' (www.malnutritionpathway.co.uk/copd)
- COVID-19 - A Community Healthcare Professional Guide to the Nutritional Management of Patients During and After COVID-19 Illness (www.malnutritionpathway.co.uk/library/covid19_hcpguide.pdf)
- Dysphagia (www.malnutritionpathway.co.uk/dysphagia.pdf)
- Falls - Integrating Nutrition into Falls Pathways(www.malnutritionpathway.co.uk/falls.pdf)
- Care Home Residents (www.malnutritionpathway.co.uk/carehomes)
- Sarcopenia (www.malnutritionpathway.co.uk/library/factsheet_sarcopenia.pdf)

Overview of Malnutrition

Malnutrition is defined as deficiency of energy, protein and other nutrients that causes adverse effects on the body (shape, size and composition), the way it functions and clinical outcomes². Malnutrition can be disease-related or caused by social factors. **This document specifically focusses on the identification and management of undernutrition related to, or caused by, disease.** Disease-related malnutrition can be challenging to manage due to the effects of the disease and associated treatments and may require multimodal treatment. This is in contrast to social malnutrition arising from economic and environmental factors (e.g. poverty, isolation, poor mobility or self-neglect), where the provision of adequate food and drink can result in the reversal of malnutrition. It should be noted that in some cases of disease-related malnutrition social factors may also play a part. It should also be noted that it is possible for those who are overweight/obese to be malnourished and in such cases attention should be paid to unexplained weight loss.

Size of the problem

At any point in time more than 3 million people in the UK are malnourished or at risk of malnutrition. Most of these (~93%) live in the community³

Malnutrition (undernutrition) affects:

- 35% of people recently admitted to care homes⁴
- 29% of adults on admission to hospital⁵
- 30% attending hospital outpatients⁶
- 11% of people at GP practices⁷

Clinical consequences of malnutrition

- Reduced muscle strength⁸ and frailty^{9,10}
- Increased risk of falls^{11,12}
- Slower recovery from illness and surgery⁸
- Poorer clinical outcomes e.g. higher mortality⁸
- Impaired psycho-social function⁸ (e.g. anxiety, depression, altered cognitive function)
- Impaired immune response⁸
- Impaired wound healing⁸

The incidence of malnutrition across a range of healthcare settings presents multiple opportunities for the multi-disciplinary team to identify, manage and review patients at risk of malnutrition.

Cost Implications of Malnutrition

Malnourished people have¹³:

More hospital admissions/readmissions

Longer length of stay in hospital

Greater healthcare needs in the community
(more GP visits, care at home, antibiotics)

Malnutrition costs in excess of **£23.5 billion per annum in the UK**, based on malnutrition prevalence figures and the associated costs of both health and social care¹. It is estimated that the cost of health and social care for a malnourished individual is three times greater than for a non-malnourished individual¹³:

Estimated Annual Cost	Non-malnourished individual	Malnourished individual
Healthcare	£1,715	£5,763
Social care	£440	£1,645
TOTAL	£2,155	£7,408

Tackling malnutrition will improve nutritional status, clinical outcomes, reduce health care use and associated healthcare costs¹³.

Patient centred consultations and interventions can improve quality of life¹⁴

- Effectively managing malnutrition can bring about significant cost savings^{13,15-17} of at least £123,530 per 100,000 by managing individuals at risk of malnutrition according to the National Institute for Health and Care Excellence (NICE) guidance¹
- The cost of nutrition support products (including ONS, tube feeds and parenteral nutrition) is low at <2.5% of the total expenditure on malnutrition¹

Groups at risk of malnutrition include those needing support because of:

Chronic diseases: e.g. COPD, cancer, gastrointestinal disease, renal or liver disease, rheumatoid arthritis, inflammatory bowel disease (IBD)^{3,8,18}. Consider acute episodes and exacerbations.

Progressive neurological disease:³ e.g. dementia, Parkinson's disease, stroke, motor neurone disease (MND)

Acute illness:³ where adequate food is not consumed for more than 5 days

Frailty:⁸ e.g. immobility, old age, recent discharge from hospital and sarcopenia (including sarcopenia in both frail and obese patients)

Prehabilitation:¹⁹ to optimise nutritional status prior to surgery

Rehabilitation: to provide on-going support in the community after an acute episode of care e.g. after surgery²⁰, stroke³, injury⁸, cancer treatment⁸, hospital admission²¹, an episode involving intensive care²²

Neuro-disability: e.g. cerebral palsy^{23,24}, learning disabilities^{25,26}

End of Life Requirements/Palliative Care Needs:^{27,28} tailor and adjust advice according to phase of illness and maintaining patient comfort and respecting choice particularly towards the end of life. For further information see <https://www.rcplondon.ac.uk/projects/outputs/supporting-people-who-have-eating-and-drinking-difficulties>

People with impaired swallow (dysphagia)²⁹

NB: Patients with socio-economic issues and environmental issues i.e. with little or no support, who are housebound or who experience difficulty accessing or preparing food, are at increased risk of malnutrition³. Malnutrition risk may be further compounded if patients with existing disease related malnutrition also fall into this group.

Four Steps to Managing Malnutrition including Unintentional Weight Loss

The process of managing disease related malnutrition can be broken down into four key steps:

- Step 1: Identification of malnutrition: nutrition screening
- Step 2: Assessment: identifying the underlying cause of malnutrition
- Step 3: Management: identifying treatment goals and optimising nutritional intake
- Step 4: Monitoring the intervention

1 Identification of Malnutrition: Nutrition Screening

Identify malnutrition by using a validated screening tool such as the 'Malnutrition Universal Screening Tool' ('MUST')² - see www.bapen.org.uk

When to screen

Opportunistically - on first contact within a new care setting e.g. upon registration with GP Practice, outpatient appointment, on admission to a hospital or care setting^{30,31} contact with Community/District Nurse, Practice/PCN Pharmacist structured medicine review (SMR) or Community Pharmacist, medicine use review (MUR), annual disease reviews, pre-operatively, specialist clinics for at risk groups (see page 3).

