



Kent Community Health
NHS Foundation Trust

MUST and more

Care home Registered Manager Conference



Outline:

- MUST
- Food first – fortification of meals and drinks
- Case study – group exercise
- Nutrition care planning
- Hydration
- Referral to dietetics

Malnutrition

A state in which a deficiency of a nutrient such as energy, protein, vitamins and minerals causes adverse effects on body composition, function or clinical outcome (NICE 2006)

- Body mass index (BMI) of $<18.5\text{kg/m}^2$
- Unintentional Weight loss $>10\%$ within the last 3-6 months
- BMI of $<20\text{kg/m}^2$ and unintentional weight loss greater than 5% within the last 3-6 months

What causes malnutrition?

- Impaired intake
 - poor appetite, inability to eat, lack of food
- Impaired digestion and/or absorption
 - medical or surgical problems affecting the stomach, intestine, pancreas or liver
- Altered nutrient requirements due to medical conditions
- Excess nutrient losses
 - Vomiting, diarrhoea, drains, stoma losses

Consequences of malnutrition

Serious negative health consequences including:

- Loss of weight
- Muscle wasting and reduced strength
- Increased risk of pressure ulcers
- Reduced lung and cardiac function
- Increased falls risk
- Impaired immune function – risk of infections
- Increased mortality and morbidity

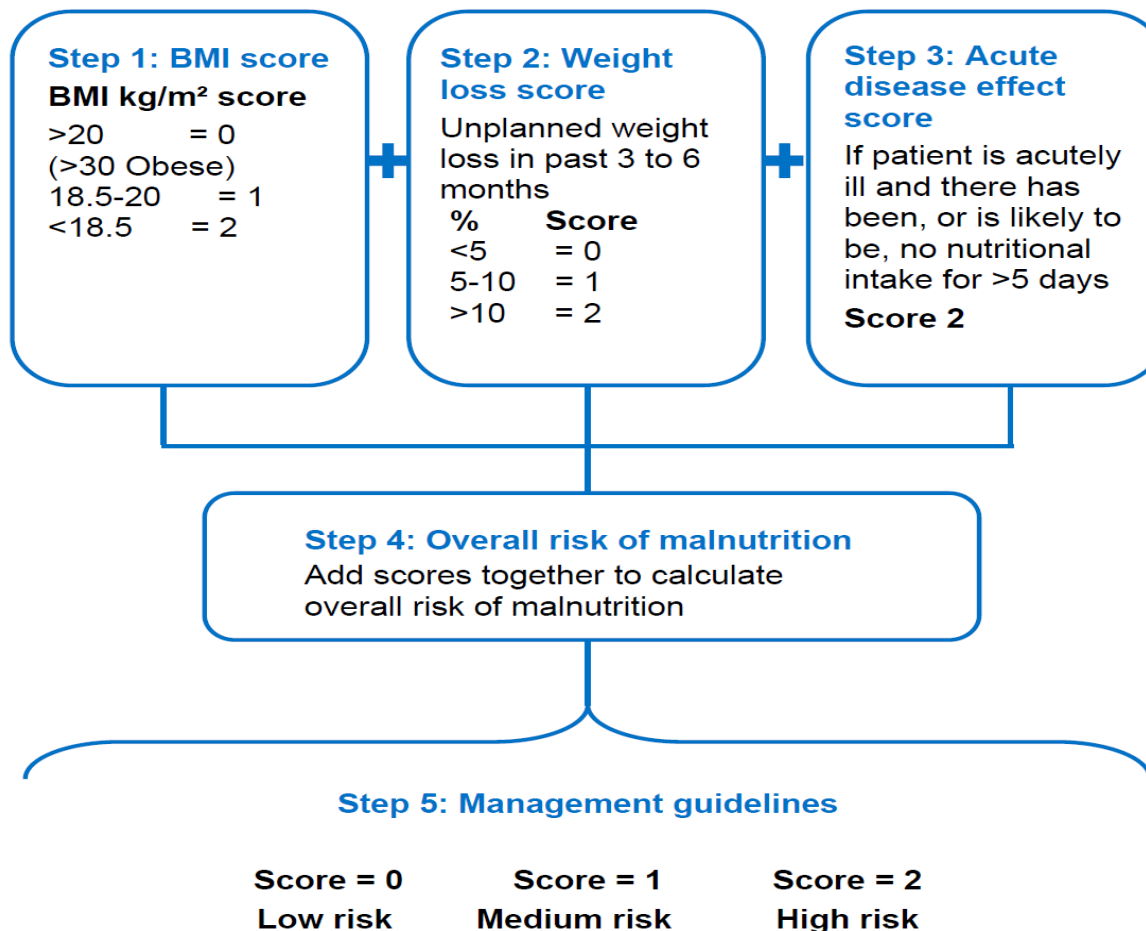
Nutritional screening using MUST

Malnutrition Universal Screening Tool (MUST)

