Nutritional Screening

Structured Investigation Project
Executive Summary
Nutritional screening is historically poorly complied with amongst healthcare professionals. The National Institute for Health and Clinical Excellence (2006) estimated that only 30% of patients were screened on admission to hospital prior to issuing their guidance Nutritional Support for Adults.

The Nutritional Screening project aimed to identify the barriers to compliance with nutritional screening using a structured investigation approach.

The Nutritional Screening project was conducted by working with nurses and dieticians from 10 acute NHS Trusts. In addition to this two patient participation meeting were held.

i Results
The main barriers to compliance with nutritional screening within the first 24 hours of admission were identified as:

- Lack of equipment – weighing scales and height measures;
- Lack of leadership;
- Lack of clarify relating to screening and assessment;
- Dependency of patients;
- Credibility and usability of available screening tools;
- Lack of education and training for medical and nursing staff;
- Not mandatory.

Key findings from the patient participation were:

- A majority of patients had not been weighed on admission;
- Recent weight loss and reduced appetite had not been assessed on admission;
- Patients were unaware that they should have a nutritional assessment completed on admission.

ii Implications for the NHS

- The NPSA will share the findings of this report with key stakeholder organisations.
- NHS staff are encouraged to report the failure to nutritionally screen patients via the National Reporting and Learning System (NRLS).
- All NHS organisations should implement the National Institute of Health and Clinical Excellence guidance on Nutrition Support in Adults.
- Healthcare Inspectors should include nutritional screening as part of their healthcare standards.
- Key stakeholders and regulators to agree a national screening tool and to provide training tools.
- NHS organisations should ensure that resources are available to facilitate nutritional screening.
- NHS organisations are encouraged to raise awareness of nutritional screening to patients.
- All nutritional screening equipment should be purchased via the NHS Supply Chain to take advantage of negotiated service agreements for maintenance and calibration of equipment.
Nutritional Screening Structured Investigation

1.0 Background

Malnutrition and obesity are currently considered to be major clinical and public health issues within the United Kingdom.

It is estimated that malnutrition is present in 10-40 per cent of patients admitted to hospital with a suggested cost to hospitals of approximately £3.8 billion. Malnutrition and the risk of malnutrition are also of concern within the general population, especially in people over the age of 65 years. The European Nutrition for Health Alliance (2006) reported that 10 per cent of people over 65 in the community are malnourished.

The causes of malnutrition are both social and clinical: they include underlying disease, decreased mobility, limited transport to local shops, social isolation and poverty.

The effects of malnutrition are well documented: prolonged hospital stays, delayed recovery, increased complications of nosocomial infections, poor respiratory function and prolonged bed rest (Sungurtekin et al 2004). Studies in 1999 and 2001 (Sullivan et al) suggest that there is an increase in mortality, estimated to be eight times higher, and an increase in dependency upon discharge in patients that are malnourished. However, to date, there have been no formal economic evaluations of disease related malnutrition.

The incidence of obesity is less, reportedly affecting one in five adults, however, there remains a significant cost of £0.5 billion to the NHS in the treatment of obesity. A majority of this cost is related to the treatment of predisposing health problems related to obesity.

Nutritional screening is considered to be the first step to identifying patients who may be at nutritional risk or potentially at risk of malnutrition. In addition this screening process provides opportunity for the patient’s ability to eat and drink safely to be assessed.

This aspect of the screening would encompass the following areas:

- Unintentional weight loss;
- Body Mass Index – calculated from weight and height;
- Appetite;
- Ability to eat – difficulties in swallowing, assistance required, level of hydration;
- Additional stress factor – type of surgery/injury, disease process.

The early detection of malnutrition by the routine screening of vulnerable risk groups – those with chronic disease, the elderly, the dysphagic – can identify those who would benefit from dietary support measures and nutrition interventions.

Nutritional screening is identified as a rapid and simple procedure, usually conducted by nursing staff, which is completed when a patient is admitted to hospital. As part of this process patients should be weighed, assessed for any recent weight loss and ability to eat evaluated. This is compared to a nutritional assessment which is considered as more detailed, more specific and a more in-depth evaluation of nutritional status usually conducted by an expert, such as dietician.
1.1 Review of current position

Nutritional screening is historically poorly complied with amongst healthcare professionals. The National Institute for Health and Clinical Excellence (2006) estimated that only 30 per cent of patients were screened on admission to hospital. In Wales there in evidence to suggest that compliance is higher. In 2005 the Chief Nursing Officer (Wales) asked that the compliance to nutritional screening be bench-marked. The audit found that 55 per cent of NHS organisations were using the Malnutrition Universal Screening Tool (MUST) and that all trusts had an assessment tool.

