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Workshop : Decreasing Complications of Mobility Impairment through Collaborative Practice

PART C. Best Practices in Safe Skin

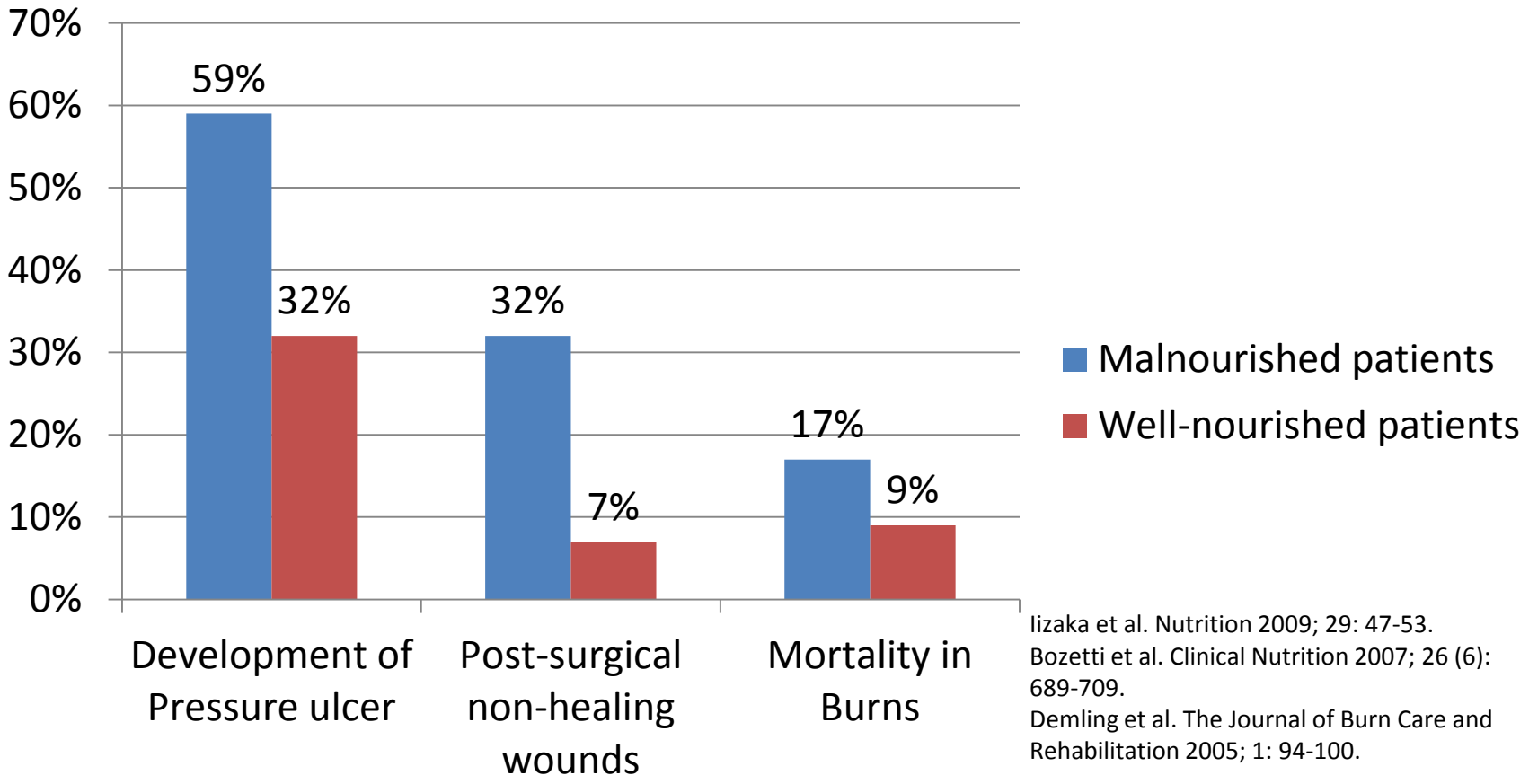
Introduction

- Nutrition and wound healing → a vicious cycle.
  - Wounds lead to protein loss and catabolism.