An objective tool for estimating **risk** of malnutrition

Score derived from 3 criteria:

1. BMI (Calculated from height and weight)
2. Unintentional weight loss in last 3 to 6 months
3. If patient is acutely ill **and** there has been or is likely to be no nutritional intake for >5 days
4. Each section is scored and then the 3 scores added together to give a total MUST score



Step 1: BMI score

Use the BMI chart in MUST

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

Example

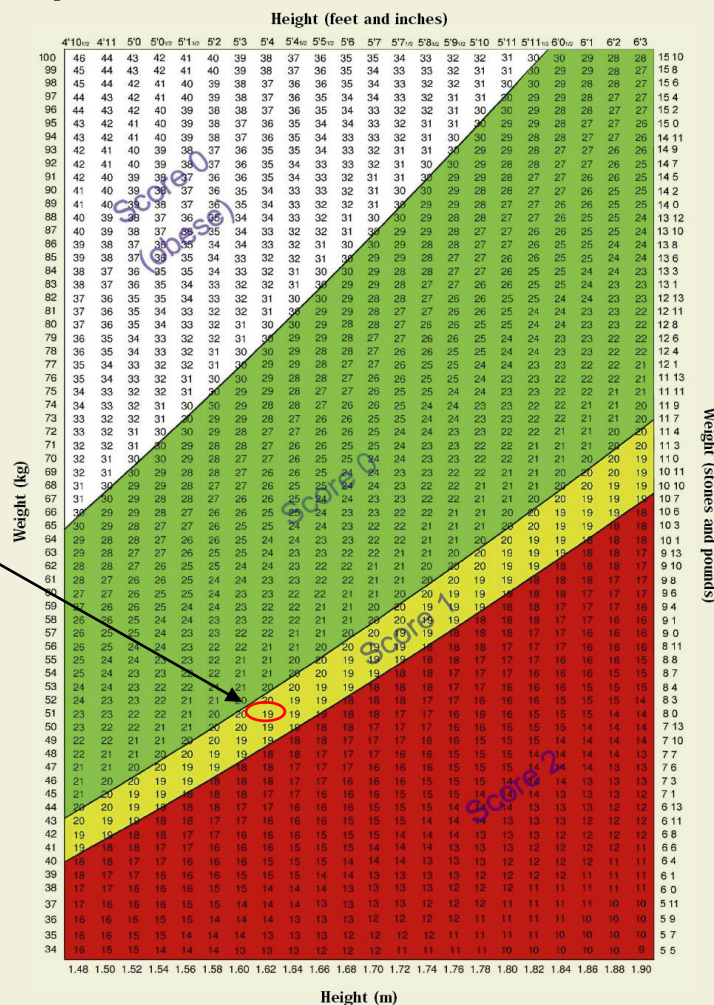
Patient weight = 50kg

Patient height = 5ft4in

BMI = 19

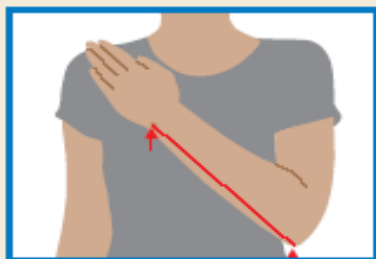
Score = 1

Step 1 – BMI score (& BMI)



Step 1: BMI – Height (cont.)

Estimating height from ulna length



Measure between the point of the elbow (olecranon process) and the midpoint of the prominent bone of the wrist (styloid process) (left side if possible).