A review of the NRLS data has identified that the failure to nutritionally screen patients is not reported and the assumption can therefore be made that healthcare staff do not recognise this as an important aspect of patient care or as a patient safety issue.

In November 2003 Minister's at the Council of Europe put forward recommendations for the improvement of nutritional care in a report Food and Nutritional Care in Hospitals: How to prevent Undernutrition. There are over one hundred recommendations within this resolution and eighteen European countries are signatories to this resolution. The United Kingdom is amongst them. Resolution 1.1v states that “the nutritional risk of all patients should be routinely assessed prior to or at admission”.

In February 2006, the National Institute for Health and Clinical Excellence (NICE) published guidelines, Nutritional Support for Adults, which recommends that “all hospital inpatients on admission and all outpatients at their first clinic appointment should be screened (weighed, measured and have Body Mass Index (BMI) calculated). Screening should be repeated weekly for inpatients and when there is clinical concern for outpatients. People in care homes should be screened on admission and when there is clinical concern”. These guidelines have raised the awareness of nutritional screening. However, compliance remains an issue.

1.2 The need to identify the barriers to compliance

The guidelines published by the NICE in February 2006 have placed a greater emphasis on NHS organisations to ensure that all patients are nutritionally screened on admission. However, due to the estimated level of current compliance the NPSA felt that a programme of work should be undertaken to identify the barriers to nutritional screening for frontline staff. In undertaking this programme of work it was also considered important to gain a patient perceptive of nutritional screening to consider any potential impact this could have on compliance.

The profile of nutritional screening was also increased by the launch of the Age Concern’s Hungry to be Heard campaign which endorsed the NICE guidelines.

Analysis of the NPSA’s NRLS has identified that frontline staff do not report a failure to undertake a nutritional screening as a patient safety incident with only two reported incidents identified over the last 12 months.

2.0 The barriers to nutritional screening process
The project to identify the barriers to nutritional screening consisted of two elements. Firstly, to engage with frontline staff to participate in a structured investigation to identify barriers to compliance and secondly, to engage with patients and the public to gather their views and experiences of nutritional screening within the acute hospital setting and to consider the impact patients may have on compliance to nutritional screening.

### 3.0 Engagement with frontline staff

The Nutritional Screening project aimed to identify the barriers to compliance with nutritional screening using a structured investigation approach.

To gather information from frontline staff NHS Trust’s were invited to nominate a team of five representatives to attend a workshop held to identify the barriers to nutritional screening within the first 24 hours of a patient being admitted into hospital. Nominations were sought via the NPSA’s Patient Safety Managers. A total of ten NHS organisations expressed an interest in attending this event. Thirty eight frontline staff attended the workshop. The workshop was led by the NPSA’s Nutrition Lead and supported by a NPSA Patient Safety Manager skilled in root cause analysis.

Each of the organisations represented were asked to nominate both nurses’ and dietitians to attend the workshop. This was considered to be representative of staff groups most likely to be involved in undertaking nutritional screening and having an interest in the outcome of the screening. It was also considered as an opportunity for different healthcare professionals to gain the views and opinions of each other’s professional concerns related to nutritional screening. This was viewed as essential in terms of developing meaningful actions from any learning opportunities developed as part of the investigation process.

The purpose of the workshop was to allow frontline staff to consider the barriers to compliance within their own organisations. Attendee’s were asked to consider the first 24 hours when patients are admitted to hospital and also to consider any variances between elective and emergency admissions.

The barriers to compliance with nutritional screening within the first 24 hours of admission were identified as follows:

#### i Lack of equipment

There was general agreement that the provision of equipment required to conduct nutritional screening was poor. Of particular concern was the availability of weighing scales and height measures. There was a lack of clarity as to who should be responsible for the purchasing and regular calibration of weighing scales, although the general view was that this was the responsibility of the ward manager. This is consistent with a snapshot audit conducted by the Hospital Estates and Facilities Management Association (HeFMa) in 2006.

There is anecdotal evidence that weighing equipment is often purchased from High Street stores, thus failing to take advantage of negotiated service contracts for regular maintenance and calibration of equipment.

