

PRACTICE ISSUE EVIDENCE SUMMARY

Best Practice Issue (state as a question, PICO):

A nutrition screening tool is used to identify individuals who are potentially at nutrition risk. The literature supports the important impact poor nutrition status plays on increasing morbidity, length of stay and hence health care costs.¹⁻⁸
There is a need for regional nutrition screening process. Barriers to regional implementation have included the cost of additional human resources.

Member:

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Site:

SBGH

WRHA

Purpose: (goals, scope, intended users, settings, and patient/client groups)

To find a nutrition screening tool that is reliable, valid, quick, simple and cost efficient for an acute care setting.

Definitions:

Nutrition screening is the process of identifying characteristics known to be associated with nutrition problems. Nutrition screening reveals the need for comprehensive nutrition assessment/nutrition intervention in the at risk population so professional resources can be allocated to those at risk.

Evidence Review: (Please list type and grade of evidence reviewed)

Nutrition Screening Tools Overview

Tool/Usage	References	Brief Description	Comments
Patient-Generated Subjective Global Assessment (PG-SGA) <ul style="list-style-type: none"> • Used at SBGH by Dr Duerksen & dietitian team 	Detsky A., McLaughlin, J., Baker, J., et al. (1987). What is the subjective global assessment of nutritional status? <u>Journal of Parenteral & Enteral Nutrition</u> , 11, 8-13. Ottery, F., Sljuka, K., Stofey, J., et al. (1995). Characterization of patients referred to nutrition clinic in	One page (see attached) questionnaire with 2 parts: one for the patient with questions re weight, food intake, symptoms and functional capacity and the other for the clinician pertaining to diagnoses and physical assessment.	Tool is used by physician and trained dietitians for nutrition assessment.

	an NCI-designated comprehensive cancer center: Baseline status and outcome. 19 th Clinical Congress, Miami, Fl.	May be used for nutrition screening and assessment.	
Veterans Affair – Nutrition Status Classification Worksheet	Hiller, L., Lowery, J.C., Davis, J.A., Shore, C.J., Striplin, D.T.. Nutritional status classification in the Department of Veterans Affairs. <u>Journal of American Dietetic Association.</u> 101: 786-792, 2001.	The Department of Veterans Affairs (VA) Nutrition Status Classification scheme uses clinical data that are routinely collected on admission or shortly thereafter for quick inpatient nutrition screening. In this scheme, patients are assigned to 1 to 4 classification levels according to 7 individual indicators. The indicators include nutrition history, unintentional weight loss as a percent of usual body weight, diet, diagnosis, albumin, and total lymphocyte count. After ratings (1 to 4) are assigned to each of the 7 indicators, overall nutritional status for each patient is determined by an algorithm.	Rigorously evaluated for its reliability and validity. Good to very good inter-rater reliability. Content validity established.
Nutrition Screening Tool (NST) <ul style="list-style-type: none"> Used at HSC 	Nagel, M.R. (1993). Nutrition screening: Identifying patients at risk for malnutrition. <u>Nutrition in Clinical Practice</u> 8 (4): 71- 175.	Screening tool scores patients on weight, weight change, appetite, swallowing/chewing problems, albumin levels, diagnosis, and procedures. Patients are categorized to low, moderate or high risk for malnutrition.	Tool administered by dietetic technicians. ~4 minutes to complete Valid and reliable Assesses and predicts nutrition risk
Malnutrition Screening Tool (MST) <ul style="list-style-type: none"> Trialed at SBGH in pre-op surgery clinic 2005 Approval for implementation at VGH November 2007 Trial at GH, VGH, CH & SOGH May - July 2007 	Ferguson, M., Capra, S., Bauer, J., & Banks, M. (1999). <u>Nutrition</u> , 15, (6), 458 – 464.	Tool scores nutrition risk based on patient's answers to 3 questions pertaining to weight and appetite (See attached)	Quick ~ 30 seconds Simple Valid and reliable Little if any additional staffing required for implementation e.g. At SBGH, nurses administered the tool, at VGH, a volunteer administers the tool while at CH and SOGH, GH diet clerks will do the same. Assesses nutrition risk.