Upon clinical concern - examples include: unplanned weight loss, loose fitting clothes, appearing thin, fragile skin, poor wound healing, pressure ulcers, apathy, muscle wasting (sarcopenia, including in obese individuals), reduced physical function, frequent falls, recurrent infections, poor appetite, altered taste sensation, difficulty swallowing, altered bowel habit or gut function, prolonged intercurrent illness, during and after cancer treatment, chronic condition or surgery, deteriorating medical conditions or side effects to medicines.

Screening frequency

Once an individual has been highlighted as at risk of malnutrition, further assessment, treatment and repeat screening are recommended to evaluate improvement, deterioration and the need for further action³⁰ (see page 8). Frequency of screening will depend on the individual and their requirements, needs and treatment goals (see page 5) and should reflect local and national policy and guidance. Consider how nutrition screening and the Malnutrition Pathway resources, might be embedded into existing care pathways to trigger early action in conditions that pose a high risk of malnutrition e.g. COPD, frailty

2 Assessment: Identifying the Underlying Cause of Malnutrition

For all individuals who are malnourished, or at risk, it is important to consider the underlying cause to help identify the most appropriate nutritional care. Remember that some treatments and medications can have side effects which can impact on nutritional status, eating and drinking. Dietary advice leaflets to provide further ideas on managing the diet-related problems/symptoms may be available from local nutrition and dietetic departments. In some cases referral to relevant specialities may be required.

Identifying the causes and symptoms, which are interfering with the ability to eat and drink, and addressing those that can be reversed or modified should be an integral component of the treatment plan. Below are some examples of factors that can interfere with eating and drinking and some ideas on actions and dietary modifications that may help:

Examples of problems/symptoms	Considerations	
Early satiety, reduced appetite, feeling full after small amounts	Eating nutrient dense/nutritious foods, little and often, e.g. high calorie/energy, high protein foods	Consider if any medications are causing or aggravating symptoms and whether they can be stopped or if a new medication may help - seek advice from a Pharmacist
Dry mouth, sore mouth, fatigue, chewing difficulties	Soft, easy to chew, moist diet with added sauces. Consider if issues are caused by external factors e.g. poor dentition, oral thrush, and refer as appropriate	
Loss of taste, taste changes	Enhance taste with sauces, marinating, trying new foods, adding herbs, spices or zest	
Swallowing issues	Consider referral to a Speech and Language Therapist, however in the meantime refer to advice on managing dysphagia - www.malnutritionpathway.co.uk/dysphagia.pdf	
Altered bowel habit, vomiting	Check for causes e.g. disease itself, side effects of treatment, infection - seek further advice on treatment, consider referral to a Dietitian	
Pain	Identify cause, seek advice on management and suitable medication	
Anxiety, depression	Undernourishment can be a cause and/or a consequence of anxiety/depression. Consider referral to other services where appropriate	

NB: In all cases consider whether dietary modifications will be enough to improve dietary intake

3 Management of Disease Related Malnutrition

Management of malnutrition should be linked to the level of malnutrition risk (see page 8). In most cases malnutrition can be managed using dietary advice to optimise food intake with oral nutritional supplements (ONS) being used when food intake has been demonstrated to be insufficient, or when it is anticipated food alone will not meet nutritional requirements³². All patients at risk of malnutrition should have a care plan, where applicable this should link to their overall disease management pathway.

Consider a **multidisciplinary team approach** to determine the optimal nutritional strategy for the patient. The team may include:

GP	Occupational Therapist	Practice Pharmacist
Dietitian	Physiotherapist	Community Pharmacist
Nurse	Speech and Language Therapist	Social Prescriber

Identifying Treatment Goals

Agreeing realistic goals intervention with the patient and carers, should be an integral component of management. When setting goals it is important to consider disease stage and treatment. The table below outlines some examples of goals to consider in a range of medical conditions:

Goals to consider	Examples by medical condition
Optimise recovery, promote healing	Pressure ulcer treatment and post-surgery/discharge
Optimise response and tolerance to treatment	Patients with cancer
Improve mobility and reduce risk of falls	Frailty in older people
Prevent further weight loss and preserve function	Palliative care
Improve strength/increase muscle mass	Patients with sarcopenia or sarcopenic obesity
Increase nutritional status and promote weight gain	Any patient with disease related appetite and eating difficulties
Improve quality of life or ability to undertake activities of daily living	Frailty, rehabilitation
Reduce infections, recurrence or exacerbation of a chronic condition	COPD
Reduce severity of disease	IBD
Improve/restore function	Post stroke, post ICU
Slow deterioration in physical and mental function	MND
Reduce hospital admissions and length of stay	Applicable to a range of conditions

Optimising Nutritional Intake

Oral nutritional support can comprise some or all of the following: fortifying food and fluids with protein, carbohydrate and/or fat, plus minerals and vitamins; the use of snacks, nourishing drinks and/or oral nutritional supplements in addition to regular meals; changing meal patterns; practical measures such as assistance with eating, shopping (physical and financial) and preparation of food; texture modification³⁰. The intervention and goals should be determined through a thorough assessment and an understanding of what is feasible, acceptable and practical to the patient and carers.

When **determining the intervention** it is important to note that the disease itself along with associated treatments (including medications), can cause physiological changes that suppress appetite, reduce the desire to eat, trigger early satiety (a feeling of fullness after a small amount of food), affect taste and alter metabolism which in turn alters body composition (such as muscle mass). These effects may limit the effectiveness of a food-only approach and the use of ONS may need to be considered earlier in management pathway to avoid unnecessary deterioration and to minimise any loss of muscle and function that at a later time may be irreversible. Taking into account the trajectory of the disease i.e. is it curative or palliative to guide how assertive the intervention should be and manage patient and carer expectations of what can be achieved³³.

Dietary advice to optimise nutritional intake

- Encourage small, frequent meals and snacks with a focus on nutrient rich foods and drinks
- Care should be taken when using food fortification to ensure that requirements for all nutrients including protein and micronutrients are met³⁰. Consider a multivitamin and mineral supplement
- Advise on the following to increase energy and protein content without increasing volume of food consumed e.g.:
 - adjusting portions at a meal to increase intake of nutrient dense foods
 - choosing higher rather than lower calorie foods, fortifying milk with milk powder aiming to increase energy and protein content without increasing volume of food consumed
- Dietary restrictions e.g. low fat, low sugar previously advised upon to manage co-morbidities may need to be relaxed to increase the energy (Calorie) content of the diet particularly when appetite is poor
- Provide patients and carers with the yellow leaflet 'Your Guide to Making the Most of your Food' (www.malnutritionpathway.co.uk/library/leaflet_yellow.pdf) Consider obtaining diet advice leaflets on common problems e.g. taste changes, from your local nutrition and dietetic team
- If in doubt about the suitability of dietary advice because the patient has a number of medical conditions that require dietary modification e.g. swallowing problems, diabetes, seek further advice from a Dietitian

In all patients, care should be taken to ensure advice on adequate hydration is given.

