



# Nutrition Screening in Practice

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Malnutrition (or undernutrition) is defined by (ESPEN) as: *“a state resulting from lack of intake or uptake of nutrition that leads to altered body composition (decreased fat free mass) and body cell mass leading to diminished physical and mental function and impaired clinical outcome from disease”*.<sup>1</sup>

It is essential that screening for malnutrition takes place in care settings to enable early and effective interventions.<sup>2</sup> Screening tools should be validated to maintain accuracy and reliability.<sup>2</sup> Where nutritional risk has been detected, a thorough detailed nutritional assessment should follow.<sup>1</sup>

Via the Global Leadership Initiative on Malnutrition (GLIM), we are seeing a move towards establishing a diagnosis of malnutrition in adult patients.<sup>3</sup> Including nutrition screening via a validated tool, the GLIM order of operations moves onto a nutritional assessment, followed by applying the GLIM diagnostic indicators, and then the GLIM malnutrition grading system.

Here at CN, we wanted to explore how nutrition screening tools are actually being used in practice: What tools are being used across the many different disciplines? Is there one tool being used over another, or are tools being adapted to specific patient groups? What are the barriers and facilitators to nutrition screening? And, how do nutrition screening tools fit into the overall nutritional assessment and first-line intervention? In order to find the answers to these questions, we reached out to dietitians working across a variety of disciplines, but first let's take a look at some examples of validated screening tools.

## Examples of validated screening tools

**Malnutrition Screening Tool (MST):** The MST is an easy-to-use screening tool that includes questions about appetite, nutritional intake and recent weight loss. Questions include: Have you recently lost weight without trying? If yes, how much weight have you lost? And, have you been eating poorly because of a decreased appetite? A score is allocated depending on the answer to each question. A score equal to/greater than 2 out of a total of 7 would suggest the need for nutritional assessment and/or intervention.<sup>1,4</sup>

**'Malnutrition Universal Screening Tool' ('MUST'):** Created in 2003 by the Malnutrition Advisory Group, a standing committee of BAPEN, the 'MUST' is a five-step screening tool that identifies those that are malnourished, those at risk

of malnutrition, or obese. It has been developed for use by all care workers in the community, hospital and care settings.<sup>1,5</sup>

**Nutrition Risk Screening 2002 (NRS-2002):** The concept behind NRS-2002 is to recognise those that would benefit from nutrition support. The system was developed from 128 studies that focused on the effectiveness of nutrition support and is broken down into 2 phases. It considers not only weight loss and body mass index (BMI), but disease severity.<sup>1,6</sup>

**Mini Nutritional Assessment-Short Form (MNA-SF):** The MNA-SF is essentially a form version of the Mini Nutrition Assessment used for nutrition screening. It includes 6 scored elements: food intake issues, weight loss, mobility, the existence of acute disease, neuropsychological stress and BMI.<sup>1,7</sup>

See **Table One** for further details on these nutrition screening tools.

References: 1. Serón-Arbeloa, et al. (2022). Malnutrition Screening and Assessment. *Nutrients*; <https://doi.org/10.3390/nu14122392>. 2. NICE (2012). Nutrition support in adults. Quality standard [QS24]. Accessed online: [www.nice.org.uk/guidance/qs24/chapter/quality-statement-1-screening-for-the-risk-of-malnutrition](http://www.nice.org.uk/guidance/qs24/chapter/quality-statement-1-screening-for-the-risk-of-malnutrition) (Sep 2023). 3. ESPEN (2023). Global Leadership Initiative on Malnutrition (GLIM). Accessed online: [www.espen.org/education/glim](http://www.espen.org/education/glim) (Sep 2023). 4. Ferguson M, et al. (1999). Development of a valid and reliable malnutrition screening tool for adult acute hospital patients. *Nutrition*; 15(6): 458-464. 5. BAPEN (2023). Introducing MUST. Accessed online: [www.bapen.org.uk/screening-and-must/must/introducing-must](http://www.bapen.org.uk/screening-and-must/must/introducing-must) (Sep 2023). 6. Kondrup J, et al.; Ad Hoc ESPEN Working Group. (2003). Nutritional risk screening (NRS 2002): a new method based on an analysis of controlled clinical trials. *Clin Nutr*; 22(3): 321-336. 7. Rubenstein LZ, et al. (2001). Screening for undernutrition in geriatric practice: developing the short-form mini-nutritional assessment (MNA-SF). *J Gerontol A Biol Sci Med*; 56(6): M366-372.

