Practical Guidance for Using 'MUST' to Identify Malnutrition during the COVID-19 Pandemic

An update from the Malnutrition Action Group of BAPEN

The detection and management of malnutrition in patients with COVID-19 is of fundamental importance. Malnutrition is likely to be a common problem due to a wide range of reasons. These include:

- The physiological effects of the SARS-CoV-2 infection on the body
- The effects of management strategies required (e.g. ventilation, NIV/CPAP), which vary depending on the severity of the illness
- The many challenges that arise from such a pandemic, which can restrict physical access to patients by healthcare professionals (HCPs) and carers due to infection control impacting the ability to identify and treat nutritional issues
- The impact on a free living individual's ability to purchase food, exercise and socialise.

The consequences of disease-related malnutrition, although not yet documented in this specific patient group, are well known and include: impaired immune function, reduced respiratory and skeletal muscle strength, effects on psychological function, impaired recovery with poorer clinical outcomes (higher mortality), and longer stays in hospital/greater healthcare use and costs.

Effective nutritional support, as required to manage patients at risk of malnutrition, is known to improve nutritional intake, status, functional and clinical outcomes, from the intensive care setting through to those living in their own homes in a wide variety of patient groups.

Due to the variety of potential nutritional issues patients with COVID-19 may face, whether in hospital or at home, we recommend routine identification of malnutrition. The Malnutrition Universal Screening Tool ('MUST') (see **Figure 1**) was specifically developed to be used for screening all adults in all settings, whether or not physical measurements of weight and height are possible. It includes identification of obesity. It also includes identification of those who are at risk of malnutrition from unplanned weight loss (whether or not they are obese) and/or thinness, that result from nutritional intake being insufficient to meet nutritional needs. Poor nutritional intake in patients with COVID-19 is likely to be common and can be due to a wide variety of causes – e.g. related to the symptoms of the disease, the impact of the management of COVID-19, including the physical restrictions limiting HCP proximity, and the social and psychological effects related to the disease.

Screening is only ever designed to be a quick way of identifying those who are at significant risk of nutritional problems so that further detailed nutritional assessment can be undertaken (according to local policy and resources) and/or action can be put in place, including dietary intervention, nutritional support (oral nutritional supplements, enteral tube feeding and parenteral nutrition) and other treatments as required.

For more detailed information about 'MUST' and guidance on using 'MUST' without physical measurements, we recommend you refer to the BAPEN website (**www.bapen.org.uk/must**), the 'MUST' Report and 'MUST' Explanatory Booklet. Online you will also find the 'MUST' calculator (**www.bapen.org.uk/screening-and-must/must-calculator**) and a self-screening tool for patients and carers to use at home, which could also be used for remote consultations (**www.malnutritionselfscreening.org**).

Although the most objective way of screening a patient with 'MUST' includes using physical measurements of weight and height, during the COVID-19 pandemic HCPs are needing to adapt their ways of working, due to infection control preventing access to patients and use of equipment in hospitals and other care settings, and there is a need for most consultations in the community to be done remotely. Therefore, we have a couple of recommendations, which will now be discussed.

ICU/critical care settings

If a patient with COVID-19 has been, or will be, unable to consume anything orally for more than 5 days (for example, when ventilated on the intensive care unit [ICU] for such a period of time) then it is clear that this patient can be categorised as at high risk of malnutrition and requiring nutritional support (for example, with tube feeding or parenteral feeding as indicated). However, nutritional monitoring remains vital in these patients wherever possible, to measure the effectiveness of nutritional management in the ICU. Malnutrition screening with 'MUST' should then be undertaken at the earliest opportunity, including on movement of the patient to the hospital ward and on discharge from hospital.

Hospital wards & care homes

As a first step, in any setting, **an alternative to physical measurements is to use patient reported values** of current weight, height and previous weight to calculate Step 1 (BMI category) and Step 2 (Weight Loss category) of 'MUST'. The patient needs to be able to report these in a reliable and realistic way. A range of alternative physical measurements can also be used, such as ulna length, mid upper arm circumference, but these may not be feasible due to access restrictions/infection control policies.

As a next step, where it is not possible to obtain physical or self-reported measures of weight or height there are a series of subjective criteria that can be used to help form an overall clinical impression of an individual's malnutrition risk category – see **Figure 2**.

At home

Where face-to-face consultations are carried out with patients in their own homes, undertake 'MUST' as appropriate. It is likely that physical measures of weight and height taken by the HCP will be restricted due to infection control policies. Alternatively, in this setting, reliable, reported values from the patient (or a carer/family member) can be gained.