  - Malnutrition delays wound healing process and increases infection.

Wild et al. Nutrition 2010; 26: 862-866.

Incidence of Malnutrition

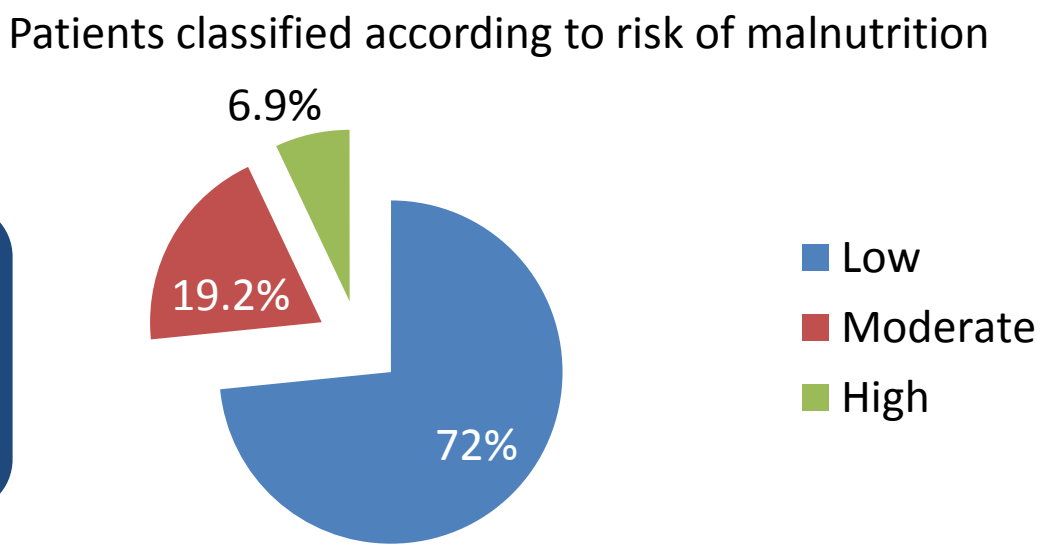


Iizaka et al. Nutrition 2009; 29: 47-53.
Bozetti et al. Clinical Nutrition 2007; 26 (6): 689-709.
Demling et al. The Journal of Burn Care and Rehabilitation 2005; 1: 94-100.

Prevalence of Malnutrition in the wound clinic of Saint George Hospital Beirut

- 2913 patients.
- Data collected in 2013.

23.1% are at risk of malnutrition: 777 patients



Stratton et al. British Journal of Nutrition 2004; 92: 799-808.

Malnutrition and Pressure Ulcers

- National Pressure Ulcer Advisory Panel NPUAP 2014:
  - Inadequate dietary intake and poor nutritional status have been identified as key risk factors for both the development of pressure ulcers and protracted wound healing.
  - They emphasize on importance of nutrition screening using a reliable nutrition screening tool.

Posthauer et al. *Advances in Skin and Wound Care* 2015; 28: 175-188

Nutrition Screening is Mandatory!