**Table One: Examples of Nutrition Screening Tools – An overview<sup>1,4-7</sup>**

Tool	Description	Recommended for use in	Developed by
MST	<p>Patients are asked the following screening/scoring questions:</p> <ul style="list-style-type: none"> <li>• Have you lost weight recently without trying?                             <ul style="list-style-type: none"> <li>◦ No 0</li> <li>◦ Unsure 2</li> </ul> </li> <li>• If yes, how much weight (kilograms) have you lost?                             <ul style="list-style-type: none"> <li>◦ 1-5 1</li> <li>◦ 6-10 2</li> <li>◦ 11-15 3</li> <li>◦ &gt;15 4</li> <li>◦ Unsure 2</li> </ul> </li> <li>• Have you been eating poorly because of a decreased appetite?                             <ul style="list-style-type: none"> <li>◦ No 0</li> <li>◦ Yes 1</li> </ul> </li> </ul> <p>A score of 2 or more indicates a risk of malnutrition</p>	Hospitalised, outpatient & institutionalised adult patients	Ferguson <i>et al.</i> (1999)
'MUST'	<p>A 5-stop tool:</p> <ul style="list-style-type: none"> <li>• Step 1: Measure height and weight to get a BMI score using chart provided. If unable to obtain height and weight, use the alternative procedures shown in this guide.</li> <li>• Step 2: Note percentage unplanned weight loss and score using tables provided.</li> <li>• Step 3: Establish acute disease effect and score.</li> <li>• Step 4: Add scores from steps 1, 2 and 3 together to obtain overall risk of malnutrition.</li> <li>• Step 5: Use management guidelines and/or local policy to develop care plan.</li> </ul>	Hospital, community & care adult patients	BAPEN (2003)
MNA-SF	<p>6 elements: food intake issues, weight loss, mobility, the existence of acute disease, neuropsychological stress and BMI. The total score range is 0-14. If the total score is 11 points or less the patient is at risk of malnutrition or is malnourished, and the full Mini Nutritional Assessment should be conducted.</p>	Older adults	Rubenstein LZ, <i>et al.</i> (2001)
NRS-2002	<p>Preliminary phase, includes 4 questions: BMI &lt;20.5? Weight loss in the last 3 months? Reduced intake in the last week? Serious illness? If the response is yes to any of these questions, then follows the screening phase. Screening phase considers: Weight loss, BMI, and reduction in food intake; and assesses disease severity, considering current clinical conditions, and chronic diseases with acute complications. The total score is obtained from the nutritional assessment and the severity of disease, and is age-adjusted (patients above 70 years).</p>	Hospitalised adult patients	Kondrup J, <i>et al.</i> (2003)

## Screening in practice

### Eating disorders

*Caragh Sanders-Wright, Registered Dietitian*

With increasing pressure on the NHS and GPs, relying on GP surgeries for physical monitoring is becoming ever more difficult. Within our Eating Disorder Service, we use a range of methods to monitor patients' physical parameters that allow us to ascertain the level of risk they are at and any need for further intervention.

As with most practices, we weigh our patients weekly, but this is easily manipulated with water loading and hidden weights. Alongside this, we also take a mid-upper arm circumference (MUAC) measurement. This enables us to assess if the weight correlates with the MUAC, for example if a weight has increased by 1 kg and the MUAC measurement is unchanged or has decreased, this raises some questions. To assess a patient's muscle strength, we also use both the HGS (hand grip strength) and SUSS (Sit Up Squat Test). Taken together, these provide a significant picture of the level of a patient's muscle function and can give a clear indication of their overall physical presentation. When assessing a

patient, we also look at cognitive function. This is carried out in the assessment or at a weekly meeting. Noting if the patient's speech is slow, has any signs of slurring or they struggle to follow the thread of conversation, gives a strong indication of the need for further intervention.

