

## Appendix 2: Mini Nutritional Assessment – Long Form

Last name:		First name:	
Sex:	Age:	Weight, kg	Height, m

Complete the screen by filling in the boxes with the appropriate numbers. Add the numbers for the screen.

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 the last 3 months**  
 0 = weight loss greater than 3kg (6.6lbs)  
 1 = does not know  
 2 = weight loss between 1 and 3kg (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)**   
 12-14 points:  Normal nutritional status  
 8-11 points:  At risk of malnutrition  
 0-7 points:  Malnourished  
 For a more in-depth assessment, continue with questions G-R

Assessment

**G Lives independently (not in 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, yoghurt) 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 fruit 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 = views 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 greater than 22

**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**

24 to 30 points  Normal nutritional status

17 to 23.5 points  At risk of malnutrition

Less than 17 points  Malnourished

**References**

- Vellas B, Villars H, Abellan G, et al. Overview of the MNA® - Its History and Challenges. *J Nutr Health Aging*. 2008; 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: M386-377
- Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? *J Nutr Health Aging*. 2008; 10:468-487.

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