#### ii Lack of leadership
A lack of leadership was viewed as a barrier in all aspects of nutritional care but with reference to nutritional screening there was a view that screening occurred if the ward manager was interested in nutritional care. There were also issues raised around medical staff not asking for a patient’s weight and this was viewed as an issue of leadership.

### iii Lack of clarify relating to screening and assessment

Within the workshop there was much debate relating to differences between nutritional screening and assessment. Consideration was given whether the terms were interchangeable or whether greater clarity should be given as to any differences. The debate was aided by the definition of screening provided by NICE which states that screening is:

“A rapid, simple and general procedure used by nursing, medical or other staff often at first contact with the patient, to detect those who have significant nutritional problems or significant risks of such problems, in order that clear guidelines for action can be implemented, e.g. simple dietary measures or referral for expert help”

This lead to discussions of the complexity and simplicity of available tools and the level of skills and knowledge required to complete the tools.

### iv Credibility and usability of available screening tools

Appendix 1 demonstrates two nutritional screening/assessment tools currently used within the NHS. It is acknowledge that the actual number of available tools is not known and that in terms of the validity and reliable there are large variances. The nutritional screening/assessment tools varying in terms of information required. Within the workshop consideration was given to the information required as part of any nutritional screening. This resulted in much debate between nursing and dietetic delegates in relation to whether the tool should include questions considered to be more holistic, for example include questions relating to assistance with eating or whether the focus should be on weight and appetite. Consideration was also given to who actually completes the screening tools and it was recognised that in many instances they are completed by Healthcare Assistants who often receive little or no training on the completion of these tools.

### v Lack of education and training for medical and nursing staff

The delegates identified that there were a lack of education and training for medical and nursing staff both pre-qualification and within local NHS organisations. It was also felt that any training that was delivered locally was potentially targeted at wrong staff groups.

### vi Poor documentation

Poor documentation was identified as a barrier in relation to the quality of nutrition documentation. Common themes included poor compliance with full completion and the fact that many screening tools are poorly photocopied.

### vii No standardisation nationally

It was identified that a potential barrier to compliance is linked to there being no nationally agreed standard for the type and context of screening tool to be used in acute trusts.
viii Current accepted culture of not weighing patients on admission
Delegates felt that there was currently a culture within NHS organisation were it was accepted that patients were not weighed. It was highlighted that patients’ weights were not only important in the assessment of a patient’s nutritional status but were also important for medication calculations. Several delegates stated that they were never asked about their patient’s weight by other healthcare professionals and felt that this devalued the need to weigh patients.

ix Not mandatory
Nutritional screening is not a mandatory requirement in England and Wales. Although, it is acknowledge that nutritional screening is part of the Clinical Risk Standards in Wales. It was strongly felt that a government mandate would increase compliance.

x Dependency of patients
The impact of increased patient dependency was also highlighted as a barrier to compliance with nutritional screening. It was felt that patients were generally much more dependent in hospitals and that during the first 24 hours of admission patients required far more interventions than 10 years ago.

Attendees were then asked to develop action plans to overcome the barriers within their own organisations. Appendix 2 demonstrates an example of an action plan developed for one acute NHS Trust.

3.1 Evaluation and progress event
The NPSA hosted an evaluation workshop six weeks after the initial event to assess the value of using a structured investigation approach to this issue. Five of the original ten NHS organisations were able to attend this second event. It was identified that the benefits of this approach were:

- Supported actions in NHS organisations;
- Reflection opportunity;
- Time out for analysis of the problem;
- Networking;
- Benchmarking;
- Reassurance.

The attendees reported that they had been able to return to their organisations with clear focused objectives and that they had been able to action their learning from the initial meeting.

An example of this was that a dietitian and nurse from one NHS organisation had completed an audit for their weighing equipment, found that there was a shortage of functioning weighing scales, presented their finding to the Director of Nursing and secured funding to purchase new equipment.

Another NHS organisation had undertaken a project to establish some trigger questions into their existing nutritional screening tool. The aim of these questions was to assist nursing staff to be able to quickly undertake a nutritional screening but to alert them to the need to complete a full nutritional screening where necessary. It was felt that this
was of value to Healthcare Assistance who could be the first point of contact with patients. The NHS organisation are currently piloting the newly designed screening tool print to address some of the issues identified related to poor documentation.