Figure 1: Malnutrition Universal Screening Tool ('MUST')

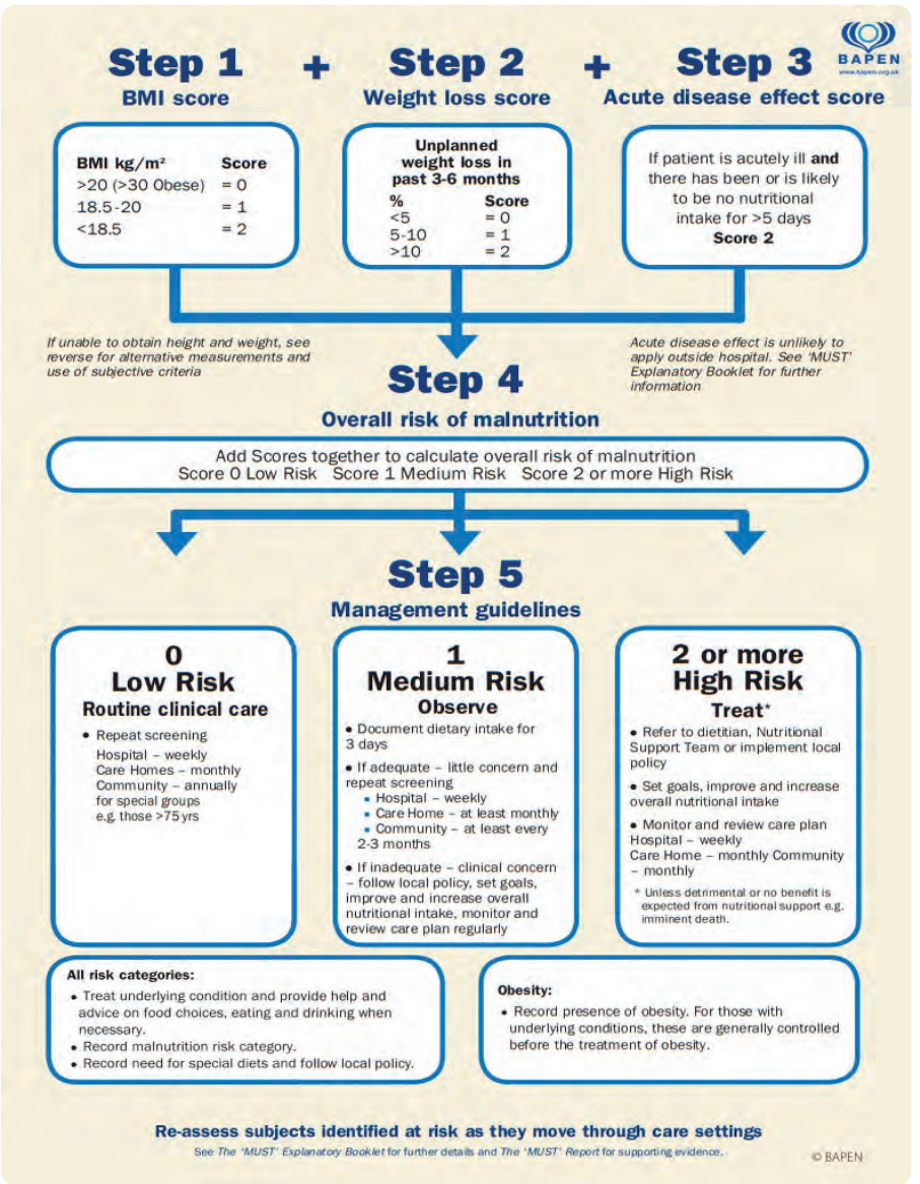


Figure 2: Subjective Criteria of 'MUST'

If physical measures of weight and height are not possible:

1. Use patient reported values
2. Use subjective criteria if patient reported values are not possible.

BMI

- Clinical impression – thin, acceptable weight, overweight. Obvious wasting (very thin) and obesity (very overweight) can be noted.

Unplanned weight loss (particularly relevant in patients with COVID-19)

- Clothes and/or jewellery have become loose fitting
- History of decreased food intake, reduced appetite and/or dysphagia (swallowing problems) over 3-6 months, underlying disease or psycho-social/physical disabilities likely to cause weight loss.
- COVID-19 infection is very likely to cause unplanned weight loss if food intake is reduced by the effects of the disease and its management (e.g. anorexia, breathlessness, impact of management options (sedation, CPAP/NIV), changes to taste and smell, psychological factors (e.g. anxiety), social restrictions, etc.)

Acute disease

- If a patient is acutely ill with COVID-19 and is unlikely to have no nutritional intake for more than 5 days or has had no nutritional intake for more than 5 days.

Use the combination of subjective criteria to estimate a malnutrition risk category (low, medium or high) based on your overall evaluation.

© BAPEN. MAG Covid-19 Update, May 2020: www.bapen.org.uk/pdfs/covid-19/covid-mag-update-may-2020.pdf

If the patient has their own scales and is mobile they (or a carer) could weigh themselves, if safe to do so. If none of the above is possible, due to infection control restrictions and/or lack of equipment, or a reliable recall is not possible, then subjective criteria may be required.

Where undertaking virtual consultations, gain reliable, reported values from the patient (or a carer/family member) about weight, height, weight history. If the patient has their own scales and is mobile, they or a carer, could weigh themselves, if safe to do so (follow local guidance). It may also be important to use subjective criteria to help estimate malnutrition risk category.

