Identifying Malnutrition according to Risk Category Using 'MUST' *[38] - First Line Management Pathway

BMI score		Weight loss score		Acute disease effect score
		Unplanned weight loss score in past 3-6 months		*(unlikely to apply outside hospital)*
>20 kg/m²	Score 0	<5%	Score 0	If patient is acutely ill and there has been, or is likely to be, no nutritional intake for more than 5 days
18.5 – 20 kg/m²	Score 1	5 – 10%	Score 1	Score 2
<18.5 kg/m²	Score 2	>10%	Score 2	

Total score 0 - 6

- **Explore and, where possible, address factors contributing to underlying cause of malnutrition**
- **Consideration should be given to optimising nutritional status during pulmonary rehabilitation especially if a hospital admission or exacerbation has resulted in deterioration in nutritional status**
- **Identify treatment goals**

Low risk - score 0
Routine clinical care

- **Provide green leaflet:** 'Eating Well for your Lungs' to raise awareness of the importance of a healthy diet
- If BMI >30 kg/m² (obese) treat according to local guidelines
- Consider if patient would benefit from dietary advice and dietary counselling to improve health and well being
- (NB: weight reduction needs to be balanced against potential risk of losing muscle)
- **Review / re-screen annually**

Medium risk - score 1
Observe

- **Dietary advice** to maximise nutritional intake. Encourage small frequent meals and snacks, with a focus on nourishing food and fluids[52]
- **Provide yellow leaflet**: 'Improving Your Nutrition in COPD' to support dietary advice

NICE recommends[6] COPD patients with a BMI <20 kg/m² should be:

- prescribed oral nutritional supplements (ONS). See ONS pathway, page 9
- encouraged to exercise to augment the effects of nutritional supplementation

Review progress after 1-3 months:

- if improving continue until 'low risk'
- if deteriorating, consider treating as 'high risk'

High risk - score 2 or more
Treat**

- Dietary advice to maximise nutritional intake. Encourage small frequent meals and snacks, with high energy and protein food and fluids[52]
- **Provide red leaflet:** 'Nutrition Support in COPD' to support dietary advice
- Prescribe oral nutritional supplements (ONS) and monitor. See ONS pathway, page 9. (Consider local formularies)
- **Review progress** according to ONS pathway, page 9
- On improvement, consider managing as 'medium risk'
- **Consider referral to a Dietitian** for dietary counselling at the earliest opportunity especially for complex cases

**The 'Malnutrition Universal Screening Tool' ('MUST') is reproduced here with the kind permission of BAPEN (British Association for Parenteral and Enteral Nutrition). For more information and supporting materials see http://www.bapen.org.uk/musttoolkit.html*
***Treat, unless detrimental or no benefit is expected from nutritional support e.g. imminent death.*

Consider factors contributing to malnutrition/poor nutritional intake and whether they can be treated or managed:
• Shortness of breath • Dry Mouth • Taste changes • Nausea • Early satiety • Poor appetite • Fatigue • Anorexia • Polypharmacy
See relevant patient and carer leaflets for advice: **www.malnutritionpathway.co.uk/copd**

The following questions can assist in obtaining information to inform a clinical impression of malnutrition risk and determine the most appropriate intervention:

1. How is your appetite lately? How are you managing with your eating and drinking?
2. How would you describe your weight? What is a usual weight for you?
3. Do you feel like your weight has changed in the last few weeks or months?
4. How are your clothes and jewellery fitting? Do you feel they fit differently to usual?

Estimated risk of malnutrition	Indicators
Unlikely to be at-risk (low)	Not thin, weight is stable or increasing, no unplanned weight loss, no reduction in appetite or intake
Possibly at-risk (medium)	Thin as a result of COPD or other condition, or unplanned weight loss in past 3-6 months, reduced appetite or ability to eat
Likely to be at risk (high)	Thin or very thin and/or significant unplanned weight loss in previous 3-6 months, reduced appetite or ability to eat and/or reduced dietary intake

For all individuals

- Discuss when to seek help e.g. ongoing weight loss, changes to body shape, strength or appetite
- Refer to other healthcare professionals if additional support is required (e.g. dietitian, physiotherapist, GP)

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Pathway for Using Oral Nutritional Supplements (ONS) in the Management of Malnutrition in COPD

Low BMI (<20 kg/m²) or at high risk ('MUST' score 2 or above) of malnutrition[6,37,71]

Record details of malnutrition risk (screening result/risk category, or clinical judgement)
Agree goals of intervention with individual/carer
Consider underlying symptoms and cause of malnutrition e.g. nausea, infections and treat if appropriate
Consider social requirements e.g. ability to collect prescription
Reinforce advice to optimise food intake*, confirm individual is able to eat and drink and consider any physical issues e.g. dysphagia, dentures

Prescribe:
Average 2 ONS per day[66,67] ** in addition to oral intake (or 1 'starter pack', then 60 of the preferred ONS per month)
12 week duration according to clinical condition/nutritional needs[29,37,66]

Patients may benefit from a **high protein, high energy, low volume ONS in addition to dietary advice** due to symptoms of COPD[52]

If following a pulmonary rehabilitation programme consider the effect of increased activity on energy and protein requirements

Monitor compliance to ONS after 4 weeks
Amend type/flavour if necessary to maximise nutritional intake

Monitor progress and review goals after 12 weeks
Monitor thereafter every 3 months or sooner if clinical concern
Consider weight change, strength, physical appearance, appetite, ability to perform daily activities etc

Have nutritional goals been met?

NO

Goals not met/limited progress:
Check ONS compliance; amend prescription as necessary, e.g. suitability of flavours prescribed
If patient is non-compliant reassess clinical condition, refer to a Specialist Dietitian and/or assess the need for more intensive nutrition support e.g. tube feeding
Consider goals of intervention, ONS may be provided as support for individuals with deteriorating conditions
Review every 3-6 months or upon change in clinical condition[37]

YES

Goals met/good progress:
Encourage oral intake and dietary advice
Consider reducing to 1 ONS per day for 2 weeks before stopping
Maximise dietary intake, consider powdered nutritional supplements/self-purchase
Ensure patient has received dietary advice leaflet to support meeting nutritional needs using food
Monitor progress, consider treating as 'medium risk'

When to stop ONS prescription:
If goals of intervention have been met and individual is no longer at risk of malnutrition, reinforce advice given on a nourishing diet and the importance of avoiding unintentional weight loss
If individual is clinically stable/acute episode has abated
If individual is back to an eating and drinking pattern which is meeting nutritional needs[37]
If no further clinical input would be appropriate

ONS – oral nutritional supplements/sip feeds/nutrition drinks as per BNF section 9.4.2 [68]
"Your Guide to Making the Most of Your Food' is available from www.malnutritionpathway.co.uk/leaflets-patients-and-carers
For more detailed support or for patients with complex conditions seek advice from a Dietitian

*** Some individuals may require more than 3 ONS per day – seek dietetic advice*

NOTE: ONS requirement will vary depending on nutritional requirements, patient condition and ability to consume nutrients, from food and fluid or other sources of nutrition

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