

## Assessing Nutrition in Older Adults

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**WHY:** While poor nutrition is not a natural concomitant of aging, older adults who experience several concurrent diseases are at higher risk for under- or malnutrition. Persons who are underweight (Body Mass Index < 19) and those who are overweight (Body Mass Index > 25) often have loss of muscle mass, a compromised immune system and have increased complications and premature death. The progression to malnutrition is often insidious, and is often undetected. The nurse plays a key role in prevention and early intervention of nutritional problems.

**BEST TOOL:** The **Mini Nutritional Assessment (MNA®)** is an assessment tool that can be used to identify older adults (>65 years) who are at risk of malnutrition. It is a clinician-completed instrument with two components: screening and assessment. A score of 11 or less on the **screen** indicates a problem and the need for a completion of the assessment portion. The **assessment** score is then added to the screen score; if the total score on both parts totals 17 – 23.5, there is a risk of malnutrition, while a score of < 17 indicates existing malnutrition. The MNA® should be supplemented with information regarding the patient's cultural factors, preferences, social needs/desires surrounding meals. A review of symptoms and objective clinical findings, including pertinent physiological measures used to assess nutritional status should be assessed (including serum pre-albumin, serum albumin, transferrin, and total lymphocyte count, as well as hemoglobin and hematocrit). A 72-hour food diary, recording the patient's consumption, is another important supplement to the MNA®.

**TARGET POPULATION:** The MNA® provides a simple and quick method of identifying older adults who are at risk of malnutrition. The MNA® should be completed at regular intervals, no matter the setting.

**VALIDITY AND RELIABILITY:** The MNA® is both a screening and assessment tool for the identification of malnutrition in the older adult. This tool eliminates the need for more invasive tests such as blood sampling. The MNA® has been validated in many research studies in older adults throughout the world in hospital, nursing home and ambulatory care patients and in community screening. Internal consistency, inter-observer reliability and validity were shown to be acceptable (Beck, Oversen, & Schroll, 2001; Bleda, Bolibar, Pares, & Salva, 2002).

**STRENGTHS AND LIMITATIONS:** Unlike many other nutritional instruments, the MNA® was developed to be user-friendly, quick, non-invasive, and inexpensive. The MNA® has been tested predominantly on Caucasians with involvement of Mexican-Americans in studies conducted in New Mexico (Sheirlinx, K., et al., 1998). A limiting factor may be clinician lack of familiarity with the requirement, in the assessment portion, of measuring both the mid-arm and calf circumference. One criterion to determine risk is based on a BMI less than 19 and actually gives maximum points for a BMI over 23 (item F in Screen). At this time, with the percent of Medicare enrollees who are classified as obese (BMI ≥ 30) at 22.5% (up from 11.7% in 1997), overweight (BMI ≥ 25 – 29.9) at 34.3% (up from 32.1% in 1997), and those underweight (BMI < 18.5) actually decreasing to 9.0% in 2002 from 16.9% in 1997, a reexamination of this criterion is needed (Thorpe & Howard, 2006).

### MORE ON THE TOPIC:

Best practice information on care of older adults: [www.ConsultGeriRN.org](http://www.ConsultGeriRN.org).

Beck, A.M., Ovesen, L., & Schroll, M. (2001) A six months' prospective follow-up of 65+-year-old patients from general medicine classified according to risk by the Mini Nutritional Assessment. *European Journal of Clinical Nutrition*, 55(11), 1027-1032.

Bleda, M.J., Bolibar, I., Pares, R., & Salva, A. (2002). Reliability of the Mini Nutritional Assessment (MNA®) in institutionalized elderly people. *Journal of Nutrition, Health, & Aging*, 6(2), 134-137.

Mini Nutritional Assessment Home Page: Most recent research with excellent information for both nurses and older adults: <http://www.MNA®-elderly.com>.

Sheirlinx K., Nicolas A.S., Nourhashemi F., Vellas B., Albarèdem J.L., Garry P. (1998). The MNA® score in successfully aging persons. In: B. Vellas B. P. J.Garry, Y. Guigoz (eds). *Mini Nutritional Assessment (MNA®): Research and practice in elderly* (pp. 61-66). Nestlé Clinical and Performance Nutrition Workshop Series, Vol 1. Philadelphia: Lippincott-Raven.