HEIGHT (m)	Men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	Men (>65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
	Ulna length (cm)	32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5
HEIGHT (m)	Women (<65 years)	1.84	1.83	1.81	1.80	1.79	1.77	1.76	1.75	1.73	1.72	1.70	1.69	1.68	1.66
	Women (>65 years)	1.84	1.83	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.66	1.65	1.63
HEIGHT (m)	Men (<65 years)	1.69	1.67	1.66	1.64	1.62	1.60	1.58	1.57	1.55	1.53	1.51	1.49	1.48	1.46
	Men (>65 years)	1.65	1.63	1.62	1.60	1.59	1.57	1.56	1.54	1.52	1.51	1.49	1.48	1.46	1.45
	Ulna length (cm)	25.0	24.5	24.0	23.5	23.0	22.5	22.0	21.5	21.0	20.5	20.0	19.5	19.0	18.5
HEIGHT (m)	Women (<65 years)	1.65	1.63	1.62	1.61	1.59	1.58	1.56	1.55	1.54	1.52	1.51	1.50	1.48	1.47
	Women (>65 years)	1.61	1.60	1.58	1.56	1.55	1.53	1.52	1.50	1.48	1.47	1.45	1.44	1.42	1.40

Step 1: BMI alternative measure

Mid upper arm circumference (MUAC) can be a useful measurement if the patient is unable to be weighed or it is difficult to obtain an accurate weight (e.g. in the presence of significant oedema or ascites)

MUAC provides a general indication of BMI and is not designed to generate an actual score for use with MUST.

Measuring MUAC:

1. The subject's non-dominant arm should be bent to 90° angle with the upper arm held parallel to the body.
2. Measure the distance between the bony protrusion on the shoulder and the point of the elbow.
3. Mark the mid point.



Step 1: BMI alternative measure (cont.)

4. Ask the subject to let the arm hang loose and measure around the upper arm at the mid point
5. Make sure the tape is snug but not tight
6. This reading is the MUAC

First reading is a baseline which gives a guide to BMI, later readings show trend of weight loss/gain.

If MUAC is $<23.5\text{cm}$, BMI is likely to be $<20\text{kg/m}^2$

If MUAC is $>23.5\text{cm}$, BMI is likely to be $>20\text{kg/m}^2$

If MUAC is $>32.0\text{cm}$, BMI is likely to be $>30\text{kg/m}^2$



If the MUAC **changes by at least 10%**, it is likely that weight and BMI have changed by 10% or more

Step 2: Unintentional weight loss score

The unintentional weight loss score is calculated by % weight lost in the last 3 to 6 months. This relates only to unplanned or unintentional weight loss.

% Weight loss	Score
<5	0
5 -10	1
>10	2

Example

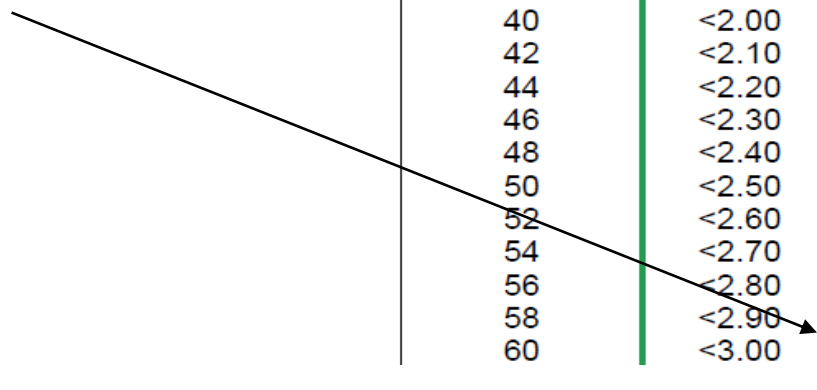
Previous weight 60kg 3 months ago

Current weight 55kg

Weight reduction = - 5kg

weight loss is 5 -10% and **score 1**.