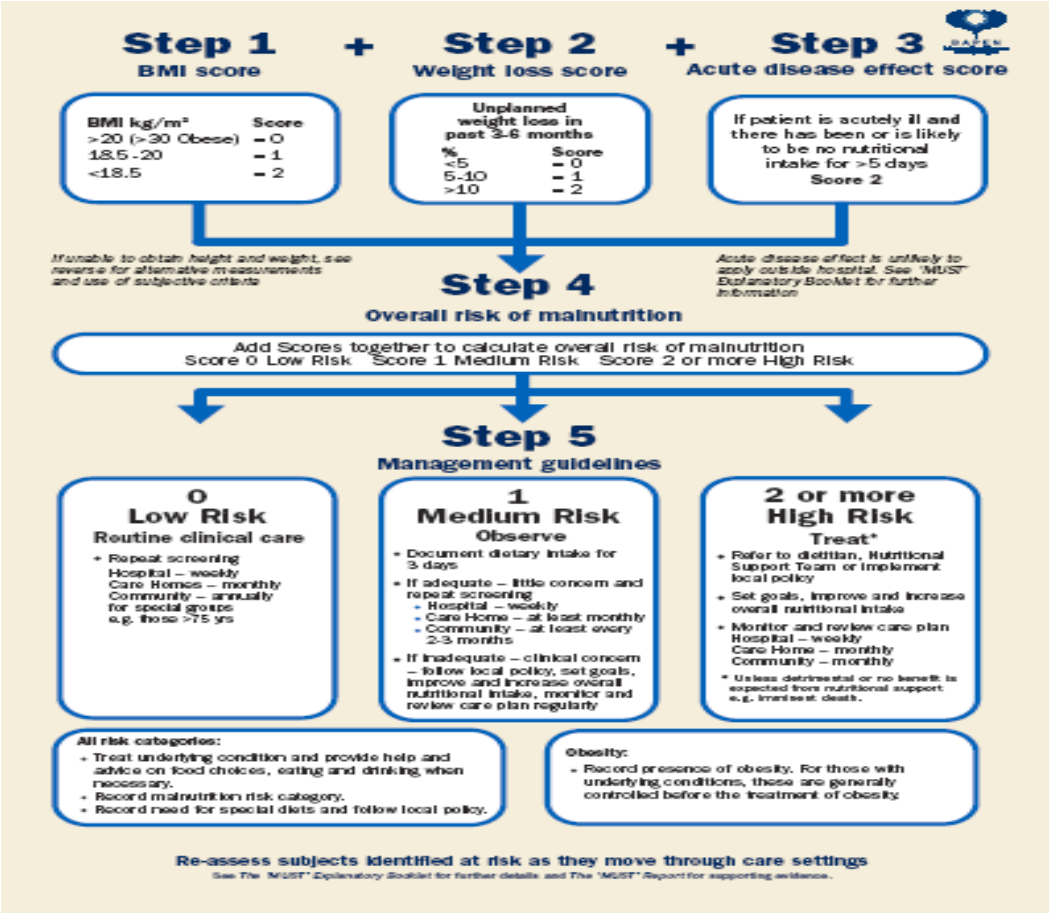
- All patients should be screened for risk of malnutrition as soon as possible!

- A proper screening of malnutrition increases the referral to specialists for further nutrition assessment and targeted nutrition intervention.

Kruizenga et al. *American Journal of Clinical Nutrition* 2005; 82- 1082-1089.

Nutrition Screening is Mandatory!