The Importance of Protein

Multiple studies have indicated that at least 25–30 g of high-quality protein is necessary at each meal to optimally build or maintain muscle in older people and those who are unwell^{34–37}. During illness and in older age actual intakes of protein are frequently inadequate^{38,39}. Left unaddressed the shortfall of protein (and energy), contributes to loss of muscle with a subsequent decline in immunity, strength and the ability to perform everyday activities³⁸. This can lead to a loss of independence, falls, and increase risk of mortality⁴⁰.

- Patients should be encouraged to eat 3–4 portions of high protein foods per day - for further information/ideas on protein see <https://www.malnutritionpathway.co.uk/proteinfoods>
- For patients with sarcopenia (loss of muscle mass and strength) emphasise the importance of protein rich foods and drinks
- For patients with sarcopenic obesity focus on protein intake and resistance exercises with a goal of gaining muscle (lean) mass as opposed to fat mass; i.e. the goal will be weight maintenance, not weight gain. See https://www.malnutritionpathway.co.uk/library/factsheet_sarcopenia.pdf for further information

Oral nutritional supplements (ONS) to optimise oral intake

- ONS are typically used to supplement the diet when diet alone is insufficient to meet daily nutritional requirements. They are not intended as a food replacement
- ONS should be given in accordance with an evidence-based pathway (see pages 8 and 9)
- A patient should be encouraged to take ONS when they most feel like taking them; this may be between meals, like a snack, first thing in the morning or before bed. Alternatively, ONS can be incorporated into everyday foods e.g. in jellies and sauces

The Evidence

- NICE CG32 recommends considering oral nutrition support to improve nutritional intake for people who can swallow safely and are malnourished or at risk of malnutrition (based on high quality/A-grade evidence)³⁰
- NICE QS24 emphasises the need for all care services to take responsibility for the identification of people at risk of malnutrition, to provide nutritional support for everyone who needs it and to take an integrated approach to the provision of services³¹

Clinical studies, systematic reviews and meta-analysis in malnourished patients, demonstrate:

- ONS increase energy, protein and micronutrient intake^{30,41}
- The additional multi-nutrient intake from ONS improved weight and contributed to functional benefits (e.g. improved hand grip strength and quality of life)^{14,30,41–45}
- ONS did not reduce intake of normal food over a 12-week period^{14,41}
- ONS are a clinically and cost-effective way to manage malnutrition particularly amongst those with a low BMI (BMI < 20 kg/m²)^{30,43,46}
- Clinical benefits of ONS include reductions in complications (e.g. pressure ulcers, poor wound healing, infections)^{43,47}, mortality (in acutely ill older people)^{30,41} hospital admissions and readmissions^{43,45,46,48}
- Clinical benefits of ONS are often seen with 300–900kcal/day (1–3 ONS servings per day) with benefits seen in the community typically with 2–3 months' supplementation^{30,41,43}. Supplementation periods may be shorter, or longer (up to 1 year) according to clinical need
- The use of ONS in those with malnutrition e.g. 'MUST' score of 2 or more, have demonstrated the cost effectiveness of ONS in the community setting^{44,45,48,49}
- The majority of studies used ready to drink ONS. There is currently insufficient data to demonstrate whether similar outcomes as listed above are achieved through the use of powdered ONS compared with ready to drink ONS and therefore adherence to powdered ONS is particularly important
- Whilst there is some evidence for managing malnutrition (MUST ≥ 2) with dietary advice alone, data on clinical outcomes or cost is limited and further high quality studies are required in this area^{30,47}

Choosing the appropriate ONS for the patient

- There are a wide range of ONS styles (milk, juice, yogurt, savoury), formats (liquid, powder, pudding, pre-thickened), types (see below), energy densities (1–2.4kcal/mL) and flavours available to suit a wide range of needs and individual preferences. Check for local guidance and see 'Managing Malnutrition with Oral Nutritional Supplements' for more detail on preferred products and indication for prescribing
- **Standard ONS provide ~300kcal, 12g of protein and a full range of vitamins and minerals per serving⁵⁰.** The majority of people requiring ONS can be managed using the most commonly used standard ONS (1.5–2.4kcal/mL)

Other types include:

- **High protein ONS:** can be suitable for individuals with high protein needs, e.g. COPD, wounds, post-operative patients, some types of cancer, older people with frailty, patients who have been in ICU, patients with sarcopenia
- **Fibre-containing ONS:** can be useful for those with gastrointestinal disturbances (not suitable for those requiring a fibre-free diet)
- **Pre-thickened ONS and puddings:** available for individuals with dysphagia or an impaired swallow. (Seek Speech and Language Therapist advice before prescribing)
- **Low volume high energy ONS:** may aid compliance^{51,52} and may be better tolerated by patients who cannot consume larger volumes e.g. those with COPD

NB: Check product ingredients for specific allergies and intolerances.

In addition to ready to use ONS, a number of powdered nutritional supplements are available on prescription (and for self-purchase) and can be useful in addition to the diet. Clinical, practical and social issues, that may affect adherence, should be considered when deciding on the most appropriate product; such considerations may include taking into account dietary intolerances (e.g. lactose), the presence of diabetes (e.g. medication may need to be adjusted) and renal function, cost and affordability, palatability, and the ability of the individual to buy milk and make up a powdered product.

Before recommending powdered ONS to patients consider the following⁵³:

- i. Clinical appropriateness e.g. nutritional content, volume
- ii. Does the patient or carer have the physical ability to make up powdered ONS as directed on the package and to ensure safe handling practice?
- iii. Does the patient have access to both a fridge and fresh milk and have adequate storage for milk and boxes of powder?

