The MNA®

25 years of successfully detecting malnutrition and helping improving patients' lives

CELEBRATING
★ **25** ★
years

A gold standard and validated tool for nutritional screening in adults age 65 years or older

Nestlé
HealthScience

MNA® helps to identify vulnerable older adults and event adverse

MNA® score is a predictor of developing of frailty

... in community-dwelling older adults[1]

... in 75 years or older without cognitive impairment[2]

... in hospitalized older people[3]

MNA® score is associated of falls risk

... in community-dwelling older adults in next year[4]

... in community-dwelling older adults in next 3 years[5]

...in community-dwelling older adults in next 12 years[6]

MNA® score is a predictor of functional decline

... in newly hospitalized older patients who are not underweight[7]

... in hip fracture patients in next 4 months[8]

... during the (~13-day) period of hospitalization in older hospital patients[9]

MNA® score is a predictor incident disability or activities of daily living

...in community-dwelling older adults in the next year[10]

...in geriatric hospital patients[11]

...in community-dwelling older adults [12]

MNA® score is a predictor of mortality

... in patients hospitalized on geriatric wards in next 6-month and 1 year[13]

... in older adults institutionalized in Nursing homes in next 12 month[14]

... in older adults institutionalized in Nursing homes in next 2,5 years[15]

MNA® score is a predictor of higher healthcare cost and use of healthcare resources

... in community-dwelling older adults[16]

1-Jürschik P et al. Med Clin (Barc) 2014;143(5):191-5. 2-Bollwein J., et al. J Nutr Health Aging 2013;17(4):351–6. 3-Dent E et al. J Nutr Health Aging 2012;16; 764–767. 4-Chien MH et al. PLoS One 2014;10:e91044. 5-Tsai CA et al. Clin Nutr 2014;33(5):844-9. 6- Torres MJ et al. Osteoporos Int 2015; 26:2157–2164. 7- Vaudin A et al. J Nutr Gerontol Geriatr 2017;36(2-3):111-120. 8- Nuotio M et al. Eur J Clin Nutr 2016;70:393–398. 9- Salvi et al. Aging Clin Exp Res 2008; 20: 322-328. 10- Kiesswetter et al. JAGS 2014;62:512–517. 11-Schrader E et al. J Nutr Health Aging 2013;18(3): 257–263. 12-Martínez-Reig M et al. J Nutr Health Aging 2014;18(3):270-6. 13- Becker L et al. Sci Rep 2019; (9): 9064. 14- Lilamand M et al J Nutr Health Aging 2015;19(4):383-8. 15-Motokawa K et al. Arch Gerontol Geriatr 2020; 86:103954. 16-Martínez-Reig M et al. Clin Nutr Clinical 2018; 37:1299-305. 17- Adapted from Milne AC, et al. Cochrane Database Syst Ver 2009:2:CD003288. 18- Adapted from Gariballa S, et al. Am J Med 2006;119:693-699

Practicalities of the MNA®

As of January 2020, at least 2,400 articles and conference abstracts have been published using the MNA®, covering abroad range of topics.

Frail and/or Sarcopenia	325	COPD/Pulmonary	53	Pneumonia and/or infections	38
Fractures and/or Hip	144	Wound/pressure ulcers	23	Home care	39
Functionality	271	Stroke	64	Community dwelling	148
Rehabilitation	98	Surgery	102	Hospital care	424
Disability	28	Dysphagia	78	Nursing home	252
Cancer	284	Appetite	29	Healthcare costs	17

At least 22 Expert groups included the MNA® in new clinical practice guidelines, national or international registries.

42 Electronic Health Record Software Companies have incorporated MNA® in software.

22 APPS for Smartphones, tablets have incorporated MNA®.

The MNA® website received 1 million requests from 187 countries in the world in 2019.

The MNA® form is available in 42 languages and Self-MNA® form in 15 languages.

To complete MNA® screening, it takes less than 5 minutes to complete, 6 short questions, no special training, no blood draws or labs are required.

Nestlé HealthScience

Validated nutrition screening and assessment tool to identify older

The **6-item MNA®** is the preferred tool of busy clinicians for nutritional screening.

The **18-item MNA®** is useful as a more in-depth assessment.

Mini Nutritional Assessment MNA®

Nestlé NutritionInstitute

Last name: _____ First name: _____
Sex: ___ Age: ___ Weight, kg: ___ Height, cm: ___ Date: ___

Complete the screen by filling in the boxes with the appropriate numbers. Total the numbers for the final screening 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 the last 3 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 ☐

F1 Body Mass Index (BMI) (weight in kg) / (height in m)^2 ☐
0 = BMI less than 19
1 = BMI 19 to less than 21
2 = BMI 21 to less than 23
3 = BMI 23 or greater ☐

IF BMI IS NOT AVAILABLE, REPLACE QUESTION F1 WITH QUESTION F2.
DO NOT ANSWER QUESTION F2 IF QUESTION F1 IS ALREADY COMPLETED.