Thorpe, K.E., & Howard, D.H. (2006). The rise in spending among Medicare beneficiaries: The role of chronic disease prevalence and changes in treatment intensity. *Health Affairs*, 25(5), w378-w388.

# Mini Nutritional Assessment MNA®

Last name: \_\_\_\_\_ First name: \_\_\_\_\_

Sex: \_\_\_\_\_ Age: \_\_\_\_\_ Weight, kg: \_\_\_\_\_ Height, cm: \_\_\_\_\_ Date: \_\_\_\_\_

Complete the screen by filling in the boxes with the appropriate numbers. Add the numbers for the screen. If score is 11 or less, continue with the assessment to gain a Malnutrition Indicator Score.

## Screening

**A** Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?  
0 = severe decrease in food intake  
1 = moderate decrease in food intake  
2 = no decrease in food intake

**B** Weight loss during last months  
0 = weight loss greater than 3 kg (6.6 lbs)  
1 = does not know  
2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs)  
3 = no weight loss

**C** Mobility  
0 = bed or chair bound  
1 = able to get out of bed/chair but does not go out  
2 = goes out

**D** Has suffered psychological stress or acute disease in the past 3 months?  
0 = yes 2 = no

**E** Neuropsychological problems  
0 = severe dementia or depression  
1 = mild dementia  
2 = no psychological problems

**F** Body Mass Index (BMI) (weight in kg)/(height in m)<sup>2</sup>  
0 = BMI less than 19  
1 = BMI 19 to less than 21  
2 = BMI 21 to less than 23  
3 = BMI 23 or greater

**Screening score** (subtotal max. 14 points)

12 points or greater: Normal – not at risk – no need to complete assessment  
11 points or below: Possible malnutrition – continue assessment

## Assessment

**G** Lives independently (not in a nursing home or hospital)  
1 = yes 0 = no

**H** Takes more than 3 prescription drugs per day  
0 = yes 1 = no

**I** Pressure sores or skin ulcers  
0 = yes 1 = no

**J** How many full meals does the patient eat daily?  
0 = 1 meal  
1 = 2 meals  
2 = 3 meals

**K** Selected consumption markers for protein intake

- At least one serving of dairy products (milk, cheese, yogurt) per day? yes  no
- Two or more servings of legumes or eggs per week? yes  no
- Meat, fish or poultry every day? yes  no

0.0 = if 0 or 1 yes  
0.5 = if 2 yes  
1.0 = if 3 yes  .

**L** Consumes two or more servings of fruits or vegetables per day? 0 = no 1 = yes

**M** How much fluid (water, juice, coffee, tea, milk...) is consumed per day?  
0.0 = less than 3 cups  
0.5 = 3 to 5 cups  
1.0 = more than 5 cups  .

**N** Mode of feeding  
0 = unable to eat without assistance  
1 = self-fed with some difficulty  
2 = self-fed without any problem

**O** Self view of nutritional status  
0 = view self as being malnourished  
1 = is uncertain of nutritional state  
2 = views self as having no nutritional problem

**P** In comparison with other people of the same age, how does the patient consider his/her health status?  
0.0 = not as good  
0.5 = does not know  
1.0 = as good  
2.0 = better  .

**Q** Mid-arm circumference (MAC) in cm  
0.0 = MAC less than 21  
0.5 = MAC 21 to 22  
1.0 = MAC 22 or greater  .

**R** Calf circumference (CC) in cm  
0 = CC less than 31 1 = CC 31 or greater

**Assessment** (max. 16 points)   .

**Screening score**   .

**Total Assessment** (max. 30 points)   .

**Malnutrition Indicator Score**

17 to 23.5 points  at risk of malnutrition  
Less than 17 points  malnourished

Ref. Vellas B, Villars H, Abellan G, et al. Overview of MNA® - Its History and Challenges. J Nut Health Aging 2006; 10: 456-465.  
Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B. Screening for Undernutrition in Geriatric Practice: Developing the Short-Form Mini Nutritional Assessment (MNA-SF). J. Gerontol 2001; 56A: M366-377.  
Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature – What does it tell us? J Nutr Health Aging 2006; 10: 466-487.  
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For more information: [www.mna-elderly.com](http://www.mna-elderly.com)

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