

# ICOPE

INTEGRATED CARE FOR OLDER PEOPLE

## Locomotor capacity



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Sebastian Liste

# Learning objectives

By the end of this module, you will be able to:

- Explain the care pathways to prevent, assess and manage limited mobility in older people
- Describe the methodologies for assessing the locomotor capacity of older people
- List the interventions that can improve mobility in older people, both in primary care and in the community
- Explain how to manage conditions associated with limited mobility and provide a supporting environment

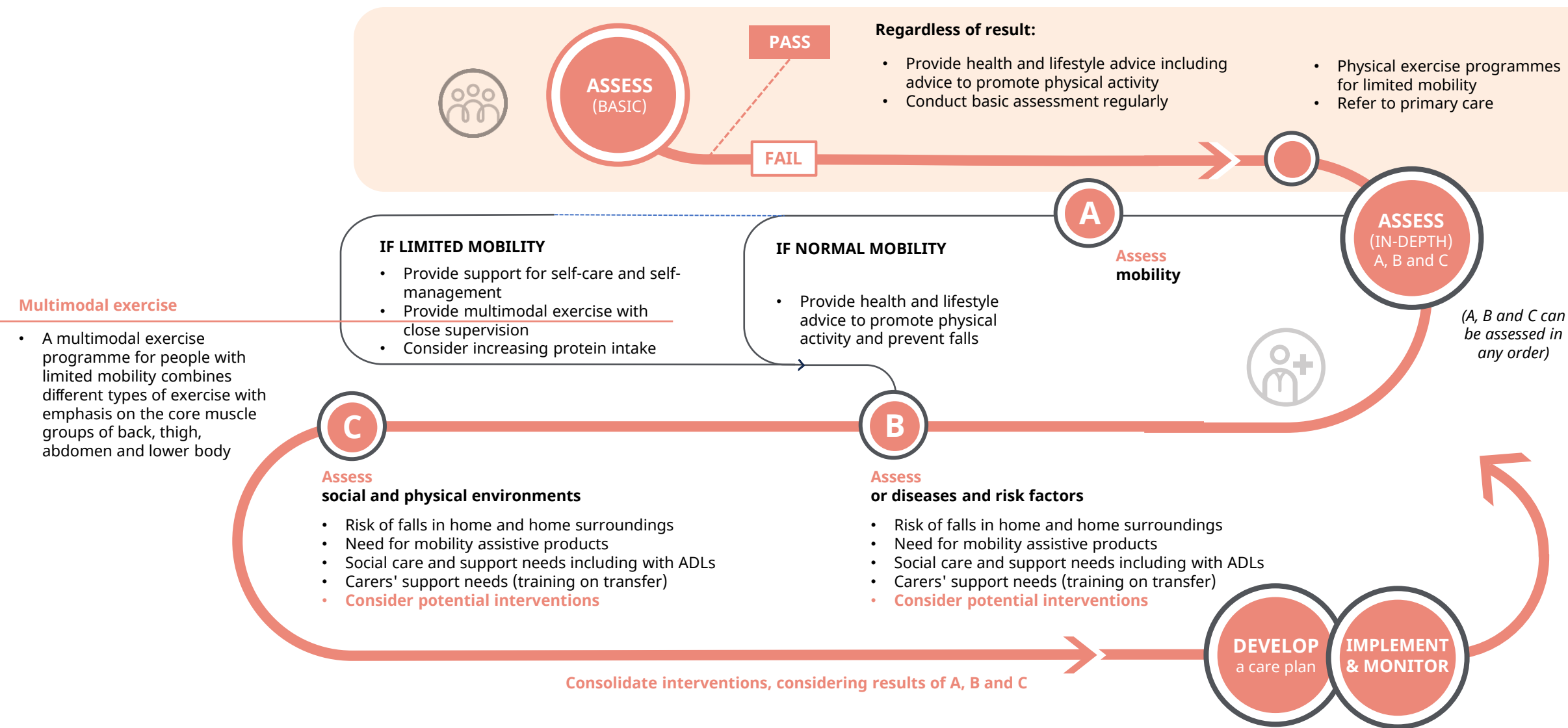


# Locomotor capacity and its importance

- The term locomotor capacity refers to the bodily capacity to move from one place to another.
- Mobility results from the interaction of locomotor capacity and the person's living environment.
- It preserves autonomy and prevents care dependency.

- Older people often accept loss of locomotor capacity and the frequently associated pain as inevitable.
- Effective strategies exist to improve and maintain mobility in older age.

# Care pathway to manage mobility limitation





# Assess locomotor capacity

## Short Physical Performance Battery (SPPB)

Three timed tests, each scored out of four, for a total score from 0 (worst performance) to 12 (best performance). Describe each test and inquire if the person feels capable before proceeding with the assessment.