If there is concern with points i - iii, a ready-made ONS may be more appropriate. The above considerations will also apply to self-purchase powdered ONS which are available in supermarkets, pharmacies and online.

Commencing ONS (see **Managing Malnutrition with ONS: www.malnutritionpathway.co.uk/library/ons.pdf for further information on products available**)

- Aim to establish preferred flavours, likes and dislikes e.g. milk or juice, sweet or savoury
- Test preferences and compliance with a 'starter pack' which offers a range of products/flavours free - from manufacturers, which should be prescribed once only
- Having checked flavour preferences, prescribe preferred product or range of products/flavours; 2 ONS per day in between meals (1-3 per day), initially for up to 3 months (see pathway on page 9 for guidance)^{30, 41-43, 46}
- Always issue ONS with clear instructions (e.g. one to be taken twice a day between meals for one month until review) to support adherence and discuss and manage expectations
- For those that require ONS as a sole source of nutrition and those with complex nutritional needs, referral to a registered Dietitian is strongly recommended
- ONS that provide only one or two nutrients e.g. protein or carbohydrate (modular products) should only be used under the supervision of a registered Dietitian
- Add a prompt on repeat prescriptions to review the on-going need for ONS and evaluate compliance. If there is poor compliance to ONS, explore reasons and refer to a Dietitian or other healthcare professional if appropriate

Based on a comprehensive nutritional assessment, a Dietitian may request a specific product for a patient. Should there be a reason or desire to amend the prescription e.g. it is not included in the local formulary, the rationale for the specific product recommended should be sought, as multiple factors are likely to have guided decision-making regarding the most suitable ONS.

Patients Discharged from Hospital on ONS

- Continue to prescribe following any dietetic advice given in the discharge summary or any correspondence
- If ONS have been initiated in hospital but the patient was not reviewed by a Dietitian and no follow-on advice is provided, it is suggested that the patient is reassessed following the management pathway on page 8. Particular attention should be given to patients in high risk groups as outlined on page 3

Further points to consider

- Acute and chronic disease may adversely affect appetite and the ability to consume, source and prepare meals and drinks. Dietary advice and the use of ONS can only be effective if it is feasible, acceptable and acted on by the patient or carer. Frequent patient communication is required to assess and reset goals
- Consider the potential of group education sessions for key groups with long term conditions e.g. prehabilitation, rehabilitation, cancer, COPD, where peer group support can be of value and facilitate self-management, and incorporate strategies for prevention of malnutrition
- Consider working with local Dietitians or other specialists to embed the principals of this pathway into other disease care pathways

Advisory Committee for Borderline Substances (ACBS) indications for prescribing standard ONS

ONS should be used in accordance with their indications for prescribing only, such as for the dietary management of disease related malnutrition. The ACBS approved indications for all ONS can be viewed at www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff. Healthcare professionals should also refer to their local formularies for guidance.

There may be individuals who fall outside these criteria, but who you think, based on clinical judgement, may benefit from ONS – for example someone with a new diagnosis who is starting to lose weight but does not yet reach the 'MUST' criteria for risk of malnutrition.

If prescribing for someone who does not meet the ACBS criteria, take care to document the rationale for ONS.

N.B.: There are individuals for whom ONS might not be appropriate e.g. in substance misuse - clinical judgement should be used.

4 Monitoring the Intervention

Monitor progress against goals and modify intervention appropriately, maintain communication channels and adjust care plan according to patient feedback:

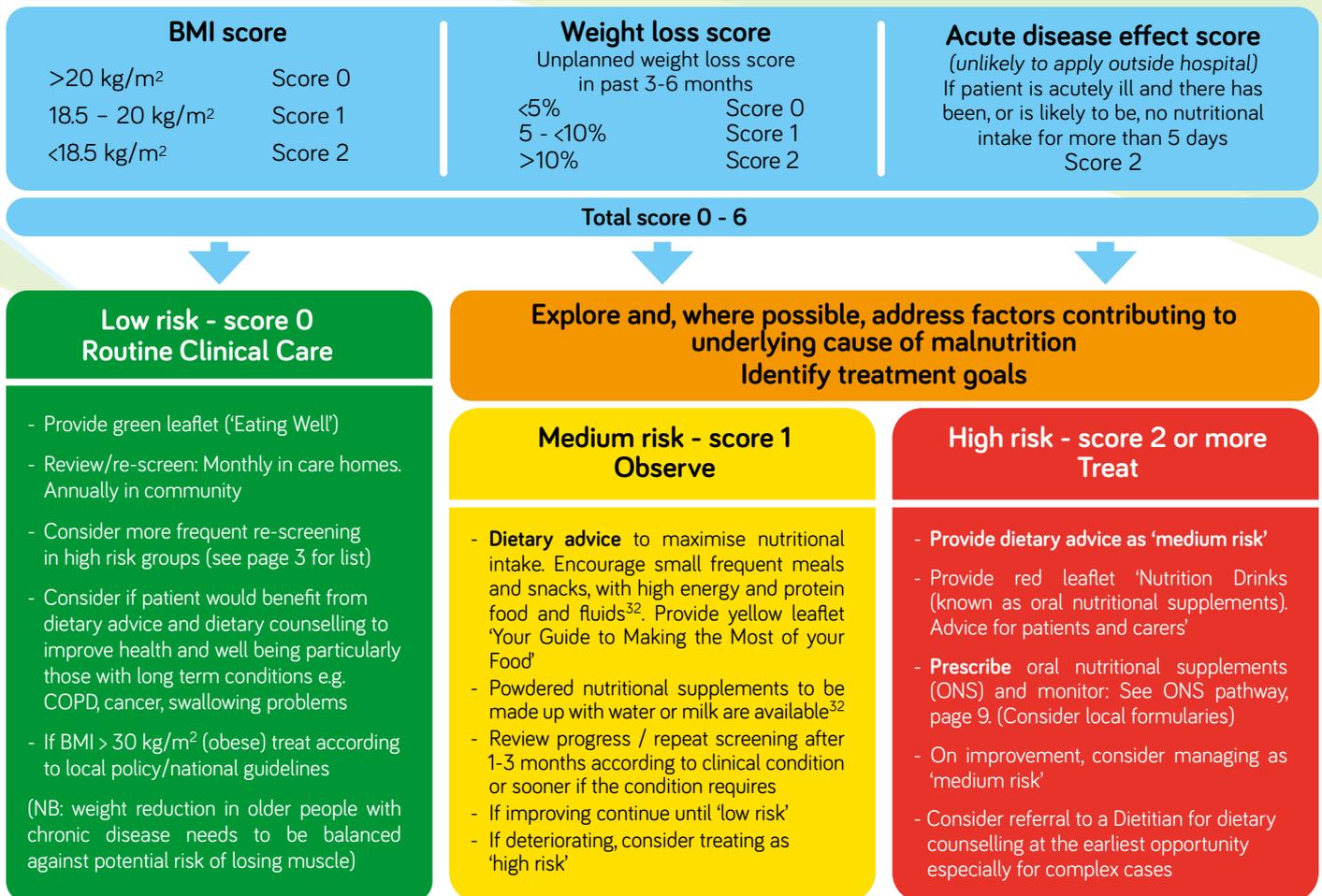
- Consider weight, strength, physical appearance, mood, appetite, ability to perform activities of daily living and compare with the goals originally set

