

Managing Malnutrition with Oral Nutritional Supplements (ONS) - advice for healthcare professionals

- 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
- It is estimated that the health and social care costs for a malnourished individual are 3-4 times greater than that for a non-malnourished individual²
- It is estimated that the annual costs of screening, assessment and nutritional support (including ONS, tube feeding and parenteral nutrition) would be more than offset by the decrease in health care use and costs¹
- More than 90% of cases of malnutrition occur in the community setting; this includes patients' own homes, care homes and sheltered housing³
- Amongst those who are malnourished/at high risk of malnutrition (MUST score of ≥ 2) ONS improve nutritional, clinical, and economic outcomes including; improved weight, hand grip strength, energy and protein intakes and reduced hospital admissions, readmissions and complications⁴⁻¹¹
- NICE CG32 (Nutrition Support) has shown substantial cost savings can result from identifying and treating malnutrition⁴. Implementation of CG32 and supporting QS24 have been shown to be high impact with respect to cost savings^{4,12}

What are Oral Nutritional Supplements (ONS)?

- ONS are prescribable and classified as Food For Special Medical Purposes
- ONS are typically used in addition to the normal diet, when diet alone is insufficient to meet daily nutritional requirements
- The majority of ONS increase total energy, protein intake and micronutrients^{4,5}
- Evidence shows that ONS do not reduce intake of normal food over a 12 week period^{5,6}

Advisory Committee on Borderline Substances (ACBS) indications for prescribing ONS:

ONS should be used in accordance with their indications for prescribing, such as the dietary management of disease-related malnutrition. The ACBS approved indications for 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.

NB: There may be individuals who fall outside these criteria, but who you think, based on clinical judgement, may benefit from ONS: e.g. someone who is starting to lose weight and reports poor appetite where the anticipated trajectory is further weight loss and deterioration in nutritional status that could hamper response to treatment or function. If prescribing for someone who does not meet the ACBS criteria take care to document the rationale for ONS.

What types of oral nutritional supplements are available?

ONS come in a range of styles (milk, juice, yogurt, dessert, savoury), formats (liquid, powder, pudding, pre-thickened), types (high protein, fibre containing, low volume), energy densities (1-2.4kcal/ml) and flavours. They provide energy along with other essential macronutrients and micronutrients. Most people requiring ONS can be managed using standard ONS (1.5-2.4kcal/ml).

Most standard ONS provide – 300kcal, 12g of protein and a full range of vitamins and minerals per serving.

There are a number of different ONS which may be of benefit in specific groups:

- **High protein ONS** are suitable for individuals with high protein needs, e.g. Chronic Obstructive Pulmonary Disease (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 specialist advice from a Speech and Language Therapist before prescribing
- **Low volume high energy ONS** may aid compliance^{13,14} 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

