

Inter-rater Reliability of the Fife Intensive Care Unit Nutritional Screening Tool

K. Aitken, P. Cummins, M. McDougall
Intensive Care Unit, Queen Margaret Hospital, Whitefield Road, Dunfermline, KY12 0SU

Introduction:

Accurate assessment of the nutritional status of critically ill patients is essential to guide the prescription of requirements, to identify refeeding risk and to determine the importance of timely nutritional intake. Nutritional screening relies on obtaining an accurate Body Mass Index (BMI) and knowing the nutritional history. A recent survey¹ found that only one Scottish Intensive Care Unit (ICU) weighs its patients routinely on admission to ICU or thereafter and very few perform nutritional screening.

The authors have developed a screening tool based on the Malnutrition Universal Screening Tool (MUST)² from BAPEN and which incorporates an assessment of refeeding risk derived from the National Institute for Clinical Excellence (NICE) Guidelines on Nutrition Support for Adults³. MUST has been widely adopted in the UK; it identifies most critical care patients as being at high risk of malnutrition but does not identify those at refeeding risk.

A prospective study⁴ found that 34% of ICU patients developed a low phosphate after feeding, one of the signs of refeeding syndrome. If such patients are not identified prior to feeding, given thiamine and their feeding commenced at a low rate, the dangerous effects of refeeding syndrome may result. Without screening this scenario is most likely to occur at the weekend or in the absence of dietetic input.

The Fife ICU Nutritional Screening Tool (Fig 4) takes around five minutes to complete. The score is linked in Fife to a Nutritional Care Pathway to guide nutrition, such that patients receive a suitable starting regimen and refeeding prophylaxis if indicated. Different scores may result in the same feeding regimen being recommended.

Methods:

A pilot study of the Fife screening tool was carried out in 2008. A nurse, doctor and a dietitian screened 45 patients independently using history, weight and height taken from medical notes, or provided by relatives or the patient. Only one dietitian took part but there were several doctors and nurses. 88% of forms were returned; 17 patients had two scorers and 28 had three. Actual weights and heights were not measured after ICU admission as this is not current practice in Fife.

Results:

The forms scored by two and three scorers were examined separately and then the results pooled (Figs 1,2,3). The study showed that scores were reproducible in the majority of patients; overall there was full (2/2 scorers or 3/3 scorers) or partial (2/3 scorers) agreement on the scores in a total of 84.5% of cases, which increased to 89.9% when the feeding regimen was considered. Differences in the estimated weights and percentage weight loss being used by scorers accounted for some discrepancies in scoring. Doctors, nurses and dietitians did not differ widely in their scoring; the mean score was 3.3 for doctors, 3.3 for nurses and 3.1 for dietitians.

Discussion:

It should be possible to increase the reproducibility of the screening tool by further training of staff and by introducing accurate weighing of patients. For practical reasons the nurses are the most appropriate staff to carry out the screening on patient admission and it is therefore important to ensure that screening results are consistent between all three groups of professionals. A further reliability study following further staff training and introduction of weighing, a study comparing this screening tool with other available methods and a study of patient outcomes stratified by nutritional status are planned. A systematic review of nutritional screening in critical care is currently underway in Fife.

