



EVALUATION OF PATIENT  
**FUNCTIONAL AND  
NUTRITIONAL STATUS**

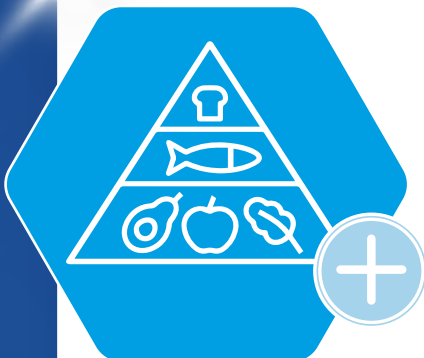
This toolkit has been **specially designed to ease the work of healthcare professionals** during functional and nutritional assessment of their **patients with mobility impairment and (risk of) malnutrition**.

It contains fully validated and internationally recognised **screening and diagnosis tools most often used in clinical practice**. The aim is to support healthcare professionals with tools **to early detect frailty, sarcopenia and malnutrition to ensure timely intervention**.



## FUNCTIONAL STATUS EVALUATION

- FRAIL Scale
- Short physical performance battery (SPPB)
- SARC-F screen for sarcopenia
- Diagnostic algorithm of sarcopenia, EWGSOP



## NUTRITIONAL STATUS EVALUATION

- Mini nutritional assessment MNA<sup>®</sup> (assessment)
- Mini nutritional assessment MNA-SF<sup>®</sup> (screening)



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## FUNCTIONAL STATUS EVALUATION



FRAIL Scale

Short physical  
Performance Battery (SPPB)SARC-F SCREEN  
for SarcopeniaDiagnostic Algorithm  
of Sarcopenia (EWGSOP)**FRAIL SCALE**

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Date: \_\_\_\_\_

Answer the questionnaire choosing the appropriate option for each question.

**Fatigue:** How much of the time during the past 4 weeks did you feel tired?**A**

- ☐ 1 = All of the time  
☐ 1 = Most of the time  
☐ 0 = Some of the time  
☐ 0 = A little of the time  
☐ 0 = None of the time

☐**Resistance:** By yourself and not using aids, do you have any difficulty walking up 10 steps without resting?**B**

- ☐ 1 = Yes  
☐ 0 = No

☐**Ambulation:** By yourself and not using aids, do you have any difficulty walking several hundred metres/yards?**C**

- ☐ 1 = Yes  
☐ 0 = No

☐**Illnesses:** Did a doctor ever tell you that you have hypertension, diabetes, cancer (other than a minor skin cancer), chronic lung disease, heart attack, congestive heart failure, angina, asthma, arthritis, stroke or kidney disease?**D**

- ☐ 1 = 5 - 11 diseases  
☐ 0 = 0 - 4 diseases

☐**Loss of weight:** Have you observed any body weight change compared to 1 year ago?  
Note: Weight when clothed but without shoes.**E**

- ☐ 1 = Yes, weight change >5%  
☐ 0 = No, weight change <5%

☐**Screening evaluation (max 5 points):**☐3-5 points  
**frail**☐1-2 points  
**pre-frail**☐0 points  
**robust****Total Score:**☐

\* FRAIL (from the abbreviation): Fatigue, Resistance, Ambulation, Illnesses and Loss of weight.

Reprinted from The Journal of Nutrition, Health &amp; Aging, Volume 16, 7, J.E. Morley, T.K. Malmstrom, D.K. Miller, A simple frailty questionnaire (FRAIL) predicts outcomes in middle aged African Americans, 601-608, with permission from Springer Science."



## FUNCTIONAL STATUS EVALUATION



FRAIL Scale

Short physical  
Performance Battery (SPPB)SARC-F SCREEN  
for SarcopeniaDiagnostic Algorithm  
of Sarcopenia (EWGSOP)

## SHORT PHYSICAL PERFORMANCE BATTERY (SPPB)

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Date: \_\_\_\_\_

Answer the questionnaire by marking the appropriate option for each question with an "X".

## 1 Balance tests:



SIDE-BY-SIDE STAND: feet together side-by-side for 10 seconds

☐

10 s

☐

&lt; 10 s

☐

SEMI-TANDEM STAND: heel of one foot against side of big toe of the other for 10 seconds

☐

10 s

☐

&lt; 10 s

☐

TANDEM STAND: feet aligned heel to toe for 10 seconds

☐

10 s

☐

9,99 - 3 s

☐

&lt; 3 s

☐

## 2 Gait speed test:



Measures the time required to walk 4 metres at a normal pace (use best of 2 times)

1 m

2 m

3 m

4 m

☐

&lt; 4,82 s

☐

4,82 - 6,20 s

☐

6,21 - 8,7 s

☐

&gt; 8,70 s

☐

## 3 Chair stand test:



PRE-TEST: Participants fold their arms across their chest and try to stand up once from a chair

