



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[®] (assessment)
- Mini nutritional assessment MNA-SF[®] (screening)



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FUNCTIONAL STATUS EVALUATION

FRAIL Scale

Short physical
Performance Battery (SPPB)

SARC-F SCREEN
for Sarcopenia

Diagnostic 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



B

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

- 1 = Yes
- 0 = No



C

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

- 1 = Yes
- 0 = No



D

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?

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



E

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

- 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 & 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 < 10 s

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

 10 s < 10 s

TANDEM STAND: feet aligned heel to toe for 10 seconds

 10 s 9,99 - 3 s < 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** < 4,82 s 4,82 - 6,20 s 6,21 - 8,7 s > 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

 < 11,19 s 11,20 - 13,69 s 13,70 - 16,69 s > 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:**



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

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

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

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

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

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

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

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

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

**Total Score:** If total score ≥ 4 , **risk of sarcopenia**

Reprinted from Journal of the American Medical Directors Association, Vol. 14, Issue 8, Malmstrom TK, Morley JE, SARC-F: A Simple Questionnaire to Rapidly Diagnose Sarcopenia, Pages 531-532, Copyright 2013, with permission from Oxford University Press.



FUNCTIONAL STATUS EVALUATION

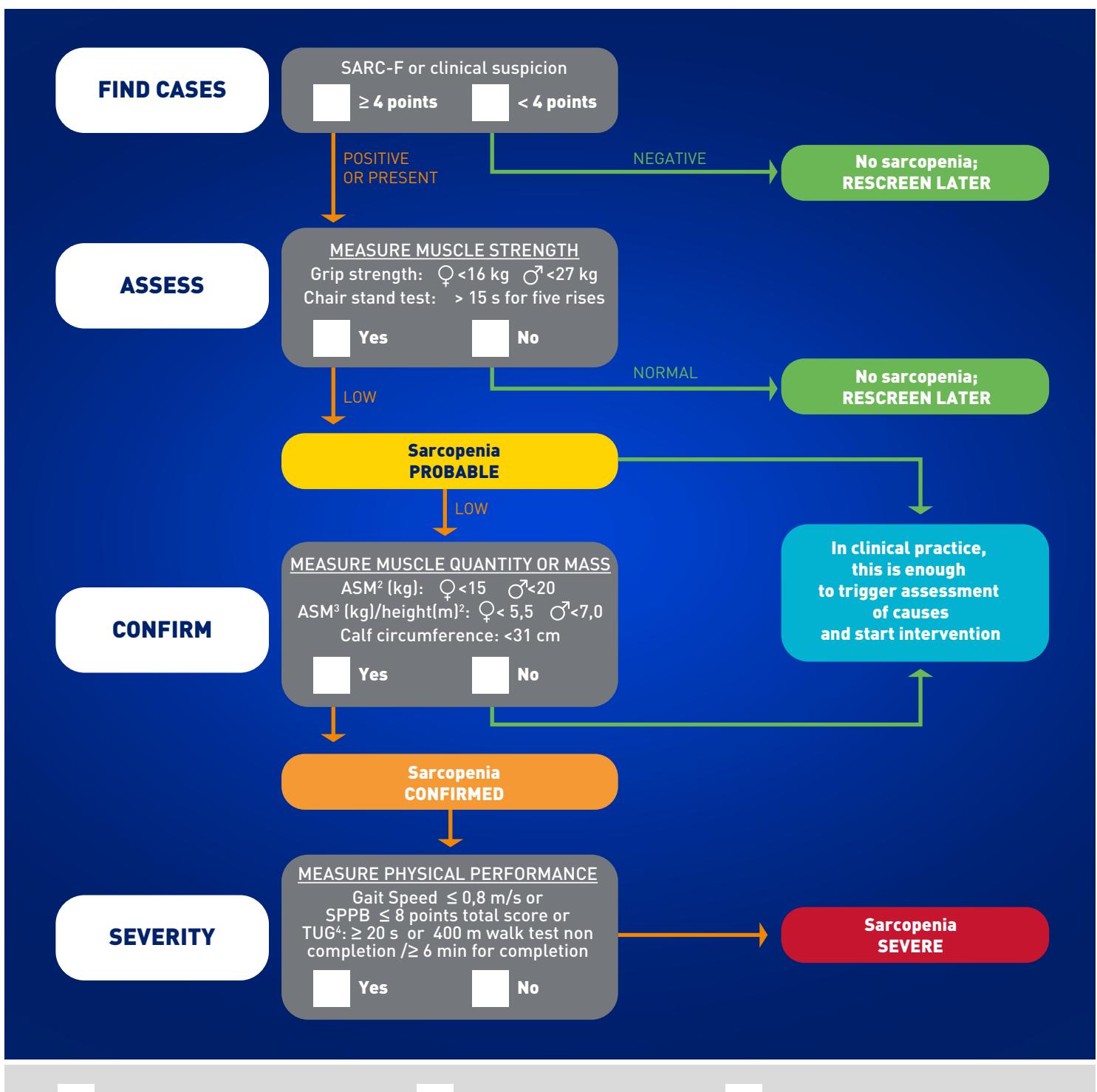


FRAIL Scale

Short physical
Performance Battery (SPPB)SARC-F SCREEN
for SarcopeniaDiagnostic Algorithm
of Sarcopenia (EWGSOP)**DIAGNOSTIC ALGORITHM OF SARCOPENIA, EWGSOP¹**

Name: _____ Surname: _____ Date: _____

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





NUTRITIONAL STATUS EVALUATION



MINI NUTRITIONAL ASSESSMENT MNA® (assessment)

MINI NUTRITIONAL ASSESSMENT MNA-SF® (screening)

MINI NUTRITIONAL ASSESSMENT MNA® (ASSESSMENT)

Nestlé
Nutrition Institute

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)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 = 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

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:



NUTRITIONAL STATUS EVALUATION



MINI NUTRITIONAL ASSESSMENT MNA® (assessment)

MINI NUTRITIONAL ASSESSMENT MNA-SF® (screening)

MINI NUTRITIONAL ASSESSMENT MNA-SF® (SCREENING)

Nestlé
Nutrition Institute

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)² in kg/m²)**

- 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[®] ACTIV



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RESOURCE[®] 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.



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