F2 Calf circumference (CC) in cm
0 = CC less than 31
3 = CC 31 or greater ☐

Screening score
(max. 14 points) ☐☐

12-14 points: ☐ Normal nutritional status
8-11 points: ☐ At risk of malnutrition
0-7 points: ☐ Malnourished

Save | Print | Reset

Ref.   Vellas B, Villars H, Abellan G, et al. *Overview of the MNA® - Its History and Challenges.* J Nutr 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. Geront 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.
Kaiser MJ, Bauer JM, Ramsch C, et al. *Validation of the Mini Nutritional Assessment Short-Form (MNA®-SF): A practical tool for identification of nutritional status.* J Nutr Health Aging 2009; 13:782-788.
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For more information: www.mna-elderly.com

Mini Nutritional Assessment MNA®

Last name: _____ First n___
Sex: ___ Age: ___ Weight, kg: ___

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 assessm...

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)^2 ☐
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 ☐

References
1. Vellas B, Villars H, Abellan G, *et al.* Overview of the MNA® - Its History and Challenges. *J Nutr Health Aging.* 2006; **10:456**-465.
2. 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. Geront.* 2001; **56A:** M366-377.
3. 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

Assessment (**MNA®**) Form

adults (> 65 years) who are malnourished or at risk of malnutrition.

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25 years

The **Self-MNA®** can be used by older adults to determine if they have specific nutritional risks.

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ame:		
Height, cm:	Date:	

ent to gain a Malnutrition Indicator Score.

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

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   ☐.☐

Consumes two or more servings of fruit or vegetables per day?
0 = no   1 = yes   ☐

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   ☐.☐

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

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   ☐

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   ☐.☐

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

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

ssessment (max. 16 points)   ☐☐.☐
creening score   ☐☐.☐
otal Assessment (max. 30 points)   ☐☐.☐

alnutrition Indicator Score
to 30 points ☐   Normal nutritional status
to 23.5 points ☐   At risk of malnutrition
ss than 17 points ☐   Malnourished

Save   Print   Reset

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Self-MNA®
Mini Nutritional Assessment
For Adults 65 years of Age and Older