Frequency of monitoring depends on nutritional status of patient (see pages 8 and 9), care setting, treatment, disease prognosis and organisational policy.

Discontinuing ONS

After the initial prescription, the need for ONS should be reviewed. Discontinue ONS when **adequate oral intake is established, goals/targets are achieved and the individual is stable**³⁰ and no longer at risk of malnutrition. Continue to monitor/make regular assessment of progress to check individual remains stable (consider relapsing conditions e.g. COPD, IBD).

Managing Malnutrition According to Risk Category using 'MUST'^{*2} – Management Pathway



Remote screening: If consultations are being undertaken remotely without physical measures (e.g. BMI, weight)⁵⁴:

- Use patient reported values of current weight, height, and previous weight to calculate Step 1 and Step 2 of 'MUST' if available
- Where it is not possible to obtain physical or self-reported measures of weight or height (measured or recalled)² a range of subjective indicators can be used collectively to estimate malnutrition (see below)

The following questions can assist in obtaining information to inform a clinical impression of malnutrition risk and determine the most appropriate intervention:

1. How is your appetite lately? How are you managing with your eating and drinking?
2. How would you describe your weight? What is a usual weight for you?
3. Do you feel like your weight has changed in the last few weeks or months?
4. How are your clothes and jewellery fitting? Do they feel like they fit differently to usual?

Estimated risk of malnutrition	Indicators
Unlikely to be at-risk (low)	Not thin, weight stable or increasing, no unplanned weight loss, no reduction in appetite or intake
Possibly at-risk (medium)	Thin as a result of disease/condition or unplanned weight loss in previous 3-6 months, reduced appetite or ability to eat
Likely to be at-risk (high)	Thin or very thin and/or significant unplanned weight loss in previous 3-6 months, reduced appetite or ability to eat and/or reduced dietary intake

For all individuals:

- Discuss when to seek help e.g. ongoing unplanned weight loss, changes to body shape, strength or appetite. Don't overlook individuals with a high BMI in whom malnutrition arising from impaired intake and weight loss may not be obvious e.g. post-surgery, COPD
- Ensure that care plans are communicated between care settings³¹
- Encourage patients to self manage. Consider directing to self screening resources at malnutritionselfscreening.org
- Refer to other HCPs if additional support is required (e.g. Dietitian, Physiotherapist, GP, Speech and Language Therapist)

*The 'Malnutrition Universal Screening Tool' ('MUST') is used here with the permission of BAPEN (British Association for Parenteral and Enteral Nutrition)

Pathway for using Oral Nutritional Supplements (ONS) in the Management of Malnutrition

NB: timing and duration will vary depending on appetite and nutritional requirements – this is a guide based on evidence and best practice.

Individual identified as high risk (page 8)

Chronic Conditions e.g. COPD, Cancer, Frailty:

Longer term needs
2 ONS per day (range 1-3) in addition to oral intake^{30,42,43} for up to 12 weeks duration according to clinical condition /nutritional needs

Prescribe 1 'starter pack', check compliance then monthly prescription of preferred ONS (1-3 per day). Pharmacists can advise on flavours

Provide red leaflet: 'Nutrition Drinks (known as oral nutritional supplements) Advice for patients and carers'

Consider ACBS (Advisory Committee for Borderline Substances) indications (see page 7)

Communicate goals and expected outcomes across care settings

At 12 weeks

Acute illness/recent hospital discharge:

ONS Prescription for 4-6 weeks (1-3 ONS per day*) in addition to oral intake⁵⁵

Provide red leaflet: 'Nutrition Drinks (known as oral nutritional supplements) Advice for patients and carers'

Consider ACBS (Advisory Committee for Borderline Substances) indications (see page 7)

Communicate goals and expected outcomes across care settings

At 4-6 weeks

Monitor Progress:

Check compliance with ONS prescription; amend type/flavour if necessary to maximise nutritional intake
Review goals set before intervention
Consider weight change, strength, physical appearance, appetite, ability to perform activities of daily living
Monitor every 1-3 months or sooner if clinical concern

Goals met/Good progress:

Encourage oral intake and reinforce dietary advice
Consider reducing to 1 ONS per day for 2 weeks before stopping
Maximise nutritional intake, consider powdered nutritional supplements which can be prescribed or self purchased, if suitable (see advice on pages 6 and 7)
Monitor progress, consider treating as 'medium risk' (see page 8)

Goals not met/Limited progress

Evaluate compliance to ONS and dietary advice; amend prescription as necessary, increase number of ONS per day
Reassess clinical condition, if no improvement, consider more intensive nutrition support or seek advice from a Dietitian or GP
Consider goals of intervention, ONS may be provided as support for individuals with deteriorating conditions

When to stop ONS prescription

Goals of intervention have been met
Individual is clinically stable/acute episode has abated
Individual is back to their normal eating and drinking pattern³⁰ and is no longer at risk of malnutrition
If no further nutritional intervention would be appropriate

ONS – oral nutritional supplements/sip feeds/nutrition drinks as per BNF section 9.4.2⁵⁰

Advice on ONS prescription according to consensus clinical opinion.