### Gastroenterology

*Amy Gittins, Specialist Gastroenterology Dietitian, Arrowe Park Hospital*

Within the gastroenterology specialty of dietetics, patients with conditions such as inflammatory bowel disease, liver disease and pancreatitis can be at high risk of malnutrition. Common symptoms experienced by patients, such as abdominal pain, loose stools and erratic blood sugars can result in reduced dietary intake, malabsorption, fatigue and weight loss. The importance of malnutrition screening for patients has been emphasised by researchers to help identify the need for early nutritional interventions to improve clinical outcomes.<sup>1</sup> Indeed, nutrition screening is a well-established process to identify and assess those at risk of malnutrition. Depending upon the screening tool used, malnutrition prevalence has been found to vary in hospitals.<sup>2</sup>

Commonly used tools in the UK include 'MUST' and the Subjective Global Assessment (SGA).<sup>3</sup> However, 'MUST' is more routinely used, as it is a cost-effective tool, user friendly and well established in the acute setting.<sup>4</sup> It is a quick and straightforward assessment tool that considers factors such as weight loss, BMI, and acute disease effects. In the area of gastroenterology, this is further supported by assessment of MUAC, handgrip measurements and weight are adjusted to take account of ascites or oedema.

Screening is more likely to take place if the tool is easily accessible, included within electronic patient records, staff are provided training and education and it's embedded within an NHS trust's key performance indicators. Barriers can include time constraints, resource limitations, such as reduced staffing or faulty equipment and, finally, the severity of the patient's illness can hinder the malnutrition assessment.

Nutrition screening serves as a crucial first step in identifying individuals who may require specialised dietetic care. It helps prioritise patients who need a more detailed assessment, and targeted nutritional interventions. Assessments informed by the results of nutrition screening are more evidence-based, personalised and, ultimately, improve patient's overall health outcomes.

References: 1. Loh KW, *et al.* (2012) Unintentional weight loss is the most important indicator of malnutrition among surgical cancer patients. *Neth J Med*; 70(8): 365-369. 2. Elia M, *et al.* (2005). To screen or not to screen for adult malnutrition? *Clin Nutr*; 24(6): 867-884. 3. Detsky AS, *et al.* (1987). What is subjective global assessment of nutritional status? *JPEN J Parenter Enteral Nutr*; 11(1): 8-13. 4. Elia M (2003). Screening for malnutrition: a multidisciplinary responsibility. Development and use of the Malnutrition Universal Screening Tool ('MUST') for Adults. Redditch: Worcs.: BAPEN.

## Liver

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Nutritional screening for patients with liver disease is complex due to the varied nature of the patient group. Patients who do not have an issue with ascites and oedema will be able to be screened with tools that rely on dry body weights. Those with fluid retention cannot be accurately screened for malnutrition based on their weight and, therefore, other ways of screening for malnutrition should ideally be used.

The Royal-Free Nutritional Prioritising Tool was developed to detect unintentional weight loss, BMI, influence of excess body fluids, and food intake in patients with chronic liver disease. This tool is not commonly used in routine assessments due to the practicalities of embedding it within hospital processes. Functional measures of muscle mass and strength are often a more useful indicator of nutritional status. The Liver Frailty Index assesses functional measures of muscle mass and strength, such as HGS, chair stands, and position holding. The results of this indicates a level of frailty that can indicate mortality risk for patients awaiting transplant, and it can be a useful way of assessing patients not awaiting transplant alongside other anthropometric measurements. Patients who have decreased muscle mass and function will benefit from early oral nutritional support (ONS) and consideration for enteral feeding, so a shift from weight to functional measurements is much more appropriate. Adequate nutrition support is shown to improve patient outcomes and reduce mortality risk, but early detection and treatment is vital.

## Neurodisabilities

*Laura Boyle, Specialist Neurosciences Dietitian, Nutrition & Dietetics Department, Charing Cross Hospital, London*

The factors affecting the risk of malnutrition or obesity in a person with a neurological disorder are multifactorial.<sup>1</sup> With 'MUST' being frequently used in hospitals and the community,<sup>2</sup> an overall screening tool has not been adapted for every neurological condition.<sup>1</sup> Whatever tool is used, knowing the individual's recent weight trend is important for screening. This allows an assessment

of the direction and priority of the nutritional intervention required for the neurological condition.

Hoist weighing scales and wheelchair weights are frequently used in this cohort and due to the nuances needed for accurate weights, fluctuations can occur.<sup>3</sup> Having a patient-centred 'Target Weight Range' in a stable patient can be helpful,<sup>3</sup> as this allows time for natural fluctuations and multiple weights to help understand the weight trend.

If regular weights are limited or the trend is not being assessed, weight loss or gain may occur unnoticed due to not scoring on the specific screening tool. It can be more difficult to notice in those who are unable to communicate, are bedbound, or have multiple carers. This highlights the importance of regular weights and a holistic approach to assessing the weight trend.