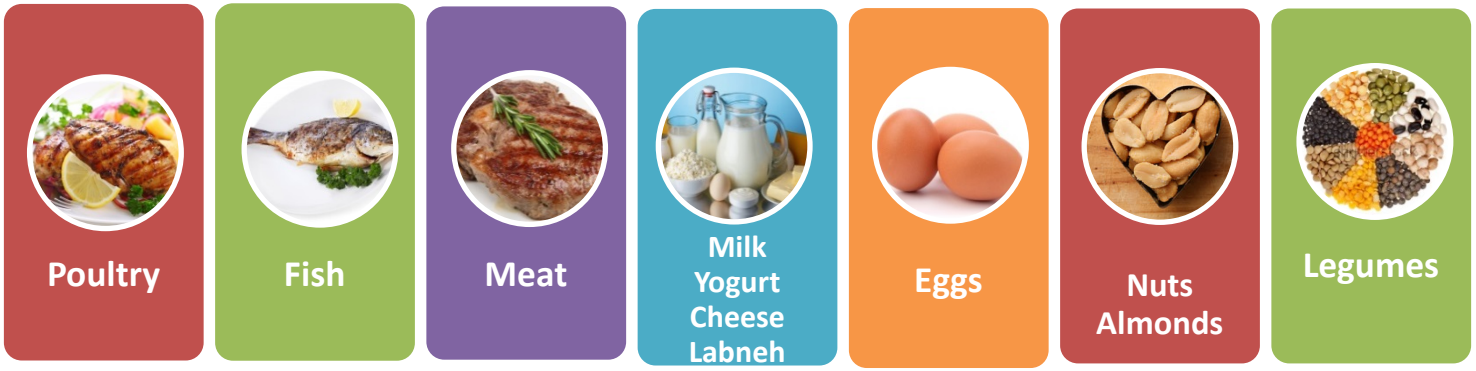
- Malnutrition Universal Screening Tool MUST ➔ developed by BAPEN to screen all adults, even if weight and/or height cannot be measured.
- 5-step screening tool.



Stratton et al. British Journal of Nutrition 2004; 92: 799-808.

Nutrition Intervention

- High protein diet: 1.25-1.5g/kg/day



Posthauer et al. *Advances in Skin and Wound Care* 2015; 28: 175-188

Nutrition Intervention

- High energy diet
  - 30-35 Kcal/kg/day
  - 35-40 Kcal/kg/day if patient underweight or loosing weight.

Posthauer et al. *Advances in Skin and Wound Care* 2015; 28: 175-188

Nutrition Intervention

- NPUAP 2014: *Patients should consume high calorie high protein nutritional supplements if nutritional requirements cannot be achieved by dietary intake.*
- Oral Nutrition Supplements ONS taken with meals or between meals is effective:
  - Easy to prepare
  - Easy to consume
  - Necessary to overcome a lack of interest in food and eating
  - Includes vitamins and minerals in addition to macronutrients.

Krystel Ouaijan, 2016

Posthauer et al. *Advances in Skin and Wound Care* 2015; 28: 175-188

ONS and Pressure Ulcers

- Systematic review of 15 studies, including 8 RCTs.

- Oral Nutrition Supplements ONS were associated with a significantly lower incidence of pressure ulcer development in at-risk patients compared to routine care.

Sratton et al. Ageing Research Reviews 2005; 4 (3): 422-450.

