PRACTICE TOOL

Key Nutrition Screening, Assessment, and Malnutrition Diagnostic Processes and Tools for Adults

The piece provides an overview of the nutrition screening, assessment, and diagnostic tools for adult patients. This can be used in conjunction with the ASPEN Adult Nutrition Care Pathway and the other resources in the ASPEN Malnutrition Solution Center at nutritioncare.org/Malnutrition.

Nutrition Screening

What is nutrition screening, and what tool should be used for screening?

- Nutrition screening is a process for identifying individuals who may be malnourished or at risk for malnutrition and determining whether they require a comprehensive nutrition assessment and appropriate intervention.[1]
- Nutrition screening should be conducted within 24 hours of hospital admission. See Table 1.

Table 1. Selected Validated Nutrition Screening Tools for Adults

Nutrition Screening Parameters	MST[2]	MUST[3]	MNA®-SF[4]	NRS-2002[5]	SNAQ[6]
Energy intake	X		X	X	X
Body mass index		X	X	X	
Weight changes	X	X	X	X	X
Disease severity		X		X	
Aged > 65-70 years			X	X	
Mobility			X		
Neuropsychological issues			X		
Use of supplemental drinks or tube feeding					X
Practice settings and populations where commonly used	For use in a variety of settings	For use in community settings	For use in older adult populations	For use in hospitalized patients	For use in the hospital setting

MST, Malnutrition Screening Tool; MUST, Malnutrition Universal Screening Tool; MNA®-SF, Mini Nutritional Assessment – Short Form; NRS-2002, Nutrition Risk Screening, 2002; SNAQ, Short Nutrition Assessment Questionnaire

Nutrition Assessment

What is nutrition assessment, and what parameters should be used to identify malnutrition?

- Nutrition assessment is a comprehensive approach to identifying nutrition-related problems. It uses a combination of medical, nutrition, medication, and client histories; nutrition-focused physical examination; anthropometric measurements; and biomedical data/medical diagnostic tests and procedures.[11]
- Nutrition assessment findings are then applied to a diagnostic framework to derive the malnutrition diagnosis and generate an appropriate care plan. See the ASPEN Adult Nutrition Care Pathway for suggested timing and to determine which clinician should complete each phase of the process.

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Malnutrition Diagnoses

Adult malnutrition is an acute, subacute, or chronic state of nutrition in which a combination of varying degrees of overnutrition or undernutrition with or without inflammatory activity has led to a change in body composition and diminished function.[12] Specifically:

- Starvation-related malnutrition: chronic starvation without inflammation (e.g., anorexia nervosa)
- Chronic disease-related malnutrition: inflammation is chronic and of mild to moderate degree (e.g., organ failure, pancreatic cancer, rheumatoid arthritis or sarcopenic obesity) and
- Acute disease or injury-related malnutrition: inflammation is acute and of severe degree (e.g., major infection burns, trauma, or closed head injury).[13]

Table 2. Validated Diagnostic Frameworks for Malnutrition

Nutrition Screening Parameters	AAIM[12]	GLIM[14]	MNA®[15]	SGA[16]	PG-SGA[17]
Energy intake	X	X	X	X	X
Body mass index		X	X		
Weight changes/loss	X	X	X	X	X
Reduced muscle mass		X	X		
Disease severity	X	X	X	X	X
GI symptoms				X	X
Physical exam	X			X	X
Mobility			X		
Functional capacity	X			X	X
Cognitive function			X		

AAIM, Academy of Nutrition and Dietetics, American Society for Parenteral and Enteral Nutrition Indicators to diagnose Malnutrition; GLIM, Global Leadership Initiative on Malnutrition; MNA®, Mini Nutritional Assessment; SGA, Subjective Global Assessment; PG-SGA, Patient-generated Subjective Global Assessment

AAIM

The Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition Indicators to Diagnose Malnutrition (AAIM) tool assesses weight loss, inadequate energy intake, subcutaneous fat and muscle loss, edema, and hand grip strength. This tool has recently been shown to have predictive validity for patient outcomes.

- Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: Characteristics recommended for the identification and documentation of adult malnutrition (undernutrition)[12]
- Predictive validity of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition indicators to diagnose malnutrition tool in hospitalized adults: a cohort study.[18]

GLIM

The Global Leadership Initiative on Malnutrition (GLIM) is a global consensus on core criteria for a malnutrition diagnosis in adults. It was developed as a diagnostic framework to allow for global comparisons of malnutrition prevalences, interventions, and outcomes. You can find the items below in the GLIM section of ASPEN Malnutrition Solution Center.

- GLIM criteria for the diagnosis of malnutrition: A consensus report from the global clinical nutrition community[14]
- *Fact Sheet:* GLIM Framework for Diagnosing Adult Malnutrition Fact Sheet
- *Video Series:*
  - Part 1. GLIM in Perspective
  - Part 2. Conducting Studies to Validate the GLIM Criteria
  - Part 3. Reviewing GLIM Articles
  - Key Insights on GLIM From Dr. Gordon Jensen

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MNA

The Mini-Nutrition Assessment (MNA®) is a validated nutrition screening and assessment tool that can identify geriatric patients aged 65 and above who are malnourished or at risk of malnutrition.[15]

- Mini Nutritional Assessment Long Form (MNA®)

SGA

Subjective Global Assessment (SGA) assesses nutritional status based on features of the patient's history and physical examination.

- What is Subjective Global Assessment of Nutritional Status?[16]
- Evaluation of nutrition status using the subjective global assessment: malnutrition, cachexia, and sarcopenia[19]

PG-SGA

Patient-Generated Subjective Global Assessment (PG-SGA) assesses nutritional status based on weight history, energy intake, symptoms affecting nutritional intake, functional status, comorbidities, metabolic demand, and physical examination. It contains two components, which are completed by both the patient and the clinician. This assessment is considered effective for adults in the outpatient setting.[20]

- Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Diagnostic Codes

ICD-10 CM Codes to Identify the Medical Diagnosis of Malnutrition in Adults

This is the complete list of ICD-10 CM codes used for coding purposes.[21] The highlighted codes are those commonly used.[22]

Code	Description
E40	Kwashiorkor
E41	Nutritional marasmus
E43	Unspecified severe protein-calorie malnutrition
E44.0	Moderate protein-calorie malnutrition
E44.1	Mild protein-calorie malnutrition
E46	Unspecified protein-calorie malnutrition
R62.7	Adult failure to thrive
R63.3	Feeding difficulties
R63.4	Abnormal weight loss
R63.6	Underweight
R64	Cachexia
K91.2	Postsurgical malabsorption, not elsewhere classified
T74.01XA	Adult neglect or abandonment, confirmed, initial encounter
T74.01XD	Adult neglect or abandonment, confirmed, subsequent encounter
T74.01XS	Adult neglect or abandonment, confirmed, sequela
T76.01XA	Adult neglect or abandonment, suspected, initial encounter
T76.01XD	Adult neglect or abandonment, suspected, subsequent encounter
T76.01XS	Adult neglect or abandonment, suspected, sequela
Z68.1	Body mass index (BMI) 19 or less, adult

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