The evaluation workshop also gave opportunity for attendees to consider ongoing barriers and these were identified as:

- Maintaining the profile and momentum;
- Support from senior nurses, Trust Boards, medical staff;
- Building screening into the ward routine;
- Targeting the right people for education and training;
- Genuine lack of time in some clinical areas;
- Continuing lack of priority;
- Lack of evidence as to the effectiveness of screening;
- Lack of audit or monitoring of the uptake of screening;
- Resources – equipment, staff.

The attendees identified that Medical Assessment Units were an area of concern and that ongoing investigation was required in this clinical area to identify the specific barriers to nutritional screening.

It was also identified that there were design issues in relation to weighing equipment and that further investigation should be undertaken in relation the availability of weighing hoists, weighbridges and wheelchair scales.

There was further discussion on different approaches to the assessment of a patient’s nutritional status and it was felt that the use of hand grip strength would be beneficial for some patient groups.

This demonstrates the complexity of the issues surrounding nutritional screening within acute hospitals.

It was agreed that each of the five attending organisations would host an internal event in October 2007 to report progress to their Board and the NPSA.

4.0 Patient Participation Meetings
The NPSA facilitated two patient participation meetings in early 2007 to gain patients views of nutritional care in hospitals. This meetings were attended by 27 patient representative either nominated by Age Concern England or recruited from the NPSA patient participate register. All of the participants had been hospital inpatients in the last two years.

The participants were asked if they had been aware of having their nutritional status screened while in hospital. An explanation of what would constitute nutritional screening was provided by the NPSA’s Nutrition Lead. In addition to this participants were asked their views on two nutritional screening tools currently in use in the NHS and to consider who should carry out the nutritional screening and when the nutritional screening should occur. Participants were finally given opportunity to discuss other issues regarding relating to nutritional screening.
4.1 Awareness of being screened
Some participants were aware of being weighed and a few were aware of their height being checked. Several of the participants explained that they had lost substantial amounts of weight whilst in hospital but reported that no one had asked them about this weight loss. Very few of the attendees remembered being asked any questions about what they ate or about their appetite. Some of the older participants felt that there was greater emphasis placed on weighing patients “years ago”.

But a general nutritional screen was seen to be a good idea. Most participants said they would not mind being weighed or assessed in other ways, as it was assumed it would help with their health in some way. Some participants felt that nutritional screening might stimulate patients to think about the issues they should be concerned about whilst in hospital.

A few participants noted specific problems concerning nutrition. One had been found to have malnutrition due to an imbalance in her electrolytes, although her situation had not detected for two years:

“I had so much money spent on my investigations, but if they’d looked at these basic things, they probably would have picked it up very much earlier.”

4.2 Nutritional Screening tools
The participants were shown two nutritional screening tools currently used within the NHS. It is acknowledged that this is a very small representation of the tools available and in use. The purpose of asking the participants their views on the tools was to gauge what patients felt was important to be asked.

The first tool discussed was the Nutritional Risk Score. The participants generally liked the layout of this tool. They felt that it was clear and covered all possible areas of concern. There were three key areas which the participants felt beneficial:

- The patients appetite was considered;
- The need for assistance was assessed;
- Difficultly in swallowing was assessed.

The second tool discussed was the Malnutrition Universal Screening Tool (MUST). The participants generally felt that this tool was more complicated. However, some participants where reassured by this. There was some concern that the tool did not identify patient’s individual needs. Others were concerned that the nursing staff might have problems completing the form and as such not bother to complete it due to the complexity. One participant commented:

‘they don’t have the time to help patients eat, how are they going to find the time to do this?’

One participant felt that the nutritional screening tools where unnecessary and that nurses already had enough forms to fill in which was already detracting from patient care.

4.3 Who should screen and when
The participants were asked who they felt should perform the nutritional screening. The overwhelming view was that this should be conducted by nursing staff and that nursing staff should have training to do this. It was not felt necessary for medical staff to be involved. However, there was some discussion around the possibility of the screening to be completed by General Practitioners. There was a view that it would not be appropriate to ask patients to undertake any part of the screening themselves.

When asked when nutritional screening should take place the general view of the participants was that this should occur relatively quickly on admission to hospital. Some felt that this could be completed at a pre-admission appointment and again the possibility of the General Practitioner was raised.

4.4 Other issues
The participants were finally given opportunity to discuss any other issues they had relating to nutritional screening.

The participants generally felt that nutritional screening was not intrusive, however, the issue of dignity was raised and it was felt that some ladies maybe sensitive to being weighed.