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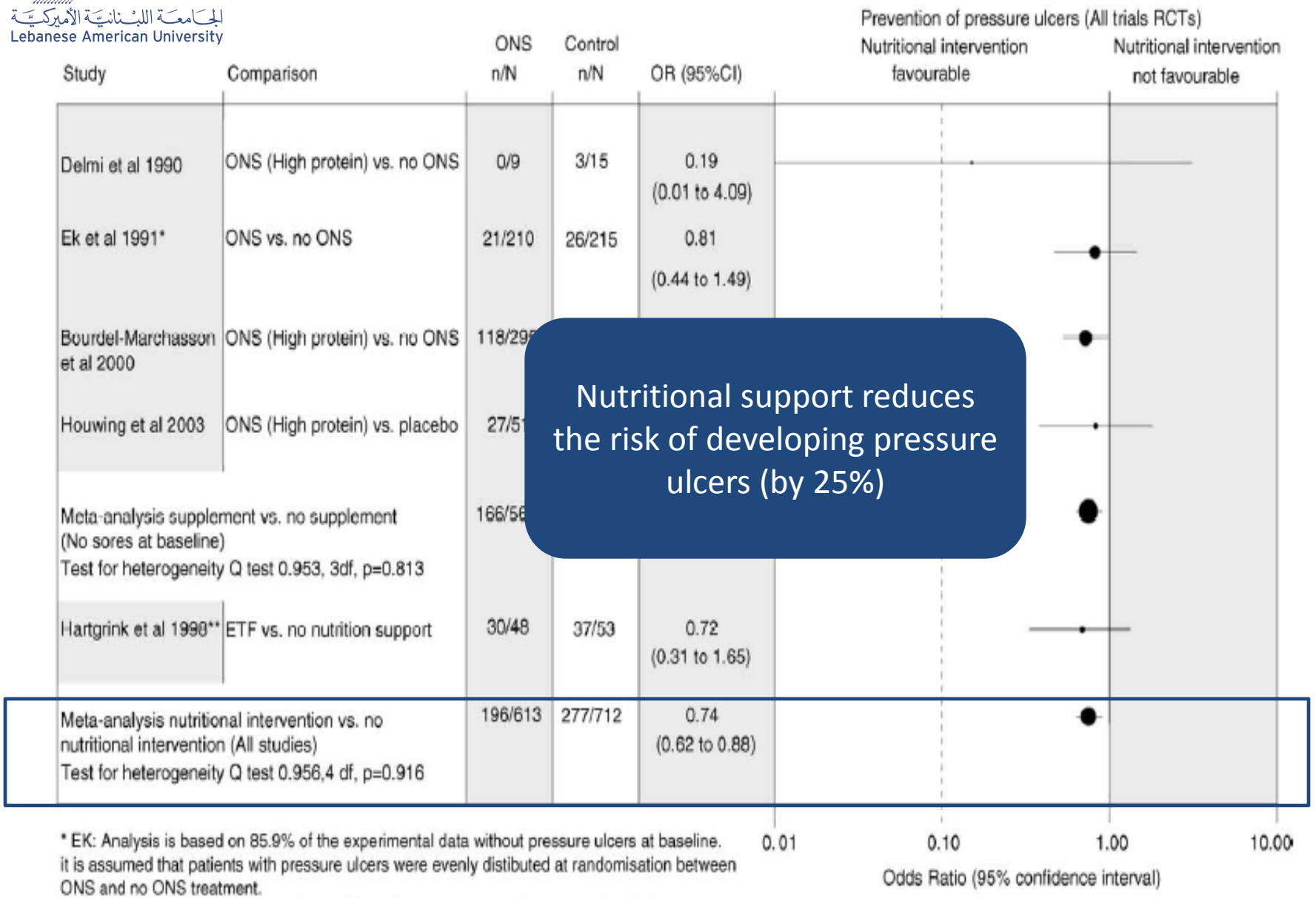

Nutritional support reduces the risk of developing pressure ulcers (by 25%)

* EK: Analysis is based on 85.9% of the experimental data without pressure ulcers at baseline. it is assumed that patients with pressure ulcers were evenly distibuted at randomisation between ONS and no ONS treatment.

** Hartgrink: Analysis includes patients with grade one pressure ulcers at randomisation.

Sratton et al. Ageing Research Reviews 2005; 4 (3): 422-450.

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- Wild et al. Basics in nutrition and wound healing. *Nutrition* 2010; 26: 862-866.
- Iizaka et al. The impact of malnutrition and nutrition-related factors on the development and severity of pressure ulcers in older patients receiving home care. *Clinical Nutrition* 2009; 29: 47-53.
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- Demling et al. The incidence and impact of pre-existing protein energy malnutrition on outcome in the elderly burn patient population. *The Journal of Burn Care and Rehabilitation* 2005; 1: 94-100.
- Stratton et al. Malnutrition in hospital outpatients: prevalence, concurrent validity and ease of use of the "malnutrition universal screening tool" (MUST) for adults. *British Journal of Nutrition* 2004; 92: 799-808.
- Stratton et al. Enteral nutritional support in prevention and treatment of pressure ulcers: a systematic review and meta-analysis. *Ageing Research Reviews* 2005; 4 (3): 422-50.
- Posthauer et al. The role of nutrition for pressure ulcer management: NPUAP, EPUAP and Pan Pacific Pressure Injury Alliance White Paper. *Advances in Skin and Wound Care* 2015; 28: 175-188.
- Kruizenga et al. Effectiveness and cost-effectiveness of early screening and treatment of malnourished patients. *American Journal of Clinical Nutrition* 2005; 82: 1082-1089.