ONS prescription-units to prescribe per day e.g. 2 ONS = 2 bottles/units of ONS per day

** Some individuals may require more than 3 ONS per day – seek dietetic advice*

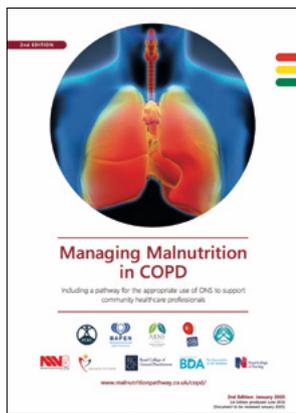
Useful Information

Managing Adult Malnutrition in the Community: Patient Materials



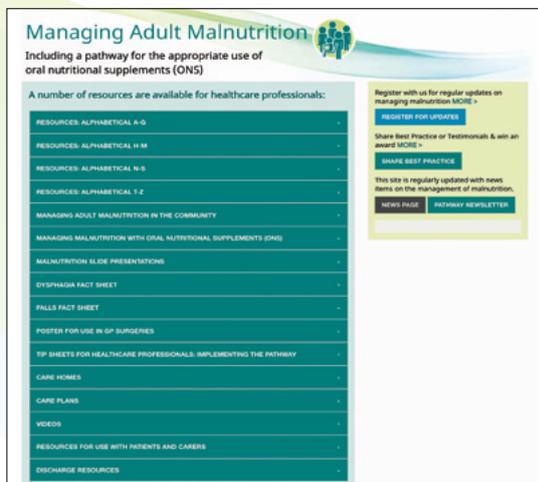
www.malnutritionpathway.co.uk/leaflets-patients-and-carers
 The red, yellow and green leaflets for patients mentioned throughout this document are available free to download from this website. Further information on incorporating high protein foods into the diet is also available for healthcare professionals and patients - www.malnutritionpathway.co.uk/proteinfoods

Managing Malnutrition in COPD



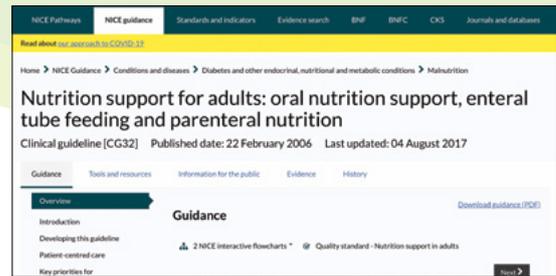
Guidelines and patient leaflets to support the management of malnutrition in patients with COPD are also available www.malnutritionpathway.co.uk/copd

Malnutrition Pathway Resources



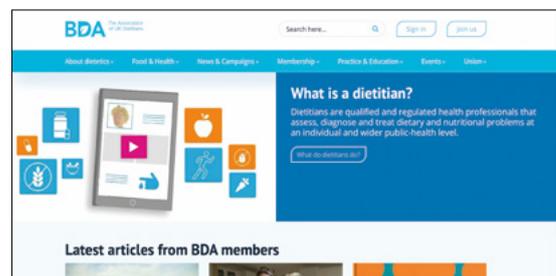
The Malnutrition Pathway website includes guidelines, fact sheets, patient materials, videos and podcasts focusing on the identification and management of malnutrition in the community www.malnutritionpathway.co.uk/health-resources

NICE



National Institute for Health and Care Excellence
www.nice.org.uk
NICE CG32: Nutrition Support for Adults
NICE QS24: Nutrition Support in Adults

BDA



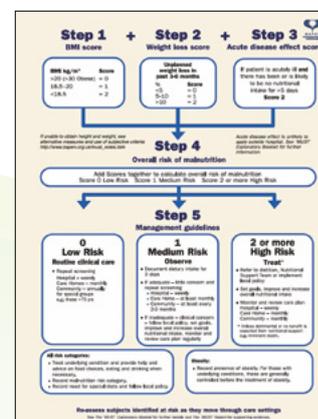
British Dietetic Association
 Fact sheets and key documents www.bda.uk.com

E-guidelines



Clinical guidelines summaries for primary care
 Guidelines for managing adult malnutrition in the community www.guidelines.co.uk

BAPEN



British Association for Parenteral and Enteral Nutrition
 Key documents and reports, 'MUST' toolkit, including 'MUST', explanatory booklet, e-learning and 'MUST' calculator www.bapen.org.uk

References

This document represents the wealth of data that is available in the area of malnutrition and oral nutrition support. It incorporates the most up to date clinical data. Inclusion of a number of older studies or reports are included as they remain highly relevant and have not been superceded.

