



**Key Amendments to this guideline:**

<b>Date</b>	<b>Amendment</b>	<b>By:</b>
Dec 2010	Update on malnutrition issues following Bapen report	Zakia Naz
Dec 2010	Updated version of the Nutrition Risk Score Tool and Food Boosters booklet	Zakia Naz
June 2011	Small paragraph on page 2 deleted about history of South Manchester Tool,	Nalinee Owen
June 2011	Addition of 'MUST' tool information, general update on malnutrition issues following Bapen report, Appendices 1, 2 and 6 updated and appendices 3, 4, 7, 8, 9, 10 and 11 added.	Sarah Trenbirth
August 2013	Appendix 1, 2, 3, 6, 8 and 12 updated.	Zakia Naz
October 2015	Appendix 2 updated	Zakia Naz
September 2016	Updated Documentation for MUST Screening Tool and Nutrition Action Plan Added to Appendix 2 and Appendix 3, Appendices renumbered.	Joanna Logan
December 2017	Sentence added in at the request of the Coroner	
August 2018	Updated appendixes	Petty Millard
October 2018	Information on community management of malnutrition MUST 2018 audit – updated documentation Update on malnutrition and associated costs Updated care plans First line supplements altered Patient discharge information changed References updated Supplement chart removed and selection discussed IDDSI added	Emma Biddle
February 2021	Document extended as per Trust agreement 11.02.2021	
June 2021	Document approved with no amendments	Nutrition & Hydration Steering Group

## Guideline for Malnutrition Screening of Adult Inpatients and its Subsequent Management - Using the 'Malnutrition Universal Screening Tool' ('MUST')

### INTRODUCTION

These guidelines set out the nursing process for the screening and identification of all adult in-patients with or at risk of malnutrition. This is done by utilising and completing the specified Trust 'Malnutrition Universal Screening Tool' ('MUST') (see appendix 2).

The specified Trust 'MUST' then describes how to proceed with managing patients identified with or at risk of malnutrition. Patients with chronic malnutrition may also be at risk of Re-feeding Syndrome. This can also occur in patients receiving oral nutrition support i.e. oral nutritional supplements. Please refer to Identification and Management of Re-feeding Syndrome Guideline WAHT- NUT-006 for further guidance on this.

This guideline and screening tool are part of the 'Essence of Care' (DOH 2010), Food and Nutrition Benchmark. They have been produced to provide a consistent and equitable approach to patient malnutrition whilst in hospital. They clearly set out the responsibilities of the healthcare team and make efficient use of dietetic time. This policy is to be used for the management of inpatients in Worcestershire Acute hospitals. Please also refer to the trust Guideline for Good Practice at Mealtimes WAHT-NUR-047 for further guidance on supported mealtime policy and action plan. Information regarding the management of community patients can be found at <https://www.malnutritionpathway.co.uk/>.

The 'MUST' was chosen as it is a nationally validated tool which has been successfully implemented in approximately 70% of hospitals across England. The tool is supported by the British Dietetic Association (BDA), the Royal College of Nursing (RCN) and the Registered Nursing Home Association (RNHA). In 2018 an audit on the MUST, led to revised documentation of the MUST care plans and all supporting documentation, which can be found in the appendices. Training was given to ward staff on the new supporting material that is now in use.

Many adults admitted to hospital, 29% of the population (BAPEN 2011) are already malnourished or at risk of malnutrition. The associated costs to health and social care for malnutrition is estimated at over £90 million per CCG, which equates to in excess of £19 billion per annum in England alone (BAPEN 2015).

On average it costs £7,408 per year to care for a malnourished patient, compared to £2,155 for a well-nourished patient (BSNA, Nov 2018).

This highlights the importance of malnutrition screening on admission to identify these people and initiate the appropriate care plan (BAPEN, 2011).

Malnutrition has a wide range of adverse consequences (Beckford-Ball 2006) including:

- Impaired immune response
- Reduced respiratory muscle function
- Reduced muscle strength and fatigue (sarcopenia)
- Impaired wound healing
- Delayed recovery from illness

- Increased risk of hospital admission, 8 times more likely than well nourished (BSNA, 2018)
- Increased length of hospital stay

## **DETAILS OF GUIDELINE**

### **Screening**

The 'MUST' will be completed for all adults within 24 hours of admission to hospital (DOH, 2010, NICE 2006, CQC 2008, Beckford-Ball 2006).

### **Re-screening**

Patients should be re-screened using the same 'MUST' tool weekly (DOH 2010, NICE 2006), unless their medical condition changes and an earlier re-screening is indicated. When patients are admitted onto a new ward, an accurate weight should be taken that day. If for any reason a weight cannot be taken on that day, a Mid Upper Arm Circumference (MUAC) should be taken and recorded on the MUST score. No estimated weights should be performed without guidance of a MUAC. Wards should then dedicate a 'weigh day'. This should help to ensure patients are weighed weekly during their admission and prevent any weights and therefore MUST scores being missed.

### **Using the 'MUST'**

The 'MUST' tool is completed by scoring the patient in each of the 3 steps; step 1: BMI score; step 2: percentage weight loss score and step 3: acute disease effect score. In step 4 the scores for steps 1, 2 and 3 are added together to give the overall 'MUST' score. Step 5 indicates which score nursing care plan to follow. Document on the tool, in the table provided the score for each step and overall score. The overall risk should be completed in step 5, which will then determine which action plan (low, medium, high risk) should be implemented. The action plans are designed and initiated to help prevent well-nourished patients becoming less well-nourished, while in hospital. Medium and high risk care plans are designed to help at risk patients or already malnourished patients receive the correct nutrition and hydration intervention while in hospital and hopefully improve their nutritional status. Remember prevention is always better than cure.

### **Nursing Action Plans**

#### **'MUST' = 0: Low Malnutrition Risk – Interventions**

1. Weekly weights.
2. Repeat 'MUST' score weekly unless patient's condition raises concern.
3. If the patient is eating less than half a meal on a regular basis, follow 'MUST' = 1.

#### **'MUST' = 1: Medium Malnutrition Risk – Interventions**

1. Start Food Record Chart. Record intake for 3 days
2. Nurse to discuss with patient and family/carers regarding food preferences and notify Catering Department
3. If menu choices are not suitable Catering Dept to be contacted to discuss alternatives
4. Chose portion size to suit their appetite
5. Offer snacks available on wards; e.g. yoghurt, biscuits, fruit
6. Check whether relatives/carers can bring in snacks to tempt appetite e.g. individually wrapped favourite cakes, biscuits, chocolate, cheese and crackers.
7. Offer nourishing drinks in preference to water e.g. milky tea / coffee, malted drinks, hot chocolate, milk, fruit juice.

8. Contact Catering Dept if patient is finding meals repetitive
9. Offer assistance at meal times to patients who have been allocated a red tray
10. If less than half of a meal is eaten, offer a suitable supplement e.g. Fortisip Compact, Fortisip Compact Fibre or Forticreme
11. If a savoury supplement is preferred, order Meritene Soup if suitable, which are available from pharmacy
12. Document supplements offered on food chart
13. Repeat weekly weights
14. Repeat MUST screening weekly
15. To improve hydration encourage visitors to bring in beverages such as cartons of fruit juice, soft drinks in plastic bottles / cartons and individual sachets of malted drinks
16. If there are clinical concerns regarding food intake after implementing the above, please refer to the dietitian

#### 'MUST' = 2 or more: High Malnutrition Risk – Interventions

1. Implement all actions above for MUST=1 where patient is able to eat and drink safely
2. Refer to the Dietitian stating MUST

The above actions should be IMPLEMENTED and documented clearly within the patient's MUST action plan / medical notes.

### **Malnutrition and the Red Tray Guideline**

Patients highlighted as at risk of malnutrition ('MUST' score of 1 or above) who require assistance with feeding, will have their meals served on a red tray (see appendix 6 for Red Tray Guideline).

Red tray allocation at mealtimes is organised by ticking the 'red tray' box on the patients menu. The menu is sent to the Catering Department and subsequently a red tray is allocated to the patient at ward level when meals are plated up.

The purpose of the red tray is to ensure all patients receive supervision, assistance and observation at mealtimes. It also highlights that food charts should be completed prior to removing the tray from the patient's bedside thus ensuring nutritional intake is recorded accurately.

### **Selection of Oral Nutritional Supplements**

The Trust has agreed that supplements are food and therefore do not need a drug 'prescription' or patient group directive to administer to patients. If a patient has a medium MUST score, supplements can be offered without a prescription as part of the action plan. For patients on thickened fluids please seek advice from the Nutrition and Dietetic or Speech and Language Departments to ensure supplements are suitable for these patients.

When a patient is requiring ongoing oral nutrition support, supplements can be prescribed onto the patients drug chart to ensure they are offered regularly. This can be done by a nurse prescriber, Pharmacist, Doctor or Dietitian. It will be essential for the prescriber to specify which nutritional supplement is most appropriate for that patient. The prescribing of supplements onto a patient's drug chart is recommended to improve patient compliance (NICE 2006).

The Trust supplement selection (see appendix 8) should be used as a guide to selecting the most appropriate supplement for each patient. First line supplements should include Fortisip Compact, Fortisip Compact Fibre or Forticreme. If a supplement is offered and the patient dislikes it please offer an alternative flavour or try a different style bearing in mind that everyone is different and preferences will vary. Oral nutritional supplements are more palatable when chilled. If any issues are experienced with selecting the appropriate supplement, please contact your ward Dietitian.