Weight before weight loss (kg)	Score 0 : Wt loss <5%	Score 1: Wt loss 5-10%	Score 2 : Wt loss >10%
34	<1.70	1.70-3.40	>3.40
36	<1.80	1.80-3.60	>3.60
38	<1.90	1.90-3.80	>3.80
40	<2.00	2.00-4.00	>4.00
42	<2.10	2.10-4.20	>4.20
44	<2.20	2.20-4.40	>4.40
46	<2.30	2.30-4.60	>4.60
48	<2.40	2.40-4.80	>4.80
50	<2.50	2.50-5.00	>5.00
52	<2.60	2.60-5.20	>5.20
54	<2.70	2.70-5.40	>5.40
56	<2.80	2.80-5.60	>5.60
58	<2.90	2.90-5.80	>5.80
60	<3.00	3.00-6.00	>6.00



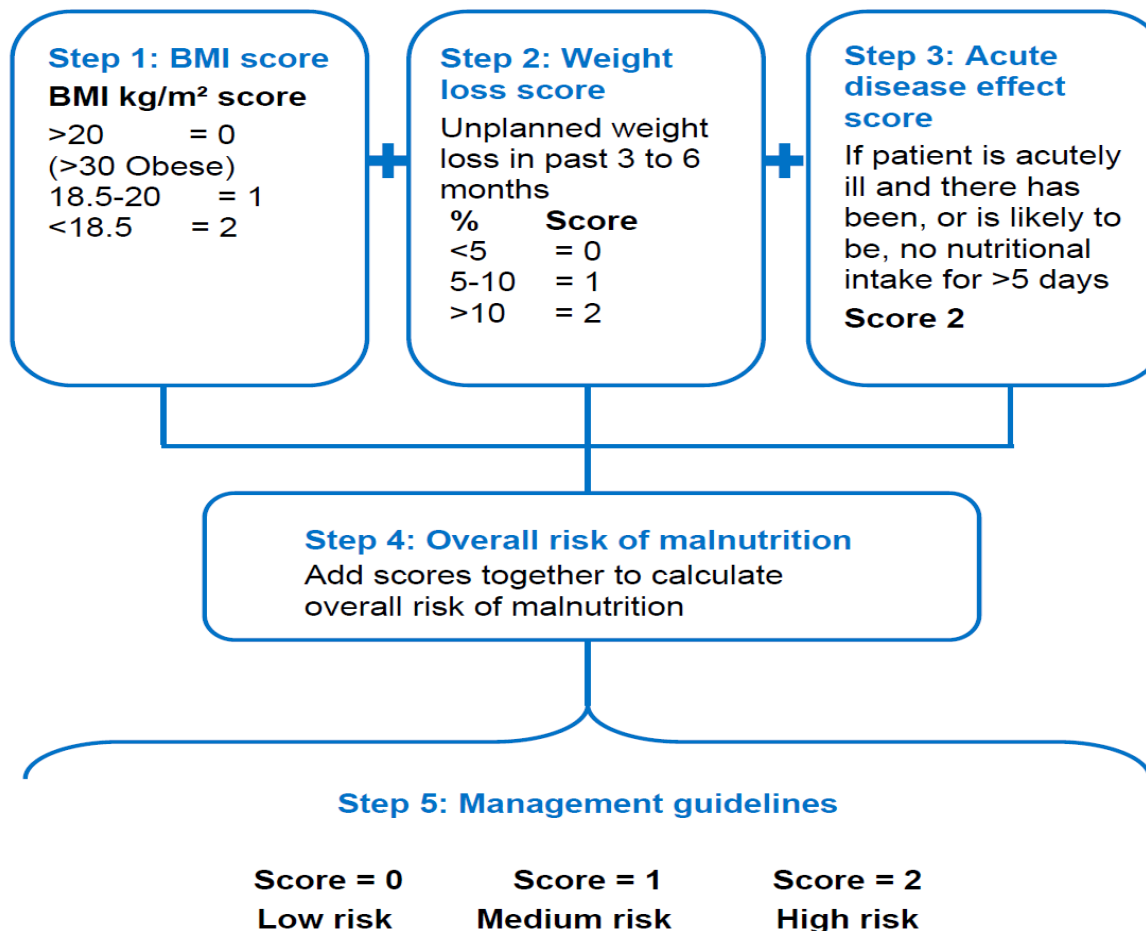
Step 3: Acute Disease Effect Score

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

Otherwise **score 0**.

Step 4: Final MUST score

Finally add up the three separate scores to obtain to MUST score



Exceptions to MUST

Under 18 years

ITU

Maternity

Terminal or where intervention is of no benefit or harmful

Non-consenting patients



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Have a go at calculating MUST...

Case Study: Eileen

83 year old discharged from an acute ward.

Recovering from a hip replacement following fractured neck of femur.

Handover reported that Eileen was not eating well on the ward.

She is 5ft 3in and prior to her fall she weighed 10 stone.