1. Stratton R, Smith T, Gabe S. Managing malnutrition to improve lives and save money. BAPEN. October 2018.
2. The 'MUST' report. Nutritional screening for adults: a multidisciplinary responsibility. Elia M, editor. 2003. Redditch, UK, BAPEN.
3. Elia M and Russell CA. Combating Malnutrition: Recommendations for Action. Report from the advisory group on malnutrition, led by BAPEN. 2009.
4. Russell C, Elia M on behalf of BAPEN and collaborators. Nutrition Screening Surveys in Care Homes in the UK: A report based on the amalgamated data from the four Nutrition Screening Week surveys undertaken by BAPEN in 2007, 2008, 2010 and 2011. 2015. <http://www.bapen.org.uk/pdfs/nsw/care-homes/care-homes-uk.pdf> Accessed 17/02/21
5. Russell C, Elia M on behalf of BAPEN and collaborators. Nutrition Screening Surveys in Hospitals in the UK, 2007-2011: A report based on the amalgamated data from the four Nutrition Screening Week surveys undertaken by BAPEN in 2007, 2008, 2010 and 2011. 2014. <http://www.bapen.org.uk/pdfs/nsw/bapen-nsw-uk.pdf> Accessed 17/02/21
6. Stratton RJ et al. Malnutrition in hospital outpatients: prevalence, concurrent validity and ease of use of the 'malnutrition universal screening tool' ('MUST') for adults. *Br J Nutr.* 2004 Nov; 92(5): 799-808.
7. McGurk P et al. The burden of malnutrition in general practice. *Gut.* 2012; 61 (Suppl 2): A18 (OC-Q42)
8. Stratton RJ et al. Disease-related malnutrition: an evidence-based approach to treatment. Oxford: CAB International; 2003.
9. Gossier S, Guyonnet S and Volkert D. The Role of Nutrition in Frailty: An Overview. *The Journal of Frailty & Aging.* 2016; 5(2)
10. JAMDA. Frailty Consensus: A Call To Action. 2013; 14: 391-397
11. Brotherton, Simmonds and Stroud on behalf of BAPEN Malnutrition Matters. Meeting quality standards in nutritional care. 2010. UK: BAPEN
12. Meijers et al Predicting falls in elderly receiving home care: The role of malnutrition and impaired mobility, *Journal of Nutrition, Health and Aging.* 2012; 16(7): 654-658
13. Elia M, on behalf of the Malnutrition Action Group (BAPEN) and the National Institute for Health Research Southampton Biomedical Research Centre. The cost of malnutrition in England and potential cost savings from nutritional interventions (full report). 2015. <http://www.bapen.org.uk/pdfs/economic-report-full.pdf> Accessed 17/02/21
14. Parsons E, Stratton R, Cawood A et al. Oral nutritional supplements in a randomised trial are more effective than dietary advice at improving quality of life in malnourished care home residents. *Clin Nutr.* 2017; 36:134-142.
15. Cawood AL et al. The budget impact of using oral nutritional supplements in older community patients at high risk of malnutrition in England. *Proc Nut Soc.* 2010; 69(OCE7):E544.
16. Norman K et al. Cost-effectiveness of a 3-month intervention with oral nutritional supplements in disease-related malnutrition: a randomised controlled pilot study. *Eur J Clin Nutr* 2011; 65(6):735-742.
17. National Institute for Health and Clinical Excellence (NICE). Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition CG32; Costing Report. Implementing NICE guidance in England. 2006.
18. Pulley J et al. Malnutrition and quality of life among adult inflammatory bowel disease patients. *JGH Open.* 2019; Nov 14; 4(3):454-460
19. West MA, Wischmeyer PE and Grocott MP. Prehabilitation and nutritional support to improve perioperative outcomes. *Current Anesthesiology Reports.* 2017; 7(4): 340-349.
20. Gillis C et al. Nutrition adequacy in enhanced recovery after surgery: a single academic center experience. *Nutrition in Clinical Practice.* 2015; 30(3): 414-419.
21. National Survey of Malnutrition and Nutritional Care in Adults. UK Malnutrition Awareness Week 2019. Produced on behalf of BAPEN by MAG (Malnutrition Action Group). <https://www.bapen.org.uk/pdfs/reports/mag/national-survey-of-malnutrition-and-nutritional-care-2019.pdf> Accessed 17/02/21
22. Van Zanten ARH, De Waele E and Wischmeyer PE. Nutrition therapy and critical illness: practical guidance for the ICU, post-ICU, and long-term convalescence phases. *Critical Care.* 2019; 23(1): 1-10.
23. Norte A, Alonso C, Martínez-Sanz JM, Gutiérrez-Hervas A and Sospedra I. Nutritional Status and Cardiometabolic Risk Factors in Institutionalized Adults with Cerebral Palsy. *Medicina.* 2019; 55(5): 157.
24. Tsai AC, Hsu HY and Chang TL. The Mini Nutritional Assessment (MNA) is useful for assessing the risk of malnutrition in adults with intellectual disabilities. *Journal of clinical nursing.* 2011; 20(23-24): 3295-3303.
25. Humphries K, Traci MA and Seekins T. Nutrition and adults with intellectual or developmental disabilities: systematic literature review results. *Intellectual and developmental disabilities.* 2009; 47(3): 163-185.
26. Wood T. Weight status of a group of adults with learning disabilities. *British Journal of Learning Disabilities.* 1994; 22(3):97-99.
27. Preedy VR. Diet and nutrition in palliative care 1st edition CRC Press 2011.
28. Shaw C. Nutrition and Palliative Care Chapter 10. In *Nutrition and Cancer.* Wiley Blackwell 2011.
29. Fávoro-Moreira N.C. et al. Risk factors for malnutrition in older adults: a systematic review of the literature based on longitudinal data. *Advances in nutrition.* 2016; 7(3): 507-522.
30. National Institute of Health and Care Excellence (NICE). Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition. Clinical Guideline 32. 2006 (Updated 2017).
31. National Institute for Health and Care Clinical Excellence (NICE). Nutrition support in adults. Quality Standard 24. 2012.
32. Gandy J. Manual of Dietetic Practice. 6th ed. Blackwell Publishing Ltd; 2019.
33. Cederholm T, et al. GLIM criteria for the diagnosis of malnutrition - A consensus report from the global clinical nutrition community. *Clin Nutr.* 2019 Feb; 38(1):1-9.
34. Paddon-Jones and Leidy. Dietary protein and muscle in older persons. *Curr Opin Clin Nutr Metab Care.* 2014; 17:5-11.
35. Deutz and Wolfe. Is there a maximal anabolic response to protein intake with a meal? *Clin Nutr.* 2013; 32:309-13.
36. Mamerow, et al. Dietary protein distribution positively influences 24-h muscle protein synthesis in healthy adults. *J Nutr.* 2014; 144:876-80.
37. Luiking, et al. Postprandial muscle protein synthesis is higher after a high whey protein, leucine-enriched supplement than after a dairy-like product in healthy older people: a randomized controlled trial. *Nutr J.* 2014; 13:9.
38. Deutz, et al. Protein intake and exercise for optimal muscle function with aging: Recommendations from the ESPEN Expert Group. 2014; 33: 929-36.
39. National Diet and Nutrition Survey: Years 1 to 9 of the Rolling Programme (2008/2009 - 2016/2017): Time trend and income analyses. January 2019. <https://www.gov.uk/government/statistics/ndns-time-trend-and-income-analyses-for-years-1-to-9> Accessed 17/02/21.
40. Bauer, et al. Evidence-based recommendations for optimal dietary protein intake in older people: A position paper from the PROT-AGE study group. *J Am Med Dir Assoc.* 2013; 14(8): 542-59.
41. Stratton RJ, Elia M. A review of reviews: A new look at the evidence for oral nutritional supplements in clinical practice. *Clin Nutr.* 2007; 2(1):5-23.
42. Norman K et al. Three month intervention with protein and energy rich supplements improve muscle function and quality of life in malnourished patients with non-neoplastic gastrointestinal disease- a randomized controlled trial. *Clin Nutr* 2008; 27(1):48-56.
43. Cawood AL et al. Systematic review and meta-analysis of the effects of high-protein oral nutritional supplements. *Ageing Res Rev.* 2012 Apr; 11(2):278-96.
44. Smith TR, et al. Ready-Made Oral Nutritional Supplements Improve Nutritional Outcomes and Reduce Health Care Use-A Randomised Trial in Older Malnourished People in Primary Care. *Nutrients.* 2020 Feb 18; 12(2):517.
45. Elia M, Normand C, Laviano A, et al. A systematic review of the cost and cost effectiveness of using standard oral nutritional supplements in community and care home settings. *Clin Nutr.* 2016; 35(1):125-37.
46. Stratton RJ et al. Systematic review and meta-analysis of the impact of oral nutritional supplements on hospital readmissions. *Ageing Res Rev.* 2013 Sep; 12(4):884-97.
47. Baldwin C and Weekes CE. Dietary advice with or without oral nutritional supplements for disease related malnutrition in adults (review). *Cochrane Database Syst Rev.* 2011 Sep 7; 2011(9):CD002008.
48. Elia M, Parsons E, Cawood A et al. Cost-effectiveness of oral nutritional supplements in older malnourished care home residents. *Clin Nutr* 2018 Apr; 37(2):651-658.
49. Brown F, et al Economic Impact of Implementing Malnutrition Screening and Nutritional Management in Older Adults in General Practice. *J Nutr Health Aging.* 2020; 24(3):305-311.
50. BMJ Publishing Group Ltd and the Royal Pharmaceutical Society of Great Britain. British National Formulary (BNF) 80: September 2020 - March 2021. August 2020. ISBN 9780857113696
51. Nieuwenhuizen WF et al. Older adults and patients in need of nutritional support: review of current treatment options and factors influencing nutritional intake. *Clin Nutr.* 2010; 29(2):160-169.
52. Hubbard GP et al. A systematic review of compliance to oral nutritional supplements. *Clinical Nutr.* 2012 Jun; 31(3):293-312.
53. Mulholland P, McKnight E, Prosser J. Audit of compliance with NI formulary for oral nutritional supplements in South Eastern Trust. *Clinical Nutrition ESPEN.* 2019; 29: 282-283. [https://clinicalnutrition.espen.com/article/S2405-4577\(18\)30716-2/pdf](https://clinicalnutrition.espen.com/article/S2405-4577(18)30716-2/pdf) Accessed 17/02/21
54. British Association of Parenteral and Enteral Nutrition (BAPEN). Practical guidance for using 'MUST' to identify malnutrition during the COVID-19 pandemic: Malnutrition Action Group (MAG) update. May 2020. <https://www.bapen.org.uk/pdfs/covid-19/covid-mag-update-may-2020.pdf> Accessed 17/02/21
55. Gariballa S et al. A randomized, double-blind, placebo-controlled trial of nutritional supplementation during acute illness. *Am J Med.* 2006; 119(8): 693-699.