‘Malnutrition Universal Screening Tool’

BAPEN is registered charity number 1023927 www.bapen.org.uk

‘MUST’

‘MUST’ is a five-step screening tool to identify **adults,** who are malnourished, at risk of malnutrition (undernutrition), or obese. It also includes management guidelines which can be used to develop a care plan.

It is for use in hospitals, community and other care settings and can be used by all care workers.

This guide contains:

- A flow chart showing the 5 steps to use for screening and management
- BMI chart
- Weight loss tables
- Alternative measurements when BMI cannot be obtained by measuring weight and height.

The 5 ‘MUST’ Steps

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.*

Step 2

Note percentage unplanned weight loss and score using tables provided.

Step 3

Establish acute disease effect and score.

Step 4

Add scores from steps 1, 2 and 3 together to obtain overall risk of malnutrition.

Step 5

Use management guidelines and/or local policy to develop care plan.

Please refer to *The ‘MUST’ Explanatory Booklet* for more information when weight and height cannot be measured, and when screening patient groups in which extra care in interpretation is needed (e.g. those with fluid disturbances, plaster casts, amputations, critical illness and pregnant or lactating women). The booklet can also be used for training. See *The ‘MUST’ Report* for supporting evidence. Please note that ‘MUST’ has not been designed to detect deficiencies or excessive intakes of vitamins and minerals and is of **use only in adults.**

BAPEN
www.bapen.org.uk

Step 1 + Step 2 + Step 3

Step 1 — BMI score

BMI kg/m²	Score
>20 (>30 Obese)	= 0
18.5-20	= 1
<18.5	= 2

If unable to obtain height and weight, see reverse for alternative measurements and use of subjective criteria

Step 2 — Weight loss score

Unplanned weight loss in past 3-6 months

%	Score
<5	= 0
5-10	= 1
>10	= 2

Step 3 — Acute disease effect score

If patient is acutely ill **and** there has been or is likely to be no nutritional intake for >5 days
Score 2

Acute disease effect is unlikely to apply outside hospital. See 'MUST' Explanatory Booklet for further information

Step 4

Overall risk of malnutrition

Add Scores together to calculate overall risk of malnutrition
Score 0 Low Risk Score 1 Medium Risk Score 2 or more High Risk

Step 5

Management guidelines

0 Low Risk

Routine clinical care

- Repeat screening
  Hospital – weekly
  Care Homes – monthly
  Community – annually
  for special groups
  e.g. those >75 yrs

1 Medium Risk

Observe

- Document dietary intake for 3 days
- If adequate – little concern and repeat screening
  - Hospital – weekly
  - Care Home – at least monthly
  - Community – at least every 2-3 months
- If inadequate – clinical concern – follow local policy, set goals, improve and increase overall nutritional intake, monitor and review care plan regularly

2 or more High Risk

Treat*

- Refer to dietitian, Nutritional Support Team or implement local policy
- Set goals, improve and increase overall nutritional intake
- Monitor and review care plan
  Hospital – weekly
  Care Home – monthly
  Community – monthly

* Unless detrimental or no benefit is expected from nutritional support e.g. imminent death.

All risk categories:

- Treat underlying condition and provide help and advice on food choices, eating and drinking when necessary.
- Record malnutrition risk category.
- Record need for special diets and follow local policy.

Obesity:

- Record presence of obesity. For those with underlying conditions, these are generally controlled before the treatment of obesity.

Re-assess subjects identified at risk as they move through care settings

See *The 'MUST' Explanatory Booklet* for further details and *The 'MUST' Report* for supporting evidence.