# The Value of Nutrition on Prescription

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**Nutrition is fundamental to our existence, and over the years awareness of the importance of good nutrition has increased, including the role nutrition can play in preventing and managing disease, disorders and medical conditions. High-quality nutritional care should be at the heart of patient care but, in reality, it is still often overlooked. This article explains the effects of malnutrition and explores how nutrition on prescription can support patients who struggle to get adequate nutrition from normal food alone.**

## The challenge

As a population we are living longer, at home and with multi-comorbidities. Malnutrition and dehydration are both causes – and often consequences – of illness, so ensuring that patients receive adequate nutritional care is critical for improving their overall health outcomes.

Whether due to lack of time, education, awareness or all three, nutrition is not at the forefront of our healthcare. It is important to identify individuals who are malnourished, or at risk of malnutrition, using a validated nutritional screening tool, such as the 'Malnutrition Universal Screening Tool' ('MUST').[1]

## Malnutrition

Malnutrition most commonly occurs when there is low intake, high requirements and reduced nutrition bioavailability.[2] This can be a consequence of many factors, including dysphagia, malabsorption, poor appetite, increased metabolic needs and inflammation. These are symptoms of a disease, disorder or medical condition, for example cancer, stroke, COPD, neurological conditions, frailty or gastrointestinal disease, to name a few.

Malnutrition is a serious problem in the UK today, with nearly half of all adults screened across health and care settings being at risk of disease-related malnutrition[3] and around 98% of whom are living outside the hospital setting.[4] The National Institute for Health and Care Excellence (NICE) Quality Standard (QS24),[5] NICE Clinical Guidance (CG32)[6] and the Managing Adult Malnutrition in the Community pathway[7] all recommend a multidisciplinary approach to the identification of people at risk of malnutrition and provision of timely nutrition support. This can include advice on eating well and food fortification, but for those where more support is needed, products specifically formulated to meet nutritional requirements may need to be prescribed. These specialist foods, known as medical nutrition, are not just for the older population, but can be used by everyone from infancy to old age, for many different conditions.

The effective management of malnutrition could have a significant impact on the health economy as the annual health and social care costs associated with malnutrition are estimated at nearly £20 billion in England alone, making it the third-largest potential source of cost-saving for the NHS.[8] As recognised by NHS England's Commissioning Guidance on Nutrition and Hydration, malnutrition can result in increased demand for GP services, both in- and out-of-hours, longer and more frequent hospital stays and decreased quality of life.[9, 10] Unfortunately, however, all too often nutrition support guidelines and standards are forgotten or ignored, even though NHS England's 10 Key Characteristics of Good Nutrition and Hydration Care require that: 'all care providers have a nutrition and hydration policy centred on the needs of users, [which is] performance managed in line with local governance, national standards and regulatory frameworks'.[11]

It costs more not to treat malnutrition than to do so. In a report from 2015, the British Association for Parenteral and Enteral Nutrition (BAPEN) and the National Institute for Health Research, Southampton Biomedical Research Centre (NIHR) estimated that more than £5,000 could be saved per patient through better nutrition management.[8] Moreover, the provision of nutritional support to 85% of patients being at medium- and high-risk of malnutrition would lead to a cost saving of between £325,000 and £432,000 per 100,000 people.[8]

## Nutrition on prescription – what does it mean?

Nutrition is available on prescription in many forms for those who suffer from a disease, disorder, or medical condition, when normal food alone, however nutritious, is insufficient to meet dietary needs. It is indicated in a number of clinical conditions, both temporary and lifelong, either as a supplement to normal diet or providing full nutrition support. It can also be used to manage highly complex conditions such as inherited metabolic disorders.

These nutrition products can be used from infancy to old-age and include 'Food for Special Medical Purposes' (FSMP), otherwise known as medical foods, which are evidence-based nutritional solutions for a range of diseases, disorders and medical conditions. FSMPs include oral nutritional supplements (ONS), enteral tube feeds, products for inborn errors of metabolism and specialist infant milks.

As well as FSMPs, nutrition support can also be prescribed in the form of parenteral nutrition (PN), an aseptically produced form of nutrition which is administered intravenously.

As with all prescriptions, these should all be used under the supervision of a healthcare professional.