If a patient is required to be on thickened fluids special attention should be paid when offering nutritional supplements as they may not be appropriate. Please refer the patient to the Nutrition and Dietetic Department or Speech and Language Department for a review.

No nutritional supplements will be prescribed or supplied on discharge, as part of the patients ongoing care plan, unless a Dietitian has indicated otherwise. Refer to the section on nutritional supplement provision on discharge for clarification.

Supplements are to be ordered by ward housekeepers.

### **Referral to the Dietitian**

Referrals to the Dietitian should be made as directed by the 'MUST' tool ('MUST' score 2 or more and 'MUST' of 0 or 1 where the 'MUST' = 1 nursing care plan has been implemented for a minimum of 3 days with no improvement in nutritional intake).

However, you should also refer the following patients regardless of the 'MUST' score;

- TPN
- Enteral feeding support
- Patients at risk of re-feeding syndrome
- Liver disease
- Chronic renal disease
- IBD
- Textured modified diets
- Pressure ulcer
- Diabetes new / with complications

The above list is not exhaustive and therefore, the use of the 'MUST' tool should not override clinical judgement (for example terminal or palliative patients who wish to enjoy their favourite foods rather than optimising their nutritional status, or those commencing the optimising end of life care pathway).

In these 'special' circumstances where the 'MUST' and resulting defined nursing care plan is not followed, the rationale for this alternative action should be clearly documented within the patient's medical or nursing care plan and when the referral is made to the dietetic department.

### **Patient Discharge from Hospital**

There are numerous websites and ways to gain information regarding diet and nutrition. If as a ward you would like to signpost / provide literature to your patients before discharge. This reputable website will help provide appropriate information. If you feel your patient needs more

specific / specialised dietary information please refer to the dietetic department in a timely manner prior to discharge.

General healthy eating, for low MUST :

[https://www.malnutritionpathway.co.uk/library/pleaflet\\_green.pdf](https://www.malnutritionpathway.co.uk/library/pleaflet_green.pdf)

Making the most of your food, for medium MUST

[https://www.malnutritionpathway.co.uk/library/pleaflet\\_yellow.pdf](https://www.malnutritionpathway.co.uk/library/pleaflet_yellow.pdf)

Food fortification for patients with high risk MUST

[https://www.malnutritionpathway.co.uk/library/pleaflet\\_red.pdf](https://www.malnutritionpathway.co.uk/library/pleaflet_red.pdf)

If a patient is due for discharge to their own home and under dietetic review, the dietitian will give out the most appropriate diet literature prior to discharge.

### **Nutritional Supplement Provision on Discharge**

Supplements are not routinely prescribed on discharge and should not be included on the EDS, unless specifically requested by the Dietitian. Pharmacy will not supply nutritional supplements to patients on discharge unless on the authorisation of a dietitian.

As per the Worcestershire Area Prescribing Committee 'Prescribing Guidelines for Oral Nutritional Supplements (ONS) for adults' a food first approach should always been used for discharge.

For patients requiring nutritional supplement provision within the community, their hospital Dietitian will write to the patient's GP clearly documenting the 'MUST' score, the required action plan and the rationale for continuing the supplements in the community. The GP will then assess the patient's case and plan their community care accordingly. The GP should then reassess the need for continuing supplements longer term as per the 'Prescribing Guidelines for Oral Nutritional Supplements (ONS) for adults'. There is currently no community dietetic service for patients in Worcestershire who require oral nutrition support, other than attending an outpatient clinic appointment at the local hospital. A hyperlink for the ONS commission policy can be found in the references.

### **Malnutrition Policy System Monitoring**

The effectiveness of the 'MUST' tool will be monitored via the Nutrition and hydration steering group audits, which will be carried out by the dietitians annually. Matrons also carry out regular audits to ensure standards and compliance with weights and MUST tools are maintained.



## REFERENCES

BAPEN Malnutrition Matters (2010) – **Meeting Quality Standards in Nutritional Care**, <http://www.bapen.org.uk/pdfs/toolkit-for-commissioners.pdf>, (accessed 27<sup>th</sup> June 2011)

BAPEN (2011) **BAPEN Nutrition Screening Week Survey 2010 & Report**, [http://www.bapen.org.uk/pdfs/press\\_releases/nsw10-media-release2.pdf](http://www.bapen.org.uk/pdfs/press_releases/nsw10-media-release2.pdf) (accessed 27<sup>th</sup> June 2011)

Beckford-Ball, J (2006) **Guidelines on the Provision of Nutritional Support In Adults**, Nursing Times. 102.10. Pg 25-26.

Burden S.T; Bodey S, *et al*, (2001), **Validation of a Nutrition Screening Tool: testing the reliability and validity**. Journal of Human Nutrition and Dietetics, Vol 14, No 4 Aug 2001 p269 – 275.

BSNA British Specialised Nutrition Association ( Nov 2018) **Better care through better nutrition** <https://bsna.co.uk/pages/bsna-publications> (accessed 5th Dec 2018)

CQC (2008) **Essential standards of quality and safety Guidance about compliance, outcome 5, meeting nutritional needs** <http://www.cqcguidanceaboutcompliance.org.uk/outcome.php?outcome=5> (accessed 27<sup>th</sup> June 2011)

DOH - Department of Health (2007) **Improving Nutritional Care** Department of Health: London at [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_079931](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079931) (accessed 27<sup>th</sup> June 2011)

DOH - Department of Health (2010) **Essence of Care 2010, Benchmarks for Food and Drink**, [http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/@ps/documents/digitalasset/dh\\_119978.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_119978.pdf) (accessed 27<sup>th</sup> June 2011)

**Managing Adult Malnutrition** <https://www.malnutritionpathway.co.uk/> (accessed 19th October 2018)

NICE (2006) **Nutrition Support In Adults: Oral Nutrition Support, Enteral Tube Feeding And Parenteral Nutrition**. <http://www.nice.org.uk/nicemedia/live/10978/29981/29981.pdf> (accessed 27<sup>th</sup> June 2011)

**Oral Nutritional Supplements (Adults) Commissioning Policy (Sept 2017)** Oral Nutritional Supplements (adults) Commissioning Policy (accessed 10 Dec 2018)

**Worcestershire Area Prescribing Committee : Prescribing Guidelines for Oral Nutritional Supplements (ONS) for adults** (Sept 2017) Prescribing Guidelines for Oral Nutritional Supplements (ONS) for adults (accessed 10 Dec 2018)

## APPENDIX

- Appendix 1 'MUST' Tool Flow Chart
- Appendix 2 'MUST' Assessment Guidelines WR5307
- Appendix 3 ULNA Measurement Instructions WR5307
- Appendix 4 'MUST' Assessment / Action Plan WR5326
- Appendix 5 BMI Charts WR5295
- Appendix 6 Weight Loss Score Charts WR5330
- Appendix 7 Trust Food Record Chart WR1151



- Appendix 8 Nutritional Supplement Selection Chart
- Appendix 9 International Dysphagia Diet Standardisation Initiative
- Appendix 10 Red Tray Guideline
- Appendix 11 Fluid Matrix

**Key individuals involved in developing the original document**

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**Circulated to the following individuals for comments**

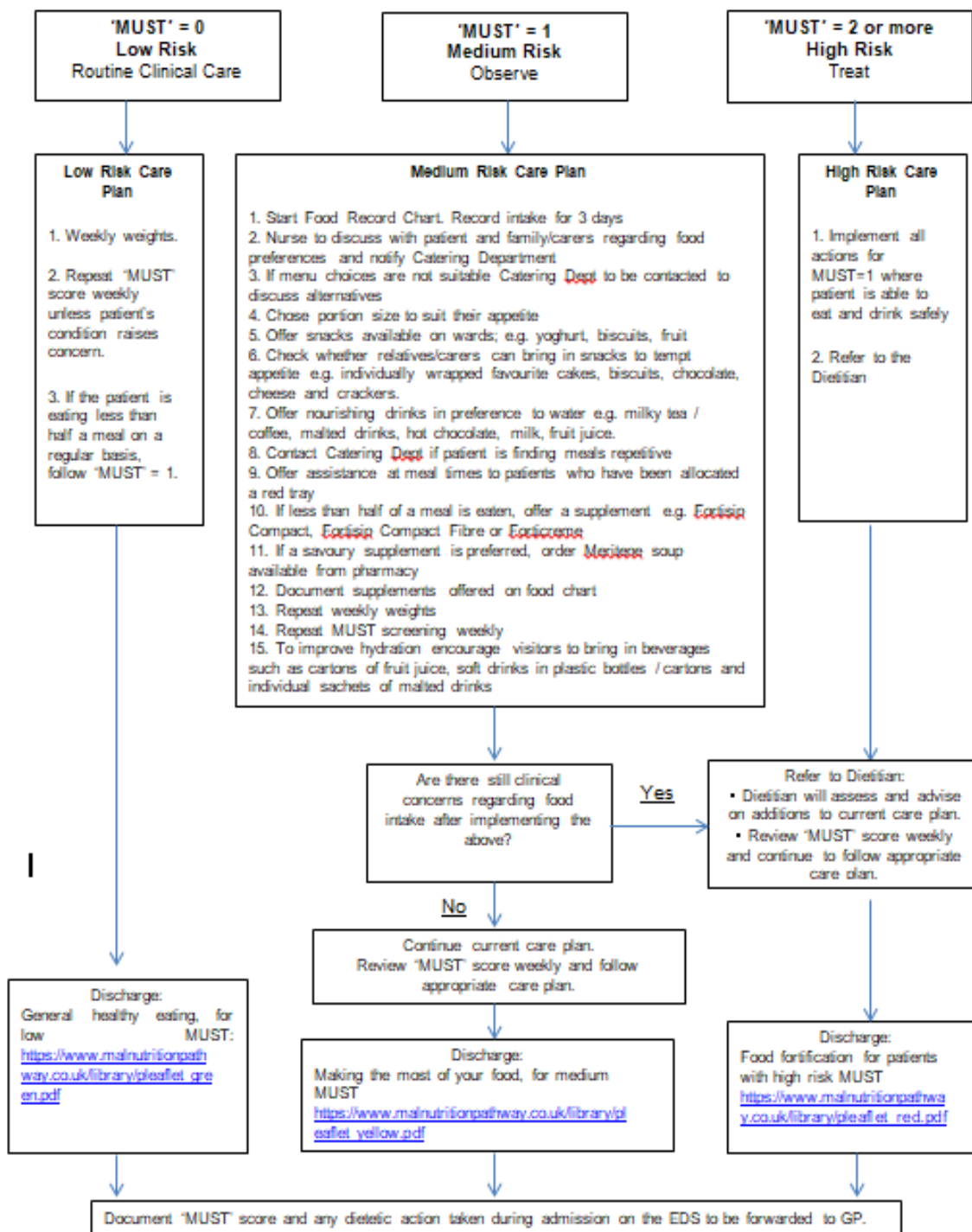
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WRH Dietitians	Dietitian