☐

Able

☐

Unable (Stop)

☐

5 REPEATS: measures the time required to perform five rises from a chair to an upright position as fast as possible without the use of the arm

☐

&lt; 11,19 s

☐

11,20 - 13,69 s

☐

13,70 - 16,69 s

☐

&gt; 16,7 s

☐☐

60 s or unable

## Functional limitation classification (max 12 points):

☐

0 -3 points

severe limitation

☐

4 -6 points

moderate limitation

☐

7 -9 points

mild limitation

☐

10 -12 points

minimal limitation

## Total Score:



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## FUNCTIONAL STATUS EVALUATION



FRAIL Scale

Short physical  
Performance Battery (SPPB)**SARC-F SCREEN  
for Sarcopenia**Diagnostic Algorithm  
of Sarcopenia (EWGSOP)**SARC-F SCREEN FOR SARCOPENIA**

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Date: \_\_\_\_\_

Answer the questionnaire choosing the appropriate option for each question.

**Strength:** How much difficulty do you have in lifting and carrying 10 pounds?**A**

- ☐ 0 = None  
☐ 1 = Some  
☐ 2 = A lot or unable

**Assistance in walking:** How much difficulty do you have walking across a room?**B**

- ☐ 0 = None  
☐ 1 = Some  
☐ 2 = A lot, use aids, or unable

**Rise from a chair:** How much difficulty do you have transferring from a chair or bed?**C**

- ☐ 0 = None  
☐ 1 = Some  
☐ 2 = A lot or unable without help

**Climb stairs:** How much difficulty do you have climbing a flight of 10 stairs?**D**

- ☐ 0 = None  
☐ 1 = Some  
☐ 2 = A lot or unable

**Falls:** How many times have you fallen in the past years?**E**

- ☐ 0 = None  
☐ 1 = 1-3 falls  
☐ 2 = 4 or more falls

**Total Score:**If total score  $\geq 4$ , risk of sarcopenia



## FUNCTIONAL STATUS EVALUATION

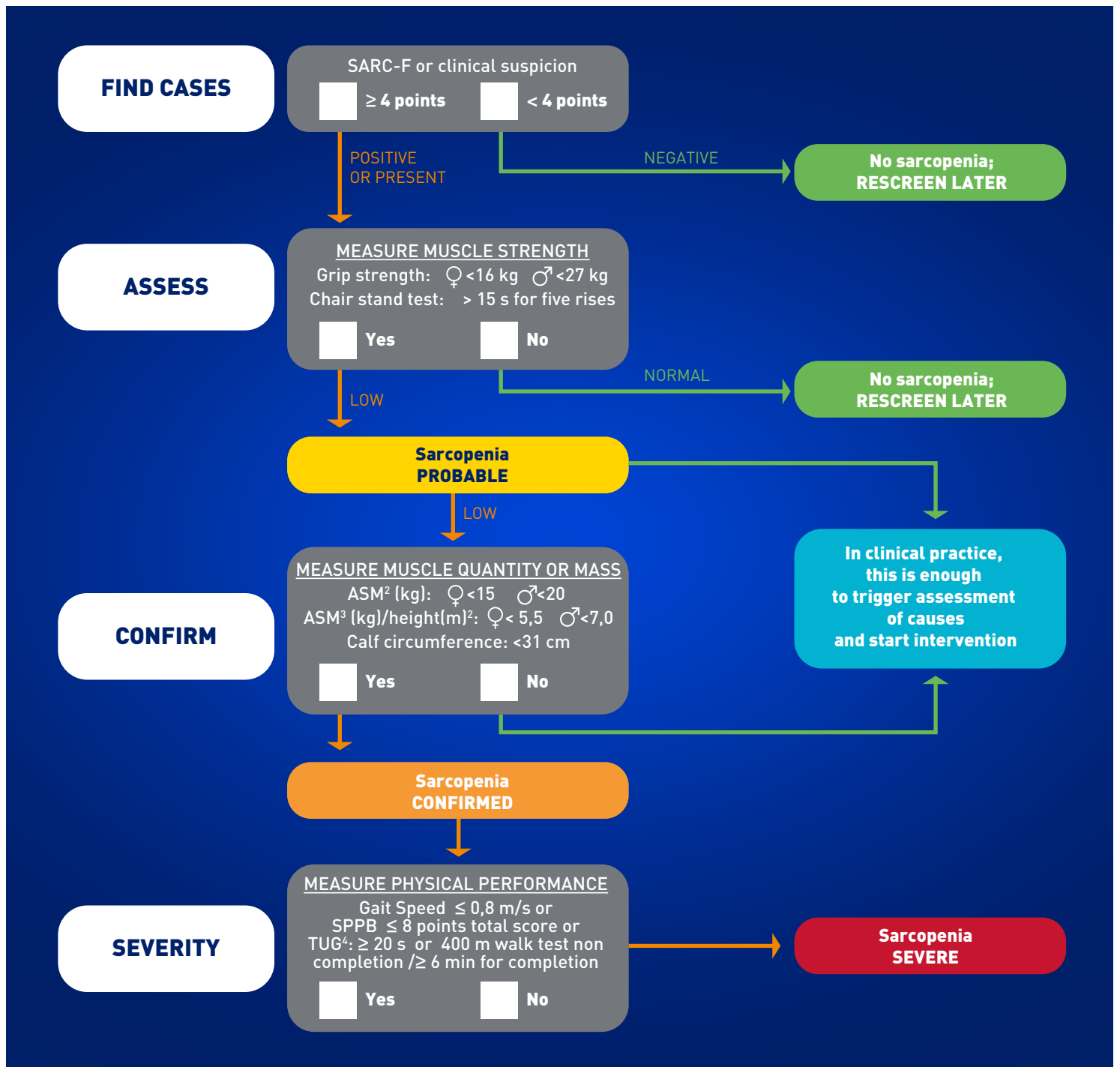


FRAIL Scale

Short physical  
Performance Battery (SPPB)SARC-F SCREEN  
for SarcopeniaDiagnostic Algorithm  
of Sarcopenia (EWGSOP)**DIAGNOSTIC ALGORITHM OF SARCOPENIA, EWGSOP<sup>1</sup>**

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Date: \_\_\_\_\_

Answer the questionnaire by marking the appropriate option for each question with an "X".

☐ Probable sarcopenia☐ Confirmed sarcopenia☐ Severe Sarcopenia



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## NUTRITIONAL STATUS EVALUATION



MINI NUTRITIONAL ASSESSMENT MNA® (assessment)

MINI NUTRITIONAL ASSESSMENT MNA-SF® (screening)

## MINI NUTRITIONAL ASSESSMENT MNA® (ASSESSMENT)

Nestlé  
NutritionInstitute

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Gender: \_\_\_\_\_

Age: \_\_\_\_\_ Weight (kg): \_\_\_\_\_ Height (cm): \_\_\_\_\_ Date: \_\_\_\_\_

