



Medical evaluation prior to beginning the physical exercise programme is recommended for anybody aged 70 years and over.

However, if any of the following is true, a thorough medical evaluation is required/compulsory.

- Did the patient complain of chest (thoracic) pain on exertion or at rest in the previous year?
- Has the patient experienced a faint (syncopal episode), or loss of consciousness or a fall preceded by a feeling of dizziness in the previous year?
- Is the patient suffering from joint or bone disease, which is be worsened by physical exercise?
- Does the patient have a medical condition which is a relative contraindication for doing physical exercise (see below)?

ABSOLUTE CONTRAINDICATIONS

- Worsening of exercise tolerance or dyspnoea at rest or on exertion over previous 3-5 days
- Significant ischaemia at low work rates
- Severe acute heart failure
- Severe acute respiratory failure
- Uncontrolled arrhythmias
- Atrial fibrillation of new onset
- Uncontrolled hypertension (SBP>180 and /or DBP>100)
- Symptomatic orthostatic hypotension
- Poorly controlled diabetes: glycaemia: <5 mmol/l (90mg/dl) or >12 mmol/l (216 mg/dl)
- Recent embolism (<1 year)
- Acute pericarditis, myocarditis or endocarditis
- Moderate to severe aortic stenosis
- Regurgitant valvular heart disease requiring surgery
- Myocardial infarction within previous 3 months
- Recent fracture during the last month

RELATIVE CONTRAINDICATIONS

- Recent fracture during the past three months
- Infection or Acute systemic illness or fever affecting the general health status
- Any disease causing severe functional capacity limitation (Barthel ADL Index<20)

If adverse symptoms occur during exercise (muscle or joint pain, dyspnoea, chest pain, new symptoms, etc.), the programme should be discontinued, and a new medical evaluation should be performed.

Adverse events are minimized when programmes begin at low intensities and slowly progress.

Download the APP to know more about the multicomponent exercise programme.



Frailty and Functional limitation assessment

FUNCTIONAL LIMITATION SCREENING

<p>Severe functional limitation mobility impairment</p> <p>Severe walking impairment. The patient is confined to a wheelchair or is bedridden, is not able to stand up or maintain a standing position.</p> <p>SPPB 0-3 WS(6m) < 0,5 m/s</p>	<p>Moderate dependence Frail</p> <p>Limited mobility needing help to walk, stand or perform balance tests.</p> <p>SPPB 4-6 WS(6m) 0,5 - 0,8 m/s</p>	<p>Slight dependence Pre-frail</p> <p>Independent in walking, subtle gait and balance disturbances. Unable to perform five chair stands.</p> <p>SPPB 7-9 WS(6m) 0,9 - 1 m/s</p> <p>Walk 10-30 min Autonomously</p>	<p>Autonomous Non-frail</p> <p>The patient is autonomous.</p> <p>SPPB 10-12 WS(6m) > 1 m/s</p> <p>Walk 30-45 min Autonomously</p>
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EXERCISE PROGRAMMES TO PERFORM⁽¹⁾



ASSESSMENT FOR DETERMINING RISK OF FALLS

- 1 The patient has experienced two or more falls in the past year, with at least one fall requiring medical attendance
- 2 TUG > 20s
- 3 WS(6m): < 0.8 m/s
- 4 Dementia

NO Do you have one or more of the previous characteristics? **Yes**

- Nutritional assessment and intervention
- Reduction of polypharmacy (psychotropics)
- Reduction of environmental and architectural barriers
- Reinforcement of multicomponent exercise programme

*** ABBREVIATIONS**

SPPB: Short Physical Performance Battery.
 WS (6 m): Walking speed over 6 m.
 TUG: Timed up and Go

⁽¹⁾ © Multicomponent Physical exercise programme for frailty and falls prevention among people aged over 70. Mikel Izquierdo.
⁽²⁾ © Programa de educación nutricional y actividad física en el anciano. Nestlé Health Science.



A

Severe functional limitation, mobility impairment

BY PERFORMING THESE EXERCISES, YOU SHOULD BE ABLE TO STAND UP FROM A SITTING POSITION.



Lift your arms while holding a small water bottle.



Raise your arms above your head.



While sitting down, stretch your leg as much as possible.



Tilt your head to the right and left.

HOW TO PERFORM THESE EXERCISES

- For weight exercises, a weight or resistance band should be chosen that will allow the patient to perform the exercise without interruptions at least 30 times but with a certain degree of effort to complete the activity.
- The session should begin by performing one set of 10 repetitions (i.e., 10 repetitions of the selected movements).
- The goal is to perform three sets of 10 repetitions.
- A one to three minute break should be done between exercises.
- The exercises should be performed on two days per week.
- To be effective, this programme should be followed for 12 to 16 weeks. After that time, the tests (the SPBB, Gait velocity and the assessment for determining risk of falls) should be repeated. If your functional capacity has improved you can go through to the next level of exercises.

B

Moderate dependence, Frail

IF YOU PERFORM THESE EXERCISES, YOU WILL NOTICE GREAT PHYSICAL IMPROVEMENT.



Squeeze a rubber ball with each hand as hard as you can.



Hold the back of the chair and push your chest forward until your arms are stretched.



Flex your knees, as if you were about to sit down, while holding on to a table.



Standing on one leg, cross your arms over your chest.



Walk, alone or with help, until you are able to walk for one minute without help.

C1

C2

Slight dependence Pre-frail

THE GOAL OF THESE EXERCISES IS THAT YOU WILL BE ABLE TO ENJOY WALKING.



Stretch an elastic band, wrapped around your wrists, opening your arms.



Lean on a table while standing on one foot and holding your other foot with your arm behind you, keeping your other leg stretched.



While supporting your feet on the ground, stand up without leaning on the arms of the chair.



Maintain your balance for 10 seconds while standing on the balls of your feet, and then support on yourself on your heels.



Begin by walking for four minutes until you are able to walk for 15 minutes.



Begin by walking for eight minutes until you are able to walk for 30 minutes.

D

Autonomous, non-frail

DO NOT STOP EXERCISING! IF YOU STOP, YOUR GLOBAL HEALTH CAN QUICKLY GET WORSE.



Stretch an elastic band, wrapped around your wrists, separating your arms diagonally.



Walk on your tiptoes and then on your heels for 10 seconds each.



Walk in a straight line while picking up objects from the floor.



Walk in sets of 15 minutes each, resting for 30 seconds between sets.

E

Risk of falling

- Perform these exercises three days per week.
- Evaluate the need for nutritional supplements and vitamin D if a deficiency is found.
- Reduce polypharmacy (specially psychotropics).
- Reduce environmental and architectural barriers.