Patients & carers

Our self-screening website (**www.malnutritionselfscreening.org**) is available for patients and carers to find out more about how they can identify malnutrition themselves and how to get help. This does not take the place of the role of the HCP and any management by the healthcare system. However, this may be useful for individuals at home, and carers, who have nutritional concerns and require information on how to access advice and help. It could also be used by patients in a remote HCP consultation, if that is possible technologically for the patient or their carer. There is also a Patients Association Checklist that may also be helpful from the Malnutrition Task Force (**www.malnutritiontaskforce.org.uk**). For any patient (or carer) with unintentional weight loss or nutritional concerns, advice should always be sought from a HCP to investigate and manage the cause.

The importance of appropriate management of malnutrition during COVID-19 – patient & HCP resources

It is important to make sure screening is linked to an **appropriate action plan** for the management of malnutrition and specific nutritional support guidance for patients with COVID-19.

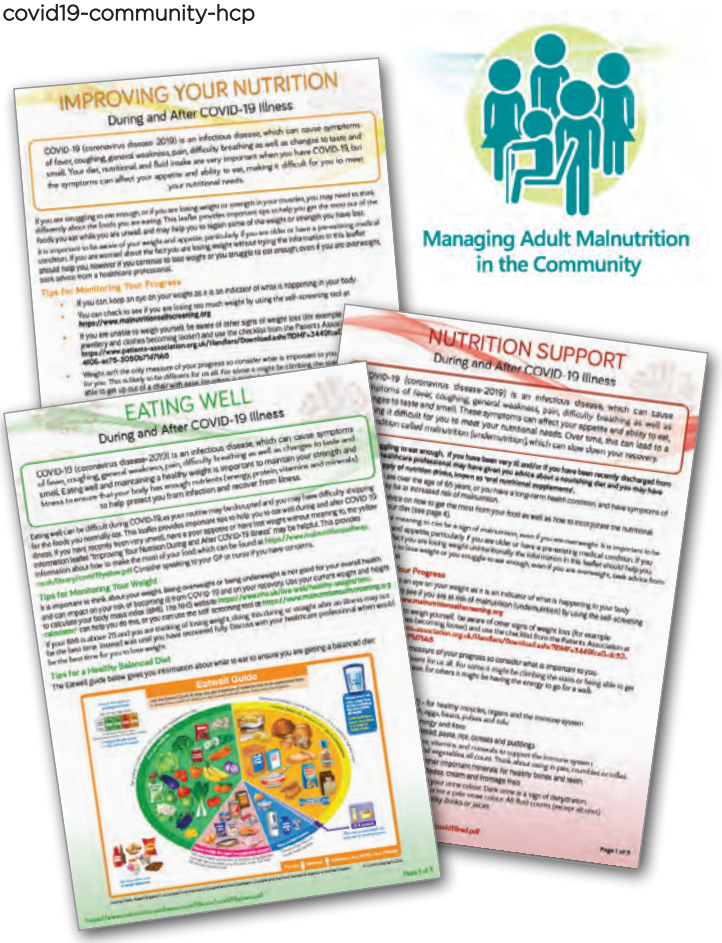
Not only do symptoms of COVID-19 have the potential to exacerbate malnutrition already present but they may also predispose previously well-nourished patients to the risk of malnutrition as a result of elevated nutritional requirements associated with infection arising at a time when appetite is diminished. Those who have had a serious case of COVID-19, and particularly those recovering after leaving hospital, may require additional dietary support in order to regain lost muscle mass.

The Managing Adult Malnutrition in the Community team has worked with BAPEN and the British Dietetic Association to develop a range of patient information leaflets to advise those who have COVID-19 illness, or who are recovering after the illness, on eating well to assist in their recovery.

Three different nutritional information leaflets have been developed, each tailored to the differing nutritional requirements of individuals who have been affected by COVID-19. The leaflets aim to help those who have had a mild/moderate illness and have been coping at home and also for those who have been in hospital with a more serious illness.

The leaflets are free to download at **www.malnutritionpathway.co.uk/covid19** and an interactive tool has been developed on the website to enable people who have or have had COVID-19 to identify the nutritional advice leaflet that is most suitable to their needs (**www.malnutrition pathway.co.uk/covid19-resourcetool**).

The Malnutrition Pathway team has also developed resources for community healthcare professionals who are dealing with patients with COVID-19 in the community. These highlight the importance of nutritional screening and the provision of good nutritional care during this pandemic whilst guiding professionals how to assess malnutrition risk remotely and link to the patient resources developed – see: **www.malnutritionpathway.co.uk/covid19-community-hcp**



National screening survey to be part of UK Malnutrition Awareness Week 2020 - again this year

Thank you to all who participated in the screening survey last year – which was a great success, with a total of 1302 patients screened during the week. A report summarising the results from the 2019 'National Survey on Malnutrition and Nutritional Care' is currently being finalised and will be live on the BAPEN website in July 2020. All those who took part should have already received their local reports.

Later this year during UKMAW 2020, we are again planning to undertake a national survey of malnutrition and nutritional care using the electronic portal to capture data. Our aim is to have as many people as possible across all settings (hospitals, care homes, mental health units, GP practices, patients own home, etc.) involved during this week so we can gather as much data as possible.

We really need your help to make this a success, so mark the week in your diary and watch this space for more details – it's a 'MUST'!