**Final SPPB score** = sum of scores obtained from the three tasks.

### 1. Balance test



#### *Side-by-side stand:*

|                     |         |
|---------------------|---------|
| Held for 10 sec     | 1 point |
| Not held for 10 sec | 0 point |
| Not attempted       | 0 point |



#### *Semi-tandem stand*

|                     |         |
|---------------------|---------|
| Held for 10 sec     | 1 point |
| Not held for 10 sec | 0 point |
| Not attempted       | 0 point |

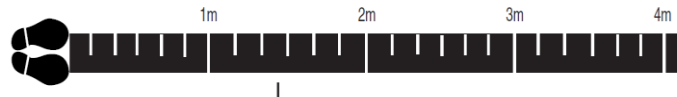


#### *Tandem stand*

|                        |         |
|------------------------|---------|
| Held for 10 sec        | 1 point |
| Held for 3 to < 10 sec | 1 point |
| Held for < 3 sec       | 0 point |
| Not attempted          | 0 point |

### 2. Gait speed

Time to walk 4 m



|                    |          |
|--------------------|----------|
| < 4.82 seconds     | 4 points |
| 4.82–6.20 seconds  | 3 points |
| 6.21–8.70 seconds  | 2 points |
| > 8.70 seconds     | 1 point  |
| Unable to complete | 0 points |

### 3. Chair rise

Time to rise from a chair five times



|                                     |          |
|-------------------------------------|----------|
| < 11.19 seconds                     | 4 points |
| 11.2–13.69 seconds                  | 3 points |
| 13.7–16.69 seconds                  | 2 points |
| 16.7–59.90 seconds                  | 1 point  |
| 60 seconds or<br>unable to complete | 0 points |



# Health and lifestyle advice

## For all older people

- Older persons can benefit from physical activity, regardless of mobility level.
- Too much sedentary behaviour is unhealthy.
- Physical activity should be tailored to individual abilities. If these goals cannot be met, one should be as active as possible.
- Start slowly and increase activity over time with options like walking, cycling, and gardening.
- Aim for at least 150 minutes of moderate or 75 minutes of vigorous activity each week, with sessions lasting at least 10 minutes.
- Include muscle-strengthening exercises on 2 days and balance activities on 3 days each week.
- A healthy diet is also important.

## For older people with (potential) limited mobility, to prevent falls

- Certain activities can help prevent falls, including balance activities (e.g., yoga).
- Adapt the home environment.
- Practising good foot care and hygiene and wearing appropriate footwear.



# Community-based health care

## Empathic behaviour

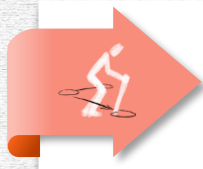
- Organize exercise classes and informal activities for older people.
- Offer physical exercise options (e.g., brisk walking groups, Tai Chi classes in parks and yoga at community centres).
- Foster social engagement and peer support to help maintain exercise routines.
- Include intergenerational activities to connect people of different ages.
- Collaborate with local authorities and service providers to ensure dedicated exercise opportunities for older persons.
- Enhance the physical environment to create age-friendly cities and communities.



*If in doubt about the safety of exercise, refer to an appropriate health care worker with knowledge*



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# Interventions to improve mobility



## Support for self-care and self-management



## Multimodal exercise

*Check health conditions to tailor frequency and intensity*

- Strength/Resistance training
- Aerobic/Cardiovascular training
- Balance training
- Flexibility training



## Dietary advice, considering increased protein intake and eventual nutritional interventions

- See the Vitality care pathway

## When specialized knowledge is needed

- Rehabilitation for those with a significant loss of intrinsic capacity and/or the presence of multimorbidity
- Management of chronic pain
- Management of multidimensional suffering associated with life-threatening illness
- Tailored exercise informed by an assessment of safety risks
- Provision and maintenance of mobility assistive products





# Interventions for diseases and risk factors



## Pain

Assess and manage pain, considering physical exercise and psychological interventions.



## Inappropriate medication(s)

Review medications and optimize therapy.



## Musculoskeletal conditions

Manage diseases and reduce risk factors.



## Urinary incontinence

See care pathway for Urinary Incontinence.



# Interventions for social and physical environment



## Risk of falls

Optimize physical environments at home and nearby areas.



## Need for assistive products

Provide mobility assistive products and advise on use and maintenance.



## Social care and support needs

Provide personal care and support with activities of daily living.  
Support access to care, including medications.



## Carer's support needs

Provide training on positioning and transfer of an older person with mobility loss.

# Summary



- Health workers can assess locomotor capacity using the Short Physical Performance Battery.
- Pain and identification of inappropriate medications should be considered as critical risk factors for mobility limitation.
- A tailored multimodal exercise programme, along with nutritional interventions, can improve locomotor capacity.
- Assistive products can help older people maintain mobility.
- Environmental modifications can enhance the functional ability of older people with limited mobility.
- Community organizations and older people themselves can support adherence to physical activity and peer support.

# References

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