**Circulated to the following CD's/Heads of dept for comments from their directorates / departments**

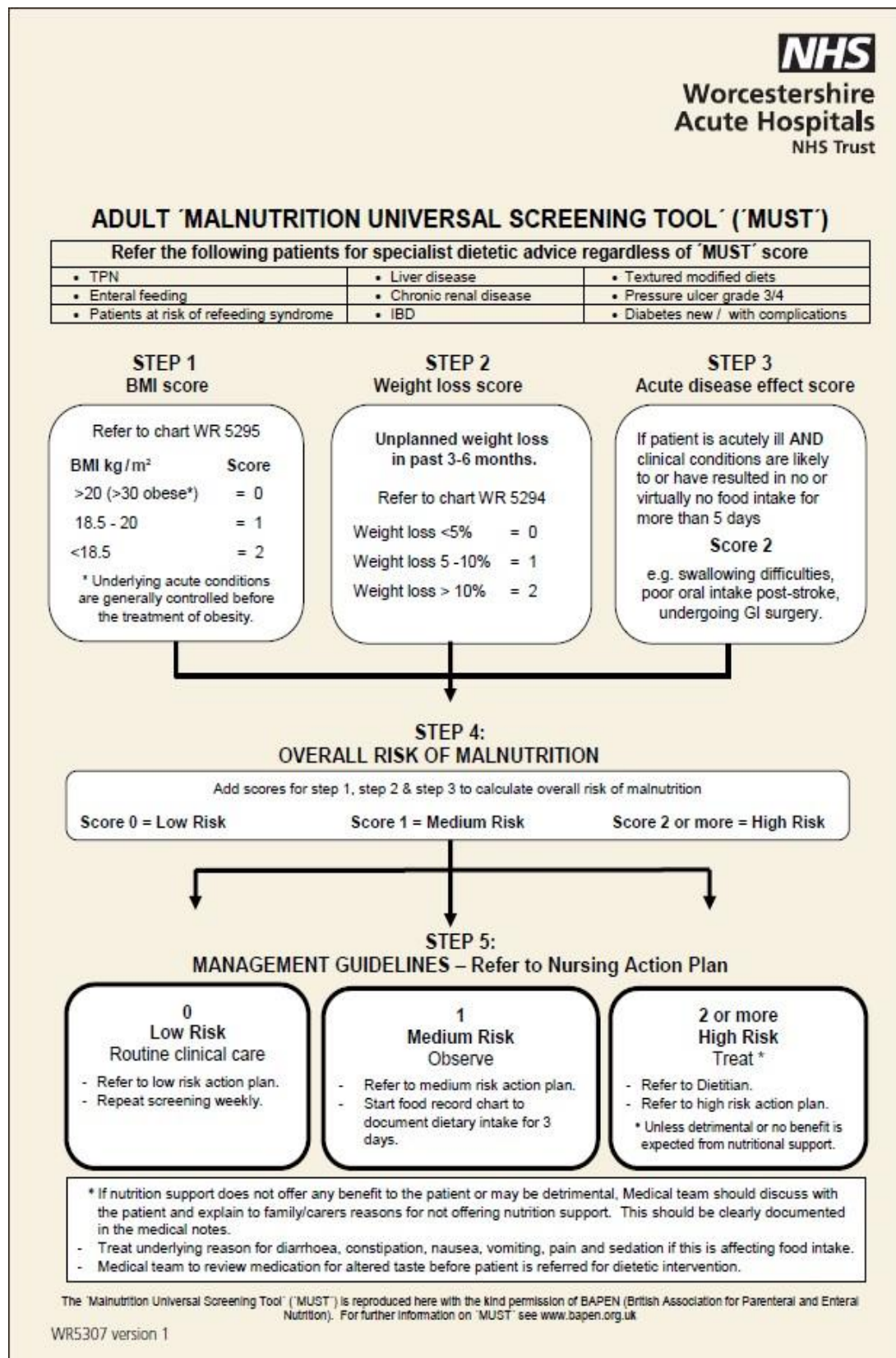
Name	Directorate / Department
Dr Haldane	Gastroenterology Consultant
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**Appendix 1 - 'MUST' Tool Flow Chart updated**

SCREEN ALL ADULT IN-PATIENTS USING 'MUST' TOOL ON ADMISSION AND THEN WEEKLY



**Appendix 2 - 'MUST' Assessment Guidelines**





## Appendix 3 – ULNA Measurement Instructions

### Alternative measurements: instructions and tables



If height cannot be obtained, use length of forearm (ulna) to calculate height using tables below.  
(See The 'MUST' Explanatory Booklet for details of other alternative measurements (knee height and demispan) that can also be used to estimate height).

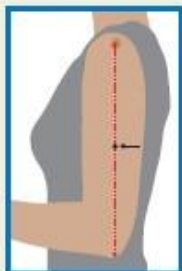
#### Estimating height from ulna length



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).

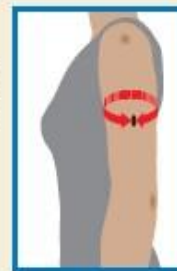
Height (m)	men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	men (≥65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
Ulna length (cm)		32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5
Height (m)	Women (<65 years)	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

#### Estimating BMI category from mid upper arm circumference (MUAC)



The subject's left arm should be bent at the elbow at a 90 degree angle, with the upper arm held parallel to the side of the body. Measure the distance between the bony protrusion on the shoulder (acromion) and the point of the elbow (olecranon process). Mark the mid-point.

Ask the subject to let arm hang loose and measure around the upper arm at the mid-point, making sure that the tape measure is snug but not tight.



If MUAC is <23.5 cm, BMI is likely to be <20 kg/m<sup>2</sup>.  
If MUAC is >32.0 cm, BMI is likely to be >30 kg/m<sup>2</sup>.

The use of MUAC provides a general indication of BMI and is not designed to generate an actual score for use with 'MUST'. For further information on use of MUAC please refer to *The 'MUST' Explanatory Booklet*.





### Appendix 4 – ‘MUST’ Assessment / Action Plan

Ward: ..... Cons: .....

	Referrals to Dietician	Catering Depts
Worcesterhire Royal Hospital	Ext. 33694	Ext. 30397 (CAT Number 33333)
Alexandra Hospital	Ext. 44120	Ext. 44926 (before lunch) Ext. 44925 (after lunch)
Kidderminster Hospital	Ext. 53330	

PLEASE FOLLOW ACTION PLAN AND IMPLEMENT THE ADVICE BELOW ACCORDING TO THE LEVEL OF RISK

<b>Aim:</b> - Identify risk of malnutrition.	<b>Goal:</b> - To maintain nutritional status. - To prevent unplanned weight loss.
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“MUST” = 0: LOW RISK	Interventions (please tick)	Date	Sign
<input type="checkbox"/> Weekly weights.			
<input type="checkbox"/> Repeat “MUST” score weekly unless patient’s condition raises concern.			
<input type="checkbox"/> If patient is eating less than half a meal on a regular basis follow MUST of 1 below.			