Last name: _____   First name: _____

Date: _____   Age: _____

Complete the screen by filling in the boxes with the appropriate numbers. Total the numbers for the final screening score.
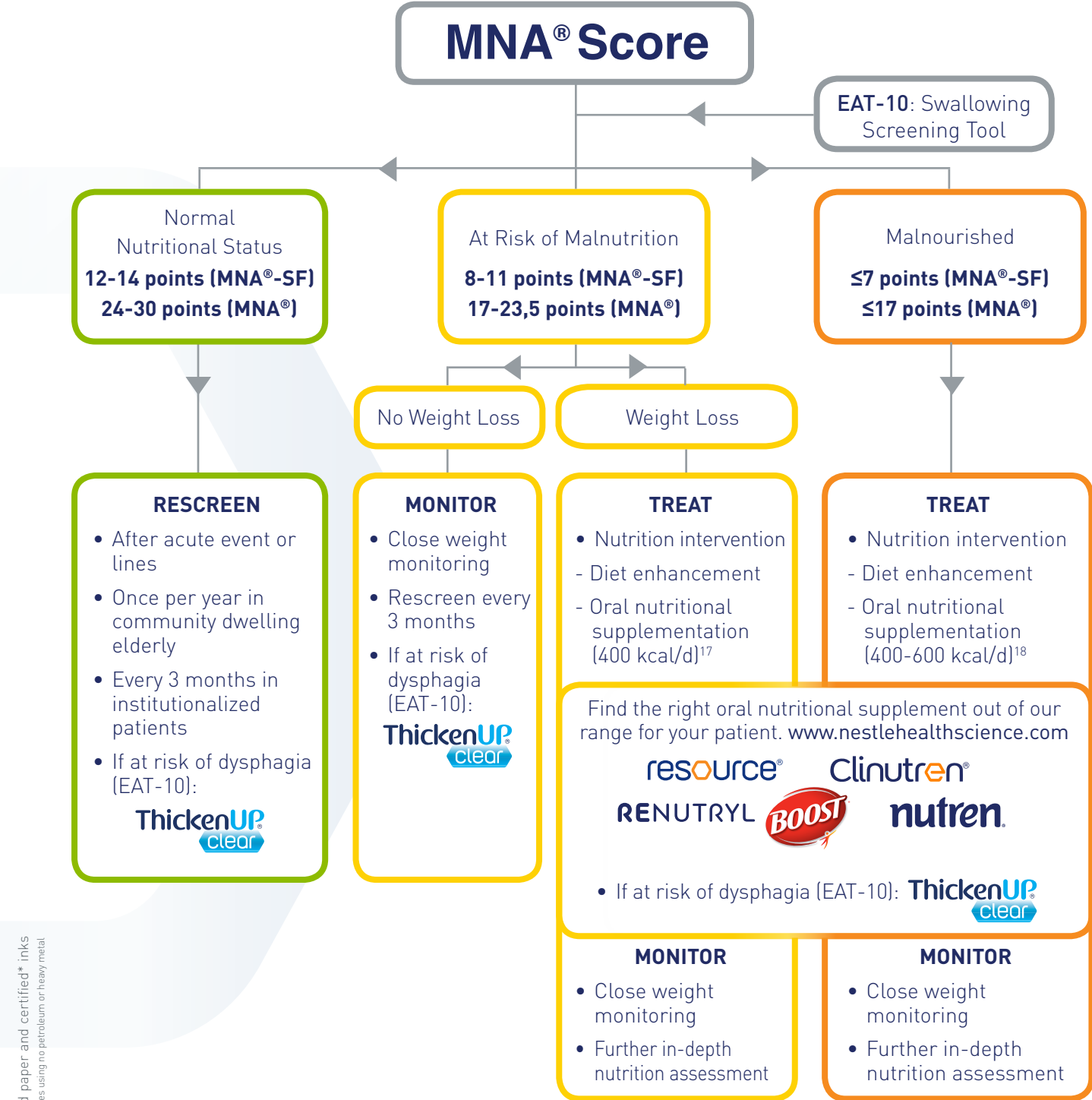
Screening		
A Has your food intake declined over the past 3 months? [ENTER ONE NUMBER] *Please enter the most appropriate number (0, 1, or 2) in the box to the right.*	0 = severe decrease in food intake 1 = moderate decrease in food intake 2 = no decrease in food intake	☐
B How much weight have you lost in the past 3 months? [ENTER ONE NUMBER] *Please enter the most appropriate number (0, 1, 2 or 3) in the box to the right.*	0 = weight loss greater than 3 kg 1 = do not know the amount of weight lost 2 = weight loss between 1 and 3 kg 3 = no weight loss or weight loss less than 1 kg	☐
C How would you describe your current mobility? [ENTER ONE NUMBER] *Please enter the most appropriate number (0, 1, or 2) in the box to the right.*	0 = unable to get out of a bed, a chair, or a wheelchair without the assistance of another person 1 = able to get out of bed or a chair, but unable to go out of my home 2 = able to leave my home	☐
D Have you been stressed or severely ill in the past 3 months? [ENTER ONE NUMBER] *Please enter the most appropriate number (0 or 2) in the box to the right.*	0 = yes 2 = no	☐
E Are you currently experiencing dementia and/or prolonged severe sadness? [ENTER ONE NUMBER] *Please enter the most appropriate number (0, 1, or 2) in the box to the right.*	0 = yes, severe dementia and/or prolonged severe sadness 1 = yes, mild dementia, but no prolonged severe sadness 2 = neither dementia nor prolonged severe sadness	☐
Please total all of the numbers you entered in the boxes for questions A-E and write the numbers here:		☐☐

Look for the **MNA®** form in your language: **www.mna-elderly.com**

Screen and intervene
Nutrition can make a difference

MNA® Score

EAT-10: Swallowing Screening Tool

Normal Nutritional Status
12-14 points (MNA®-SF)
24-30 points (MNA®)

At Risk of Malnutrition
8-11 points (MNA®-SF)
17-23,5 points (MNA®)

Malnourished
≤7 points (MNA®-SF)
≤17 points (MNA®)

No Weight Loss

Weight Loss

RESCREEN
- After acute event or lines
- Once per year in community dwelling elderly
- Every 3 months in institutionalized patients
- If at risk of dysphagia (EAT-10):

ThickenUP® clear

MONITOR
- Close weight monitoring
- Rescreen every 3 months
- If at risk of dysphagia (EAT-10):

ThickenUP® clear

TREAT
- Nutrition intervention
- Diet enhancement
- Oral nutritional supplementation (400 kcal/d)[17]

TREAT
- Nutrition intervention
- Diet enhancement
- Oral nutritional supplementation (400-600 kcal/d)[18]

Find the right oral nutritional supplement out of our range for your patient. www.nestlehealthscience.com

resource® **Clinutren®**
RENUTRYL **BOOST** **nutren®**

- If at risk of dysphagia (EAT-10): **ThickenUP® clear**

MONITOR
- Close weight monitoring
- Further in-depth nutrition assessment

MONITOR
- Close weight monitoring
- Further in-depth nutrition assessment

Food for special medical purposes. To be used under medical supervision.

COMMUNICATION FOR HEALTHCARE PROFESSIONAL ONLY

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February 2020