The 'MND Risk Assessment tool'<sup>4</sup> was created to assist healthcare professionals in completing a holistic assessment. Five key areas are assessed, which include weight change and eating habits. The tool guides the healthcare professional with questions to ask and the answers are then divided into three areas which can highlight any needed referrals.

References: 1. Hosun L. (2022). The Importance of Nutrition in Neurological Disorders and Nutrition Assessment Methods. *Brain Neurorehabil*; 15(1): e1. 2. Kondrup J, *et al.*; Educational and Clinical Practice Committee (2003). European Society of Parenteral and Enteral Nutrition (ESPEN). ESPEN guidelines for nutrition screening 2002. *Clin Nutr*; 22(4): 415-421. 3. Craig E, *et al.* (2019). Neurorehabilitation. In: Gandy J, editor. *Manual of Dietetic Practice*. Oxford: John Wiley and Sons; p586-594. 4. BDA & BAPEN (2020). MND Risk Assessment Tool. Available from: [www.bda.uk.com/uploads/assets/a5551049-7024-455c-80f4b8ca7be29589/Risk-Ass-Tool-FINAL.pdf](http://www.bda.uk.com/uploads/assets/a5551049-7024-455c-80f4b8ca7be29589/Risk-Ass-Tool-FINAL.pdf).

## Oncology

*Lindsey Allan, Macmillan Oncology Dietitian, Oncology Team Lead, Royal Surrey NHS Foundation Trust*

Cancer guidelines recommend screening for malnutrition from the point of diagnosis,<sup>1,2</sup> however no consensus exists for the most appropriate tool to use for this purpose.

At the Royal Surrey Hospital in Guildford, screening of inpatients is routinely carried out using 'MUST', but this is not validated in the cancer setting and the results do not account for fluid shifts and metabolic derangements commonly experienced by patients. A degree of subjectivity when referring is required from nursing and medical staff, and we have conducted training to enable recognition of other factors, such as nutrition impact symptoms, risk of obstruction and malabsorption, which can negatively affect nutritional status.

Nutritional screening is not routine in oncology outpatients and has not been implemented at our cancer centre. Head and neck and oesophago-gastric patients are automatically under the care of the dietitian. The remainder of the patients are screened subjectively by our multi-disciplinary teams (MDT). Criteria for referrals includes weight loss, symptom burden or compromised nutritional intake. Lack of resources and staff to implement and interpret results are the biggest barriers to making screening mandatory. To cope with increasing numbers of patients, we have carried out nutrition training with the MDT to facilitate provision of first-line advice and signposting to credible resources.

Following referral, all dietetic reviews include informal assessment for the ongoing risk of malnutrition. This includes a detailed weight history, 24-hour recall of nutritional intake, nutrition impact symptoms, physical activity and, where possible, HGS.

References: 1. Arends J, *et al.* (2021). Cancer cachexia in adult patients: ESMO Clinical Practice Guidelines. *ESMO Open*; 6(3): 100092. 2. Muscaritoli M, *et al.* (2021). ESPEN practical guideline: Clinical Nutrition in cancer. *Clin Nutr*; 40(5): 2898-2913.

## Prehabilitation

*Nicola Porter, Macmillan Dietitian*

The PRIME prehabilitation programme at the Royal Surrey County Hospital in Guildford was established in 2017. PRIME offers prehabilitation for cancer patients diagnosed with gynaecological, urology, oesophago-gastric (OG) and hepatobiliary (HPB) cancers preparing to undergo major oncological surgery.

All PRIME patients undergo a comprehensive assessment with outcome measures, recorded both when first referred and again upon the completion of the programme, just before their surgery takes place. As well as completing the physiotherapy outcome measures (6-minute walk test and sit-to-stand), patients also complete a Patient-Generated Subjective Global Assessment (PG-SGA), as well as HGS.

The PG-SGA is generally considered to be the best nutritional screening tool for cancer patients and is used widely within oncology prehabilitation settings. Being patient generated it is quick to complete, it identifies symptoms that are impacting oral intake and nutritional status and the scoring allows prioritisation of patients for dietetic support.<sup>1</sup> A recent study published linked higher scores of the PG-SGA with reduced quality of life measures within a prehabilitation setting.<sup>2</sup>

All PRIME patients are invited to attend an education session on 'Eating Well'. Those patients scoring <4 on the PG-SGA are referred to be seen by the dietitian. The way in which the PG-SGA is scored within four sections (weight, food intake, symptoms and activities/functions), allows dietetic intervention to be appropriately and efficiently provided.