“MUST” = 1: MEDIUM RISK	Interventions (please tick)	Date	Sign
<input type="checkbox"/> Start food record chart and document dietary intake for 3 days.			
<input type="checkbox"/> Nurse to discuss with patient and family/carers regarding food preferences and notify Catering Department.			
<input type="checkbox"/> If menu choices are not suitable Catering Dept to be contacted to discuss alternatives.			
<input type="checkbox"/> Help patient make suitable choices from the menu.			
<input type="checkbox"/> Choose portion size to suit their appetite.			
<input type="checkbox"/> Offer snacks available on wards e.g. yoghurt, biscuits, fruit.			
<input type="checkbox"/> Check whether relatives/carers can bring in snacks to tempt appetite e.g. individually wrapped favourite cakes, biscuits, chocolate, cheese and crackers.			
<input type="checkbox"/> Offer nourishing drinks in preference to water e.g. milky tea / coffee, malted drinks, hot chocolate, milk, fruit juice			
<input type="checkbox"/> Contact Catering Dept if patient is finding meals repetitive.			
<input type="checkbox"/> Offer assistance at meal times to patients who have been allocated a red tray.			
<input type="checkbox"/> If less than half of a meal is eaten, offer a supplement e.g. Fortisip Compact, Fortisip Compact Fibre or Forticreme.			
<input type="checkbox"/> If savoury supplement is preferred, order Meritene soup available from Pharmacy.			
<input type="checkbox"/> Document supplements offered on food chart.			
<input type="checkbox"/> Repeat weekly weights.			
<input type="checkbox"/> Repeat “MUST” screening weekly.			
<input type="checkbox"/> To improve hydration encourage visitors to bring in beverages such as cartons of fruit juice, soft drinks in plastic bottles / cartons and individual sachets of malted drinks.			
<input type="checkbox"/> If there are clinical concerns regarding food intake after implementing the above, please refer to dietitian.			

“MUST” = 2 or more: HIGH RISK	Interventions (please tick)	Date	Sign
<input type="checkbox"/> Implement all actions above for MUST = 1 where patient is able to eat and drink safely.			
<input type="checkbox"/> Refer to Dietitian stating MUST score.			





### Appendix 5 – BMI Chart

Step 1 - BMI Score and BMI (36kg to 148kg)

Kg	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82	1.84	1.86	1.88	1.90	stlbs	
148	68	66	64	62	61	59	58	56	55	54	52	51	50	49	48	47	46	45	44	43	42	41	40	23st4
146	67	65	63	62	60	58	57	56	54	53	52	51	49	48	47	46	45	44	43	42	41	40	39	23st
144	66	64	62	61	59	58	56	55	54	52	51	50	49	48	46	45	44	43	43	42	41	40	39	22st10
142	65	63	61	60	58	57	55	54	53	52	50	49	48	47	46	45	44	43	42	41	40	39	38	22st5
140	64	62	61	59	58	56	55	53	52	51	50	48	47	46	45	44	43	42	41	40	40	39	38	22st
138	63	61	60	58	57	55	54	53	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	21st10
136	62	60	59	57	56	54	53	52	51	49	48	47	46	45	44	43	42	41	40	39	38	37	36	21st5
134	61	60	58	57	55	54	52	51	50	49	47	46	45	44	43	42	41	40	40	39	38	37	36	21st
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128	58	57	55	54	53	51	50	49	48	46	45	44	43	42	41	40	40	39	38	37	36	35	34	20st2
126	58	56	55	53	52	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	19st12
124	57	55	54	52	51	50	48	47	46	45	44	43	42	41	40	39	38	37	37	36	35	34	33	19st7
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120	55	53	52	51	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	35	34	33	32	18st13
118	54	52	51	50	48	47	46	45	44	43	42	41	40	39	38	37	36	36	35	34	33	32	31	18st8
116	53	52	50	49	48	46	45	44	43	42	41	40	39	38	37	37	36	35	34	33	32	31	30	18st4
114	52	51	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	34	33	32	31	30	17st13
112	51	50	48	47	46	45	44	43	42	41	40	39	38	37	36	35	35	34	33	32	31	30	29	17st9
110	50	49	48	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	32	31	30	29	28	17st5
108	49	48	47	46	44	43	42	41	40	39	38	37	36	35	34	33	32	31	31	30	29	28	27	17st
106	48	47	46	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	27	26	16st10
104	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	29	28	27	26	16st5
102	47	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	29	28	27	26	25	16st1
100	46	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	26	25	15st10
98	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	26	25	24	15st6
96	44	43	42	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	24	15st2
94	43	42	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	24	14st11
92	42	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	24	23	14st7
90	41	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	25	24	23	14st3
88	40	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	25	24	23	22	13st12
86	39	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	25	24	24	23	22	13st8
84	38	37	36	35	34	33	32	31	30	30	29	28	28	27	27	26	25	25	24	24	23	22	21	13st4
82	37	36	35	34	33	32	31	30	30	29	28	28	27	26	26	25	25	24	24	23	23	22	21	12st13
80	37	36	35	34	33	32	31	30	30	29	28	28	27	26	26	25	25	24	24	23	23	22	21	12st8
78	36	35	34	33	32	31	30	30	29	28	28	27	26	26	25	25	24	24	23	23	22	21	20	12st4
76	35	34	33	32	31	30	30	29	28	28	27	26	26	25	25	24	23	23	22	22	21	20	19	12st
74	34	33	32	31	30	30	29	28	28	27	26	26	25	24	24	23	23	22	22	21	21	20	19	11st9
72	33	32	31	30	30	29	28	27	27	26	26	25	24	24	23	23	22	22	21	21	20	19	18	11st5
70	32	31	30	30	29	28	27	27	26	25	25	24	24	23	23	22	22	21	21	20	20	19	18	11st
68	31	30	29	29	28	27	27	26	25	25	24	24	23	22	22	21	21	20	20	19	19	18	17	10st10
66	30	29	29	28	27	26	26	25	25	24	23	23	22	22	21	21	20	20	19	19	18	17	16	10st6
64	29	28	28	27	26	26	25	24	24	23	23	22	22	21	21	20	20	19	19	18	18	17	16	10st1
62	28	28	27	26	25	25	24	24	23	22	22	21	21	20	20	19	19	18	18	17	17	16	15	9st11
60	27	27	26	25	25	24	23	23	22	22	21	21	20	20	19	19	18	18	17	17	17	16	15	9st6
58	26	26	25	24	24	23	23	22	22	21	21	20	20	19	19	18	18	17	17	17	16	16	15	9st2
56	26	25	24	24	23	22	22	21	21	20	20	19	19	18	18	18	17	17	17	16	16	16	15	8st11
54	25	24	23	23	22	22	21	21	20	20	19	19	18	18	17	17	17	16	16	16	15	15	14	8st7
52	24	23	23	22	21	21	20	20	19	19	18	18	17	17	17	16	16	16	15	15	15	14	14	8st3
50	23	22	22	21	21	20	20	19	19	18	18	17	17	17	16	16	15	15	15	14	14	14	14	7st12
48	22	21	21	20	20	19	19	18	18	17	17	17	16	16	15	15	15	14	14	14	14	13	13	7st8
46	21	20	20	19	19	18	18	17	17	16	16	16	15	15	15	14	14	14	14	13	13	13	12	7st4
44	20	19	19	18	18	17	17	16	16	16	15	15	15	14	14	14	14	13	13	13	12	12	11	6st13
42	19	19	18	18	17	17	16	16	16	15	15	15	14	14	14	13	13	13	13	12	12	12	11	6st9
40	18	18	17	17	16	16	16	15	15	15	14	14	14	13	13	13	13	12	12	12	11	11	10	6st4
38	17	17	16	16	16	15	15	14	14	14	13	13	13	12	12	12	12	11	11	11	11	11	10	6st
36	16	16	16	15	15	14	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10	10	9st9	

- MUST score 2 - BMI <18.5kg/m<sup>2</sup>
- MUST score 0 - BMI 20-30.2kg/m<sup>2</sup>
- MUST score 1 - BMI 18.5-20kg/m<sup>2</sup>
- MUST score 0 - BMI >30.25kg/m<sup>2</sup>

**Note:** The black lines denote the exact cut off points (30.2 and 18.5kg/m<sup>2</sup>). Figures on the chart have been rounded off to the nearest whole number.



Step 1 - BMI Score and BMI (150kg to 270kg)