There was general view that any assessment should be holistic in nature. Concerns were raised around healthcare professionals understanding as to why a patient maybe obese or undernourished.

The participants felt that patients should be made aware of nutritional screening so that they could ask for an assessment. It was also felt that it would be beneficial for all hospitals to information boards about nutritional screening and the importance of nutrition in recovery.

5.0 Discussion
The structured investigation of barriers to nutritional screening has demonstrated that there are multifactorial issues that prevent nutritional screening from occurring within the first 24 hours of admission to hospital. The structured investigation identified three key factors that impact on the staff’s ability to screen patients – patient factors, staff factors and system factors. This has allowed the participating Trust’s to develop focused action plans that address the real issues and root causes for the lack of nutritional screening.

The structured investigation has demonstrated an apparent lack of clarity on what nutritional screening is and there appears to be different variables for different groups of healthcare professionals. It could be suggested that a nationally agreed nutritional screening tool would be advantageous.

The investigation has also identified that there are substantial issues related to the access and maintenance of equipment required to undertake nutritional screening and clearly there are cost implications for the NHS if this is to be addressed.

The patient participation meetings, although representative of a very small number of patients, offers some confirmation that compliance to nutritional screening is poor. The meetings also demonstrated that patients do not expect to be assessed for their
nutritional status on admission to hospital. There is opportunity for public awareness to raised with local NHS organisations as to the importance of nutritional screening.

6.0 Conclusion
Initial feedback from the participating trusts has been positive. Participates have found using a structured investigation technique beneficial and felt that the NPSA should promote this technique at a regional level. The NPSA will support local activity where required.

Following this review the NPSA are now a collaborative partner with the Royal College of Nurses Nutrition Now campaign to promote nutritional screening. The NPSA is also working in collaboration with the Council of Europe Alliance and is promoting nutritional screening through the Ten Key Characteristic’s of good nutritional care in hospitals. The NPSA is also supporting the British Association of Enteral and Paraenteral Nutrition Nutritional Screening Week planned for September 2007.

The NPSA will monitor the uptake of nutritional screening via the Patient Environment Action Team reports.

7.0 Implications for the NHS
- The NPSA will share this Findings Report with key stakeholder organisations.
- NHS staff are encouraged to report the failure to nutritionally screen patients via the National Reporting and Learning System.
- All NHS organisations are to implement the National Institute of Health and Clinical Excellence guidance on Nutrition Support in Adults.
- Healthcare Inspectors should include nutritional screening as part of their healthcare standards.
- Key stakeholders and regulators to agree a national screening tool and to provide training tools.
- NHS organisations should ensure that resources are available to facilitate nutritional screening.
- NHS organisations are encouraged to raise awareness of nutritional screening to patients.
- All nutritional screening equipment should be purchased via the NHS Supply Chain.

Acknowledgements
Many thanks to the following NHS Trusts for their support with this review:

- Leeds Teaching Hospital NHS Trust
- Calderdale and Huddersfield Foundation Trust
- Buckinghamshire Hospital NHS Trust
- St Helens & Knowsley NHS Trust
- Heart of England Foundation Trust
- Chesterfield Royal NHS Foundation Trust
- Hammersmith Hospitals NHS Trust
Nutritional Screening Report

- Mid York Hospitals NHS Trust
- Bromley Hospitals NHS Trust
- Brighton and Sussex University Hospitals NHS Trust

Thanks also to Age Concern England for supporting the patient participation meetings. I am very grateful for the support provide by Jean Lowe, Shirley O'Toole and John Morrison at both the patient participation meeting and the structured investigation meeting.
Appendix 1

'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.
### 'Malnutrition Universal Screening Tool' ('MUST')

#### Step 2 - Weight loss score

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**Nutritional Screening Report**
Alternative measurements and considerations

Step 1: BMI (body mass index)
If height cannot be measured
- Use recently documented or self-reported height (if reliable and realistic).
- If the subject does not know or is unable to report their height, use one of the alternative measurements to estimate height (ultra, knee height or domineering).

If height & weight cannot be obtained
- Use mid upper arm circumference (MUAC) measurement to estimate BMI category.

Step 2: Recent unplanned weight loss
If recent weight loss cannot be calculated, use self-reported weight loss (if reliable and realistic).

Subjective criteria
If height, weight or BMI cannot be obtained, the following criteria which relate to them can assist your professional judgement of the subject’s nutritional risk.