Complete the screen by filling in 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 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

**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 = normal nutritional status  
☐ 8-11 = at risk of malnutrition  
☐ 0-7 = 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 = view self as being malnourished  
☐ 1 = is uncertain of nutritional state  
☐ 2 = view 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 point)

## Malnutrition Indicator Score:

 24 to 30 points  
normal nutritional status 17 to 23.5 points  
at risk of malnutrition Less than 17 points  
malnourished

## Total Score:



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## NUTRITIONAL STATUS EVALUATION



MINI NUTRITIONAL ASSESSMENT MNA® (assessment)

MINI NUTRITIONAL ASSESSMENT MNA-SF® (screening)

## MINI NUTRITIONAL ASSESSMENT MNA-SF® (SCREENING)

Nestlé  
NutritionInstitute

Name: \_\_\_\_\_ Surname: \_\_\_\_\_ Gender: \_\_\_\_\_

Age: \_\_\_\_\_ Weight (kg): \_\_\_\_\_ Height (cm): \_\_\_\_\_ Date: \_\_\_\_\_

Answer the questionnaire choosing the appropriate option for each question. Total the points for the final score.

A

**Has food intake declined over the past three 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

**Recent weight loss (< 3 months)**

- ☐ 0 = weight loss > 3 kg  
☐ 1 = don't know  
☐ 2 = between 1 and 3 kg weight loss  
☐ 3 = no weight loss

C

**Mobility**

- ☐ 0 = from the bed to the chair  
☐ 1 = able to move around but does not go out  
☐ 2 = goes out

D

**Have you experienced acute disease episode or psychological stress in the last 3 months?**

- ☐ 0 = from the bed to the chair  
☐ 1 = able to move around but does not go out  
☐ 2 = goes out

E

**Neuropsychological issues**

- ☐ 0 = severe dementia or depression  
☐ 1 = moderate dementia  
☐ 2 = no psychological issues

F

**Body mass index (BMI = weight/(height)<sup>2</sup> in kg/m<sup>2</sup>)**

- ☐ 0 = BMI < 19  
☐ 1 = 19 ≤ BMI < 21  
☐ 2 = 21 ≤ BMI < 23  
☐ 3 = BMI ≥ 23

F1

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 < 31  
☐ 1 = CC ≥ 31

Screening assessment:

☐ 14 - 12 points  
**normal nutritional status**☐ 8 - 11 points  
**risk of malnutrition**☐ 0 - 7 points  
**malnourished**

Total Score:

# resource<sup>®</sup> ACTIV



MATERIAL ONLY FOR MEDICAL USE OR FOR HEALTHCARE PROFESSIONALS  
RESOURCE<sup>®</sup> ACTIV is a food for special medical purposes, to be used under medical supervision.  
For the dietary management of patients with malnutrition or at risk of malnutrition.