Consensus Panel

- **Dr Anne Holdoway** (Panel Chair), Consultant Dietitian, Specialist in Gastroenterology and Palliative Care, Education Officer, British Association of Parenteral and Enteral Nutrition (BAPEN)
- **Liz Anderson**, RN, Lead Nurse for Nutrition, Bucks Healthcare NHS Trust and Patient Experience Officer, British Association of Parenteral and Enteral Nutrition (BAPEN)
- **Dr Ann Ashworth**, Consultant Dietitian, Member of the Malnutrition Action Group of the British Association of Parenteral and Enteral Nutrition (BAPEN)
- **Sam Cudby**, Practice Pharmacist, Addlestone, Representative of the Primary Care Pharmacists Association (PCPA)
- **Carolyn Doyle**, Professional Lead for Community & End of Life Care, Royal College of Nursing (RCN)
- **Louise Nash**, Frailty and Home Enteral Feeding Dietitian, Airedale NHS Foundation Trust
- **Dr Anita Nathan**, General Practitioner, Malnutrition lead for GPs with an Interest in Nutrition & Lifestyle Group (GPING) (an RCGP Specialist Group).
- **Ruth Newton**, Nutrition Pharmacist, Countess of Chester Hospital, British Pharmaceutical Nutrition Group (BPNG)

This document has also been reviewed by **Dr Graham Stretch**, PCPA President, PCN Clinical Director, London.

Panel members on the 2012 and 2017 edition of the document

NB: Previous panel members on the 2012 and 2017 editions of the document included some of the current consensus panel as well as Dr Ailsa Brotherton; Senior Research Fellow, Pamela Mason; Community Pharmacy and Nutrition Consultant, Dr Rachel Pryke; Royal College of General Practitioners Clinical Champion for Nutrition for Health, Iain McGregor; Clinical Director Healthcare Education and Registered Nurse and Barbara Parsons; Community Pharmacist and Head of Pharmacy Services at the Pharmaceutical Services Negotiating Committee (PSNC).

The panel members declare that they have no conflicts of interest in relation to this document. Costs of time, travel, for attending meetings and printing this document were met by an unrestricted educational grant from Nutricia (www.nutricia.co.uk). The content and key messaging has been developed and agreed by the expert consensus panel. Library services were provided by Nutricia Medical Affairs department upon request.

NICE Endorsement Statement - Managing Adult Malnutrition in the Community

This booklet supports the implementation of recommendations in the NICE guideline on nutrition support for adults. It also supports statements 1, 2 and 5 in the NICE quality standard for nutrition support in adults.

**National Institute for Health and Care Excellence
Endorsed December 2017. Updated June 2021**

For a free electronic version of this document visit www.malnutritionpathway.co.uk

This document has been produced by a panel of healthcare professionals experienced in working with patients who are malnourished.

Please send feedback or requests for permission to reproduce any part of this guide to:
Hilary Franklin Healthcare Communications, 30 Queens Drive, Thames Ditton, Surrey, KT7 0TW
malnutritionpathway@franklincoms.co.uk