

Practical guidance for using 'MUST' to identify malnutrition during the COVID-19 pandemic Malnutrition Action Group (MAG) update

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 HCPs and carers due to infection control impacting the ability to identify and treat nutritional issues, and an impact on free living individuals 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, and impaired recovery with poorer clinical outcomes (higher mortality) and longer stays in hospital/greater health care 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 (although data in patients with Covid-19 is awaited).

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' was specifically developed as a tool that could be used for screening for 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 which can include loss of appetite, breathlessness, persistent coughing, loss of taste/smell, fatigue), 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 our website (www.bapen.org.uk/must), the 'MUST' Report and 'MUST' Explanatory Booklet (also available on our website). There is also the online 'MUST' calculator (<https://www.bapen.org.uk/screening-and-must/must-calculator>) and a self-screening tool for patients and carers (www.malnutritionselfscreening.org) to screen themselves from home (which could also be used for remote consultations).

Although the most objective way of screening a patient with 'MUST' includes using physical measurements of weight and height, during the Covid-19 pandemic health care professionals 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:

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 in 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 monitor 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. We would recommend a nutritional assessment prior to handover with an updated nutritional care plan.

Hospital Wards and 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 (e.g. ulna length, mid upper arm circumference) but these may not be feasible due to access restrictions/infection control policies. Follow local guidance.

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.

Subjective Criteria

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.

Importantly, make sure screening is linked to an **appropriate action plan**, as defined by your local policy for the management of malnutrition and specific nutritional support guidance for patients with Covid-19.

At home

Where **face to face consultations** are undertaken with patients in their own homes, undertake 'MUST' as appropriate. It is likely that physical measures of weight and height by the HCP will be restricted due to infection control policies (follow local guidance on PPE and processes for cleaning of any equipment used if relevant). Alternatively, in this setting, reliable, reported values from the patient (or a carer/family member) can be gained. 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). 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 (see above).

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, encourage them to weigh themselves, if safe to do so and with help by a carer or family member if available and needed (follow local guidance). It may also be important to use **subjective criteria** to help estimate malnutrition risk category (see above).

Where possible, beyond screening for malnutrition risk, further detailed nutritional assessment may be required when deciding on the best nutritional management plan. Follow local guidance on the management of malnutrition in community settings.

Patients and 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 health care 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 Nutrition Checklist that may also be helpful that can be accessed from the Malnutrition Taskforce. 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.

Additional Information

For HCPs

www.bapen.org.uk/must
www.bapen.org.uk/screening-and-must/must-calculator
www.bapen.org.uk/resources-and-education/education-and-guidance/covid-19
www.bda.uk.com/practice-and-education/covid-19-coronavirus-clinical-guidance
www.malnutritionpathway.co.uk

References (available online on the BAPEN website)

- Elia et al 2003. The 'MUST' Report. Nutritional screening of adults: a multidisciplinary responsibility. MAG, A standing committee of BAPEN.
- Todorovic et al 2011. The 'MUST' Explanatory Booklet. A Guide to the 'Malnutrition Universal Screening Tool' ('MUST') for adults. MAG, A standing committee of BAPEN.

For patients and carers

www.malnutritionselfscreening.org
www.malnutritiontaskforce.org
www.malnutritionpathway.co.uk/covid19-resourcetool
www.patients-association.org.uk/patients-association-nutrition-checklist-toolkit