## Food for Special Medical Purposes

In the UK, FSMPs are known as nutritional borderline substances. The Advisory Committee on Borderline Substances (ACBS) is responsible for assessing applications from manufacturers for these products to be approved for Part XV of the drug tariff through an application process. This ensures the products are safe and appropriate for the management of the disease, disorder, or medical condition the product is prescribed for, providing reassurance to healthcare professionals.[12]

### Oral nutritional supplements and enteral tube feeding

If a patient is able to feed orally, nutrition support can take the form of ONS. These can either be standard or disease specific. NICE QS24 recognises that ONS are a clinically effective way to manage disease-related malnutrition when a person is unable to meet their nutritional requirement through food alone.[5] It also advises that care should be taken when solely providing fortification to food, as this may supplement energy and/or protein, but not necessarily provide sufficient or adequate micronutrient and mineral levels. Patients requiring ONS range from those who are critically ill, to those with inherited genetic disorders, to those with chronic illnesses. These may include cancer, kidney failure, cystic fibrosis, diabetes, dysphagia, sarcopenia or respiratory disease.

For those who struggle to feed orally, enteral tube feeds (including ONS) can be administered via the gastrointestinal tract, either by a nasogastric tube (NGT) or percutaneous endoscopic gastrostomy (PEG). ONS and enteral tube feeds can be an essential part of medical management and may be required either for life, or for short periods of time, depending on the individual's clinical circumstances. In these cases, they guard against malnutrition until a normal diet can be resumed, if possible.

Despite all the guidance and strong evidence surrounding the benefits of ONS, there is considerable variation in prescribing practice across the UK. When prescribed appropriately, ONS can prevent the complications associated with malnutrition and significantly improve patients' health outcomes, offering a clinical, and cost-effective, solution.[13, 14]

### Products for inborn errors of metabolism and other specific conditions

FSMPs also include products specially formulated for the dietary management of inborn errors of metabolism. These conditions can be extremely rare and include inborn errors of protein metabolism, such as phenylketonuria (PKU) and urea cycle disorders, fat metabolism and carbohydrate metabolism. Additionally, ketogenic products for drug-resistant epilepsy and specialist renal products for renal disease fall into this category. These products are usually taken orally and provide essential solutions to help patients and their families manage very difficult and restrictive diets.

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For example, PKU protein substitutes provide all the required amino acids for growth and development, except the 'offending' amino acid phenylalanine that causes accumulation of toxic metabolites in the blood and brain, as well as providing essential micronutrients which the accompanying low protein diet tends to lack.[15, 16] These specialist products often provide much-needed convenience such as ready-to-drink pouches of product.

### Specialist infant milks

It is well understood that breastfeeding is the best way to feed a baby. However, for those parents who are unable or choose not to breastfeed, infant formula is the only safe alternative, and when a baby has a specific nutritional requirement because of an underlying medical condition, a scientifically formulated specialist infant milk may need to be used. There are different types of specialist milks available to address many medical conditions, including thickened infant formula for gastro-oesophageal reflux, and ready-to-feed formula which are designed to support the increased metabolic requirements of preterm infants.

Conditions which can benefit from these specialist milks include:

- Faltering growth
- Cows' milk protein allergy
- Gastro-oesophageal reflux.

Specialist infant milks available on prescription have all been approved by the ACBS and must always be used under medical supervision for the full duration of the condition. It can take months before a correct diagnosis is made; therefore, regular monitoring of the infant is important. All specialist milks should be prescribed when needed, with a six-to-12-month review in line with guidelines. This helps to ensure that vulnerable infants are diagnosed and managed in the best way possible, avoids potential complications from misdiagnosis, or even no diagnosis, along with ensuring the best possible nutrition for optimal health outcomes.

## Parenteral nutrition

PN refers to the provision of nutrients by the intravenous route. NICE recommends that healthcare professionals should consider prescribing PN for patients who are malnourished, or at risk of malnutrition, who have an inadequate or unsafe oral and/or enteral nutritional intake, or a non-functional, inaccessible or perforated (leaking) gastrointestinal tract.[6]

In the UK, PN is regulated by the Medicines and Healthcare products Regulatory Agency (MHRA). Until April 2016, PN treatment was recommended by a dietitian or a nurse, and prescribed by an independent prescriber, such as a doctor or pharmacist. Changes to The Human Medicines Regulations in 2016 have allowed dietitians to qualify as supplementary prescribers, which authorises an advanced nutrition support dietitian to prescribe PN according to an agreed clinical management plan.[17]

Some patients in the hospital setting may require PN on a long-term basis and may be discharged on home PN. For those patients whose gastrointestinal function improves or recovers, PN may be gradually withdrawn, but only once adequate oral or enteral nutrition is tolerated and nutritional status is stable.

## Conclusion

**High-quality nutrition support should be at the heart of patient care. The nutritional status of patients who have a disease, disorder, or medical condition should always be considered as part of a patient's care management strategy. It is important for healthcare professionals to be able to recognise when it is appropriate for nutrition to be prescribed and to monitor the patient, as poor nutrition can have many negative consequences, both in the short- and long-term.**

**Appropriate prescribing can also result in long-term cost-savings to the NHS as well as enhanced patient outcomes. Its positive impact on overall health and recovery should not be underestimated.**

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