Kg	1.48	1.50	1.52	1.54	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80	1.82	1.84	1.86	1.88	1.90	stlbs
270	123	120	117	114	111	108	105	103	100	98	96	93	91	89	87	85	83	82	80	78	76	75	42st7
268	122	119	116	113	110	107	105	102	100	97	95	93	91	89	87	85	83	81	79	77	76	74	42st3
266	112	118	115	112	109	107	104	101	99	97	94	92	90	88	86	84	82	80	79	77	75	74	41st13
264	121	117	114	111	108	106	103	101	98	96	94	91	89	87	85	83	81	80	78	76	75	73	41st8
262	120	116	113	110	108	105	102	100	97	95	93	91	89	87	85	83	81	79	77	76	74	73	41st4
260	119	116	113	110	107	104	102	99	97	94	92	90	88	86	84	82	80	78	77	75	74	72	40st13
258	118	115	112	109	106	103	101	98	96	94	91	89	87	85	83	81	80	78	76	75	73	71	40st9
256	117	114	111	108	105	103	100	98	95	93	91	89	87	85	83	81	79	77	76	74	72	71	40st5
254	116	113	110	107	104	102	99	97	94	92	90	88	86	84	82	80	78	77	75	73	72	70	40st1
252	115	112	109	106	104	101	98	96	94	91	89	87	85	83	81	80	78	76	74	73	71	70	39st10
250	114	111	108	105	103	100	98	95	93	91	89	87	85	83	81	79	77	75	74	72	71	69	39st5
248	113	110	107	105	102	99	97	94	92	90	88	86	84	82	80	78	77	75	73	72	70	69	39st1
246	112	109	106	104	101	99	96	94	91	89	87	85	83	81	79	78	76	74	73	71	70	68	38st10
244	111	108	106	103	100	98	95	93	91	89	86	84	82	81	79	77	75	74	72	71	69	68	38st6
242	110	108	105	102	99	97	95	92	90	88	85	84	82	80	78	76	75	73	71	70	68	67	38st2
240	110	107	104	101	99	96	94	91	89	87	85	83	81	79	77	76	74	72	71	69	68	66	37st11
238	109	106	103	100	98	95	93	91	88	86	84	82	80	79	77	75	73	72	70	69	67	66	37st7
236	108	105	102	100	97	95	92	90	88	86	84	82	80	78	76	74	73	71	70	68	67	65	37st3
234	107	104	101	99	96	94	91	89	87	85	83	81	79	77	76	74	72	71	69	68	66	65	36st12
232	106	103	100	98	95	93	91	88	86	84	82	80	78	77	75	73	72	70	69	67	66	64	36st8
230	105	102	100	97	95	92	90	88	86	83	81	80	78	76	74	73	71	69	68	66	65	64	36st4
228	104	101	99	96	94	91	89	87	85	83	81	79	77	75	74	72	70	69	67	66	65	63	35st13
226	103	100	98	95	93	91	88	86	84	82	80	78	76	75	73	71	70	68	67	65	64	63	35st9
224	102	100	97	94	92	90	88	85	83	81	79	78	76	74	72	71	69	68	66	65	63	62	35st5
222	101	99	96	94	91	89	87	85	83	81	79	77	75	73	72	70	69	67	66	64	63	61	35st1
220	100	98	95	93	90	88	86	84	82	80	78	76	74	73	71	69	68	66	65	64	62	61	34st9
218	100	97	94	92	90	87	85	83	81	79	77	75	74	72	70	69	67	66	64	63	62	60	34st5
216	99	96	93	91	89	87	84	82	80	78	77	75	73	71	70	68	67	65	64	62	61	60	34st1
214	98	95	93	90	88	86	84	82	80	78	76	74	72	71	69	68	66	65	63	62	61	59	33st10
212	97	94	92	89	87	85	83	81	79	77	75	73	72	70	68	67	65	64	63	61	60	59	33st6
210	96	93	91	89	86	84	82	80	78	76	74	73	71	69	68	66	65	63	62	61	59	58	33st2
208	95	92	90	88	85	83	81	79	77	75	74	72	70	69	67	66	64	63	61	60	59	58	32st11
206	94	92	89	87	85	83	80	78	77	75	73	71	70	68	67	65	64	62	61	60	58	57	32st6
204	93	91	88	86	84	82	80	78	76	74	72	71	69	67	66	64	63	62	60	59	58	57	32st2
202	92	90	87	85	83	81	79	77	75	73	72	70	68	67	65	64	62	61	60	58	57	56	31st11
200	91	89	87	84	82	80	78	76	74	73	71	69	68	66	65	63	62	60	59	58	57	55	31st7
198	90	88	86	83	81	79	77	75	74	72	70	69	67	65	64	62	61	60	58	57	56	55	31st3
196	89	87	85	83	81	79	77	75	73	71	69	68	66	65	63	62	60	59	58	57	55	54	30st12
194	89	86	84	82	80	78	76	74	72	70	69	67	66	64	63	61	60	59	57	56	55	54	30st8
192	88	85	83	81	79	77	75	73	71	70	68	66	65	63	62	61	59	58	57	55	54	53	30st4
190	87	84	82	80	78	76	74	72	71	69	67	66	64	63	61	60	59	57	56	55	54	53	29st13
188	86	84	81	79	77	75	73	72	70	68	67	65	64	62	61	59	58	57	56	54	53	52	29st9
186	85	83	81	78	76	75	73	71	69	67	66	64	63	61	60	59	57	56	55	54	53	52	29st5
184	84	82	80	78	76	74	72	70	68	67	65	64	62	61	59	58	57	56	54	53	52	51	29st1
182	83	81	79	77	75	73	71	69	68	66	64	63	62	60	59	57	56	55	54	53	51	50	28st9
180	82	80	78	76	74	72	70	69	67	65	64	62	61	59	58	57	56	54	53	52	51	50	28st5
178	81	79	77	75	73	71	70	68	66	65	63	62	60	59	57	56	55	54	53	51	50	49	28st1
176	80	78	76	74	72	71	69	67	65	64	62	61	59	58	57	56	54	53	52	51	50	49	27st10
174	79	77	75	73	71	70	68	66	65	63	62	60	59	57	56	55	54	53	51	50	49	48	27st6
172	79	76	74	73	71	69	67	66	64	62	61	60	58	57	56	54	53	52	51	50	49	48	27st2
170	78	76	74	72	70	68	66	65	63	62	60	59	57	56	55	54	52	51	50	49	48	47	26st11
168	77	75	73	71	69	67	66	64	62	61	60	58	57	55	54	53	52	51	50	49	48	47	26st7
166	76	74	72	70	68	66	65	63	62	60	59	57	56	55	54	52	51	50	49	48	47	46	26st3
164	75	73	71	69	67	66	64	62	61	60	58	57	55	54	53	52	51	50	48	47	46	45	25st12
162	74	72	70	68	67	65	63	62	60	59	57	56	55	54	52	51	50	49	48	47	46	45	25st8
160	73	71	69	67	66	64	63	61	59	58	57	55	54	53	52	50	49	48	47	46	45	44	25st4
158	72	70	68	67	65	63	62	60	59	57	56	55	53	52	51	50	49	48	47	46	45	44	24st12
156	71	69	68	66	64	62	61	59	58	57	55	54	53	52	50	49	48	47	46	45	44	43	24st8
154	70	68	67	65	63	62	60	59	57	56	55	53	52	51	50	49	48	46	45	44	43	42	24st4
152	69	68	66	64	62	61	59	58	57	55	54	53	51	50	49	48	47	46	45	44	43	42	23st13
150	68	67	65	63	62	60	59	57	56	54	53	52	51	50	48	47	46	45	44	43	42	42	23st9