Nutrition Screening Audits:

Retrospective and prospective health record audits have been completed at each acute care site to determine the inpatient population at risk for malnutrition and measure the effectiveness of the current referral system at that time. 21-68% of the inpatient population were at risk for malnutrition depending on the tool used and the site/program screened. Out of those that were at risk only 33 – 56% were seen by a clinical dietitian.

Once a nutrition screening program was implemented at HSC, nutrition intervention improved 116%. Starvation indicator results improved 70%.

Site	Date	NS Tool	# Charts Audited	% Patients at Risk for Malnutrition	% AT Risk Seen by RD	% Not AT Risk Seen by RD
Health Sciences Centre	1997	Nagel	1103	45.7%	37.3%	
Health Sciences Centre	2000	Nagel	1200	48.5%	51.5%	
Health Sciences Centre	2007	Nagel & MST	100	36% MST 47% Nagel		
SBGH	2003	Veterans Affair	299	68%	43%	15%
SBGH	2005	MST				
Victoria General Hospital	2007	Nagel & MST MST only	100 retrospective 50 prospective	28% (Nagel) 36% MST	55%	35%
Grace Hospital	2007	Nagel & MST MST only	100 retrospective 50 prospective	21% surgery; 41% medicine	36-56%	
Concordia Hospital	2007	MST	50 prospective	40% surgery 50% medicine		
SOGH	2007	MST	50 prospective	29% surgery 44% medicine		

MST = Australian Malnutrition Screening Tool

Comparison of the NST and MST:

A prospective nutrition screening chart audit in 100 patients at Health Sciences Centre using the Australian Malnutrition Screening Tool (MST) and the Nagel Screening Tool (NST) which is used at HSC was completed in 2007. The purpose of the project was to evaluate the effectiveness of the two nutrition screening tools.

Results:

- The MST could be completed on average, in 35.8 seconds, while the HSC NST required, on average, 4.33 minutes to complete
- There was no discernable difference in effectiveness of predicting nutrition risk between the two screening tools
- The effectiveness of the two screening tools was not program-dependent
- The responsiveness of RDs in assessing at-risk patients did not fall within the goals described in the Health Sciences Centre Clinical Nutrition Services Policy and Procedure Manual, with an average response time of +4.2 days past the recommended time frame for assessing patients at nutritional risk.
- Based on these findings, it is recommended that attention be focused on developing strategies designed to improve RD response rate, with the goal that at-risk patients will be assessed within the time lines described in the Health Sciences Centre Clinical Nutrition Services Policy and Procedure Manual.

Concordia Hospital:

The units had consulted the dietitians to see 3/23 (13%) patients who were scored “at risk”. Conversely, of the 27 patients scored as “not at risk”, 10 patients were seen by the dietitian (5 consulted by units and 5 initiated by RD). This supports the hypothesis that the current referral/consultation process is not effective/accurate at identifying patients at risk.

Recommendations:

Implement the MST region-wide in the acute care setting in medicine/surgery inpatient areas.

Practice Changes:

Referral process change.

Earlier identification of patients at risk and earlier intervention. Impacts on type of nutrition care plans developed due to earlier intervention. More proactive approach to care.

Realignment of resources. Assists in prioritization and organization of workload.

Anticipated Impact:

Improved patient care as focusing resources on patients in need.

Improved efficiency/effectiveness.

Increased number of patients needing nutrition support and oral supplementation.

Incremental Increase in dietitian workload. Reduction in consults. Increased number of patient follow-up assessments.

Additional responsibilities for staff performing nutrition screens.

Recommendation for implementation:

1. Replace HSC current nutrition screening tool (Nagel) with MST in medicine/surgery areas.
2. Trial Nutrition Screening MST tool at one Community Hospital – VGH.
3. Implement GH, CH, SOGH, SBGH

Future: Long term plan is to embed the MST into nursing history of electronic patient record which will then flag patients at risk. Phase IIB HISP: Clinical Documentation.

References:

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These recommendations are being reviewed by:

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