References: 1. Håkonsen SJ, *et al.* (2015). Diagnostic test accuracy of nutritional tools used to identify undernutrition in patients with colorectal cancer: a systematic review. *JBI Database System Rev Implement Rep*; 13(4): 141-187. 2. Burden ST, *et al.* (2023). Nutritional screening in a cancer prehabilitation programme: A cohort study. *J Hum Nutr Diet*; 36(2): 384-394.

## Renal

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Malnutrition, or protein energy wasting (PEW), is common in patients with kidney disease and is associated with adverse clinical outcomes, especially if individuals are receiving dialysis.<sup>1</sup> Identifying malnutrition early and, ideally, preventing malnutrition is essential in patients with kidney disease (both acute and chronic). Different nutritional screening tools have been proposed to be used in this field, such as the Mini Nutritional Assessment (MNA),<sup>2</sup> Malnutrition Inflammation Score (MIS),<sup>3</sup> Nutrition Risk Screening (NRS),<sup>4</sup> 'MUST',<sup>5</sup> Renal INut,<sup>6</sup> PEW Score<sup>7</sup> and GLIM.<sup>8</sup> SGA, especially the seven points SGA, is often considered the gold standard for patients with kidney disease because low scores (1-2) have been associated, independently, with an increased relative risk of mortality.<sup>3</sup> SGA and MIS have been recommended by the recent Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) 2020 guidelines to be used in patients with kidney disease<sup>9</sup> and expert opinion is emerging of how to implement the GLIM criteria as well.<sup>8</sup>

Personally, I believe that it does not matter so much which screening tool is used in clinical practice, but that staff are well trained and educated to identify those patients with kidney disease at risk of malnutrition – using their clinical judgement, which is far more superior than any screening score.

For our inpatient renal wards at Nottingham University Hospitals NHS Trust, we use 'MUST' alongside an open referral system from the inpatients team and renal dietitian screening. Weight in patients with kidney problems is significantly affected by oedema (peripheral or sacral oedema), fluid can be in a different compartment (patients may present as intravascular dry), drugs (such as diuretics) and medical treatment (such as dialysis). As a result, 'MUST' may identify patients inappropriately or far too late. On the other hand, from an operational point of view, there are advantages to having the same tool across one organisation

(for example, from a training perspective, rotational nursing staff, key performance indicators), providing that patients care is not compromised.

In our renal ward we use 'MUST' (mainly from an operational point of view), and we educate our nurses to use their clinical judgment and refer any patients that they have concerns about. In addition, our renal dietitians have a very proactive approach, as we regularly attend ward rounds and we screen all admissions to our renal wards. While this may seem time consuming, it is relatively quick; it happens at ward level (not from an office) enhancing the communication and relationship with all ward staff and, most of all, supports training and education at ward level and promotes the role of the renal dietitian and nutrition. Furthermore, our presence on the ward and our screening allows the identification of broader nutritional issues that patients with kidney disease may have, beyond malnutrition. For example, potassium and phosphate unbalances, salt and fluid restriction, those with a new diagnosis of kidney disease, new dialysis starters, patients with kidney transplant (to mention a few).

In our dialysis unit, we use our own in-house developed tool called Malnutrition Haemodialysis Referral Tool (MAHRT).<sup>10</sup> This tool is completed monthly and includes serum levels of urea and phosphate as surrogate of oral intake, as well as using appetite as a subjective component. Similarly, to the inpatient settings, renal dietitians have a strong presence at monthly quality assurance meetings, where the MDT can raise concerns about a patient's nutritional status (this is often based on their clinical judgment rather than the tool itself).

In our outpatient clinic we do not currently use a screening tool. Instead, we rely on our nurses and medical team to refer any patients of concern.