MUST score 0 - BMI >30.25kg/m<sup>2</sup>

**Appendix 6 – Weight loss score**



### Step 2 – Weight loss score

	KILOGRAMS			STONES AND POUNDS			KILOGRAMS			STONES AND POUNDS						
	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2				
	Wt loss < 5%	Wt loss 5 - 10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5 - 10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5 - 10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5 - 10%	Wt loss > 10%				
	<b>Weight loss in last 3 to 6 months</b>			<b>Weight loss in last 3 to 6 months</b>			<b>Weight loss in last 3 to 6 months</b>			<b>Weight loss in last 3 to 6 months</b>						
	kg	Less than (kg)	Between (kg)	More than (kg)	st lb	Less than (st lb)	Between (st lb)	More than (st lb)	kg	Less than (kg)	Between (kg)	More than (kg)	st lb	Less than (st lb)	Between (st lb)	More than (st lb)
Current weight	30	1.6	1.6 - 3.3	3.3	4 10	0.3	0.3 - 0.7	0.7	65	3.4	3.4 - 7.2	7.2	10 3	0.8	0.8 - 1.2	1.2
	31	1.6	1.6 - 3.4	3.4	4 12	0.4	0.4 - 0.8	0.8	66	3.5	3.5 - 7.3	7.3	10 6	0.8	0.8 - 1.2	1.2
	32	1.7	1.7 - 3.6	3.6	5 1	0.4	0.4 - 0.8	0.8	67	3.5	3.5 - 7.4	7.4	10 8	0.8	0.8 - 1.2	1.2
	33	1.7	1.7 - 3.7	3.7	5 3	0.4	0.4 - 0.8	0.8	68	3.6	3.6 - 7.7	7.6	10 10	0.8	0.8 - 1.3	1.3
	34	1.8	1.8 - 3.8	3.8	5 5	0.4	0.4 - 0.8	0.8	69	3.6	3.6 - 7.7	7.7	10 12	0.8	0.8 - 1.3	1.3
	35	1.8	1.8 - 3.9	3.9	5 7	0.4	0.4 - 0.9	0.9	70	3.7	3.7 - 7.8	7.8	11 0	0.8	0.8 - 1.3	1.3
	36	1.9	1.9 - 4.0	4.0	5 9	0.4	0.4 - 0.9	0.9	71	3.7	3.7 - 7.9	7.9	11 3	0.8	0.8 - 1.3	1.3
	37	1.9	1.9 - 4.1	4.1	5 12	0.4	0.4 - 0.9	0.9	72	3.8	3.8 - 8.0	8.0	11 5	0.8	0.8 - 1.4	1.4
	38	2.0	2.0 - 4.2	4.2	6 0	0.4	0.4 - 0.9	0.9	73	3.8	3.8 - 8.1	8.1	11 7	0.8	0.8 - 1.4	1.4
	39	2.1	2.1 - 4.3	4.3	6 2	0.5	0.5 - 1.0	1.0	74	3.9	3.9 - 8.2	8.2	11 9	0.9	0.9 - 1.4	1.4
	40	2.1	2.1 - 4.4	4.4	6 4	0.5	0.5 - 1.0	1.0	75	3.9	3.9 - 8.3	8.3	11 11	0.9	0.9 - 1.4	1.4
	41	2.2	2.2 - 4.6	4.6	6 6	0.5	0.5 - 1.0	1.0	76	4.0	4.0 - 8.4	8.4	12 0	0.9	0.9 - 1.5	1.5
	42	2.2	2.2 - 4.7	4.7	6 9	0.5	0.5 - 1.0	1.0	77	4.1	4.1 - 8.6	8.6	12 2	0.9	0.9 - 1.5	1.5
	43	2.3	2.3 - 4.8	4.8	6 11	0.5	0.5 - 1.1	1.1	78	4.1	4.1 - 8.6	8.7	12 4	0.9	0.9 - 1.5	1.5
	44	2.3	2.3 - 4.9	4.9	6 13	0.5	0.5 - 1.1	1.1	79	4.2	4.2 - 8.7	8.8	12 6	0.9	0.9 - 1.5	1.5
	45	2.4	2.4 - 5.0	5.0	7 1	0.5	0.5 - 1.1	1.1	80	4.2	4.2 - 8.9	8.9	12 8	0.9	0.9 - 1.6	1.6
	46	2.4	2.4 - 5.1	5.1	7 3	0.5	0.5 - 1.1	1.1	81	4.3	4.3 - 9.0	9.0	12 11	0.9	0.9 - 1.6	1.6
	47	2.5	2.5 - 5.2	5.2	7 6	0.5	0.5 - 1.2	1.2	82	4.3	4.3 - 9.1	9.1	12 13	0.10	0.10 - 1.6	1.6
	48	2.5	2.5 - 5.3	5.3	7 8	0.6	0.6 - 1.2	1.2	83	4.4	4.4 - 9.2	9.2	13 1	0.10	0.10 - 1.6	1.6
	49	2.6	2.6 - 5.4	5.4	7 10	0.6	0.6 - 1.2	1.2	84	4.4	4.4 - 9.3	9.3	13 3	0.10	0.10 - 1.7	1.7
50	2.6	2.6 - 5.6	5.6	7 12	0.6	0.6 - 1.2	1.2	85	4.5	4.5 - 9.4	9.4	13 5	0.10	0.10 - 1.7	1.7	
51	2.7	2.7 - 5.5	5.7	8 0	0.6	0.6 - 1.2	1.2	86	4.5	4.5 - 9.6	9.6	13 8	0.10	0.10 - 1.7	1.7	
52	2.7	2.7 - 5.8	5.8	8 3	0.6	0.6 - 1.3	1.3	87	4.6	4.6 - 9.7	9.7	13 10	0.10	0.10 - 1.7	1.7	
53	2.8	2.8 - 5.9	5.9	8 5	0.6	0.6 - 1.3	1.3	88	4.6	4.6 - 9.8	9.8	13 12	0.10	0.10 - 1.8	1.8	
54	2.8	2.8 - 6.9	6.0	8 7	0.6	0.6 - 1.3	1.3	89	4.7	4.7 - 9.9	9.9	14 0	0.10	0.10 - 1.8	1.8	
55	2.9	2.9 - 6.1	6.1	8 9	0.6	0.6 - 1.3	1.3	90	4.7	4.7 - 10.0	10.0	14 2	0.10	0.10 - 1.8	1.8	
56	2.9	2.9 - 6.2	6.2	8 11	0.6	0.6 - 1.0	1.0	91	4.8	4.8 - 10.1	10.1	14 5	0.11	0.11 - 1.8	1.8	
57	3.0	3.0 - 6.3	6.3	9 0	0.7	0.7 - 1.0	1.0	92	4.8	4.8 - 10.2	10.2	14 7	0.11	0.11 - 1.9	1.9	
58	3.1	3.1 - 6.4	6.4	9 2	0.7	0.7 - 1.0	1.0	93	4.9	4.9 - 10.3	10.3	14 9	0.11	0.11 - 1.9	1.9	
59	3.1	3.1 - 6.6	6.6	9 4	0.7	0.7 - 1.0	1.0	94	4.9	4.9 - 10.4	10.4	14 11	0.11	0.11 - 1.9	1.9	
60	3.2	3.2 - 6.7	6.7	9 6	0.7	0.7 - 1.1	1.1	95	5.0	5.0 - 10.6	10.6	14 13	0.11	0.11 - 1.9	1.9	
61	3.2	3.2 - 6.8	6.8	9 8	0.7	0.7 - 1.1	1.1	96	5.1	5.1 - 10.7	10.7	15 2	0.11	0.11 - 1.10	1.10	
62	3.3	3.3 - 6.9	6.9	9 11	0.7	0.7 - 1.1	1.1	97	5.1	5.1 - 10.8	10.8	15 4	0.11	0.11 - 1.10	1.10	
63	3.3	3.3 - 7.0	7.0	9 13	0.7	0.7 - 1.1	1.1	98	5.2	5.2 - 10.9	10.9	15 6	0.11	0.11 - 1.10	1.10	
64	3.4	3.4 - 7.1	7.1	10 1	0.7	0.7 - 1.2	1.2	99	5.2	5.2 - 11.0	11.0	15 8	0.11	0.11 - 1.10	1.10	

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PF WR5330 Current weight and weight loss in last 3 to 6 months Version 1 Page 1 of 2