ONS table					Suitable For Malnourished Individuals with insufficient oral intake.....	
Available Products	kcal per serving*	Protein(g) per serving*	Volume in ml unless stated otherwise (total volume)	Flavour Varieties		
Milkshake style - standard						
Fortisip Bottle	300	11.8	200	8	to meet basic energy and nutrient requirements and a preference for milk-based drinks	
Resource Energy	300	11.2	200	6		
Fresubin Energy	300	11.2	200	8		
Ensure Plus	300	12.5	200	9		
AYMES Complete	300	12	200	4		
EnergieShake Complete	300	12	200	4		
Supressi 1.28kcal Complete	256	13.8	200	2		
Nutricomp Drink Plus	300	12	200	4		
Milkshake style - containing fibre						
Ensure Plus Fibre	310	13	200	5	with increased fibre requirements e.g. individuals suffering from constipation (Not suitable for a fibre free diet)	
Resource 2.0 Fibre	400	18	200	6		
Fresubin Energy Fibre Drink	300	11.2	200	6		
Fresubin 2kcal Fibre Drink	400	20	200	6		
Nutricomp Drink Plus Fibre	312	12.8	200	4		
Milkshake style - High protein						
Fortisip Extra	318	19.6	200	2	with increased protein requirements e.g. elderly, wounds, post-operations, cancer	
Ensure Plus Advance	330	20	220	5		
Fresubin Protein Energy	300	20	200	5		
Altraplen Protein	300	20	200	2		
ActaGain 2.4 Complete Maxi	480	19.2	200	2		
Milkshake style - low volume						
Fortisip Compact	300	12.0	125	8	who cannot consume large volumes. The low volume may aid compliance and is suitable for the majority of patients	
Ensure Compact	300	12.8	125	4		
Fresubin 2kcal Mini	250	12.5	125	3		
Altraplen Compact	300	12	125	4		
Milkshake style - low volume/high protein						
Fortisip Compact Protein	300	18	125	9		
Fresubin 3.2kcal Drink	400	20	125	3		
Milkshake style - low volume/high fibre						
Fortisip Compact Fibre	300	11.9	125	3		
Fresubin 2kcal Fibre Mini	250	12.5	125	2		
Milkshake style - 2kcal/ml						
Fortisip 2kcal	400	20	200	5	who require a more energy dense ONS	
Ensure TwoCal	399	16.8	200	4		
Fresubin 2kcal Drink	400	20	200	6		
Aymes 2.0kcal	400	16	200	3		
EnergieShake 2.0kcal	400	19.2	200	4		
Juice style						
Fortijuice	300	7.8	200	7	with a preference for juice based drinks. Suitable for low fat diets and patients with taste fatigue (May not be suitable for diabetics)	
Ensure Plus Juce	330	10.6	220	6		
Fresubin Jucy	300	8	200	5		
Altrajuice	300	7.8	200	4		

NB: for powders energy and protein content relates to product made up with indicated volume of full cream milk
 *small variations in energy and protein content may be found between flavours (VE) - vegan

ONS table

Available Products	kcal per serving*	Protein(g) per serving*	Volume in ml unless stated otherwise (total volume)	Flavour Varieties	Suitable For Malnourished Individuals with insufficient oral intake.....
Yoghurt style					
Fortisip Yogurt Style	300	11.8	200	3	with a preference for yogurt style drinks
Ensure Plus Yoghurt Style	300	12.5	200	2	
Fresubin YOdrink	300	15	200	3	
Dessert style					
Forticreme Complete	200	11.9	125g	4	with a preference for cream based desserts
Ensure Plus Crème	175	7.1	125g	4	
Fresubin 2kcal Crème	250	12.5	125g	5	
Fresubin Dessert Fruit	200	8.75	125g	1	
Fresubin YOcreme	187	9.4	125g	4	
EnergieShake Dessert	188	9.4	125g	2	
Nutricrem	225	12.5	125g	4	
ActaCal Crème	188	9.4	125g	2	
ActaSolve Delight (powder)	302	11.2	57g+75ml milk	3	
Savoury style					
Vitasavoury 300 (powder)	309	6	50g + water (100ml)	2	who prefer savoury products
AYMES ActaSolve Savoury (powder)	251	9.2	57g + 200ml water	2	
Thickened					
Nutlis Complete Drink Level 3	306	12	125	5	with dysphagia (swallowing difficulties) who require an ONS
Nutlis Complete Crème Level 3	306	12	125g	3	
Nutlis Complete Fruit Dessert Level 4	206	10.5	150g	2	
Fresubin Thickened level 2	300	20	200	2	
Fresubin Thickened level 3	300	20	200	2	
Slo Milkshake + (powder)	265-402	20.8-27.6	50g + 100-300ml milk	2	
Milkshake style – Powdered (to make up with milk)					
Complan Shake	380	15.5	57g + 200ml milk (237ml)	5	who are able to make up their own drinks, consume large volumes and purchase milk (NB: not all powdered supplements contain a full range of vitamins and minerals)
Scandishake Mix	587	12.1	85g + 240ml milk (300ml)	6	
Calshake Powder	596	12	87g + 240ml milk (315ml)	5	
Ensure Shake	389	17	57g + 200ml milk	4	
Enshake	602	16	97g + 240ml milk (310ml)	4	
Fresubin Powder Extra	397	17.7	62g + 200ml milk	4	
Foodlink Complete	383	19	57g + 200ml milk	5	
Foodlink Complete Compact	318	15	57g + 100ml milk	5	
Foodlink Complete with Fibre	397	19	63g + 200ml milk	5	
Anaiah EnergieShake	381	15.8	57g + 200ml milk	5	
AYMES Shake	379	19	57g +200ml milk	6	
AYMES ActaSolve High Energy	588	12.4	85g + 240ml milk	4	
AYMES Shake Compact	316	12.2	57g + 100ml milk	6	
AYMES Shake Fibre	374	19	57g + 200ml milk	5	
AYMES ActaSolve Smoothie (VE)	298	10.7	66g +150ml water	4	