References: 1. Ikizler TA, *et al.*; International Society of Renal Nutrition and Metabolism. (2013). Prevention and treatment of protein energy wasting in chronic kidney disease patients: a consensus statement by the International Society of Renal Nutrition and Metabolism. *Kidney Int*; 84(6): 1096-1107. 2. Guligowska A, *et al.* (2020). Association between kidney function, nutritional status and anthropometric measures in older people. *BMC Geriatr*; <https://doi.org/10.1186/s12877-020-01699-1> 3. Steibler AL, *et al.* (2004). Subjective Global Assessment in chronic kidney disease: a review. *J Ren Nutr*; 14(4): 191-200. 4. Tan R, *et al.* (2016). Nutritional Risk Screening in patients with chronic kidney disease. *Asia Pac J Clin Nutr*; 25(2): 249-256. 5. Elia M. (2003). The 'MUST' report: nutritional screening in adults: a multidisciplinary responsibility. Development and use of the 'Malnutrition Universal Screening Tool' ('MUST') for adults. A report by the Malnutrition Advisory Group for the British Association of Parenteral and Enteral Nutrition (BAPEN), Redditch 6. Jackson HS, *et al.* (2019). A new renal inpatient nutrition screening tool (Renal INUT): a multicenter validation study. *Clin Nutr*; 38(5): 2297-2303. 7. Sum SS, *et al.* (2017). Comparison of Subjective Global Assessment and Protein Energy Wasting Score to Nutrition Evaluations Conducted by Registered Dietitian Nutritionists in Identifying Protein Energy Wasting Risk in Maintenance Hemodialysis Patients. *J Ren Nutr*; 27(5): 325-332. 8. Silva MZC, *et al.* (2023). GLIM in chronic kidney disease: What do we need to know? *Clin Nutr*; 42(6): 937-943. 9. Ikizler TA, *et al.* (2020). KDOQI Clinical Practice Guideline for Nutrition in CKD: 2020 Update. *Am J Kidney Dis*; 76(3 Suppl 1): S1-S107. 10. Mafrici *et al.* 2014 (PPI56-MON: Malnutrition Haemodialysis Referral Tool (MAHRT) and Hospital Admission Rates in the Maintenance Haemodialysis Population. *Clin Nutr*; 33: S187.

## Secure/mental health unit

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St Andrew's Healthcare (STAH) provides inpatient care for individuals with neurological conditions and/or complex mental illness, such as Huntington's disease, learning disability and personality disorder.<sup>1</sup> Patients have diverse nutritional risks, including malnutrition, obesity and diabetes. Nutritional screening is completed on admission (within 24 hours) and at least monthly.

The STAH Dietetic Team devised and validated<sup>2</sup> the **St Andrew's Nutritional Screening Instrument (SANSI)**.<sup>3</sup> This can be used as an alternative to 'MUST'<sup>4</sup> to ensure the additional nutritional risks prevalent in mental health settings are identified. These include: selective or restrictive eating, weight gain and dysphagia. The tool has 4 main steps, of which Steps 1 and 2 are similar to 'MUST'. Step 3 (see **Figure 1**) is different to 'MUST' in that it does not require an acute disease effect score, but asks a series of questions to highlight risk. Step 4 allows for staff to enter a free-text comment and tick a box to send a referral to the Dietetic Team. From this, the Dietitians triage and prioritise patient care appropriately.

**Figure 1: Step 3: Other significant dietary issues to consider**

If **YES** to any of the below, alert clinical team, care plan, and refer to dietitian if appropriate (NBM = Nil By Mouth, e.g. if patient fed via a gastrostomy)

Does the patient have specific dietary requirements (e.g. allergies, vegan, cultural/religious diet, renal diet)?	Yes / No
Is the patient being fed by/have a nasogastric feeding tube or gastrostomy tube?	Yes / No
Is the patient prescribed nutritional supplements?	Yes / No
Does patient have diabetes (type 1 or type 2)?	Yes / No
Does the patient have a history of/been observed to have disordered eating?	Yes / No
Does patient have a history of excessive fluid intake?	Yes / No
Does the patient regularly refuse or not attend 2 or more main meals a day?	Yes / No / NBM
Does patient fail to eat at least half of their serving at most meal times?	Yes / No / NBM
Does the patient regularly refuse or not complete drinks?	Yes / No / NBM
Does the patient have any chewing or swallowing difficulties?	Yes / No / NBM
Does the patient suffer from nausea, involuntary vomiting or diarrhoea?	Yes / No / Sometimes
Are whole food groups (e.g. dairy products, fruit & vegetables) avoided?	Yes / No / NBM

**Facilitators/benefits to SANSI:**

- Built into the patient’s electronic notes (RiO), which makes it easy for staff to access and complete
- BMI and % weight change is automatically calculated
- Hyperlinks within the tool direct staff to first line patient resources and training on screening
- Automatic referral to dietetics can be generated
- Overdue screening is flagged on reports.