On your admission her weight is 58kg.

She is eating half portions of her main meals.

It is taking her a long time to eat as she has poorly fitting dentures.

She sips at her drinks.

At home her daughter assisted her with eating.

Complete the questions for part 1 within your group

What advice to give Eileen?

- First line
- 'Food first'

First Line Dietary Advice

- Malnutrition is best treated with food
- Encourage 'energy dense' food and drinks
- Milk, nourishing drinks
- Food fortification
- Small frequent meals and snacks
- Make meal times social
- Involve people / relatives in meal choices
- Environment and Positioning
- Mouth care
- Meal provision / access to food

Nourishing Drinks

- Milkshakes or flavoured milk e.g. “Yazoo”, “Nesquik”, supermarket brands
- Milky tea and coffee
- Malted drinks such as Ovaltine or Horlicks
- Hot chocolate
- Home made milkshakes with full cream milk, double cream/ ice cream, creamy yogurt, fruit/ coffee/ milkshake flavouring, honey
- Home made fruit smoothies with fruit juice, creamy yogurt, fruit
- Over the counter supplements e.g. Meritene or Complian

How would you enrich this diet?

- *Breakfast*
- Porridge made with water

- *Lunch*
- Tomato soup and a bread roll
- low fat yoghurt and a banana

- *Mid afternoon*
- Cup of tea

- *Evening meal*
- Meat stew, boiled new potatoes and vegetables.
- Fruit and custard

Part 2 of Case study...

- What would you put in place to improve Eileen's nutritional status now she is in your care?
- Try writing a care plan for Eileen.....
- What would you review?
- When would you review?

Part 3 of Case study...

- You rescreen Eileen's MUST score
- She has lost more weight and now has a MUST score of 2
- How would you revise your nutrition care plan?

Tips for assessing dietary intake

- Open questions tend to elicit more information
 - How is your appetite?
 - Can you tell me about which foods and drinks you enjoy?
- Use more specific questions to clarify information
 - Do you like milky coffee?
 - Do you prefer to eat in the dining room or in your own room?
- Be observant
 - Do they have additional access to food e.g. relatives?
 - Are they hiding food?
 - How is their behaviour at mealtimes?

Improving Intake and Care Planning

- Care plan focused on person's needs and wishes
- Explore the underlying reason for poor nutritional status / intake and take steps to overcome these
- A food and/or fluid chart should be kept to monitor oral intake when there are concerns
- Individuals with signs of dysphagia should be referred to appropriate healthcare professionals (SLT)

Hydration

Why are fluids important?



Hydration

- **Signs of dehydration**
 - Thirst
 - Dark urine – should be pale or straw coloured
 - Dry skin
- **Factors affecting fluid intake:**
 - Dysphagia–tend to drink less if fluids are thickened or if swallowing is difficult
 - Frequent urination or incontinence together with poor mobility can deter people from drinking well
 - Lack of access e.g. inability to reach drinks or needing assistance to drink
 - Poor thirst mechanism – declines with age

- **How much fluid?**
 - Aim for 6-8 large glasses/mugs of fluid per day
 - At least 1.6 to 2.0 litres per day
 - Or 30-35ml fluid per kg body weight per day
- **Which fluids are OK?**
 - A variety of fluids can contribute to fluid intake including water, tea and coffee, fizzy drinks, fruit juice, soup
 - Encourage nourishing fluids if patient is malnourished e.g. milky drinks, fruit juice
 - The diuretic effect of caffeine is not significant

Tips to maintain hydration

- Encourage drinking regularly
- If unable to manage large volume, promote frequent small sips
- Offer extra support where required
- Include fluids found within foods e.g. ice lollies, jellies, yoghurts, milky puddings, fruit and vegetables, soups and stews
- Hot weather - offer cold drinks with ice and/or a cold meal
- If someone becomes unwell during hot weather, encourage any fluids they can manage. Seek medical advice.
- Monitor fluid intake

How to refer to dietetics

- Residents that have a MUST score of 2 or more
- Other clinical needs/ more complex patients
- Community team across Kent
 - Care Home – visits and telephone consults
- Referral form complete online
- Tel: 0300 123 0861

Any further questions?

Useful links:

- <http://www.bapen.org.uk/malnutrition-undernutrition/introduction-to-malnutrition>
- <https://www.bda.uk.com/>