Step 2 – Weight loss score

Current weight	KILOGRAMS			STONES AND POUNDS			KILOGRAMS			STONES AND POUNDS					
	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2	Score 0	Score 1	Score 2			
	Wt loss < 5%	Wt loss 5-10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5-10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5-10%	Wt loss > 10%	Wt loss < 5%	Wt loss 5-10%	Wt loss > 10%			
	Weight loss in last 3 to 6 months			Weight loss in last 3 to 6 months			Weight loss in last 3 to 6 months			Weight loss in last 3 to 6 months					
	Less than (kg)	Between (kg)	More than (kg)	st lb	Less than (st lb)	Between (st lb)	More than (st lb)	kg	Less than (kg)	Between (kg)	More than (kg)	st lb	Less than (st lb)	Between (st lb)	More than (st lb)
100	5.3	5.3 - 11.1	11.1	15 10	0 12	0 12 - 1 10	1 10	135	7.1	7.1 - 15.0	15.0	21 4	1 2	1 2 - 2 5	2 5
101	5.3	5.3 - 11.2	11.2	15 13	0 12	0 12 - 1 11	1 11	136	7.2	7.2 - 15.1	15.1	21 6	1 2	1 2 - 2 5	2 5
102	5.4	5.4 - 11.3	11.3	16 1	0 12	0 12 - 1 11	1 11	137	7.2	7.2 - 15.2	15.2	21 8	1 2	1 2 - 2 6	2 6
103	5.4	5.4 - 11.4	11.4	16 3	0 12	0 12 - 1 11	1 11	138	7.3	7.3 - 15.3	15.3	21 10	1 2	1 2 - 2 6	2 6
104	5.5	5.5 - 11.6	11.6	16 5	0 12	0 12 - 1 11	1 11	139	7.3	7.3 - 15.4	15.4	21 12	1 2	1 2 - 2 6	2 6
105	5.5	5.5 - 11.7	11.7	16 7	0 12	0 12 - 1 12	1 12	140	7.4	7.4 - 15.6	15.6	21 1	1 2	1 2 - 2 6	2 6
106	5.6	5.6 - 11.8	11.8	16 10	0 12	0 12 - 1 12	1 12	141	7.4	7.4 - 15.7	15.7	22 3	1 2	1 2 - 2 7	2 7
107	5.6	5.6 - 11.9	11.9	16 12	0 12	0 12 - 1 12	1 12	142	7.5	7.5 - 15.8	15.8	22 5	1 2	1 2 - 2 7	2 7
108	5.7	5.7 - 12.0	12.0	17 0	0 13	0 13 - 1 12	1 12	143	7.5	7.5 - 15.9	15.9	22 7	1 3	1 3 - 2 7	2 7
109	5.7	5.7 - 12.1	12.1	17 2	0 13	0 13 - 1 13	1 13	144	7.6	7.6 - 16.0	16.0	22 9	1 3	1 3 - 2 7	2 7
110	5.8	5.8 - 12.2	12.2	17 5	0 13	0 13 - 1 13	1 13	145	7.6	7.6 - 16.1	16.1	22 12	1 3	1 3 - 2 8	2 8
111	5.8	5.8 - 12.3	12.3	17 7	0 13	0 13 - 1 13	1 13	146	7.7	7.7 - 16.2	16.2	22 14	1 3	1 3 - 2 8	2 8
112	5.9	5.9 - 12.4	12.4	17 9	0 13	0 13 - 1 13	1 13	147	7.7	7.7 - 16.3	16.3	23 2	1 3	1 3 - 2 8	2 8
113	5.9	5.9 - 12.6	12.6	17 11	0 13	0 13 - 2 0	2 0	148	7.8	7.8 - 16.4	16.4	23 4	1 3	1 3 - 2 8	2 8
114	6.0	6.0 - 12.7	12.7	17 13	0 13	0 13 - 2 0	2 0	149	7.8	7.8 - 16.6	16.6	23 6	1 3	1 3 - 2 8	2 8
115	6.1	6.1 - 12.8	12.8	18 4	0 13	0 13 - 2 0	2 0	150	7.9	7.9 - 16.7	16.7	23 9	1 3	1 3 - 2 9	2 9
116	6.1	6.1 - 12.9	12.9	18 4	0 13	0 13 - 2 0	2 0	151	7.9	7.9 - 16.8	16.8	23 11	1 4	1 4 - 2 9	2 9
117	6.2	6.2 - 13.0	13.0	18 6	1 0	1 0 - 2 1	2 1	152	8.0	8.0 - 16.9	16.9	23 13	1 4	1 4 - 2 9	2 9
118	6.2	6.2 - 13.1	13.1	18 8	1 0	1 0 - 2 1	2 1	153	8.1	8.1 - 17.0	17.0	24 1	1 4	1 4 - 2 9	2 9
119	6.3	6.3 - 13.2	13.2	18 10	1 0	1 0 - 2 1	2 1	154	8.1	8.1 - 17.1	17.1	24 4	1 4	1 4 - 2 9	2 10
120	6.3	6.3 - 13.3	13.3	18 13	1 0	1 0 - 2 1	2 1	155	8.2	8.2 - 17.2	17.2	24 6	1 4	1 4 - 2 10	2 10
121	6.4	6.4 - 13.4	13.4	19 1	1 0	1 0 - 2 2	2 2	156	8.2	8.2 - 17.3	17.3	24 8	1 4	1 4 - 2 10	2 10
122	6.4	6.4 - 13.6	13.6	19 3	1 0	1 0 - 2 2	2 2	157	8.3	8.3 - 17.6	17.4	24 10	1 4	1 4 - 2 10	2 10
123	6.5	6.5 - 13.7	13.7	19 5	1 0	1 0 - 2 2	2 2	158	8.3	8.3 - 17.6	17.6	24 12	1 4	1 4 - 2 11	2 11
124	6.5	6.5 - 13.8	13.8	19 7	1 0	1 0 - 2 2	2 2	159	8.4	8.4 - 17.7	17.7	25 1	1 4	1 4 - 2 11	2 11
125	6.6	6.6 - 13.9	13.9	19 10	1 1	1 1 - 2 3	2 3	160	8.4	8.4 - 17.8	17.8	25 3	1 5	1 5 - 2 11	2 11
126	6.6	6.6 - 14.0	14.0	19 12	1 1	1 1 - 2 3	2 3	161	8.5	8.5 - 17.9	17.9	25 5	1 5	1 5 - 2 11	2 11
127	6.7	6.7 - 14.1	14.1	19 14	1 1	1 1 - 2 3	2 3	162	8.5	8.5 - 18.0	18.0	25 7	1 5	1 5 - 2 12	2 12
128	6.7	6.7 - 14.2	14.2	20 2	1 1	1 1 - 2 3	2 3	163	8.6	8.6 - 18.1	18.1	25 9	1 5	1 5 - 2 12	2 12
129	6.8	6.8 - 14.3	14.3	20 4	1 1	1 1 - 2 4	2 4	164	8.6	8.6 - 18.2	18.2	25 12	1 5	1 5 - 2 12	2 12
130	6.8	6.8 - 14.4	14.4	20 7	1 1	1 1 - 2 4	2 4	165	8.7	8.7 - 18.3	18.3	26 0	1 5	1 5 - 2 12	2 12
131	6.9	6.9 - 14.6	14.6	20 9	1 1	1 1 - 2 4	2 4	166	8.7	8.7 - 18.4	18.4	26 2	1 5	1 5 - 2 13	2 13
132	6.9	6.9 - 14.7	14.7	20 11	1 1	1 1 - 2 4	2 4	167	8.8	8.8 - 18.6	18.6	26 4	1 5	1 5 - 2 13	2 13
133	7.0	7.0 - 14.8	14.8	20 13	1 1	1 1 - 2 5	2 5	168	8.8	8.8 - 18.7	18.7	26 6	1 5	1 5 - 2 13	2 13
134	7.1	7.1 - 14.9	14.9	21 1	1 2	1 2 - 2 5	2 5	169	8.9	8.9 - 18.8	18.8	26 9	1 6	1 6 - 2 13	2 13

**Appendix 7 – Trust Food Record Chart**

Affix Patient Label here or record:

Name: .....

NHS No:

Hosp No:

D.O.B:   /   /       Male  Female

**FOOD RECORD CHART**



Date:  Ward:  Consultant:

Is the patient NIL BY MOUTH? YES / NO (PLEASE CIRCLE)

Date Placed NBM: .....

Baseline nutrition pre admission: Altered texture / PEG / FAR

Weight:  kg Actual / estimated  
Date patient weighed / /

Patient BMI:

- A** All of standard portion
- $\frac{3}{4}$   $\frac{3}{4}$  of standard portion
- $\frac{1}{2}$   $\frac{1}{2}$  standard portion
- $\frac{1}{4}$   $\frac{1}{4}$  standard portion
- R** Eaten minimal amount / refused
- NBM** Nil by Mouth

Please use the key to complete the food chart.

Description of food and drink		Date	Date	Date	Date	Date	Date
<b>Breakfast</b>	Cereal/Porridge						
	Cooked Breakfast						
	Toast and butter						
	Tea/Coffee						
	Other						
<b>Mid-morning</b>	Tea/coffee						
	Biscuit/cake						
	Supplement						
	Other						
<b>Lunch</b>	Main Course						
	Sandwich						
	Soup						
	Pudding						
	Custard						
	Yoghurt						
	Ice cream/mousse						
	Fruit						
	Tea/coffee						
	Other						
<b>Mid-afternoon</b>	Tea/coffee						
	Biscuit/cake						
	Supplement						
	Other						
<b>Evening meal</b>	Main Course						
	Soup						
	Sandwich						
	Pudding						
	Custard						
	Yoghurt						
	Ice cream/mousse						
	Fruit						
	Tea/coffee						
	Other						
<b>Bedtime</b>	Tea/coffee						
	Other						
RN daily review (please Initial)							
Action required (e.g. referral to dietitian)							
Y / N							
Date / /							







## Appendix 8 – Nutritional Supplements

Refer to a Doctor or Dietitian before initiating supplements for the following patients:-

- Patients with diabetes may need alteration to medication
- Patients with liver disease and renal disease
- Galactosaemia, milk protein intolerance and vegans
- Patients under 16 years of age
- Patients who cannot swallow or are tube fed
- Patients awaiting swallowing assessment
- Patients on texture modified diets

The trust stocks a range of supplements. Supplements have different nutritional compositions and have indicated directions for use. Our first line supplement Fortisip Compact and Fortisip Compact Fibre both have 300Kcals and 12g protein in 125mls, one with fibre and one without. Forticreme is a pudding style supplement and contains 200Kcals and 11.9g protein per 125g pot.

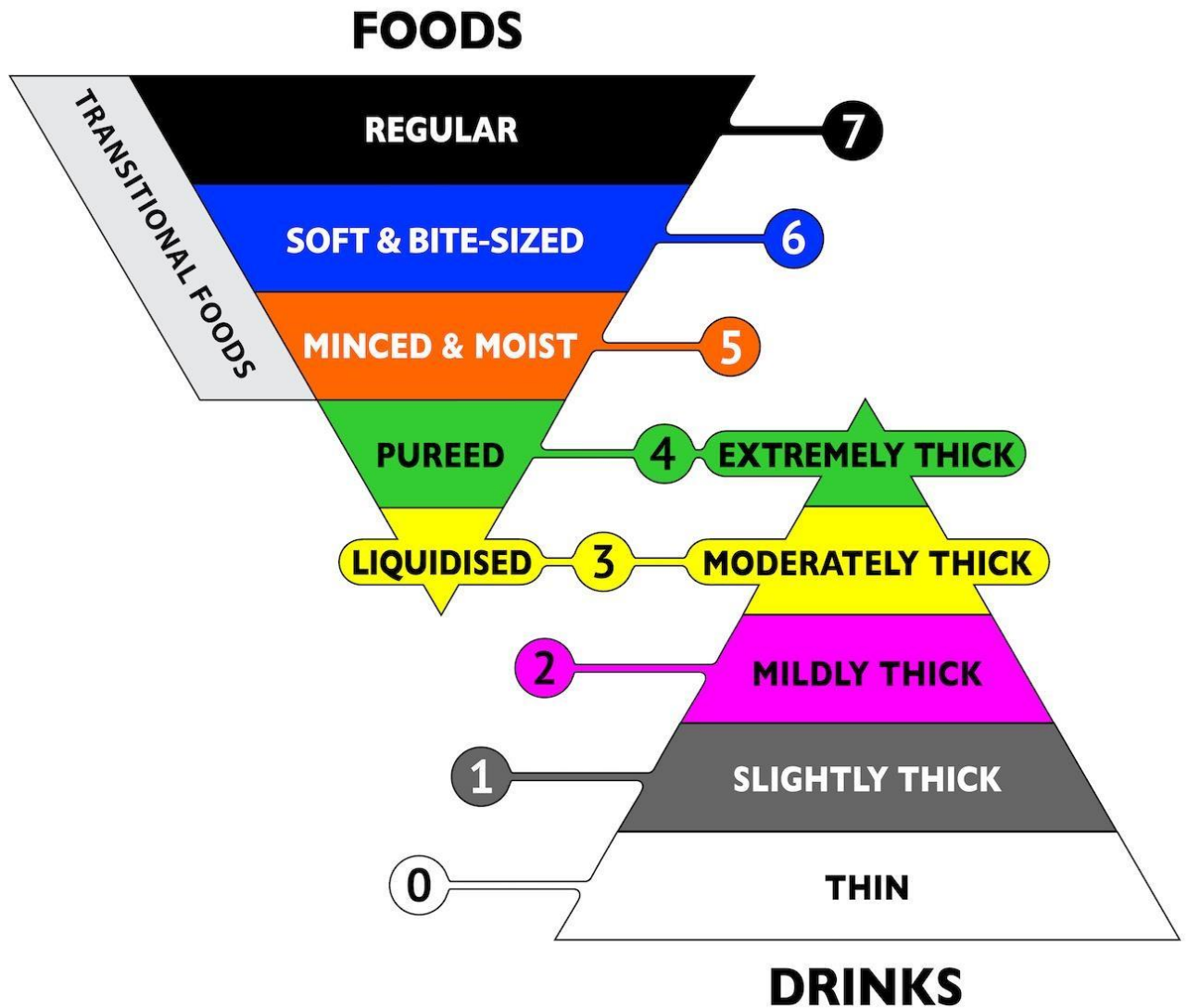
Other supplements found on the ward such as Fortisip 2Kcal, Fortijuice and Calogen Extra should only be offered when prescribed by the dietitian, after a full nutritional assessment has been carried out. If there is a justifiable clinical reason other supplements (from alternative companies) maybe advised. These should only be on a named patient basis and should not be ordered as routine stock.