**Challenges/barriers to SANSI:**

- Patients often refusing weight and height measurements, so staff have to rely on estimates

- External stakeholders can be unfamiliar with SANSI so may require reassurance about lack of ‘MUST’ scores.

References: 1. St Andrew’s Healthcare. A charity providing specialist mental healthcare. Accessed online: www.stah.org/ (Sept 2023). 2. Rowell A, et al. (2012). Identification of nutritional risk by nursing staff in secure psychiatric settings: Reliability and validity of St Andrew’s Nutrition Screening Instrument. J Psych Mental Health Nurs.; 19(8): 722-728. 3. St Andrew’s Healthcare. St Andrew’s Healthcare Nutrition Screening Instrument (SANSI) (2012). Accessed online: www.stah.org/assets/SANSI-Paper-version-2022.pdf (Sep 2023). 4. BAPEN (2023). Introducing the Malnutrition Universal Screening Tool - ‘MUST’. Accessed online: www.bapen.org.uk/screening-and-must/must/introducing-must (Sep 2023).

**Stroke**

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The National Clinical Guidelines for Stroke<sup>1</sup> and the National Institute for Health and Care Excellence<sup>2</sup> recommend that all stroke patients are assessed for malnutrition on admission and then weekly, using a standardised screening tool. Gomes *et al.* support the use of ‘MUST’ in stroke patients.<sup>3</sup> A swallow screen must also be conducted on admission to assess for dysphagia,<sup>1,2</sup> which could in turn affects a patient’s risk of malnutrition.

At London North West University Hospital NHS Trust, we use ‘MUST’ as the standardised nutrition screening tool. The advantage is that it is a quick and easy tool that can be completed by all members of staff. The biggest challenge faced is the collection of reliable data to complete the tool, due to the issues of mobility, communication and cognition often seen in stroke patients. Ensuring equipment is readily available, such as hoist scales or tape measures, can assist in completing the tool as accurately as possible.

Embedding the completion of ‘MUST’ on the stroke unit has involved regularly training staff, as well as incorporating the initial ‘MUST’ and swallow screen into the admitting nurses responsibilities. The results are feedback to the dietitian every morning and ‘MUST’ is monitored in weekly MDT meetings. Adopting Saturday as the day every patient has their ‘MUST’ screen completed, has also increased compliance rates.

Nurses are prompted to initiate food charts and offer additional snacks and over-the-counter supplementary milkshakes if the ‘MUST’ score is 1. A ‘MUST’ score ≥2, or a failed swallow screen, prompts a dietetic referral.

References: 1. Intercollegiate Stroke Working Party (2023). National Clinical Guideline for Stroke for the UK and Ireland. Accessed online: www.strokeguideline.org (Sep 2023). 2. NICE (2022) Stroke and transient ischaemic attack in over 16s: diagnosis and initial management NICE guideline [NG128]. Accessed online: www.nice.org.uk/guidance/ng128 (Sep 2023). 3. Gomes F, et al. (2016). Risk of Malnutrition Is an Independent Predictor of Mortality, Length of Hospital Stay, and Hospitalization Costs in Stroke Patients. J Stroke Cerebrovasc Dis.; 25(4): 799-806.

**Expert comment**

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Nutrition screening is intended to be a supportive task utilising reliable tools that are quick and easy-to-use (take less than about 10 minutes to complete) and that require minimal training. This article has captured the evolution of screening tools that aim to facilitate nutrition screening in at-risk populations, aiding staff to identify factors that contribute to the development of malnutrition or mask it, that might be unique to a specific subgroup of individuals. Such targeted tools are likely to play an increasing role in bridging the gap between rapid screening that identifies the presence or risk of malnutrition, avoid under referral of individuals with malnutrition or over referral of patients or clients without malnutrition, and enable wider members of the healthcare team to take first line actions to provide timely nutritional care and manage or reverse factors interfering with nutritional intake.

I’d like to express my thanks to Faye and Jodie in collating this article and to all the experts in clinical practice who have shared their local and, in some cases, national initiatives that will assist us all in delivering timely and tailored nutritional care for those at risk.

The CN Team would like to thank all of those who have contributed to this article – the dietitians who have detailed their use of malnutrition screening tools across a multitude of specialties, and our Editor, Dr Anne Holdoway, for providing a key conclusive comment with regards to the future of such tools in optimising nutrition and preventing malnutrition.