1. BMI
   - Clinical impression – thin, acceptable weight, overweight, Obvious wasting (very thin) and obesity (very overweight) can also be noted.

2. Unplanned weight loss
   - Clothes and/or jewellery have become loose fitting (weight loss).
   - History of decreased food intake, reduced appetite or swallowing problems over 3-6 months and underlying disease or psycho-social/physical disabilities likely to cause weight loss.

3. Acute disease effect
   - No nutritional intake or likelihood of no intake for more than 5 days.

Further details on taking alternative measurements, special circumstances and subjective criteria can be found in The ‘MUST’ Explanatory Booklet. A copy can be downloaded at www.bapen.org.uk or purchased from the BAPEN office. The full evidence-base for ‘MUST’ is contained in the MUST Report and is also available for purchase from the BAPEN office.

BAPEN Office, Sussex Innovation Business Centre, Haddon Road, Redhill, Surrey, RH1 5BU. Tel: 01737 465 265. Fax: 01737 456 710. bapen@bapenconference.co.uk. BAPEN is registered charity number 1103597. www.bapen.org.uk

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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 diameters) 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).

<table>
<thead>
<tr>
<th>Height</th>
<th>Men (&lt;65 years)</th>
<th>Men (≥65 years)</th>
<th>Women (&lt;65 years)</th>
<th>Women (≥65 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulna length (cm)</td>
<td>32.0</td>
<td>31.5</td>
<td>31.0</td>
<td>30.5</td>
</tr>
<tr>
<td>Men (&lt;65 years)</td>
<td>1.54</td>
<td>1.50</td>
<td>1.41</td>
<td>1.30</td>
</tr>
<tr>
<td>Men (≥65 years)</td>
<td>1.87</td>
<td>1.86</td>
<td>1.84</td>
<td>1.82</td>
</tr>
<tr>
<td>Women (&lt;65 years)</td>
<td>1.94</td>
<td>1.92</td>
<td>1.81</td>
<td>1.70</td>
</tr>
<tr>
<td>Women (≥65 years)</td>
<td>1.84</td>
<td>1.83</td>
<td>1.81</td>
<td>1.70</td>
</tr>
</tbody>
</table>

**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/m².
If MUAC is > 25.0 cm, BMI is likely to be >30 kg/m².
## Nutritional Screening Report

**NUTRITION RISK SCORE**

### Adults ≥ 18 years

Patient's Name: 
Hospital Number: 
Date of Birth: 
Ward: 
Weight: 
Height/Length: 
Date: 
Signature: 

- Complete on admission and repeat weekly if patient's condition has changed.
- Enter highest score.
- Only select one score from each section.
- For the highest score that applies in each section, total the scores and take appropriate action, see below.

<table>
<thead>
<tr>
<th>WEIGHT LOSS IN LAST 3 MONTHS (Unintentional)</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 kg weight loss</td>
<td>0</td>
</tr>
<tr>
<td>5 - 9 kg weight loss</td>
<td>1</td>
</tr>
<tr>
<td>3 - 6 kg weight loss</td>
<td>2</td>
</tr>
<tr>
<td>6 kg or more</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BMI (Body Mass Index) - calculates from weight and height using BMI chart on wand</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 or more (Normal weight or above)</td>
</tr>
<tr>
<td>18 or 19 (Slightly underweight)</td>
</tr>
<tr>
<td>17 or 16 (Moderately underweight)</td>
</tr>
<tr>
<td>15 or less (Severely underweight)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPETITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustained appetite, manages most of 3 meals/day (or equivalent)</td>
</tr>
<tr>
<td>Poor appetite, poor intake - leaving &gt; half of meals provided (or equivalent)</td>
</tr>
<tr>
<td>Appetite nil or virtually nil, unable to eat, NBM (for &gt; 4 Mls)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABILITY TO EAT / RETAIN FOOD / STATE OF HYDRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No difficulties eating, able to eat independently / tolerating enteral feeds</td>
</tr>
<tr>
<td>Less nausea or vomiting / well hydrated</td>
</tr>
<tr>
<td>Problems handling food, e.g. needs special cutlery</td>
</tr>
<tr>
<td>Vomiting / frequent regurgitation / mild diarrhea</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STRESS FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Stress Factor</td>
</tr>
<tr>
<td>Mild</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Severe</td>
</tr>
</tbody>
</table>