NB: for powders energy and protein content relates to product made up with indicated volume of full cream milk

*small variations in energy and protein content may be found between flavours (VE) - vegan

Who requires ONS?

ONS in addition to food should be considered for patients at high risk of malnutrition. Screening is recommended to identify risk. With the 'Malnutrition Universal Screening Tool' ('MUST') (the most frequently used nutritional screening tool) a score of 2 or more represents high risk. An individual at high risk will have one of the following:

- a) BMI <18.5 kg/m², with or without unplanned weight loss
- b) >10% unplanned weight loss over the last 3 - 6 months regardless of BMI or
- c) 5-10% unplanned weight loss over the last 3-6 months and a BMI <20 kg/m².

When ONS are prescribed, regular monitoring is needed to ensure nutritional requirements are being met, that the products are being taken and that the management is still appropriate.

Considerations Regarding the use of Powdered ONS¹⁶

Before recommending powdered ONS to patients consider the following:

- Clinical appropriateness e.g. nutritional content, volume
- Does the patient/carer have the physical ability to make up the powdered ONS as directed on the package and to ensure safe handling practice?
- 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 the above, then 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.

Prescriptions

- Check the patient fulfils the ACBS criteria
- 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 manage expectations
- Clinical benefits of ONS in the community are typically seen with 2-3 months supplementation^{4,5,8}
- Following a comprehensive nutritional assessment a Dietitian may request a specific product for a patient, the Dietitian's views should be sought prior to amending the prescription (even if it is not part of formulary) as multiple factors will have been taken into account when recommending a particular ONS
- Ensure patients are reviewed following their first prescription (see Managing Adult Malnutrition in the Community document for further guidance on reviewing and discontinuing ONS)
- Offer timely reviews to optimise compliance and minimise wastage:
 - o Review patient at each issue to check compliance and assess if dietetic goals are being achieved
 - o Make changes as necessary to achieve dietetic goals (e.g. change of flavour)
 - o Discontinue ONS when dietetic goal is achieved and patient is stable and able to meet nutritional intake by diet alone

References

1. Stratton R, Smith T, Gabe S. Managing malnutrition to improve lives and save money. BAPEN. October 2018
2. 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 09/06/21
3. Elia M and Russell CA. Combating Malnutrition: Recommendations for Action. Report from the advisory group on malnutrition, led by BAPEN. 2009.
4. 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).
5. Stratton RJ, Elia M. A review of reviews: A new look at the evidence for oral nutritional supplements in clinical practice. *Clinical Nutrition Supplements* 2, 5-23. 2007.
6. 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.
7. 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.
8. Cawood AL et al. Systematic review and meta-analysis of the effects of high-protein oral nutritional supplements. *Ageing Research Reviews* 2012; vol.11(2):278-296
9. 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.
10. 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.
11. 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.
12. National Institute for Health and Care Clinical Excellence (NICE). Nutrition support in adults. Quality Standard 24. 2012.
13. 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.
14. Hubbard GP et al. A systematic review of compliance to oral nutritional supplements. *Clinical Nutrition* 31 (2012), pp.293-312.
15. The 'MUST' report. Nutritional screening for adults: a multidisciplinary responsibility. Elia M, editor. 2003. Redditch, UK, BAPEN.
16. 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.