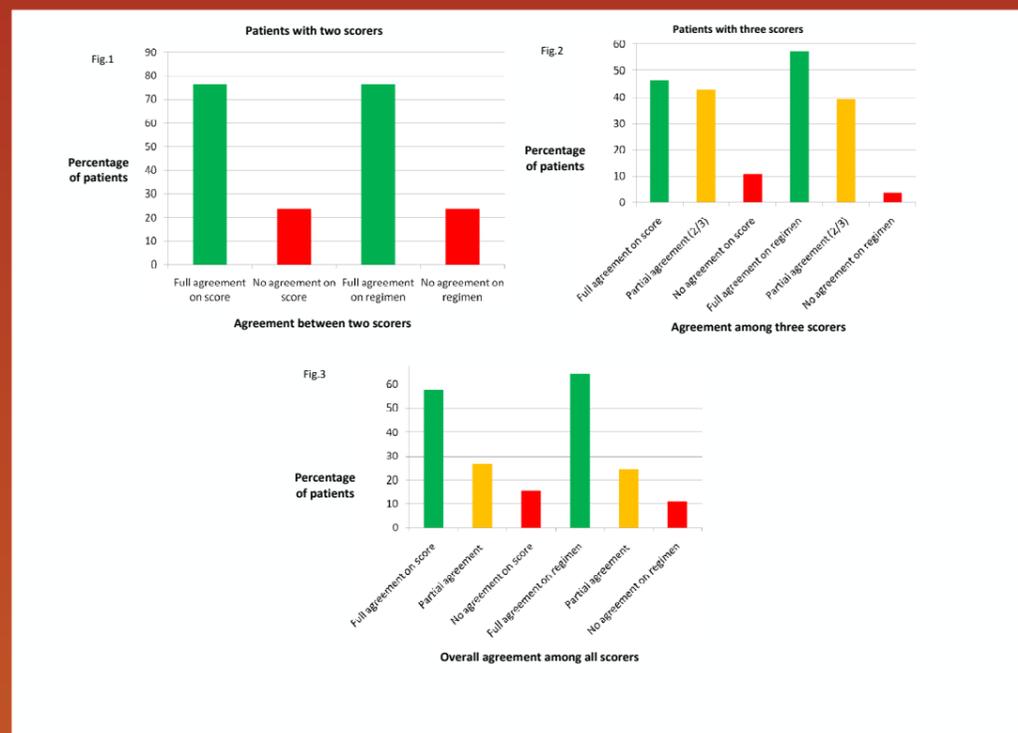
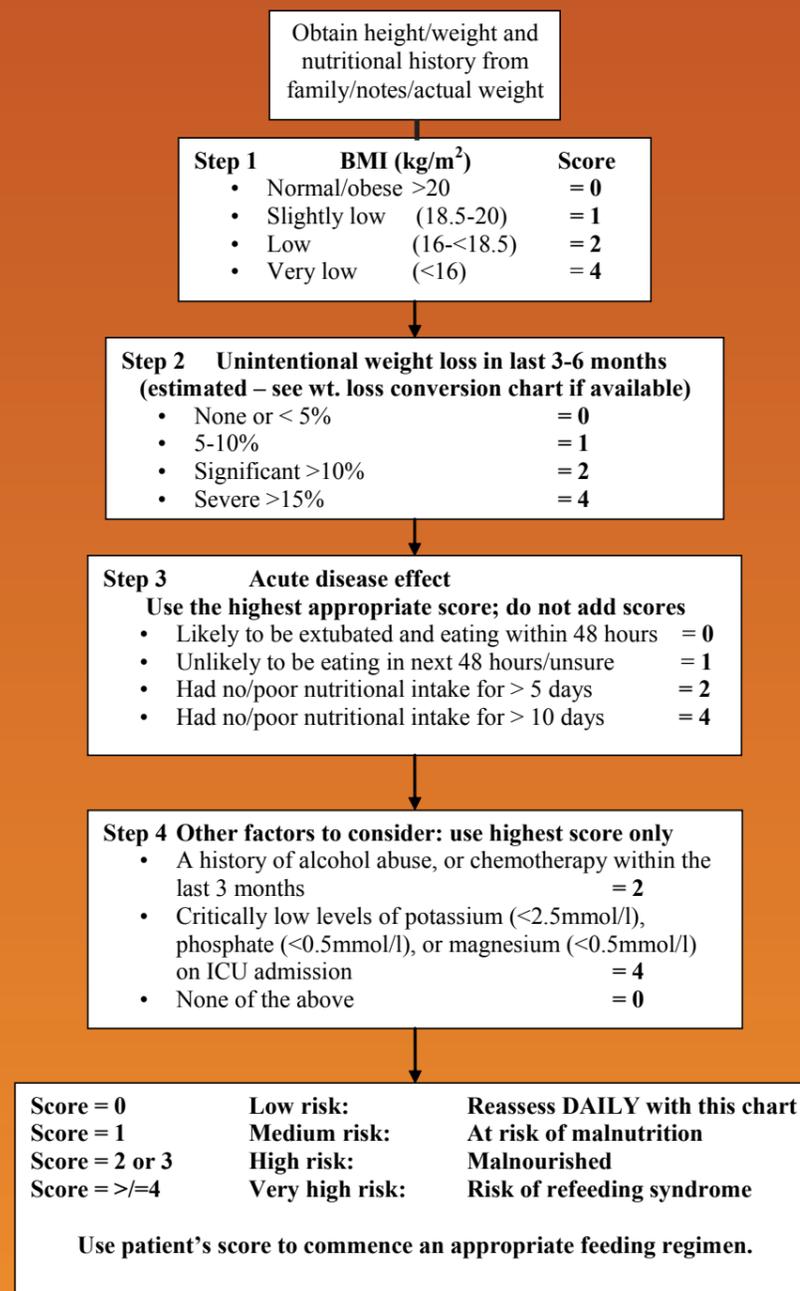


Fig 4: FIFE ICU NUTRITIONAL SCREENING TOOL

Select one category only from each box.
Add scores together to calculate overall risk.



References

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