**SCORE**

<table>
<thead>
<tr>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 2 LOW RISK</td>
</tr>
<tr>
<td>Complete Treatment Plan, oral/oral</td>
</tr>
<tr>
<td>3 - 5 MEDIUM RISK</td>
</tr>
<tr>
<td>The patient needs a special diet not available on the normal menu, the patient needs advice about a special diet,</td>
</tr>
<tr>
<td>6 - 15 HIGH RISK</td>
</tr>
<tr>
<td>Consider referral to Dietician and Nutritional Therapy, and Speech and Language Therapy, and the patient has swallowing problems,</td>
</tr>
</tbody>
</table>

NUTRITION and DIETETIC DEPARTMENT | HEART OF ENGLAND NHS FOUNDATION TRUST
## NUTRITION RISK SCORE TREATMENT PLAN

**Treatment Plan for patients with Moderate (MOD): 4-6 or High Risk Score: 8-10**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Plan</th>
<th>Date:</th>
<th>On Admission</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>mandatory use head or seated scales if required</td>
<td>State Weight</td>
<td>Kg</td>
<td>Kg</td>
<td>Kg</td>
<td>Kg</td>
</tr>
<tr>
<td>Repeat Risk Score weekly - mandatory</td>
<td>State risk score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commence food chart</td>
<td>Tick ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide a red tray</td>
<td>Tick ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the patient require assistance to eat?</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the patient require supervision when eating?</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offer snacks or supplements to replace missed meals</td>
<td>Tick ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify preferred foods if necessary</td>
<td>Enter preferred foods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact catering to discuss availability of preferred foods if necessary</td>
<td>Enter date catering contacted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIGH</strong></td>
<td><strong>Refer to Dietitian</strong></td>
<td>Enter time and date dietitian contacted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider a referral to Speech and Language (SALT) if patient has swallowing problems</td>
<td>Enter time and date of referral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Signature**

To refer a patient to the dietitian: bleep your ward dietitian direct or leave a message on Ext. 42673 BHH or Ext. 45127 SH or Ext. 40759 Elderly Medicine

To refer a patient to SALT: leave a message on Ext. 40432 BHH or Ext. 44126 SH or Ext. 42778 Elderly Medicine

*Patients will be seen within 2 working days of referral*

*Also refer to the dietitian if the patient needs a special diet that is not available on the normal menu or if the patient needs advice about a special diet*
# NUTRITION RISK SCREENING ACTION PLAN

This action plan has been developed as a result of representatives from the Trust attending a meeting to look at a root cause analysis of nutritional screening facilitated by the Nutrition Lead at the NPSA. The trust representatives at this meeting were …………………………… following the meeting we met to discuss how we could develop nutrition risk assessment at the Royal and felt it was important that we introduce this in planned and timely manner with actions for the short, medium and longer term.

The next NPSA meeting is planned for April and this action plan and the progress made will be reported back at this meeting.

<table>
<thead>
<tr>
<th>Action</th>
<th>Lead</th>
<th>Short Term (3 months)</th>
<th>Medium Term (3 – 9 months)</th>
<th>Long Term (9 months onwards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Get all directorates involved in this work stream.</td>
<td></td>
<td>Organise meeting with senior matrons from all directorates to report back from the NPSA facilitated meeting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ensure equipment available to obtain ulna length / height of all patients</td>
<td></td>
<td>Order equipment to weigh and obtain height of all patients on general medical and surgical wards.</td>
<td></td>
<td>Consider equipment necessary to weigh patients in critical care and out patients.</td>
</tr>
<tr>
<td>3. Develop the concept of a Pre Screening Tool and pilot this in OPD Suite 1.</td>
<td></td>
<td>Develop Pre Screening Tool and take to SNG (? PAG) for support.</td>
<td></td>
<td>Continue roll out across hospital.</td>
</tr>
<tr>
<td>5. Incorporate pre screen in First Contact Documentation trigger relating to nutrition risk.</td>
<td></td>
<td>Dependant upon pilot and evaluation of Pre Screen Tool amend First Contact Documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Incorporate pre screen into existing questionnaire for ophthalmology inpatients.</td>
<td></td>
<td>Dependant upon pilot and evaluation of Pre Screen Tool amend existing questionnaire.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Support ward staff in completing all documentation.</td>
<td></td>
<td>Target EMU in order to ensure patients screened when</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>admitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Include nutrition risk screening awareness on rolling programmes for ward staff.</td>
<td>Present paper to execs to support screening as mandatory.</td>
<td>Incorporate session into rolling programme.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
References