Currently the trust has a contact with Nutricia. This means that we have a contract price with the company and all attempts should be made to use these supplements first. This also applies to the Nutrison range when prescribing tube feeds.

Meritene soup is available to patients as a savoury option.

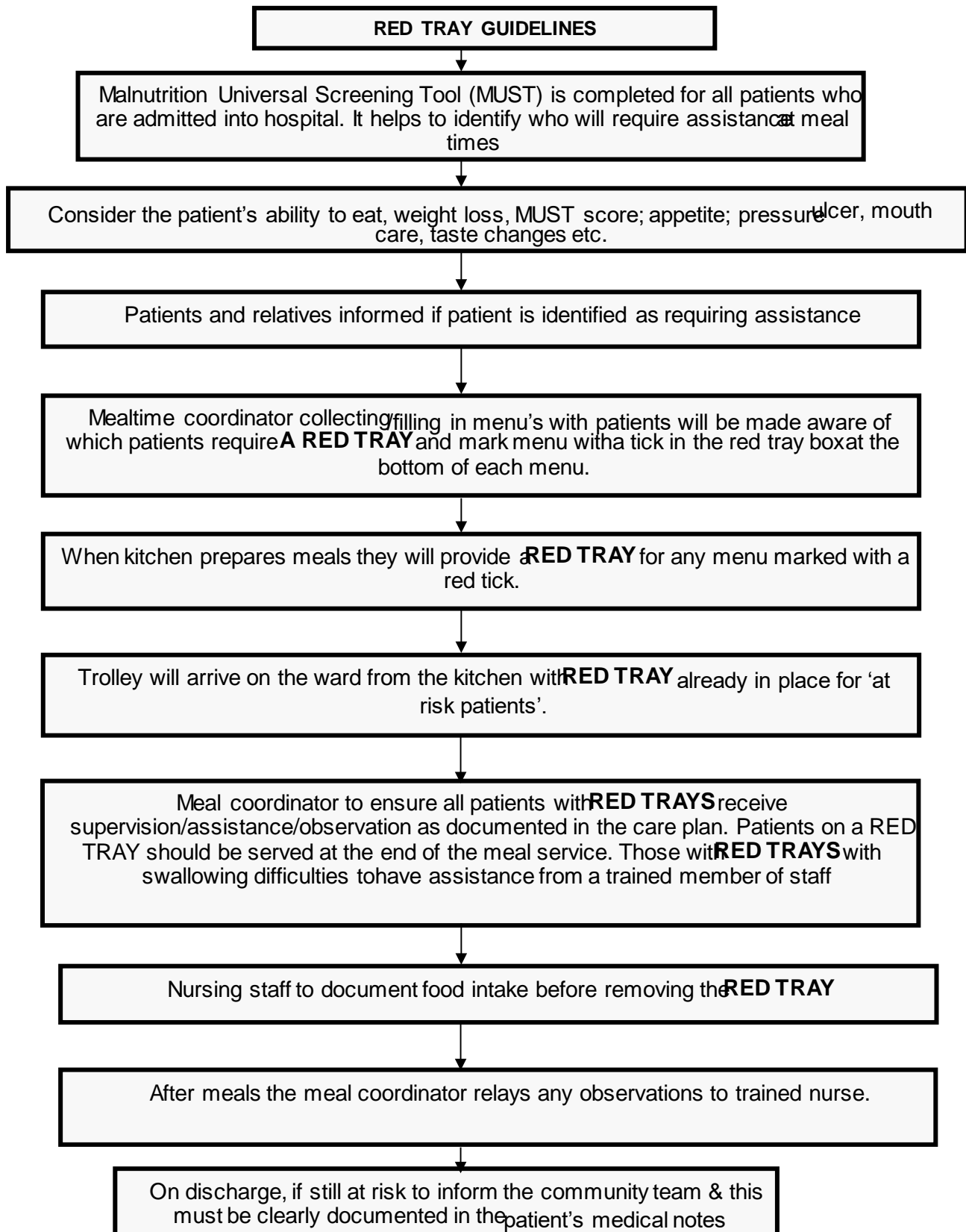
In April 2018 the trust adopted the International Dysphagia Diet Standardisation Initiative (IDDSI). The dysphagia diet framework consists of a continuum of 8 levels (0-7), where drinks are measured from Levels 0 – 4, while foods are measured from Levels 3 – 7 (See diagram 1). Nutricia have developed a pre thickened range of nutritional supplements which align with the IDDSI recommendations. Nutilis Complete Level 3, Nutilis Complete Crème level 3 and Nutilis Fruit Level 4 will be available to patients who have been assessed by speech and language therapy. The supplements will be available on a named patient basis and should be prescribed by the dietitian. The food levels 3 – 7 will be repackaged in 2019 and will super seed texture modified diet C, D and E.

**Appendix 9 – International Dysphagia Diet Standardisation Initiative**



The International Dysphagia Diet Standardisation Initiative 2016 @<http://iddsi.org/framework/>. Attribution is NOT PERMITTED for derivative works incorporating any alterations to the IDDSI Framework that extend beyond language translation. Supplementary Notice: Modification of the diagrams or descriptors within the IDDSI Framework is DISCOURAGED and NOT RECOMMENDED. Alterations to elements of the IDDSI framework may lead to confusion and errors in diet texture or drink selection for patients with dysphagia. Such errors have previously been associated with adverse events including choking and death.

**Appendix 10 – Red Tray Guideline**



**Appendix 11 – Fluid Matrix**

WORCESTERSHIRE ACUTE HOSPITALS NHS TRUST  
NUTRITION & DIETETIC DEPARTMENT

GUIDANCE ON ESTIMATING DAILY ADULT FLUID REQUIREMENT

AGE	Volume of fluid per kg body weight per day
18- 60 Years	35 mls / kg / day
Over 60 Years	30 mls / kg / day

NOTE:-

The above table is for guidance only. Patients with certain medical conditions require specific calculation of their fluid requirement. If unsure, Nursing staff should check with the medical team, for e.g. patients with the following conditions:

- Renal disease.
- Liver disease.
- Presence of oedema.
- Body temperature of over 37°C.
- High fluid output e.g. via stoma, wound exudate.
- Electrolyte imbalance.
- Pregnant women.
- Patients on strict fluid balance.
- Heart failure.

	Daily Fluid Requirements	
	18-60 years	Over 60 years
40kg	1400 mls	1200 mls
50kg	1750 mls	1500 mls
60kg	2100 mls	1800 mls
70kg	2450 mls	2100 mls
80kg	2800 mls	2400 mls
90kg	3150 mls	2700 mls
100kg	3500 mls	3000 mls

Reference: A pocket guide to Clinical Nutrition 2007 Manual of dietetic practice, 4<sup>th</sup> Ed. B Thomas, J Bishop. 2007 May 201

**Supporting Document 1 - Equality Impact Assessment Tool**

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	<b>Does the policy/guidance affect one group less or more favourably than another on the basis of:</b>		
	Race	No	
	Ethnic origins (including gypsies and travellers)	No	
	Nationality	No	
	Gender	No	
	Culture	No	
	Religion or belief	No	
	Sexual orientation including lesbian, gay and bisexual people	No	
	Age	No	
2.	<b>Is there any evidence that some groups are affected differently?</b>	No	
3.	<b>If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?</b>	No	
4.	<b>Is the impact of the policy/guidance likely to be negative?</b>	No	
5.	<b>If so can the impact be avoided?</b>	No	
6.	<b>What alternatives are there to achieving the policy/guidance without the impact?</b>	No	
7.	<b>Can we reduce the impact by taking different action?</b>	No	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

**Supporting Document 2 – Financial Impact Assessment**

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	<b>Title of document:</b>	<b>Yes/No</b>
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval