Paramedical guideline on Frail Older Adults

Practice Guideline

Koninklijk Nederlands Genootschap voor Fysiotherapie
De fysiotherapeuten van Nederland

VvOCM
Vereniging van Oefentherapeuten

ergotherapie nederland

NVH
Nederlandse Vereniging van Huidtherapeuten

Nederlandse Vereniging van Diëtisten

NVLF
Nederlandse Vereniging voor Logopedie en Foniatrie

All parts of the guideline, including the summary, are available on the websites of the initiating parties: Ergotherapie Nederland, Koninklijk Nederlands Genootschap voor Fysiotherapie, Nederlandse Vereniging van Diëtisten, Nederlandse Vereniging van Huidtherapeuten, Nederlandse Vereniging voor Logopedie en Foniatrie, Vereniging van Oefentherapeuten Cesar and Mensendieck.

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A General information

A.1 Project group

The Frail Older Adults paramedical guideline project group consists of the core group, guideline panels, and a review panel. The core group consists of a general project leader and six sub-project leaders. The guideline panels consist of subject-matter expert scientists, representatives from the professional field of paramedical disciplines, and representatives from professional groups with which cooperation takes place. The joint review panel consists of representatives from the professional field of paramedical disciplines, representatives from professional groups with which cooperation takes place, and patient representatives.
The roles and tasks of stakeholders in the guideline are described in the KNGF guideline methodology (2022) (Royal Dutch Society for Physical Therapy (Koninklijk Nederlands Genootschap voor Fysiotherapie) 2022).

Members of the core group, guideline panels, and review panel are further described below:

Core group

General project leader
- Hilde Vreeken MSC, medior policy officer, guideline advisor, KNGF (until February 2022)
- Mitchell van Doormaal MSc, senior policy officer, KNGF (since February 2022)

Sub-project leader generic
- Dr Tim van Kernebeek, medior policy officer, guideline advisor, KNGF

Sub-project leader physical and exercise therapy
- Dr Tim van Kernebeek, medior policy officer, guideline advisor, KNGF
- Dr Thea Kooiman, policy officer Quality & Science, guideline advisor, VvOCM
- Myrthe Simon-Konijnenburg MSc, policy officer Quality & Science, guideline advisor, VvOCM

Sub-project leader occupational therapy
- Anna Hijman MSc, guideline advisor EN, until October 2022
- Loes Schut MSc, guideline advisor and policy officer EN, since December 2022

Sub-project leader skin therapy
- Dr Femke de Vries, policy officer research & quality, guideline advisor, NVH
- Myrthe van Zon MSc, policy officer research & quality, guideline advisor, NVH

Sub-project leader dietetics
- Marieke Plas, policy advisor knowledge, quality, research and innovation, guideline advisor, NVD

Sub-project speech therapy
- Ilona Lux-Bernoster MSc, project officer guideline development, NVLF
- Jeanine Willekens-Brink MSc, policy advisor and guideline advisor, NVLF

Guideline panel generic

- Prof. Philip van der Wees, guideline-panel chair
- Dr Hans Hobbelen, subject-matter expert scientist: physical therapy
- Johanneke Pulles MSc, subject-matter expert scientist: exercise therapy
- Dr Carola Döpp, subject-matter expert scientist: occupational therapy
- Ellen Kuiper-Kuijp, skin therapist, subject-matter expert
- Dr Barbara van der Meij, subject-matter expert scientist: dietetics
- Dr Maren van Rijssen, subject-matter expert scientist: speech therapy and phoniatrics
- Ellen van Unnik, physical therapist, KNGF representative (until December 2022; in memoriam)
- Dorien van Loo, physical therapist, KNGF representative

- Mike Hoogervorst MSc, (geriatric) exercise therapist primary care setting, VvOCM representative
- Jacolien de Haan, occupational therapist, EN representative
- Gaby Buitendijk MSc, instructor-researcher lectorate Urban Ageing / instructor skin-therapy course at De Haagse Hogeschool, Healthy Ageing professional, skin therapist primary care setting, NVH representative
- Marinka Lautenbach, dietitian, NVD representative (until 9 May 2023)
- Lobke Petit, speech therapist, NVLF representative

Guideline panel physical and exercise therapy

- Dr Hans Hobbelen, subject-matter expert scientist: physical therapy
- Johanneke Pulles MSc, subject-matter expert: exercise therapy
- Ellen van Unnik, physical therapist secondary care setting, KNGF representative (until December 2022; in memoriam)
- Tineke van der Bolt MSc, geriatric physical therapist secondary care setting, KNGF-NVFG representative
- Michelle Fransen, geriatric physical therapist primary care setting, KNGF-NVFG representative
- Dorien van Loo, geriatric physical therapist primary care setting, KNGF representative
- Lisanne Knol-Wijsman MSc, pelvic physical therapist and geriatric physical therapist secondary care setting in training, KNGF-NVFB representative
- Deborah Pos, geriatric exercise therapist and physical therapist in a primary care setting, VvOCM representative
- Mike Hoogervorst Msc, geriatric exercise therapist primary care setting, VvOCM representative
- Mike Hoogervorst Msc, geriatric exercise therapist secondary care setting, VvOCM representative
- Marloes Everaers MSc, geriatric exercise therapist secondary care setting, VvOCM representative
- Linda Vink-van Klooster, occupational therapist, EN representative
- Odilia van Rosmalen MSc, healthcare psychologist, NIP representative – Geriatric Psychology section
- Annelies Stouten MSc, physiotherapist, WVVK representative

Guideline panel occupational therapy

- Dr Carola Döpp, scientific subject-matter expert, occupational therapist
- Aline Lindeboom-Leijenhorst, occupational therapist, subject-matter expert
- Prof. Maud Graff, professor in occupation therapy, scientific subject-matter expert
- Astrid Schoonbrood, occupational therapist, EN representative
- Jacolien de Haan, occupational therapist, EN representative
- Lieke Timmermans, occupational therapist, EN representative
- Linda Vink-van Klooster, occupational therapist, EN representative
- Michelle Fransen MSc, geriatric physical therapist, KNGF-NVFG representative
- Marieke Dubbeldam, dietitian, NVD, DGO representative
- Doenja van der Lely, speech therapist, NVLF representative
- Odilia van Rosmalen MSc, psychologist, NIP representative – Geriatric Psychology section
- Hanneke de Boer, informal caregiver and policy officer, MantelzorgNL representative
- Willemijn Alderliesten, informal caregiver and occupational therapist, informal caregivers representative

Guideline panel skin therapy

- Ellen Kuiper-Kuijp, skin therapist, subject-matter expert
- Celeste Hoeben, skin therapist primary care setting, NVH representative
- Toos Roumen, skin therapist primary care setting, NVH representative
- Gaby Buitendijk MSc, instructor-researcher lectorate Urban Ageing / instructor skin-therapy course at De Haagse Hogeschool, Healthy Ageing professional, skin therapist primary care setting, NVH representative

- Geetanjalie Bakker, skin therapist secondary care setting, NVH representative
- Esmee Dijzer, skin therapist secondary care setting, NVH representative
- Saskia Ruitenburg, nursing specialist, V&VN – Verpleegkundig Specialisten (nursing specialists) representative
- Dr Annemie Gallimont MD, dermatologist Bravis hospital, NVDV representative

Guideline panel dietetics

- Prof. Harriët Jager-Wittenaar, subject-matter expert scientist, guideline-panel chair
- Prof. Marian de van der Schueren, subject-matter expert scientist
- Dr Barbara van der Meij, subject-matter expert scientist
- Marinka Lautenbach, dietitian at a care facility, NVD representative
- Marinka Lautenbach, dietitian at a care facility, NVD representative
- Petra Thurmer, dietitian primary care setting, NVD representative
- Carmen Dietvorst, dietitian primary care setting, NVD representative
- Annemijn Beekman, dietitian primary care setting, NVD representative
- Dr Emmelyne Vasse, dietitian secondary care setting, NVD representative
- Merita van Mook, district nurse, V&VN representative
- Simone Verhaar, clinical geriatrician, NVKG representative

Guideline panel speech therapy

- Maren van Rijssen, subject-matter expert scientist, NVLF representative
- Lobke Petit, speech therapist, NVLF representative
- Hanneke Kalf, researcher and speech therapist, NVLF representative
- Lizet van Ewijk, researcher and speech therapist, NVLF representative
- Odilia van Rosmalen MSc, healthcare psychologist, NIP representative – Geriatric Psychology section

Review panel

- Prof. Philip van der Wees, review-panel chair
- Dr Simone van Dulmen, review-panel deputy chair
- Johanna Schuurman, geriatric physical therapist, KNGF-NVFG representative
- Jill Aaldering, exercise therapist, VvOCM representative
- Ina Gommers, occupational therapist, EN representative
- Karlijn Sterkenburg, skin therapist, NVH representative
- Karin Kouwenoord, dietitian, NVD representative
- Petra Sloot, speech therapist, NVLF representative
- Annemiek Mooij, nursing specialist, V&VN representative
- Martijn Grotenhuis, clinical geriatrician, NVKG representative
- Two Verenso representatives
- Willem Vos, non-practising general practitioner, NHG-LAEGO representative
- Josephine Lambregts, patient representative, Alzheimer Nederland representative
- Tijmen van Wiltenburg, patient representative, PFN representative

Abbreviations

DGO	Diëtisten Geriatrie en Ouderen (Dietitians Geriatrics and Older Adults)
EN	Ergotherapie Nederland (Occupational Therapy Netherlands)
KNGF	Koninklijk Nederlands Genootschap voor Fysiotherapie (Royal Dutch Society for Physical Therapy)
LAEGO	Landelijke Adviesgroep Eerstelijnsgeneeskunde voor Ouderen (National Advisory Group for Primary Healthcare for Older Adults)
NHG	Nederlands Huisartsen Genootschap (Dutch Association of General Practitioners)
NIP	Nederlands Instituut van Psychologen (Dutch Institute of Psychologists)
NVD	Nederlandse Vereniging van Diëtisten (Dutch Society of Dietitians)
NVDV	Nederlandse Vereniging voor Dermatologie en Venereologie (Dutch Society for Dermatology and Venereology)
NVFB	Nederlandse Vereniging voor Bekkenfysiotherapie (Dutch Society for Pelvic Physical Therapy)
NVFG	Nederlandse Vereniging voor Fysiotherapie in de Geriatrie (Dutch Society for Physical Therapy in Geriatrics)
NVD	Nederlandse Vereniging van Diëtisten (Dutch Society of Skin Therapists)
NVKG	Nederlandse Vereniging voor Klinische Geriatrie (Dutch Society for Clinical Geriatrics)
NVLF	Nederlandse Vereniging voor Logopedie en Foniatrie (Dutch Society for Speech Therapy and Phoniatrics)
PFN	Patientenfederatie Nederland (Netherlands Patient Federation)
Verenso	Vereniging van specialisten ouderengeneeskunde (Association of Geriatric Care Specialists)
VvOCM	Vereniging van Oefentherapeuten Cesar en Mensendieck (Association of Cesar and Mensendieck Exercise Therapists).
V&VN	Verpleegkundigen en Verzorgenden Nederland (Netherlands Nurses and Healthcare Assistants)
WVVK	Wetenschappelijke Vereniging voor Vlaamse Kinesitherapeuten (Scientific Association for Flemish Physiotherapists)

Sources

- Koninklijk Nederlands Genootschap voor Fysiotherapie, Vreeken H, Van Doormaal MCM, Conijn D, Meerhoff G, Swart N. KNGF-richtlijnenmethodiek: ontwikkeling en implementatie van KNGF-richtlijnen, versie 3. Amersfoort: Koninklijk Nederlands Genootschap voor Fysiotherapie (KNGF); 2022. Available at: https://www.kngf.nl/binaries/content/assets/kennisplatform/onbeveiligd/richtlijnen/richtlijnenmethodiek/kngf-richtlijnenmethodiek_2022.pdf.

A.2 Introduction

Reason for guideline development

There is a growing number of older adults in the Netherlands. Between 2021 and 2050 the number of people aged over eighty is expected to rise from over 800,000 to somewhere between 1.5 and 2.6 million (NIDI and CBS 2021). The number of frail older adults will also increase due to this ageing of the population. Frail older adults often have complex care needs with issues in various domains that affect each other. A paramedical guideline on care for frail older adults is of great importance in order to provide effective comprehensive care to this growing population with complex issues. The barrier analysis and guideline development are funded by ZonMw from the resources of Bestuurlijke Afspraken Paramedische Zorg (Administrative Agreements on Paramedical Care) – Quality and Transparency.

Goal of the guideline

The goal of this guideline is to improve paramedical care for frail older adults and to optimise cooperation between healthcare professionals by means of practical recommendations.
The evidence-based recommendations in this guideline support the participating paramedical professional groups in the detection of frailty and the making of clinical decisions. These recommendations furthermore contribute to the establishment of treatment plans, providing the right care and treatments, and interdisciplinary cooperation in this regard, with the aim to reduce frailty among older adults and improve health outcomes in this group of older adults. The recommendations also bring transparency to the paramedical care that is given.
Recommendations are not laws or mandatory regulations. In principle, therapists should adhere to the recommendations, but substantiated deviation is legitimate or even necessary if this is commensurate with the individual patient's situation and wishes.

Target group

The guideline pertains to frail older adults. The Netherlands Institute for Social Research describes frailty in older adults as 'an accumulative process of physical, psychological, and/or social deficiencies in a person's functioning which increase the chances of negative health outcomes (functional impairment, hospitalisation, death)' (van Campen 2011). Frailty is seen in the RIVM (National Institute for Public Health and the Environment) model as a dynamic condition: frailty can for example worsen due to certain life events and disease, but a person's frailty status can also improve. This frailty can manifest itself in various ways. The RIVM distinguishes four areas in which older adults can be frail (RIVM 2015):

- Physical frailty: impediments to physical functioning such as weight loss, balance problems, gait speed, and fatigue;
- Cognitive frailty: cognitive impediments such as loss of memory, flexibility, and executive functions;
- Social frailty: impediments due to loneliness or loss of social support;
- Psychological frailty: impediments due to psychological conditions, such as depression.

This guideline pertains to paramedical care for frail older adults in general. Considering the complexity of conditions such as dementia or cancer, the guideline does not focus on care for older adults with specific conditions, unless indicated otherwise, for example in the guideline modules for speech therapists (dementia). The guideline applies to all the different settings where care is provided to frail older adults by one or more of the participating paramedical professional groups.

Intended users of the guideline

The Paramedical Guideline for the Frail Older Adults is primarily intended for physical therapists, exercise therapists, occupational therapists, skin therapists, dietitians, and speech therapists. In addition, the guideline is relevant for (informal caregivers of) frail older adults, other healthcare professionals involved in caring for frail older adults, the healthcare professionals concerned, such as specialists in geriatric medicine, clinical geriatricians, nurses, healthcare assistants, and policy-makers.

Reading guide

The guideline includes the following parts:

- **A** introduction
- **B** generic part (3 modules);
- **C** physical and exercise therapy (5 modules);
- **D** occupational therapy (3 modules);
- **E** skin therapy (3 modules);
- **F** dietetics (3 modules);
- **G** speech therapy (3 modules).

In each module, the information is subsequently divided into three levels, with each level looking at the respective topic in more detail:

- Recommendations: Practical tips or recommendations are included in the Practice Guideline (the first level).
- Explanation: Information on the topic being addressed and the considerations of the most important arguments that lead to the recommendation or description are also contained in the Practice Guideline (the second level).
- Justification: The Justification (the third level) provides details on how this information was collected (including the search strategy, summary of results, evaluation of the evidentiary value, and description of considerations), the process with which this consideration came about, and the references of the (scientific) literature used.

Where this document uses 'they' for one person, this can mean 'he' or 'she'.
In this guideline both the terms patient and client are used to refer to a frail older adult.The choice in this regard differs depending on the discipline.

Methodology

The Paramedical Guideline on Frail Older Adults was developed according to the 'AQUA guideline of 2021' (AQUA advisory and expert group 2021) and the KNGF Guideline Methodology of 2022' (KNGF 2022). Below is a description of how the methodology was implemented in each phase, as well as of how the involvement of stakeholders took place, and how the patient perspective was included.

Preparation phase

In a previous project, 'Knelpuntenanalyse Paramedische Zorg bij Kwetsbare Ouderen' ('barrier analysis of paramedical care for frail older adults') an extensive barrier analysis was performed (ZonMw 2021). Subject-matter experts, literature, stakeholders, clients, and professionals were consulted in this regard. Information was gathered and analysed by means of:

- Orienting literature review
- Interviews with subject-matter experts
- Patient consultation with interviews and focus groups

- Broad stakeholder consultation (invitational conference) with the medical and paramedical professionals, patient representatives, managers, health insurance companies, and other stakeholders involved
- Paramedics were consulted through focus groups and surveys
- guideline-panel meetings

Using the aforementioned methods, barriers were identified for each discipline and prioritised with regard to care for frail older adults. Each professional group prioritised 3 barriers and converted them into clinical questions.
As a first step, a core group was set up consisting of a general project leader and six sub-project leaders from the various professional groups. The general project leader was responsible for the overall process and the sub-project leaders were each in charge of the development of three to six modules. Due to the overlap in barriers between physical therapy and exercise therapy, it was decided jointly to work out six clinical questions for these professional groups.
For every sub-project a guideline panel was set up, consisting of subject-matter expert scientists, representatives from the professional field of the paramedical disciplines, and representatives from professional groups with which cooperation is conducted (see A.1 'Project group'). The generic guideline panel consists of a delegation of the paramedical disciplines referred to above. Each guideline panel formulated three clinical questions based on the most important barriers. These clinical questions were described in a framework and formed the basis for the development of the guideline.
An overreaching review panel was put together in which patients and other professional groups (also outside the paramedical disciplines) are represented.

Development phase

The various sub-projects were conducted in parallel under the guidance of the sub-project leaders in cooperation with the guideline panels. For each clinical question, literature was systematically sought, and where possible, the evidentiary value of this literature was assessed according to the GRADE methodology (GRADE). The results were discussed with the guideline panels of the sub-projects, after which the recommendations were drawn up by means of the 'GRADE evidence-to-decision' process.The rationale for the recommendations can therefore be found in the modules.

The draft modules were submitted to the review panel in three rounds, after which the guideline panels incorporated the reviews where possible. Subsequently, all modules were combined into a draft guideline.

External review and authorisation phase

In the external review phase, the draft guideline was sent to the paramedics concerned, and to all parties that contributed to the development of the guideline or that indicated before or during the process that they would like to be involved in the external review phase. In addition, a trial implementation was carried out for a number of profession-specific sub-projects (physical therapy, exercise therapy, and occupational therapy) to test the practical applicability. All the external reviews from the parties involved were combined into an external review table, which was submitted to the five guideline panels of the sub-project. The guideline panels of the sub-projects determined which changes and/or additions were required or desired to be made to the draft guideline. The review panel advised on this as well. After being adopted by the guideline panel and the review panel, the guideline was presented to all involved stakeholders for authorisation.

Dissemination and implementation phase

After publication of the guideline, various implementation products were produced, including:
- Patient information
- (e-)Training
- Summary card

Involvement of stakeholders

Paramedical healthcare providers

The primary users of the guideline are physical therapists, exercise therapists, occupational therapists, skin therapists, dietitians, and speech therapists. They made an important contribution to the guideline in all phases of its development. These healthcare providers supplied input on barriers in the preparatory phase, took part in the different guideline panels and the review panel, commented on the draft guideline during the external review phase via a work-field round, and during the implementation phase collaborated on the implementation products.

Patients

To ensure that the patient perspective was taken into account, input from the Netherlands Patient Federation was used in the preparatory phase. This organisation put together focus groups and conducted interviews with patients and informal caregivers, and the results thereof were used to formulate and prioritise the barriers. The barriers experienced by patients, combined with the barriers of healthcare providers and other stakeholders, served as basis for the clinical questions. Representatives of Netherlands Patient Federation and Alzheimer Nederland participated in the development process as part of the review panel. The original intention was to ensure the inclusion of the patient perspective in the various guideline panels, but this appeared not to be practically feasible. Finally, Netherlands Patient Federation and Alzheimer Nederland also participated in the external review phase*.

Other stakeholders

A number of other stakeholders sat on the guideline panel or review panel and/or were involved in the guideline during the external review phase and contributed to the creation of the guideline in this way. Clinical geriatricians, specialists in geriatric medicine, (supervising) general practitioners, and nurses were therefore represented on the review panel and the guideline was submitted for external review to Zorgverzekeraars Nederland (Netherlands Healthcare Insurers).

Conflict of interest

Prior to and upon completion of the project, all project members provided a declaration of interest. The declarations of interest were assessed by the guideline advisers and, during the guideline project, any necessary measures were taken to limit (the impression of) inappropriate influence through conflict of interest as much as possible (for example by not participating in the process 'from evidence to recommendation' in the guideline panel) in accordance with the 'KNGF guideline methodology 2022' Gehring 2020; (KNGF 2022).

Sources

- AQUA Advies- en expertgroep (2021). AQUA Leidraad 2021.
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A.3 Background

Prevalence

Frailty in older adults is a commonly occurring health status that is both dynamic and complex. The various definitions used in the literature for frailty makes it difficult to clearly determine its prevalence. However, in the conceptual model of Gobbens, which is also applied at CBS (Statistics Netherlands) and RIVM (Gobbens 2015), a prevalence of frailty is found among older adults in the Netherlands (people aged 70 to 81) of 34.6% (RIVM 2015). Within this model of frailty, various risk factors in the physical, psychological, social and cognitive spheres play a role. Although frailty is not caused by ageing, there is a positive correlation between age and the prevalence of frailty. Considering the ageing of the population, the number of frail older adults is expected to increase further (NIDI and CBS 2021).

Clinical presentation and progression

The clinical presentation of frailty among older adults shows a scale of symptoms and functional impairments in the physical, social, cognitive and psychological spheres. Frail older adults, for instance, often suffer from malnutrition, reduced muscle strength, fatigue, reduced mobility, an increased risk of falling, loneliness, and feeling down. Cognitive problems are often manifested in memory loss, reduced concentration abilities, and problems with executive functions. Frailty is seen as a dynamic health status. A person's frailty status can deteriorate due to certain life events and diseases, but can also improve. There are various risk factors and protective factors that influence each other and that determine the degree and speed of deterioration or improvement. With increasing frailty, there is an accumulation of conditions and impairments in one or more spheres. As a result, the overall health status deteriorates. This engenders a higher risk of negative health outcomes such as functional impairment, hospitalisation, or death. However, the right supervision, care, and suitable intervention can reduce a person's frailty and lead to a more robust health status.

The dynamic nature of frailty gives paramedics together with frail older adults and other healthcare professionals and supporter specialists the possibility to reduce frailty. If frailty is detected (at an early stage), physical therapists, exercise therapists, occupational therapists, skin therapists, dietitians, and speech therapists can take this frailty into account and adapt the healthcare provision accordingly. The evidence-based recommendations in this guideline will offer the participating paramedical professional groups support in the detection of frailty and underlying problems affecting older adults. In addition, they contribute to the establishment of treatment plans, the provision of appropriate care and treatments, and the interdisciplinary cooperation that goes with it. The establishment of this Paramedical Guideline on Frail Older Adults therefore provides direction for the improvement of health outcomes for this group of older adults.

Prevention

Prevention plays an important role in healthcare for frail older adults. This includes early detection, where healthcare providers, including paramedics, identify frailty at an early stage. Early detection allows paramedics to start interventions in a timely manner to prevent further deterioration. Prevention is therefore a central thread in this Paramedical Guideline on Frail Older Adults, with a focus on maintaining functional autonomy and improving older adults' quality of life. Paramedics play an essential role here and offer personalised treatment interventions to improve mobility and muscle strength, and give advice on how to prevent falls, tips on how to adapt the home to ensure safety, and nutritional advice to prevent malnutrition. Through multidisciplinary collaboration, paramedics together with other healthcare providers and the societal field can further movement-related functioning, overall health, and wellbeing of frail older adults. Prevention is not only cost-effective, but also helps promote healthy, autonomous older adults with a good quality of life.

Societal impact

The societal impact of the growing number of frail older adults is considerable. There is often a complex need for healthcare, while frailty leads to hospitalisation and the provision of ongoing care increases pressure on healthcare systems. In addition, as frail older adults lose their autonomy, there is often an increased reliance on family and friends and/or informal caregivers, which creates the risk of overburdening informal caregivers (SCP 2019). Good interdisciplinary cooperation within the paramedical field and with general practitioners and general practice-based nurses could help reduce this societal impact.

Sources

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B Generic part

B.1 Measurement instrument for identifying frailty

Recommendations

Based on medical history taking and supplementary measurement data, evaluate whether it is meaningful to screen older adults for frailty. To this end, use the following measurement instruments. Recommended and optional measurement instruments are generally available at www.meetinstrumentenzorg.nl.

Recommended measurement instrument

Use the Groningen Frailty Indicator (GFI) for frailty screening. A score of > 4 indicates frailty.

Optional measurement instrument

Use the Evaluative Frailty Index for Physical Activity (EFIP) for determining frailty or as additional follow-up tests to gain more insight into frailty domains on which a frail older adult is scoring low. Frailty is identified at a score of > 0.2 (see C.1 'Identifying protective and risk factors for frailty' for more information on (a decline in) the EFIP).

Use the test results to draw up a treatment plan, and to decide whether or not to refer to another (paramedical) healthcare professional or to consult another (paramedical) healthcare professional. For this, also see B.3 'Organisation of healthcare'.

Reason

For paramedical professionals suspecting frailty in older adults it is important to identify this objective. Medical history taking can show the need for this. Identifying the objective of frailty in an older adult and the domain(s) in which someone is frail, is not only important in the mutual communication between paramedics and other healthcare professionals, but also for instance to give the frail older adult better insight into their health and referrals (back) to their general practitioner, for example. Identifying frailty furthermore gives information that plays a role in the choice of treatment and intervention paths. Paramedics also have a need to be able to make an estimate of frailty in older adults that transcends disciplines, and in a generic and uniform way.

Goal of the measurement instrument

Prior to the literature search, the guideline panel indicated what the main goal of the measurement instrument was. In practice it is important that the measurement instrument can be used to screen for frailty and to determine frailty, so that this information can be included correctly in the treatment plan. The presence of frailty has an impact on the intervention that will be put in place.
A user-friendly instrument will help to detect (a degree of) frailty in frail older adults. It is also desirable to identify frailty as comprehensively as possible. This means that a measurement instrument must be found that can help to identify the four different domains of frailty (physical, psychological, societal, and cognitive) (Gobbens 2010; Gobbens 2015; RIVM 2015). This corresponds to the original barrier and the aim of this guideline module.
To identify frailty in older adults, a wide variety of instruments, Patient-Reported Outcome Measures (PROMs) as well as questionnaires, but also functional tests and performance-based tests (PerfO), or a combination of these, is available. With these measurement instruments that identify frailty, it is important to include the various domains in which frailty could occur.

For this guideline, the definition of frail older adults as described in the SCP report 2011 is pivotal. *The Netherlands Institute for Social Research describes frailty in older adults as 'an accumulative process of physical, psychological, and/or social deficiencies in a person's functioning which increase the chances of negative health outcomes (functional impairment, hospitalisation, death)' (van Campen 2011).*

Prerequisites for measurement instruments

Measurement instruments must fulfil a number of prerequisites in order to be recommended to paramedical professionals in the Dutch context.

- One prerequisite for recommending a measurement instrument in this guideline is that the measurement instrument as well as the user guide must be available in Dutch.
- Another important feature of the measurement instrument is the possibility to identify the four different domains of frailty (physical, psychological, societal, and cognitive).

Clinical question

When is there a question of frailty (multidimensional: psychological, societal, cognitive, and/or physical)? And how can one identify frailty?

Conclusions based on the literature

Conclusion by Huang 2021

The study by Huang (2021) states that the Frailty Index of Accumulative Deficits (FI-CD), developed by Mitnitski (2002), is the most reliable and widely used measurement instrument. However, 90 test items make it time-consuming to take this test.
The Groningen Frailty Indicator (GFI), with 15 items, and the Tilburg Frailty Indicator (TFI), with 15 items, are the measurement instruments most frequently explored for psychometric characteristics and obtain an satisfactory score in this regard. These are furthermore self-reporting measurement instruments and cover most of the domains of frailty. Out of the 42 measurement instruments that were considered, GFI and TFI are therefore recommended by Huang (2021) as screening tools for frailty in older adults.

Conclusion by Gilardi 2018

There is no unanimity on a golden standard for determining (a risk of) frailty in older adults. However, the Frailty Index of Mitnitski (2002) might come the closest to it.
Four of the five measurement instruments appear to be suitable for healthcare in a primary care setting. The Tilburg Frailty Indicator stands as the best choice for a screening instrument, considering the aforementioned prerequisites. De Tilburg Frailty Indicator identifies several domains of frailty, is user-friendly, and has a highly distinctive capability.
A two-phase process where first a quick (screening) instrument is used, and if possible followed by a longer, more qualitative measurement instrument, could be a suitable process in healthcare.

Rationale of the recommendation

The guideline panel considers the GFI to be suitable for all six participating paramedical profession groups. GFI is currently the most user-friendly screening instrument for frailty, which covers all frailty domains. With the GFI screening for frailty can be done at an early stage and in a valid and reliable way.

Paramedical professionals can at all times submit queries on a specific frailty domain if the GFI gives grounds for it.
EFIP is a comprehensive instrument and can be seen as a diagnostic instrument. The guideline panel therefore indicates that, depending on the outcome of the GFI, the EFIP might be used as a follow-up test to gain more insight into the frailty domain in which a frail older adult might get a low score.

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B.2 Communication with frail older adults

Recommendation(s)

First formulate the communication goals: what does the healthcare provider hope to achieve with the frail older adults? Then determine which strategy is the most effective for getting across the message that needs to be communicated: how does the healthcare provider give shape to it?

In this regard, be alert to whether the older person has sufficient understanding and whether there are visual and/or hearing impairments that might impact understanding. Involve an informal caregiver if desirable and in consultation with the frail older adult.

Below are examples of often-used communication strategies and communication steps to communicate effectively with frail older adults.

Recommended communication goals and strategies:

- Build up a good relationship with the frail older adult.
- Gather information from the frail older adult. If necessary ask permission for collateral medical history taking.
- Give clear information. In this regard be aware of frail older adults with low health literacy.
- Involve the frail older adult in the making of decisions*
- Stimulate desirable behaviour through communication strategies.
- React to emotions.

*** Steps in communication with frail older adults when making decisions:**

These steps will further the involvement of the frail older adult and facilitate the joint decision-making process:

1 Preparation: Look at the prior history of the frail older adult and any acute problems. Check previously made arrangements, which could be useful for opening and steering the conversation.
2 Goals: Talk with the frail older adult about the fact that there is a health issue and that there are various possibilities for treatment and care. Tell them that it is good first of all to talk about general matters.
3 Choices: Summarise what has been discussed so far, and explain to the frail older adult that they have a choice. Make it clear what the choice entails and formulate the main treatment goal.
4 Options: Determine, based on the treatment goal, what the options are and discuss the pros and cons of each option.
5 Decision-making: Ask whether the frail older adult is ready to make a decision. Perhaps the frail older adult needs more time and has more questions. Formulate the decision together. It may be that the frail older adult prefers the (paramedical) healthcare professional to make the decision. In this case, state it explicitly, and align it with the frail older adult's values and goals.
6 Evaluation: Talk with the frail older adult about whether they are satisfied with the discussion and the decision that was made.

More tips are given in Appendix B.2.1. Regarding dietetics, this model has been worked out in F.2 'Joint decision-making on dietary interventions and quality of life'. Look at G.3 'Multidisciplinary approach to problem behaviour' for highly complex communication issues regarding frail older adults with behaviour and/or communication problems.

Reason

Applying communication strategies with frail older adults can contribute positively to the therapist-patient relationship, patient satisfaction, patient participation, self-management, and a sense of autonomy (Simmons-Mackie 2010; Simmons-Mackie 2016; Van Rijssen 2021). In practice there is a need for more tips on effective and agreeable communication

strategies with frail older adults. Not only do frail older adults sometimes have underlying conditions that can affect communication, they can also have a different view of the concept of frailty. For paramedical professionals (physical therapy, exercise therapy, occupational therapy, skin therapy, speech therapy, dietetics) it is therefore important to know in what way they can communicate most effectively with frail older adults about problems and goals.

A communication strategy pertains to: choices that can be made by the healthcare provider or frail older adult (one of the communicating parties) about the way in which information is shared.
This could for example include:

- The use of specific aids, such as pictures, written text (sentence or word)
- The use of motivational interviewing techniques
- Taking more time
- A frail older adult who takes someone along to a consultation
- Providing a calm space with no background noise (radio/TV)

Here it is not necessarily important what the effect or result of the provided care is, but what role communication played in the patient experience. An example is patient satisfaction with regard to joint decision-making.

Clinical question

What aspects are important in communication with frail older adults and the system around it?

Conclusions based on the literature

Conclusion of systematic literature review

It can be concluded that patient-centred communication strategies that focus on personalised care, patient participation, and 'joint decision-making' are effective (in terms of patient participation) with older patients. There are various strategies for reaching self-management goals.

Conclusion of non-systematic literature review

The majority of older adults always want to take part in making decisions (67%). This has a positive impact in terms of patient satisfaction, better informed patients (who are therefore less anxious), compliance, better relationships between the healthcare professional, the patient, and family and friends, a sense of autonomy for the patient, alignment with actual problems of the older person, and a sense of added value for healthcare professionals.

Rationale of the recommendation

A variety of communication goals and strategies lead to a better therapist-patient relationship, patient participation, and better treatment plans and decisions. The included literature gives an overview of this via six communication goals with accompanying strategies and a six-step plan that leads to better patient participation and 'joint decision-making'. The guideline panel believes that the benefits of applying the communication strategies compensate for the extra time that healthcare providers will probably spend on implementing the strategies.
The guideline panel believes that the application of these communication strategies contribute significantly to providing effective healthcare.

The guideline panel therefore advises the recommendation of the communication strategies discussed in this module, in communication with frail older adults.

B.3 Organisation of healthcare

Recommendations

Be aware of the role, expertise, and competencies of other paramedical healthcare professionals in the treatment of frail older adults.

Agree with the relevant healthcare and assistance providers of the frail older adult on the way in which multidisciplinary collaboration at the local and regional level will be organised.

Information exchange with the referrer and file keeping

Send a short report to the referrer at the start and at the end of the treatment path.

Send an interim update:
- as a response to a request for information from the physician;
- as a response to a consultation request from the physician.

Consider sending an interim update:
- if the frail older adult remains under long-term treatment or in the case of a different outcome; regularly send reports on the course that has been embarked on.

Draw up interim and final reports in accordance with the prevailing 'Guideline on information exchange between physicians and paramedics (Guideline HASP-paramedics)' and the profession-specific reporting guidelines.

Reason

During the barrier analysis of this multidisciplinary guideline it emerged from the relevant paramedic disciplines that mutual coordination, cooperation, and 'organisation of healthcare' are important focus areas. It is stated that is important for paramedical professionals to be aware of each other's expertise and competencies, to optimise the consulting of and referral to another paramedical discipline. The 'organisation of healthcare' module has therefore been included in the guideline along with other modules, on the basis of a prioritised barrier.
In the treatment process of frail older adults, cooperation takes place with many healthcare and assistance providers. The current module describes which healthcare and assistance providers could be involved in this treatment process and how the cooperation is organised. The following clinical question was formulated for this purpose.

Clinical question

How is multidisciplinary healthcare for frail older adults organised?

Rationale of the recommendation

In coordination with the guideline panel it was decided not to carry out any systematic search action for this clinical question, but to gather the information in a non-systematic way and work it out narratively using the knowledge and expertise of the guideline panel. It was also decided to align as much as possible with the 'National Primary Care Setting Cooperation Agreement on Healthcare for Frail Older Adults (LESA) (Verlee 2017) and the 'Helping Hand for Frail Older Adults at Home' ('Handreiking kwetsbare ouderen thuis') initiative based on it (Leiden University Medical Centre 2019).

LESA gives guidelines for cooperation and suggestions for work arrangements between general practitioners and district nurses and their teams, including paramedics. The principle is that work arrangements are always made in coordination with the frail older adult an their informal caregiver, taking into account the wishes and needs, possibilities and circumstances of the frail older adult in question (Verlee 2017).

Explanation

Organisation of multidisciplinary collaboration

In the treatment process of frail older adults, cooperation regularly takes place with many healthcare and assistance providers. In particular with frail older adults as a group, agreement between healthcare and assistance providers is crucial for the quality care in the various settings, such as primary and secondary care settings, older adults living at home, in hospital, and in care homes. Frail older adults have complex care demands with issues in various domains (Verlee 2017). Many healthcare-providing experts are involved in the treatment of frail older adults, as mentioned in box 1 in the practice guideline. In healthcare for frail older adults, the general practitioner and district nurse work together with the core team which is supplemented with a specialist in geriatric medicine, a social worker, or another healthcare or assistance provider (such as a paramedic) as needed (Verlee 2017).
This is explained further in the paragraphs 'Role of the paramedics' and 'Expertise of other healthcare and assistance providers'.

Basic principles for cooperation

To be able to cooperate effectively, it is important that healthcare and assistance providers share a vision on good care for older adults and that they work according to the same basic principles. The guideline panel intends to align with the basic principles formulated in LESA (Verlee 2017). These shared basic principles are therefore described below:

1 **Quality of life** | The role of the healthcare or assistance providers is to pay attention to quality of life and regularly discuss with the older person how different wishes regarding the arrangement of healthcare should be weighed up. They are aware that 'quality of life' means something different for older adults and that both the interpretation and circumstances can change.
2 **Self-management** | Good healthcare for older adults is where possible aligned with the wishes, needs, and expectations of older adults and with their capacity for adaptation and self-management.
3 **Participation in society** | The healthcare or assistance provider keeps an eye on social conditions, such as maintaining or possible expanding a social network and preventing loneliness.
4 **Client focus and continuity are key** | The older person determines the goals on their own.
5 **Team work** | It is clear for the healthcare and assistance providers who is responsible for which tasks, who coordinates and manages the healthcare of frail older adults, and who is the point of contact. Precise arrangements will depend on the local or regional situation.

Source: Verlee (2017)

Cooperation agreements

It is important to make cooperation agreements at a local or regional level regarding the distribution of tasks in the cooperation of healthcare for frail older adults. Knowledge about regional and local networks is therefore also crucial for example for cooperation and referrals. For the following topics it is important to coordinate with the core team and other (paramedical) healthcare professionals:

1 **Detecting frailty** | It is important to agree on:
   - how frailty is detected in older adults
   - what the policy is when frailty is suspected in an older person
   - what measurement instruments are used to determine frailty.

2 **Identification of problems** | Using the findings from the problem identification, the general practitioner and/or district nurse will formulate the desired healthcare results together with the frail older adult. Based on this, they draw up a (joint) care plan.
3 **Communication and coordination** | Communication on and coordination of this healthcare is very important for good, ongoing care. Important topics here are:
   - The question of who coordinates the care. It could also be the frail older adult themselves, or an informal caregiver. In any event, the coordinator will be determined in consultation with the frail older adult. It is important that the frail older adult has a good relationship with the coordinator in question.
   - The question of who is the point of contact for the frail older adult and their family and friends, and to whom (written or oral) information will be referred.
   - Information exchange. Effective information exchange is an important condition for effective (comprehensive) registration, (relevant) reporting, and (fast) sharing of medical information and information pertaining to healthcare. This is explained in the 'Information exchange' section.
   - The care plan. It is important to agree on whether a care plan will be drawn up and, if so, how it will be done, who will coordinate and manage it, who can adjust it, and which domains will be covered.
   - Consultation. It is advisable that agreements be reached on the start and use of multidisciplinary dialogue (multidisciplinair overleg or MDO) and/or structured periodic consultations (gestructureerd periodiek overleg or GPO).

Sources: Digitaal samenwerkingsplatform (Digital Cooperation Platform) (2020), Leiden University Medical Centre (2019), NPCF (2014), Verlee (2017)

Interprofessional cooperation

Frailty is caused by many different factors as is for instance shown in the conceptual model of frailty (Gobbens 2010). To reduce or prevent the negative impacts of frailty as much as possible, effective interprofessional cooperation is necessary. Cooperation between paramedics, but also between paramedics and other professionals in healthcare and wellbeing. Cooperation is beneficial to the quality of healthcare and ensures that you as a professional will comply with the current policy in which appropriate care has a prominent place (Zorginstituut Nederland 2022). In this respect, cooperation between healthcare professionals is specifically named as a prerequisite for delivering appropriate care based on the following principles:

1 Appropriate care is value-driven.
2 Appropriate care is built with and around the client.
3 Appropriate care is the right care in the right place.
4 Appropriate care is about health rather than disease.

Based on existing knowledge (Cobben 2016; Tsakitzidis 2012; Valentijn 2013; Zorginstituut Nederland 2022) the following important aspects regarding interprofessional cooperation were revealed:

- Various disciplines are involved in healthcare and support (in and outside of healthcare).
- Joint consultations and meetings take place.
- There is a common goal and a common vision.
- There is equality between the various disciplines.
- Professionals know what their own strengths and limitations are.
- A common care plan is used.
- Concrete agreements are made on the division of tasks with regard to the care plan.
- Disciplines have knowledge about each other's field.
- A holistic approach is used.
- The approach is client-centred.
- Decisions are made jointly with the client.
- The client is actively involved.

- The needs and possibilities of the client are central, rather than the disease.
- There is a single point of contact for the client and their family and friends.
- There is joint responsibility for the execution of the care plan.
- Alternatives outside the healthcare field are considered.

The above findings come from projects in primary care settings. A characteristic of (and prerequisite for) interdisciplinary cooperation is that there be a single plan, a single coordinator and a single team.
The guideline panel expects that professionals will want to work according to this method.

Referral
The involvement of paramedics is usually the (ultimate) responsibility of the general practitioner in consultation with the core team.

Information exchange.
During the treatment of frail older adults there are various moments where paramedics will stand still to exchange information with the referrer (mostly the general practitioner).
The Guideline on Information Exchange between General Practitioner and Paramedical Professional (HASP-paramedicus) contains recommendations for this information exchange based on consensus by the guideline panel. The recommendations for the information exchange from the paramedical professional to the physician have been incorporated into this guideline (NHG 2020).

For information on file keeping, see the prevailing 'KNGF guideline on Physical Therapy File Keeping 2019' of KNGF, the 'Guideline on Reporting' of VvOCM, the 'NVH Guideline on Skin Therapy File Keeping', and the 'Guideline on Reporting in Occupational Therapy', the 'Guideline on Speech Therapy File Keeping', and the 'Guideline on Information Exchange between General Practitioner and Paramedic' (HASP paramedic). (KNGF 2019; VvOCM 2020; NVH 2017; Ergotherapie Nederland (Occupational Therapy Netherlands) 2016; NVLF Nederlandse Vereniging voor Logopedie en Foniatrie (Dutch Society for Speech Therapy and Phoniatrics) 2019; NHG 2020).

The paramedic's role

Physical therapist

The physical therapist offers expert help and support when movement is no longer to be taken for granted. This is caused by imminent or existing health problems associated with movement-related functioning. Physical therapy helps patients obtain and maintain mobility in a way that is aligned with the way in which they want to live their lives. This is done through direct interaction and talking with the patient and their living environment, looking at how it relates to any other issues in the patient's life. Physical therapy is thus a specialised profession for movement-related functioning as a basic principle and offers customised support for promoting, regaining, maintaining and/or optimising movement-related functioning.
A physical therapist focuses on the body, movement, and the person: with their head, heart and hands. Their work is based on the following principles:

- Reasoning according to a psychosocial model.
- The patient's movement-related functioning in their own living environment is the priority.
- Acting according to the principles of evidence-based practice.
- Acting in accordance with legal frameworks and professional and quality standards.
- Performing physical therapy in an ethical way; according to the values that are associated with it and the standards that ensue as a result.

Physical therapy care and support are indicated for a need for assistance related to movement-related functioning, within the individual patient's specific living environment. They also support the patient's self-management with respect to movement-related functioning, as a condition for maintaining and improving the patient's control of their own life, including a healthy lifestyle. This means that whether or not physical therapy care is indicated or the need for assistance can be (co-) addressed by another (healthcare) professional differs per patient.

The role, position and work of the physical therapist, as well as the context within which these take place and the competencies required therefor are described in the professional profile of the physical therapist (KNGF 2021).

There are also physical therapists with a specialisation field and own professional association. For these specialisations within physical therapy, specific expertise is recognised by KNGF, as described in the Professional Code for the Physical Therapist (Beroepscode voor de Fysiotherapeut) (KNGF 2022). This includes for example the Dutch Association for Physical Therapy in Geriatrics (Nederlandse Vereniging voor Fysiotherapie in de Geriatrie or NVFG) and the Dutch Association for Pelvic Physical Therapy (Nederlandse Vereniging voor Bekkenfysiotherapie or NVFB). These specialisations feature in the Dutch Quality Register for Physical Therapy (Kwaliteitsregister Fysiotherapie NL or KRF NL) of the Kwaliteitshuis Fysiotherapie (www.kwaliteitshuisfysiotherapie.nl), which guarantees that the knowledge and skills of these healthcare professionals is raised to and maintained at a good level. The role, position and work of physical therapy specialisations, as well as the context within which it takes place and the competencies required therefor are described in the professional profiles of the specialisations (KNGF).

Recommendations for diagnosis and treatment by the physical therapist are described in condition-specific guidelines for physical therapists (KNGF).

Exercise therapist

The exercise therapist helps people with (long-term) complaints or impairments in their daily movement, to (re)gain control, find a way to live their life, and be able to participate in society. The exercise therapist therefore works on indexed and healthcare-related prevention: they prevent complaints from worsening, further complications of the disease, and a deterioration of the patient's quality of life. The focus here is on people's ability to adapt to new circumstances and (physical) changes. The exercise therapist provides personalised care and focuses on the posture and movement behaviour and movement-related functioning (functions, activities, and participation). The focus here is specifically on factors (motor, cognitive, emotional, and environmental) that may maintain or impact the problem with regard to movement-related functioning.
The exercise therapist always aims for the client to learn 'something' during therapy; this could be an increased awareness, insight, body awareness, motor skills, and how to apply it in daily life. The exercise therapist achieves this learning goal through two important aspects: motor learning and behavioural change. According to the approach of the bio-psychosocial model, these cannot be seen separately. Medical knowledge is combined with the analysis of movement behaviour in order to learn exercising in a sustainable way. When behavioural change is no longer possible, the therapist tries as much as possible to elicit and stimulate exercise through movement, to maintain the existing motor capacities.
The exercise therapist:

- works according to the bio-psychosocial model.
- focuses primarily on the patient with their need for assistance in their context
- acts according to evidence-based practice and the condition-specific guidelines
- acts within legislative frameworks and according to the professional code of conduct.

The role, position and work of the exercise therapist, as well as the context within which these take place and the competencies required therefor are described in the professional profile of the exercise therapist and professional profile of the geriatric exercise therapist (VvOCM 2018). In addition, there are four specialisations each with their own professional

profile, namely: exercise therapy for children, psychosomatic exercise therapy, pelvic exercise therapy, and geriatric exercise therapy.

Exercise therapists and specialised exercise therapists are registered in the Quality Register for Paramedics (Kwaliteitsregister Paramedici). This guarantees work experience, quality and expertise.

See also the Professional Profile for Exercise Therapists (Beroepsprofiel Oefentherapeut, VvOCM 2018) and the Professional Code for Exercise Therapists (Beroepscode Oefentherapeut, VvOCM 2019).

Occupational therapist

'Occupational therapy is based on the notion that what people do with their time, their daily activities, is of crucial importance to their wellbeing. Daily activities are what ultimately makes life meaningful.'

The occupational therapist helps people of all ages who experience impairment, as well as their family and friends, to do daily activities that are important to them. An occupational therapist looks especially at what a person can still do. The approach is personalised, with a focus on self-management, and contributes to making people capable of doing daily activities in their own environment and of participating in society once again. Occupational therapy is aimed at the activities, participation, health and wellbeing of people who have an impairment. This also applies to informal caregivers.

Based on joint decision-making, the occupational therapist will support the person's choices. Occupational therapy intervention (and prevention) focuses on:

- using, training or increasing the possibility and performance of activities
- adapting or using the environment.

Occupational therapy is a paramedical profession and follows six general principles. Together, these form the basis of the profession. Occupational therapy:

- focuses on daily activities
- is personalised
- is done in the person's own environment where possible
- is based on evidence
- makes use of technology
- is community-oriented.

The strength and added value of the occupational therapy profession lie in combining the biomedical, psychosocial and societal perspective, and translating it into activities in everyday life.
Occupational therapy is indicated when there is a need for assistance related to self-reliance and self-care within the personal living, home or work environment.

Treatment can start following a referral from a general practitioner or specialist. People can also make use of Direct Access Occupational Therapy (Directe Toegang Ergotherapie or DTE) and approach an occupational therapist on their own.

Most occupational therapists become professional after their basic training in specific professional fields or target groups by means of work experience and schooling. Ergotherapie Nederland (Occupational Therapy Netherlands) furthermore recognises three specialisations, which include geriatric occupational therapy.
Occupational therapists are paramedical professionals. They are in close contact with professionals in other disciplines and organisations in healthcare and wellbeing with whom they regularly cooperate, and are expected to adhere to the professional code and rules of conduct.

The profession of occupational therapist falls under Article 34 of the Dutch Individual Healthcare Professions Act (BIG Act) and is therefore protected as a formal qualification. The quality of the professional group is further protected by means of the Quality Register for Paramedics (Kwaliteitsregister Paramedici or KP). Occupational therapists must renew their KP registration every five years.

The role, position and activities of the occupational therapist, as well as the context within which these take place, are described in the 'General Professional Profile for Occupational Therapists' ('Algemeen beroepsprofiel ergotherapeut') and the 'Professional Code and Rules of Conduct for Occupational Therapists' ('Beroepscode en gedragsregels ergotherapeut') (Ergotherapie Nederland 2023; Ergotherapie Nederland 2015) The required competencies are described in further detail in the 'Competency Profile for Occupational Therapists' ('Competentieprofiel Ergotherapeut') (Landelijk Opleidingsoverleg Ergotherapie 2023). Recommendations for diagnosis and treatment by the occupational therapist are described in condition-specific guidelines for physical therapists (Ergotherapie Nederland).

Skin therapist

The skin therapist is the paramedic par excellence who takes care of our largest organ: the skin. Nearly two million people in the Netherlands have a skin condition. This negatively affects their daily lives. The skin therapist plays an important role for these people by teaching them how to avoid, handle and effectively treat skin problems.
Anyone with a skin problem can get help from a skin therapist: from a medical indication (such as acne, burn scars, eczema and lymphoedema) to cosmetic needs (such as skin improvement and removal of excess hair or tattoos). A visit to a skin therapist can also be preventative to avoid a problem or the worsening of an existing problem.

Care provided by the skin therapist includes supervision, advice, education, carrying out certain procedures, and/or assessing and providing aids. This makes the skin therapist the right hand of the general practitioner and the medical specialist. According to the Dutch Government Gazette (2010) the following are considered to resort under the expertise of the skin therapist:

- Identifying risk factors and symptoms in the patient that indicate the possible presence of a condition for which the expertise of a medical doctor is desirable or essential, and when identified, referring to a doctor.
- Examining a patient with a skin condition, impairment or handicap due to a pathological trauma or congenital anomaly, and based on the gathered information, establishing a treatment plan.
- Treatment of the patient with the aim of removing, reducing or compensating for a skin condition, impairment or handicap, optimising skin functions, and giving advice and instructions.
- Assessing and providing medical aids and prostheses as well as advising on the use thereof.
- Giving information and advice to a patient.

The skin therapist is indicated as a paramedical practitioner who offers preventative, curative and palliative skin care within the healthcare sector. The primary basis of such skin-therapy care is that its purpose is always to reduce or remove problems experienced by the patient in terms of activities and/or participation issues related to the skin. Care provided by the skin therapist thereby contributes to improving the patient's quality of life.

The role, position and activities of the skin therapist, the context in which these take place, and the competencies that are required therefor are described in the professional profile for skin therapists (Beroepsprofiel Huidtherapeut) (NVH 2023). Recommendations for diagnosis and treatment by skin therapists are described in the quality instruments for skin therapists (NVH).

Dietitian

An optimal nutritional status for every person as the basis for a healthy life. This is where the dietitian expert can help. They do so from three angles on which dietetics is based, namely scientific knowledge, evidence-based practice, and practice-based evidence, regarding the consumption of food, the functioning of the body, and the psychology of behavioural change.

Dietitians are trained to give dietary treatment to people with a complex medical history. The dietitian establishes a tailored dietary treatment together with the patient/client. This means that it will be aimed at a target group and culture-sensitive, adapted to medical conditions (disorder, blood levels and medication) and in line with a person's beliefs, preferences, tastes, social context, and financial situation.
A personalised dietary treatment consists of diet counselling and supervision and/or coaching by the dietitian. This supervision supports the desired behavioural changes and can be given individually, in a group, or in the form of a programme, such as the Combined Lifestyle Intervention. The duration of the treatment depends on the complexity of the condition, health issues, personal wishes, and chosen form of treatment.
Following a personalised dietary plan makes a difference with many conditions. Examples are conditions such as diabetes mellitus type 1 and 2, cardiovascular conditions, gastrointestinal and hepatic diseases, oncological conditions, lung conditions, obesity, malnutrition, chronic kidney damage, allergies, and inflammatory conditions.
A successful dietary treatment can improve the course of the disease and contribute to recovery or reducing complaints. The patient's quality of life, functioning and condition can also improve significantly as a result. This will for instance lead to the prevention of malnutrition, faster recover after an operation, better continuation of chemotherapy, fewer complications, less medication, and fewer complaints.

The role, position and activities of the dietitian, the context in which these take place, and the competencies that are required therefor are described in the professional profile for dietitians (Beroepsprofiel Diëtist) (NVD 2013). This professional profile that dates from 2013 is currently being revised.
There are also dietitians with specific expertise. The NVD recognises 35 officially recognised networks and expert groups with a specific expertise, focal area or specialisation (NVD).
Information on the indications and the goals of dietary treatment are described in Artsenwijzer Diëtetiek (physicians' guidelines on dietetics) (NVD). Extensive additional information is also described in the vision document of the NVD (NVD 2022).

Speech therapist

The speech therapist provides their expertise to address questions and solve problems in the field of communication, participation, language, speech, hearing, voice, cognitive, and primary oral functions such as (safe) eating, drinking, swallowing, and breathing. Problems in the field of primary oral functions can have a significant impact on physical health. For example: Regular choking in older adults can lead to serious lung infections. By looking for solutions to problems related to effective communication, primary oral functions, and/or breathing, the speech therapist can contribute to the health, wellbeing, and (communicative) participation of an individual and to an inclusive society. Speech therapy offers (preventative) support for communication and the improvement of primary oral functions, in line with the way that the client wants to live their life. This is done in agreement with the client and their living environment, while paying attention to other possible issues in the client's life. Paying attention to prevention in all these different areas helps reduce (healthcare) costs and will improve the client's ability to participate as well as their quality of life.

The work of the speech therapist comprises various roles that are derived from the CanMeds model. The role of the speech therapist is at the core of the profession and is central to this model. The speech therapist has the competencies to fill a variety of roles in an integrated, coherent way. In all these roles, the speech therapist focuses on societal, profession-specific and ethical considerations. The speech therapist adapts speech-therapy knowledge and skills and professional values to deliver safe, client-centred care of high-standing quality. Depending on the context and/or needs, the speech therapist also fulfils one or more other roles: professional, communicator, cooperation partner, coach, entrepreneur, and innovator.

A speech therapist focuses on functioning and participation in a broad scope, and works methodically. Their work is based on the following principles:

- Provide effective care where the client's functioning and participation in their own living environment are central, laid down in the ICF model and based on shared decision making.
- Act according to the principles of evidence-based practice.
- Act in accordance with legal frameworks and professional and quality standards.
- Act in an ethical way in line with the basic principles in healthcare, with respect for the autonomy of the client and their wishes and convictions, without causing harm, and doing the utmost good to further the wellbeing of the client and their environment.

Speech-therapy care and support are indicated in the case of a (preventative) need for assistance related to communicative participation, language, speech, hearing, voice, cognitive, and primary oral functions within the specific living environment of the individual patient. In this context, the speech therapist makes maximum use of the client's self-reliance, with the support of opportunities in their living environment and of practical, technical and digital aids.

The role, position and work of the speech therapist, as well as the context within which these take place and the competencies required therefor are described in the professional profile of the speech therapist (Beroepsprofiel Logopedist) and the professional code of ethics for speech therapists (Beroepscode Logopedisten) (NVLF 2017; NVLF 2023).

Expertise of other healthcare and assistance providers

In the healthcare for frail older adults, the general practitioner and district nurse work together with the core team, which, if required, is supplemented with a specialist in geriatric medicine, a social worker, (paramedical) healthcare professionals, or other assistance providers (Verlee 2017). Healthcare and assistance providers who are also involved as advisor, head or co-practitioner for frail older adults are indicated in Framework 1 of the practice guideline. The (main) healthcare and assistance providers of the core team are described below.

General practitioner

The (overseeing) general practitioner screens the patient for warning signs and diagnoses, informs and coordinates the healthcare. The general practitioner can refer the patient for additional diagnoses or treatment to a wide range of healthcare providers in the primary, secondary and tertiary care settings. Referral takes place based on the nature of problems, the need for assistance, the patient's preference and the local availability and expertise of healthcare providers.

Recommendations for diagnosis and treatment by the general practitioner for frail older adults are described in condition-specific guidelines for the general practitioner (Nederlands Huisartsen Genootschap).

The work of the general practitioner, as well as the context within which it takes place and the competencies required therefor are described in the competency profile of the general practitioner (Huisartsenopleiding Nederland 2016).

General practice-based nurse

A general practice-based nurse assists the general practitioner in their work. The general practitioner remains ultimately responsible for the healthcare.

The work of the general practice-based nurse, as well as the context within which it takes place and the competencies required therefor are described in the professional profile of the general practice-based nurse (Netherlands Society of Practice-based Nurses and Practice Nurses).

Specialist in geriatric medicine

The specialist in geriatric medicine treats and guides patients with a complex healthcare issue. Mostly this concerns frail older adults with complex chronic conditions, but sometimes also younger patients. The specialist in geriatric medicine looks not only at the clinical picture, but also at the impact that the health issues have on the daily life of the person and their environment.

Recommendations for diagnosis and treatment by the specialist in geriatric medicine are described in condition-specific guidelines for the specialist in geriatric medicine (Verenso).

The work of the specialist in geriatric medicine, as well as the context within which it takes place and the competencies required therefor are described in the competency profile of the specialist in geriatric medicine (Verenso 2019).

Social worker

Social workers are professionals who offer comprehensive assistance for the person as a whole to reinforce their wellbeing and resilience: in terms of health, mental state, financial situation, family, work, and functioning in society.
As a partner in neighbourhoods and the social sphere, the social worker works closely with the community, mental healthcare, general practitioners, the police and justice, education, youth care, housing associations, and businesses.

Recommendations for diagnosis and treatment by the social worker are described in quality products for the social worker and can be found on the website of the professional association of social-work professionals (Beroepsvereniging van professionals in sociaal werk).

The work of social workers, as well as the context within which it takes place and the competencies required therefor are described in the professional profile of the social worker (Beroepsvereniging van professionals in sociaal werk 2022).

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C Physical and exercise therapy

C.1 Identifying protective and risk factors for frailty

Recommendation

Identify the following protecting and risk factors for older adults with (a suspicion of) frailty.

Screening for frailty

Start with the Groningen Frailty Indicator (GFI) if you first want to have more clarity on the frailty status of the older adult (see also B.1 'Measurement instruments for frailty'). If there is a strong suspicion of frailty, it is recommended to use the Evaluative Frailty Index for Physical Activity (EFIP) immediately during medical history taking. Recommended and optional measurement instruments are generally available at www.meetinstrumentenzorg.nl.

Collateral medical history taking

During medical history taking, the therapist identifies the predictive factors of frailty for which no measurement instruments are necessary.

- **Socio-demographic data** | age, gender, and financial stress;
- **Living environment** | accommodation, home adaptations;
- **Lifestyle** | movement behaviour (physical activity), time occupation during the day, sleep patterns and quality/problems, smoking habits, alcohol intake, food intake (including weight loss/nutritional status);
- **Disease** | prior medical history, presence of co-morbidities, visual or auditory impairments;
- **Care and support** | (acute) hospitalisation in the past period, medication, load capacity of informal caregivers if needed;
- **Physical functioning** | ADL functioning, history and risk of falls, problems with urination/bowel movements;
- **Social functioning** | participation in society, partner status (married, living together, single) and social support;
- **Cognitive and mental functioning** | cognitive functioning, feelings of depression, and fear of falling.

In this regard, take the following into account:

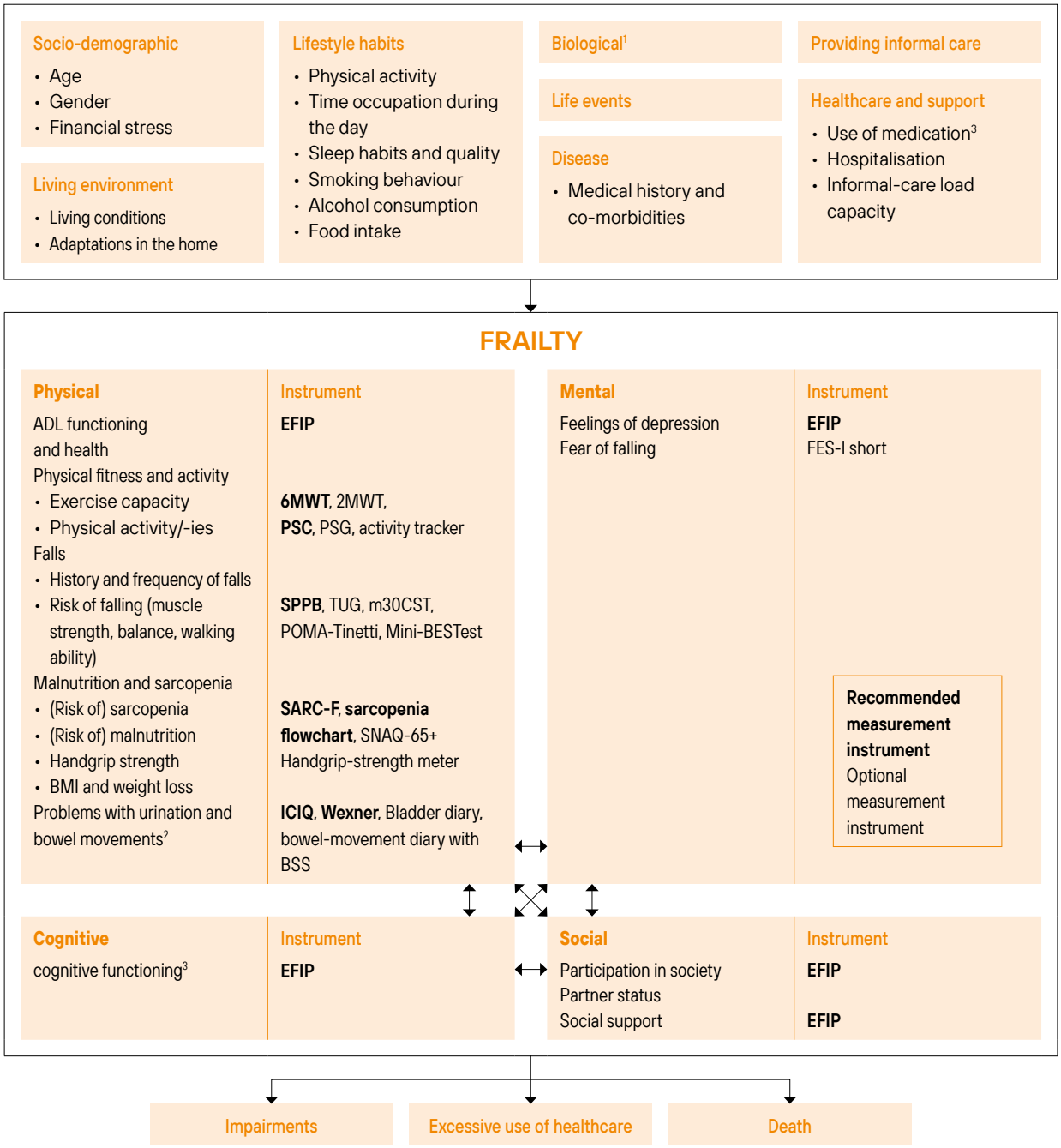
- In the event of cognitive functioning problems, it is recommended to obtain as much of the desired information as possible through collateral medical history taking (from family and friends, informal caregivers, home care/district nurse/healthcare assistants). In addition, it is recommended to ask data on cognitive functioning from the general practitioner or general practice-based nurse.
- Ask for a medication report from the general practitioner if the older adult or their family and friends or informal caregiver do not have it.
- Ask in general about the fall history and risks. Think also of the fear of falling and of doing exercise, injury and circumstances related to falls, and the person's balance. In this regard, also see the Valanalyse (Fall Analysis) of VeiligheidNL (VeiligheidNL 2023).
- Ask frail older adults about their visual impairments. Also ask frail older adults who wear a hearing aid, have headache and neck-pain complaints, or have had a stroke or car accident about hearing impairments. Ask about the use of aids and whether these are still adequate, and advise in this regard if necessary.

Examine physical factors.

Use measurement instruments to reliably identify the following factors:

- self-reported health condition
- physical fitness and physical activity
- risk and fear of falling
- malnutrition and sarcopenia
- problems with urination/bowel movements; if it appears from the medical history taking that there may be an issue in this regard.

Figure C.1.1 gives a comprehensive overview of the factors to be identified and the related measurement instruments, based on the RIVM frailty model (RIVM 2015). The recommended and optional measurement instruments for each factor are included hereafter.



1. Biological factors refer for instance to lung function, blood pressure, HDL cholesterol total or certain biomarkers (these are not identified by the physical or exercise therapist); 2. These measurement instruments are only recommended if the medical history taking points to problems with urination or bowel movements; 3. Request this information from the general practitioner or general practice-based nurse, or via collateral medical history taking (besides informal caregivers, home-care/district nurse/healthcare assistants).

EFIP = Evaluative Frailty Index for Physical Activity; 6MWT = Six-Minute Walk Test. PSC = Patient-Specific Complaint list; PSG = Patient Specific Goal-setting; SPPB = Short Physical Performance Battery; TUG = Timed-Up and Go; 30CST = 30-second Chair Stand Test; POMA-Tinetti = Performance Oriented Mobility Assessment according to Tinetti; Mini-BESTest = Mini Balance Evaluation Systems Test; SARC-F = Strength, Assistance with walking, Rise from a chair, Climb stairs and Falls; SNAQ-65+ = Short Nutritional Assessment Questionnaire 65+; ICIQ = International Consultation on Incontinence Questionnaire; BSS = Bristol Stool Scale; FES-I = Falls Efficacy Scale International.

Figure C.1.1 | **Factors to identify during the diagnostic process**

Be cautious about identifying the following factors found in the literature: level of education, migration background (country of origin), cultural involvement, albumin status (serum level), and C-reactive proteins (CRP; 4th quartile; an inflammatory marker), considering the limited added value of the information obtained, the question of whether it is practically feasible to identify this information, or whether it might be sensitive to inquire about these.

Use the **recommended** measurement instruments with all frail older adults, unless there is a patient-specific reason not to do so, such as reduced cognition or if it is physically not feasible to apply the instrument. Use the **optional** measurement instruments only if there is a patient-specific reason to do so, namely:

- if there is a reason for identifying a parameter for which none of the recommended measurement instruments is suitable, or if there is a reason for assessing a parameter with a different measurement instrument than the measurement instrument recommended for this.

General frailty and health condition

Recommended measurement instruments

- Use the Evaluative Frailty Index for Physical Activity (EFIP) to identify overall frailty (in terms of physical, social, psychological and cognitive functioning) and self-reported health condition.

Physical fitness and physical activity

Recommended measurement instruments

- Use the Six Minute Walk Test (6MWT) to determine functional exercise capacity.
- Use the Patient-Specific Complaint List (PSC) to determine strenuous physical activities.

Optional measurement instruments

- Consider using the Two Minute Walk Test (2MWT) to determine physical exercise capacity if the 6MWT is not feasible for the older adult.
- Consider using the Patient Specific Goal-setting Method (PSG) if you want to identify strenuous physical activities and further joint decision-making during treatment.
- Consider using an activity tracker that is suitable for older adults to identify and assess physical activity during the treatment period. See also C.5 'Focus areas for self-management of healthy movement behaviour'.

Fall risk (balance, muscle strength, walking ability) and fear of falling

Recommended measurement instruments

- Use the Short Physical Performance Battery (SPPB) to determine the risk of falls.

Optional measurement instruments:

- Consider using the Timed Up & Go test if you want to make a fast estimate of the risk of falls in a home setting.
- Consider using the 30-second Chair Stand Test (30CST) (instead of the original CST in the SPPB) for older adults who find it difficult to stand up; if necessary armrests may be used. Please note: If armrests are used during the test, a cut-off value of seven repetitions must be applied to determine the risk of falls.
- Consider using the Performance Oriented Mobility Assessment according to Tenetti (POMA-Tinetti) if you want to know more about the person's balance in various situations and the quality of their gait.
- Consider using the Mini Balance Evaluation Systems Test (Mini-BESTTest) if you want to know more about the older adult's responsive postural control and sensory orientation.
- Consider using the Falls Efficacy Scale International (7 items) (FES-I short) if you want to know in which activities there is a risk of falls and to determine the impact of the therapy on the risk of falls.

Malnutrition and sarcopenia

If weight loss or underweight is suspected, it is recommended to identify the body mass index (BMI) objectively. If overweight is suspected, a BMI estimate will suffice.

Recommended measurement instruments

- Use the Strength, Assistance with walking, Rise from a chair, Climb Stairs and Falls (SARC-F) as a first step for screening for the risk of sarcopenia.
- If it appears from the SARC-F that there is a risk of sarcopenia, follow the steps from the sarcopenia flowchart of the European Working Group on Sarcopenia in Older People (EWGSOP) to screen further for the presence of sarcopenia, provided that individual measurement instruments from the flowchart are available. Consider cooperating with a dietitian in this regard.

Optional measurement instruments:

- Consider using the Short Nutritional Assessment Questionnaire 65+ (SNAQ-65+) to measure the risk of malnutrition or recent weight loss (this does not refer to the red flag of > 5 kg weight loss per month). Consider cooperating with a dietitian in this regard.
- Consider a handgrip-strength meter to measure maximum handgrip strength, provided that this instrument is available.

Problems with urination/bowel movements

The guideline panel recommends asking actively during the medical history taking whether there have been any problems with urination or bowel movements e.g. (stress/urge) urinary or of faecal incontinence, frequent night-time urination (nycturia), constipation, recurring urinal tract infections or prolapse problems). The following measurement instruments are recommended if it appears from the medical history taking that this is the case:

Recommended measurement instruments

- Use the International Consultation on Incontinence Questionnaire (ICIQ) to determine urinary incontinence.
- Use the Wexner-score to determine problems with bowel movements.

Optional measurement instruments:

- Consider using the urination diary to find out more about problems with urination.
- Consider using the bowel-movement diary with the Bristol stool scale (BSS) if you want to further identify problems with bowel movements.

Additional recommendation

- Consult a specialised discipline if further examination of problems with urination bowel movements is desirable. This also applies if the therapist does not consider themselves competent to treat this complaint. For this, also see B.3 'Organisation of healthcare'.

Reason

Frailty in older adults can manifest itself in various domains including physical, cognitive, social and mental, and can have a negative impact on the effectiveness of physical or exercise therapy (RIVM 2015). From the barrier analysis carried out among physical and exercise therapists it appears that a wide variety of factors can play a role in the occurrence of frailty in older adults. Among frail older adults there is for example a significant likelihood of experiencing negative major live events such as disease (of family and friends), hospitalisation or death. The interaction between different factors in these domains furthermore increases the complexity. The risk of frailty as a complex health issue among older adults is therefore not always determined in time and/or comprehensively enough.
Physical and exercise therapists indicate that they need more practical tips in this regard to identify the physical, social, mental, and cognitive status of frail older adults so that they can get to the essence of the problem and the need for assistance in way that is fast and to the point. There is a wide variety of tests and questionnaires available for this, and it is not always clear which measurement instruments can be used most effectively for which factors.
In addition to these barriers, prevention plays an increasingly important role, with the physical and exercise therapist playing a identification role. It is important here to get a broad and comprehensive profile of the frail older adult. It is therefore important to understand the factors that play a key role in the physical fitness, physical functioning, and (changes in) quality of life in this target group. With this information the physical and exercise therapist can then offer appropriate interventions that are tailored to each frail older adult. Due to the dynamic nature of frailty, this will help to reduce frailty to a more robust health status.

This module is a combination of two elaborated clinical questions, namely:

Clinical question 1a

Which factors (physical, cognitive, social and mental, environmental) play an important role in the occurrence of frailty among older adults and which of these factors need to be identified during the diagnostic process?

Clinical question 1b

How and when can the factors (physical, cognitive, social and mental, environmental) that play a role in frailty be identified most effectively in the diagnostic process and during treatment?

Setting | We are looking at frail older adults in various settings: living at home, in a hospital setting, and in care facilities. What is important here is that it is always about frail older adults.

Conclusions based on the literature

The studies included revealed 30 prognostic factors that play a greater or smaller role in the (alteration of) frailty in older adults.

It should be pointed out that there are various factors that do bear a relation to frailty but that are not – or in very few studies – presented as prognostic factors. The reasons for this is that these factors are included in the measurement instruments for frailty, such as the factors fatigue and gait speed. Other factors do emerge from the literature review, but are given a (very) low evidentiary value due to the small amount of studies that *have* analysed the particular factor as a prognostic factor, such as weight loss and physical activity.

Based on the literature review it is concluded that the following factors play a role in the development of frailty in older adults:

Socio-demographic
- Age
- Gender
- Partner status
- Financial stress
- Level of education
- Migration status

Living environment
- Place of residence
- Lifestyle habits
- Smoking behaviour
- Alcohol consumption
- Physical activity
- Sleep problems (sleep behaviour and quality)

Disease/biological
- Co-morbidities
- Albumin (serum level)
- C-reactive protein (CRP)
- Frailty phenotype (pre-frail/frail vs. not frail)

Healthcare and support
- Use of medications
- Hospitalisation in the past
- Social support

Physical
- Self-reported health condition
- Sensory impairment (hearing or visual)
- Eating disorders
- Physical fitness/functioning
  - Physical performance
  - Mobility
  - Walking ability
  - Vitality
  - Muscle strength (leg-muscle strength and handgrip strength)
- Falling history
- Sarcopenia
- Weight loss
- BMI/obesity
- Problems with urination/bowel movements

Cognition
- Cognitive functioning

Mental
- Feelings of depression

Social
- Participation in society
- Cultural involvement

Rationale of the recommendation

Despite the often (very) low evidentiary value, the guideline panel has formulated recommendations for whether or not to identify the detected factors. Choices with regard to the strength of the recommendation were left free, since this depends significantly on whether or not measurement instruments are used, and the choice of which measurement instrument is to be used.

The guideline panel has made a distinction between factors that – in the context of physical therapy and exercise therapy – can be identified with or without measurement instruments. Factors are included that can be identified without measurement instruments as well as factors with a low evidentiary value but that are nevertheless recommended to be identified. Information on (the presence of) these factors can often be obtained quickly and reliably with just one or a few questions. Without taking too much time, it can be ascertained quickly whether an elderly person has a high risk of frailty. The guideline panel has been more cautious about recommending factors that can be identified with a measurement instrument. However, some of these factors, such as physical fitness, fall perfectly within the scope of exercise and physical therapy, and do not only contribute to an estimation of the risk of frailty, but often also tie in with the patient's need for assistance, and can be included as a baseline measurement.

General frailty and health condition

To identify general frailty and health condition, the guideline panel has chosen the EFIP as the recommended measurement instrument. This measurement instrument identifies the various factors of frailty and is easy to manage in practice, provided that enough time is available during intake. The therapist can also choose to take the EFIP in more than

one session. The clinimetric quality is good. The EFIP can also be used for evaluative purposes and provides leads for multidisciplinary collaboration. In B.1 'measurement instruments for frailty' it is recommended for the various paramedic disciplines to use the GFI, which is less comprehensive than the EFIP, . In physical and exercise therapy the EFIP therefore replaces the GFI, unless the therapist first wants to screen briefly for frailty.

Physical fitness and physical activity

To identify exercise capacity, the guideline panel chooses the 6MWT as recommended measurement instrument, along with the PSC to determine which physical activities are strenuous. The 6MWT has a good clinimetric quality and is easy to manage. Comprehensive standard values and MCID values are also available for this test. The feasibility depends on the physical status of the patient. It was therefore decided to recommend the 2MWT as an optional measurement instrument if the 6MWT is not feasible for the patient. The guideline panel has chosen to recommend the PSG as an optional measurement instrument, as it is less known in the professional field as well as time-consuming. This measurement instrument can, however, have added value for the treatment.

To measure physical activity, the guideline panel opts for a potential recommendation to use an activity tracker that is suited to older adults. Physical activity forms a very important part of physical therapy and exercise therapy treatment for frail older adults. For this reason, it is important to identify movement behaviour and to be able to evaluate it during treatment. Besides, an activity tracker can also be used as part of the intervention: self-monitoring of own behaviour is a proven behavioural-change technique (Michie 2013). C.5 'Focus areas for self-management of healthy movement behaviour' looks at this in more detail. However, the use of an activity tracker is not always the preference of a frail older adult, not all trackers are easy to use, there are costs involved for the older adult, and the clinimetric quality of many trackers, apart from some exceptions, is still (too) low for frail older adults. For this reason, an optional recommendation has been chosen.

Fall risk (balance, muscle strength, walking ability) and fear of falling

To identify the risk of falls (balance, muscle strength, and walking ability, the guideline panel chooses the SPPB as recommended measurement instrument. This measurement instrument uses three different components to identify various factors of the risk of falls, which gives multidimensional information on balance, muscle strength and walking ability. This measurement instrument is also recommended in the World Guidelines for Falls Prevention and in the recently published Valanalyse ('fall analysis') of VeiligheidNL (Montero-Odasso 2022; VeiligheidNL 2023). The clinimetric quality and usability are good, and standard values are available.

In addition, the TUG, POMA-Tinetti, MINI-Besttest, 30CST and FES-I are recommended as optional measurement instruments, should the therapist want to know more about specific factors of balance or the risk of falls. 30CST is an alternative if it is not possible for the older adult to get up from a chair without using their hands (the CST/FTSTS test in the SPPB).

Malnutrition and sarcopenia

As a first step in screening for the risk of sarcopenia, the guideline panel opts for SARC-F as recommended measurement instrument. Should this reveal that there is a risk of sarcopenia, the follow-up steps in the EWGSOP flowchart for sarcopenia are recommended for further screening to establish the presence of sarcopenia. The guideline panel thus aligns with this European guideline, with the accompanying measurement instruments largely corresponding with tests that are also recommended for other parameters (exercise capacity and risk of falls) within the current guideline. It was furthermore decided to add the SNAQ-65+ as optional recommendation due to the relationship between sarcopenia and malnutrition. Handgrip strength (HS) as a component of the sarcopenia flowchart is also a valid and frequently used instrument to measure overall muscle strength, and due to possibly limited availability in practice, it was decided to recommend this as an option.

Problems with urination/bowel movements

The comprehensive measurement of problems with urination and bowel movement is not necessary if the frail older adult does not have any problems in this regard. However, such problems may also be overlooked if they do not form part of the primary need for assistance. The guideline panel therefore recommends asking actively during the medical history taking whether there have been any problems with urination or bowel movements.

If this is the case, the guideline panel chooses ICIQ to determine urinary incontinence, and the Wexner to determine problems with bowel movements. These questionnaires are easy to manage for an older person and have a good clinimetric quality.

Being more difficult to manage, the bladder diary is recommended only as an option, should the therapist require more information regarding problems with urination. The same applies to the bowel-movement diary with the BSS.

The choice for these measurement instruments is in line with the measurement instruments that are recommended in the Flowcharts NVFB-NVFG for the geriatric physical therapist and in the Evidence Statement on Anal Incontinence of KNGF (KNGF 2013; (KNGF 2021).

Sources

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C.2 Personalised interventions

Recommendations

- Consider setting up a personalised intervention for physical training of frail older adults. For example for very frail older adults, personalised intervention is preferable to intervention that is not personalised.
- Consider using selective prevention, for example group intervention (personalised where possible), for older adults in a preliminary stage of frailty or with an increased risk of frailty.
- Inform (frail) older adults of the exercise guidelines for adults and older adults (Gezondheidsraad (Dutch Health Council) 2017).
  See also C.5 'Focus areas for self-management of healthy movement behaviour'.

The FITT training principles (frequency, intensity, time and type) give direction to the implementation of these recommendations, so that the older person can be offered a customised intervention that can be set up in a flexible way. The 'conclusions based on the literature' section describes how this can be implemented.

General focus areas in personalised interventions*

- Discuss personalised outcome goals. In this regard, ask about important and specific activities that the frail older adult cannot do, or can do only with difficulty.
- Set up an individualised and multidisciplinary treatment plan together with the frail older adult, including behavioural goals with regard to the personalised intervention. If possible, also involve other healthcare (multidisciplinary) professionals, healthcare providers, family and friends.
- Pay attention to self-regulation and self-management of the frail older adult.
- Identify physical impairments and possibilities of the frail older adult.
- Pay attention to postural asymmetry, movement patters, and balance.
- Pay attention to the use of medication.
- Healthcare centre setting: Inform colleagues of the personal outcome goals of the frail older adult.
- Let frail older adults exercise together so that they can learn from each other and give each other feedback.
- Make use of (visual) aids that are suited to the individual characteristics of older adults people.
- During resistance training, vary both the resistance and the speed of movement.

* See B.2 'Communication with frail older adults' for information on communication with frail older adults and discussing personal goals.

General focus areas with autonomous intervention aspects (exercising at home)**

- Supplement the intervention programme with exercises that can be done autonomously at home. Involve the partner, family and/or informal caregiver to increase the chances of compliance.
- Advise and stimulate frail older adults to be physically active outside of the training programme as well. Also discuss the local offer of suitable activities.
- Give advice and support on how to follow a home-exercise programme safely.
- Consider home visits.
- Use blended therapy for personalised coaching. This could include digital support, such as applications for tablet and phone.
- Make use of activity trackers, such as step counters, that the older adult can use to monitor their own movement goals.
- Make use of a (digital) activity diary.
- Make use of follow-up phone calls also after the intervention period.

** See C.5 'Focus areas for self-management of healthy movement behaviour' for information and concrete tips on how to stimulate healthy exercise in frail older adults' own environment.

Reason

The American College of Sports Medicine (ACSM) has developed training principles to maintain and improve cardiorespiratory, musculoskeletal, and neuromotor fitness in adults (ACSM 2023; Garber 2011). In terms of physical activity, training principles have also been worked out more specifically for (frail) older adults (Chodzko-Zajko 2009; Nelson 2007). However, in practice there is a need for a better understanding of important focus areas in the training of physical fitness, functional mobility, and walking ability in frail older adults; as well as of the question of how to adapt the exercise programme to the situation and possibilities of a frail older adult. Concretely, this means gaining insight into the effectiveness of tailored interventions for frail older adults compared to non-tailored (one-size-fits-all) interventions. It is also important for the exercise and physical therapy practice to know what such personalised interventions would look like, what the components are, and which characteristics they have in terms of type of training, building, intensity, frequency and duration. A literature review gives insight into the effectiveness of tailored interventions and and the characteristics of such interventions.

Clinical question

How can training for frail older adults be built up most effectively to maintain or improve physical functioning?

Conclusions based on the literature

Conclusions based on the literature regarding the clinical question 1

- Personalised interventions seem to improve physical fitness (very low quality of evidence).
- Personalised interventions seem to improve functional mobility (very low quality of evidence).
- The scientific evidence is very uncertain with regard to the impact of personalised interventions on quality of life (very low quality of evidence).
- Personalised interventions seem to improve ADL (very low quality of evidence).
- The scientific evidence is very uncertain with regard to the impact of personalised interventions on gait speed (very low quality of evidence).
- The scientific evidence is very uncertain with regard to the impact of personalised interventions on frailty as such (very low quality of evidence).

Conclusions based on the literature regarding clinical question 2

To gain insight into the effective aspects of personalised interventions, a summary was made of descriptions of interventions from the 15 RCTs that were found. A brief discussion and conclusion of the systematic review has been added here (Hill 2015). Personalised aspects of the intervention are also highlighted. The summary of these descriptions of interventions can be found in Appendix C.2.7.

To give physical and exercise therapists concrete tips on how to do personalised interventions, a classification was made together with the guideline panel of personalised aspects identified in terms of FITT principles (Frequency, Intensity, Time and Type), as described in the book ACSM's Exercise Testing and Prescription 2nd Edition (ACSM 2023). The classification is presented below.

Frequency of intervention

- Varying from 1x per week to 3x per week for physical and exercise therapy in a primary care setting (and healthcare centres).
  Duration: 10 weeks to 12 months.
- 2 to 5x per week for a hospital setting and geriatric rehabilitation care.
- Healthcare between intensive (strength and resistance) training sessions for sufficient recovery time.

Intensity of intervention

- Review the training programme weekly to increase intensity gradually.
- Adapt intensity using for instance the Borg scale or based on a person's subjective perception of effort (OMNI scale, range 5-7).
- With strength and resistance training:
  - adapt intensity based for example on the Brzycki formula;
  - make use of periodic (maximum) tests. Opt for sub-maximum tests if these are more suitable, desirable or appropriate.
- With walking training: adapt intensity based on 6-MWT.
- With balance training: let exercises increase in degree of difficulty.

Time

- Varied, and depending on the frequency, building up from 5 minutes a day to 1 hour a day.
- Training time for home training can be divided flexibly over several times in the day.

Type of intervention

- warming up and cooling down
- balance training
- torso stability
- strength and resistance training, both for upper and lower body
- walking training and recommendations for walks
- endurance
- mobility exercises
- transfer training
- functional training
- flexibility exercises
- stretching exercises
- exergaming / virtual reality
- basic/brief nutritional advice
- advice on social-physical group activities (going for walks, gym)
- advice on social-cultural activities

General focus areas for personalised interventions

- Discuss personal outcome goals. Ask about important and specific activities that the patient finds difficult or impossible to do
- Draw up an individualised and (where possible) multidisciplinary treatment plan with the patient, including behaviour goals with regard to the personalised intervention. If possible, also involve other (multidisciplinary) healthcare professionals, healthcare providers, family and friends
- Pay attention to self-regulation and self-management of the patient
- Identify physical impairments and possibilities of the patient.
- Pay attention to postural asymmetry, movement patterns, and balance.
- Pay attention to the use of medication
- Setting of healthcare centres: Inform colleagues of the personal outcome goals of the patient.
- Let patients exercise together so that they can learn from each other and give each other feedback
- Make use of (visual) aids that are suited to individual characteristics
- Vary not only resistance, also the speed of movement during resistance training

General focus areas with autonomous intervention aspects (exercising at home)

- Add home exercises to the intervention programme that can be done alone. Involve the partner, family and/or informal caregiver to increase the chances of success.
- Advise/stimulate patients to be physically active outside of the training programme as well. Also discuss the local offer of suitable activities (see C.5 'Focus areas for self-management of healthy movement behaviour' for concrete tips in this regard)
- Give advice and support on how to follow a home-exercise programme safely
- Consider home visits
- Use digital support, such as applications for tablets or phones, for personalised coaching
- Make use of activity trackers, such as step counters, so that the patient can monitor their own outcome goals (seeC.5 'Focus areas for self-management of healthy movement behaviour')
- Make use of (digital) activity diaries
- Make use of follow-up phone calls also after the intervention period

Rationale of the recommendation

Despite the low to very low evidentiary value for the crucial and essential outcome measures, a clinically relevant difference was found on five of the six outcome measures in favour of personalised interventions compared to interventions that are not personalised. Based on the available evidentiary value from RCTs, clinical expertise from the guideline panel, and the patient perspective, the guideline panel gives preference to personalised interventions compared to interventions that are not personalised. For all frail older adults and in particular those who are very frail, personalised interventions have advantages compared to interventions that are not personalised. Older adults in a pre-stage of frailty or with an increased risk of frailty can also benefit from (group) interventions that are not personalised.
Besides the use of personalised or non-personalised interventions, it is recommended to inform (frail) older adults about (and motivate to exercise according to) the movement guidelines for adults and older adults (Gezondheidsraad 2017).

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C.3 Balance training

Recommendations

- Apply conventional balance training (walking, balance and functional training) for frail older adults or older adults with an increased risk of falling. The training can be done in groups or individually. The guideline panel advises, based on the need for assistance, mobility and context of the older adult, to choose between training at home, on site or a combination of the two. For more information, see C.2 'Personalised interventions' and C.4 'Functional training'.
- Consider the use of Tai Chi for frail older adults or older adults with an increased risk of falling.
- Consider using proactive and responsive track training for frail older adults or older adults with an increased risk of falling, for example as a variation on conventional balance training.
- Be cautious about using exergaming with frail older adults or older adults with an increased risk of falling, unless the equipment for exergaming is easily accessible, or if it is in line with the older adult's preferences and is offered as an additional intervention.
- Be cautious about using balance-board training as a separate intervention with frail older adults or older adults with an increased risk of falling, unless this training can be done safely and as an additional intervention together with conventional balance training.

The content of the various types of balance training is explained in C.3 'Justification'.

Additional recommendation

The above recommendations with regard to falls prevention pertain specifically to the balance component. Besides balance, it is important to address the fall risk in a wider sense: see the Fall analysis (VeiligheidNL 2023a). Consider also interdisciplinary cooperation, for example with the occupational therapist for (walking) aids or other fall-prevention measures in the home setting (seeD.3 'Occupational therapy approaches and interventions').

Reason

Many frail older adults are dealing with a fear of falling, an increased risk of falling, and actual falls (Montero-Odasso 2022). This has an adverse impact on physical functioning and quality of life. The barrier analysis with exercise and physical therapy shows that fear of falling and an increased risk of falling are barriers to therapy; these lead to an increased risk of inactivity in frail older adults and possibly also cautiousness on the part of the therapist, which means that the envisaged exercise programme will not – or will only partially – be followed. This is detrimental as it undermines the effect of the therapy. There is, moreover, ample scientific evidence that (a combination of) different types of exercise or training will have a positive effect on balance abilities and the fall risk for frail older adults (Hopewell 2018). Exercise programmes form part of a much wider package of fall-prevention measures, such as measures to make the home safer, an analysis and possible adjustment of the use of medication, or addressing foot problems, visual or hearing problems, or incontinence issues (FMS 2017; Montero-Odasso 2022; VeiligheidNL 2023a).

In the Netherlands, specific fall-prevention programmes have been developed ('In Balans', 'Vallen Verleden Tijd', and the 'Otago exercise programme') which have been shown to be capable of reducing the fall risk for (frail) older adults (VeiligheidNL 2023b). These are group programmes that include various aspects, for example power training, flexibility exercises, and various forms of balance training. The 'Prevention of falling incidents of older adults' guideline of the Dutch Federation of Medical Specialists (FMS) recommends with regard to physical training to provide an exercise programme that focuses on balance, muscle strength and mobility (FMS 2017). This applies both to group lessons and to individual programmes. It is, however, not specified exactly how the balance training should be done. The ACSM Position

Statement van de ACSM 'exercise and physical activity for Older Adults', within the WHO guideline on 'integrated care for older adults' and the 'World guidelines for falls prevention and management for older adults: a global initiative' also recommends giving balance exercises as part of a multi-component exercise programme (and multi-factor risk analysis and intervention), without, however, recommending any specific type of balance training (ACSM 2009; Montero-Odasso 2022; WHO 2017).

Clinical question

What form of balance training can contribute to reducing the fear and fall risk in frail older adults?

Conclusions based on the literature

Crucial outcome measures

- *Conventional balance training* leads to a reduced number of fall incidents and the number of people who experience a fall.
- *Tai Chi* probably leads to a reduced number of fall incidents and the number of people who experience a fall.
- *Proactive and reactive track training* likely results in a reduction in falls and the number of people who experience falls.

Important outcome measures

- The scientific evidence is uncertain regarding whether proactive and responsive track training leads to a reduced fall risk.
- The scientific evidence is uncertain regarding the impact of exergaming on reducing the risk or the fear of falling.
- The scientific evidence is uncertain regarding the impact of balance-board training on reducing the fall risk.

Rationale of the recommendation

- Conventional balance training has a significant impact on the crucial outcome measure, with a high evidentiary value, where the applicability is high and older adults attach great value to this intervention. For this reason it was chosen to strongly recommend this intervention.
- Tai Chi has a significant impact on the crucial outcome measure with a reasonable evidentiary value, with probable variances in the preferences of older adults and in availability. For this reason it was decided to make a weak recommendation for this intervention.
- Proactive and responsive track training has a significant impact on the crucial outcome measure with a reasonable evidentiary value. The applicability in a practice setting is high, but in a home setting the applicability is lower. The costs are low, but can increase if equipment is bought. For this reason it was decided to make a weak recommendation for this intervention.
- Exergaming has a small impact on the crucial outcome measure, with a low evidentiary value. In addition, the related costs may be high. For this reason it was decided to make a weak recommendation for this intervention.
- Balance-board training has an unclear impact with a low evidentiary value, and can lead to a fall risk for frail older adults. This intervention is not easily applicable in a home setting. It is not suitable as stand-alone training. For this reason it was decided to make a weak recommendation for this intervention, unless it can be done with safety and forms part of overall training.

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C.4 Functional training

Recommendations

- Apply a functional training component for any frail older adults who are receiving a training intervention.
- Take care that exercises can also be done effectively in a home setting. Accordingly, consider paying one or more home visits to ensure that the functional exercises are done in the right way.

See table C.4.1 in the section 'Characteristics of functional training interventions' for examples of functional exercises.

Reason

Exercise and physical therapy interventions appear to be effective to improve various aspects of health and physical fitness in frail older adults and older adults in a preliminary stage of frailty or with an increased risk of frailty (Jadczak et al., 2018). Good evidence has also been found for the efficacy of exercise and physical therapy and physical training for frail older adults in an earlier systematic analysis of the literature in connection with developing the KNGF Exercise Standard for Frail Older Adults in 2015 (van Abbema & Weening-Dijksterhuis, 2015). In this exercise standard the conclusion is: "With frail older adults a composite exercise programme is the most appropriate type of training. Effective components are: muscle-strength training, balance training, exercising joint mobility, exercising functional mobility, training endurance, and training ADL skills." However, in practice there have been variations in the training offered in exercise and physical therapy and their is a demand from the field for more clarity regarding the role of functional training as a part of the overall intervention and the impact of functional training on the various health-related outcomes. Functional training focuses on performing activities in daily life where a task-specific action is carried out (e.g. picking a bag up from the ground, walking a bit further with it and putting it on the top shelf, or for example walking while carrying a tray with a glass of water).
Exercise therapists frequently integrate exercises in the client's everyday activities, and for (geriatric) physical therapists, functional training often also forms part of the intervention. In addition, regular training programmes are given in the practice/training room, including functional training. Functional training is often also included in home-based interventions, where a patient does exercises at home as part of an intervention or treatment path. For frail older adults, functional training can form part of the overall treatment plan. However, exactly what added value this form of training brings compared to non-functional training interventions with this population is not clear.
Hence this module focuses on showing the (additional) value of functional training for frail older adults. It is furthermore important to know more about the characteristics of functional training for frail older adults in terms of build-up, frequency, and intensity, as this provides insights that are important for practitioners.

Clinical question

How effective is functional training for frail older adults in terms of physical fitness and what are the characteristics of this type of functional training?

Conclusions based on the literature

- Interventions with a functional-training component seem to improve physical fitness (low evidentiary value).
- Interventions with a functional-training component are likely to improve functional mobility (reasonable evidentiary value).
- Interventions with a functional-training component seem to improve ADL (low evidentiary value).
- The scientific evidence is very uncertain with regard to the impact of interventions with a functional-training component on quality of life (very low quality of evidence).

Characteristics of functional-training interventions

The following table shows which functional exercises intervention groups received compared to control groups. These functional exercises contributed to differences in the outcomes between intervention and control groups. Note: In various studies, the intervention group also received additional non-functional exercises.

Table C.4.1 | **(Extra) functional exercises received by intervention groups (compared to control groups)**

Arrieta 2018, 2019	walking: weight transfer from one leg to the other, walking with small obstacles, proprioceptive exercises and stepping exercises, standing up from a chair balance training: exercise with increasing degree of difficulty, starting by reducing arm support during balance exercises
Gretebeck 2019	functional circuit training daily functional tasks, including standing up from a chair, bending to pick up objects, stepping over a small step, taking big steps, reaching for and carrying small objects of various sizes
Gronstedt 2013	personalised functional training based on a list of difficult activities: physical and daily activities in various combinations, for example transfers, walking, balance, training in personal care, dressing, and eating
Jahanpeyma 2021	Otago programme: exercises like knee bends, walking and turning, walking sideways, sitting and standing up, climbing stairs
Liao 2019	exergaming (Kinect systems): Tai Chi and balance games (window cleaning, firework hitting, and goldfish grasping for balance training)
Parker 2015	walking and sitting-standing exercises, and other essential movements such as going to the dining room and back
Sales 2017	using a senior training park: walking on various surfaces, using a balance stool and balance beam, stairs/ climbing training, sitting and standing up, climbing stairs, 'screw-driving'.
Shahtahmassebi 2019	motor exercises tightening the stomach muscles, various 'bridge positions', and a walk-balance programme.
Suikkanen 2021	ADL tasks such as climbing stairs, doing the dishes, washing clothes, walking outside, shopping, along with various statistical, dynamic and dual-task exercises based on the Otago programme, tandem stand, squats, and walking
Tsaih 2012	walk-related functional tasks in weight-bearing positions: walking forward and backward on a flat surface, sitting and standing up from a stool, walking, walking between parallel bars, walking on a treadmill, climbing stairs

Sources: Arrieta 2018; Arrieta 2019; Gretebeck 2019; Gronstedt 2013; Jahanpeyma 2021; Liao 2019; Parker 2015; Sales 2017; Shahtahmassebi 2019; Suikkanen 2021; Tsaih 2012

Rationale of the recommendation

From the scientific literature found, it appears that functional training has a positive clinically relevant impact on two crucial outcome measures for physical fitness (low evidentiary value) and functional mobility (reasonable evidentiary value). The positive experiences that the professional field and guideline panel have already had for some time with functional training for patients, including frail older adults, and the benefits thereof for frail older adults themselves, justify a strong recommendation. The expert opinion from the guideline panel also weighed decisively in this regard. For all frail older adults it is therefore recommended to choose training interventions with a functional-training component, if it is decided to do a training intervention. Pay attention here to the transferability of the exercise to a home setting.

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C.5 Focus areas for self-management of healthy movement behaviour

Recommendations

Consider keeping the following *contextual factors* in mind when stimulating healthy movement behaviour in the frail older adult. These factors can, depending on the frail older adult, be important in this regard. When assessing these factors, the guideline panel distinguished between important and very important factors, based on evidentiary value, relevance, and value for frail older adults.

- ***very important*** | The individual context of the frail older adult with regard to movement during the diagnostic and treatment process.
  - Context refers to the older adult's individual physical and psychological capacity, motivation, and social and physical environment and possibilities (based on the COM-B model).
  - The measurement instruments from C.1 'Identifying protective and risk factors for frailty', including the EFIP, can be used here.
  - Giving information on exercise activities and programmes in the older adult's neighbourhood, as follow-up or to supplement the treatment, can be conducive to maintaining healthy movement behaviour.
  - By asking what the older adult did in the past in terms of exercise or sport, it will be possible to adapt to the older adult's knowledge level, fields of interest and experiences.
  - Based on these factors, the treatment process can be adjusted individually, for example adding game elements to increase motivation, and applying personalised interventions (see C.2 'Personalised interventions') to improve physical capacity and/or cooperate with the social field or occupational therapist to improve the physical and social environment.

Consider keeping the following *intervention characteristics* in mind when stimulating healthy movement behaviour in the frail older adult. These characteristics can, depending on the frail older adult, be important in this regard. When assessing these characteristics, the guideline panel distinguished between *important* and *very important* factors, based on evidentiary value, relevance, and value for frail older adults.

- ***very important*** | Establishing individually relevant outcome and behavioural goals that apply to ADL and that lend structure to the intervention.
  - A SMART goal for activity and participation level is for example: I have the courage and am independently able to do shopping at the supermarket, for which I have to walk 500 metres outside with my walker.'
- ***important*** | Giving feedback both on movement behaviour and exercises, and on outcomes.
  - For example providing a step counter/activity tracker or letting someone keep an activity diary indicating times when they move with medium intensity, and discussing the results thereof.
- ***very important*** | Advise someone to join a group with similar interests or find an exercise buddy to optimise social support to keep up their movement.
- ***important*** | Adapt instructions for exercising to the older adult's knowledge level.
  - For example not overly elaborate instructions if the older adult already knows what it's about.
- ***important*** | Give information on the impact of exercise and movement on frailty.
  - For example information on the effects of movement on limiting (social) frailty and reducing the disease burden of possible co-morbidity.
- ***important*** | Visual presentation of exercises or desired movement behaviour.
  - For example demonstrating or drawing the exercises, using an online platform, using (exercise) apps or Nederland in Beweging, or other short exercise videos.

- ***important*** | Give reminders to move or exercise in the ADL.
  - In consultation with the older adult, the following reminders can be given: For example linking an exercise to specific actions, such as climbing stairs or brushing teeth, or putting up sticky notes in various places in the home where the older adult often goes. They can also set alarm clocks or make dates with a walking or exercise buddy. Certain technology can also give reminders, such as an activity tracker that vibrates.
- ***important*** | Offering strategies for applying movement behaviour in daily life.
  - In consultation with the older adult, motor learning strategies can be used such as implicit, explicit or flawless learning strategies, enabling the integration of movement behaviour into daily life and the creation of routines.
- ***important*** | Rewards for achieving mobility or exercise goals.
  - In consultation with the older adult, rewards can be offered in the form of certificates, competing with an exercise or walking buddy, challenge badges on a smart watch or points in a walking app, for example the 'stroll app'.
- ***important*** | Offering follow-up after completion of the treatment, and giving suitable information on exercise facilities in the older adult's neighbourhood.

Consider keeping the following ***other factors*** in mind when treating a frail older adult. These factors can, depending on the frail older adult, be important for stimulating and maintaining healthy movement behaviour. When assessing these factors, the guideline panel distinguished between *important* and *very important* factors, based on evidentiary value, relevance, and value for frail older adults.

- ***important*** | The importance that older adults attach to the qualities and traits of the therapist in the approach to the older person.
  - For example empathy, trust and a positive attitude. The older adult wants to be heard and supported, receive supervision, and get exercises presented in a fun way, suited to the older adult's fields of interest.
  - Depending on the cognitive capacity of the older adult, Motivational Interviewing is an option.
  - See B.2 Communication with frail older adults'.
- ***very important*** | The regular evaluation/reflection on the effects of internal and external intervention on increasing the older adult's motivation.
  - Internal effects regarding the awareness of own movement behaviour, physical and mental consequences such as more strength, balance, energy, and concentration in the older adult.
  - External effects including being aware of the impact of the environment and social consequences of the intervention.
- ***important*** | Applying technology in the treatment.
  - An example of technology is MISS Activity, an activity tracker that was developed specifically for older adults (see C.1 'Identifying protective and risk factors for frailty'). To be able to estimate whether the use of technology in the treatment is suited to older adults, the Blended Physical Therapy Checklist can be used (Everaers 2019).

Reason

For frail older adults it is difficult to move enough in everyday life. A study by Jansen (2015) revealed that none of the participating (frail) older adults achieved the amount of daily mobility recommended by the World Health Organisation (Jansen 2015), due in part to functional impairments such as balance problems, pain and fatigue(RIVM 2016). A sedentary lifestyle has negative consequences for their health, quality of life, and autonomy, thereby increasing the frailty of the older adult (Haider 2019; Navarrete-Villanueva 2021). Stimulating and maintaining healthy movement behaviour in frail older adults is therefore an important goal of exercise and physical therapy.
To reach this goal, self-management is a crucial component of the therapy. Recently the guideline for self-management was published by KNGF and VvOCM (2022). It gives recommendations to further and support self-management, such as motivational interviewing and the 5A model (KNGF/VvOCM 2022). From the literature, however, it appears that behaviour-changing techniques for improving self-management work less well with older adults (French 2014), which is why

additional techniques are necessary (Sullivan 2016). Possibly due to deteriorated cognitive and physical functioning, but also due to reduced motivation for improved health in the longer term(French 2014; McPhee 2016). The barrier analysis of exercise and physical therapy has shown that in practice, too, the improvement of self-management for healthy movement behaviour in frail older adults is experienced as a barrier. For example, the frail older person does not always follow advice correctly, partly due to reduced motivation, which makes it more difficult to get them moving and maintain healthy movement behaviour. It is therefore important with frail older adults in particular to find out what specific focus areas they find important to improve their self-management skills for health movement behaviour.

Clinical question

How can healthy movement behaviour be stimulated and maintained for frail older adults?

Conclusions based on the literature

The focus areas that according to the frail older adult are important for improving their self-management skills for healthy movement behaviour are divided into the following main topics: *Individual characteristics with regard to movement* based on the COM-B model (Michie 2014), *Intervention characteristics* based on the BCT taxonomy (Michie 2013) en *Other focus areas*. The guideline panel previously decided that no distinction would be made between crucial and important outcome measures, since all focus areas are regarded as equally important. Based on the results and the GRADE CERQual analysis, the following conclusions can be drawn:

Individual characteristics with regard to movement.

- *Capability* In the opinion of the frail older adult, the mental and physical capacity of a frail older adult probably has an impact on their movement behaviour.
- *Motivation* In the opinion of the frail older adult, the reflective and automatic motivation of the frail older adult probably has an impact on their movement behaviour.
- *Opportunity* In the opinion of the frail older adult, the physical and social environment/opportunities of a frail older adult probably has an impact on their movement behaviour.

Intervention characteristics.

- *Goals and planning*, consisting of goal setting, action planning and review behaviour goal(s), have , in the opinion of the frail older adult, a positive impact on stepping up movement.
- *Feedback and monitoring*, consisting of feedback on behaviour, self-monitoring of behaviour, and feedback on outcome(s) of behaviour (both on movement behaviour and on exercises and safety), probably have, in the opinion of the frail older adult, a positive impact on increasing movement.
- *Social support*, in the form of a group or one other older adult/one other sport buddy, probably has, in the opinion of the frail older adult, a positive impact on increasing movement.
- The scientific evidence is highly uncertain regarding whether *Shaping knowledge*, including the way in which instructions are given with exercises, has, in the opinion of the frail older adult, an impact on increasing movement.
- The scientific evidence is uncertain with regard to whether *Natural consequences* have, in the opinion of the frail older adult, an impact on increasing movement.
- The scientific evidence is uncertain with regard to whether *Comparison of behaviour* has, in the opinion of the frail older adult, an impact on increasing movement.
- The scientific evidence is uncertain with regard to whether *Associations* including prompts/cues/reminders at home have, in the opinion of the frail older adult, an impact on increasing movement.

- *Repetition and substitution*, consisting of behaviour substitution (exercises as alternative for daily physical activities), habit formation (creating a routine), generalisation of target behaviour (integrating exercises in daily life), and graded tasks (supervision of building up mobility activities), probably have, in the opinion of the frail older adult, a positive impact on increasing movement.
- The scientific evidence is uncertain with regard to whether *Reward and threat*, in other words social rewards like smileys or stars, in the opinion of the frail older adult has an impact on increasing movement.
- The scientific evidence is uncertain with regard to whether *Follow-up care* (6 to 12 months after the intervention) has, in the opinion of the frail older adult, an impact on increasing movement.

Other focus areas

- The scientific evidence is uncertain with regard to whether *Qualities and traits of the therapist* have, in the opinion of the frail older adult, an impact on increasing movement.
- *Impacts of the intervention*, consisting of internal and external consequences of the exercise intervention, have, in the opinion of the frail older adult, a positive effect on increasing movement.
- The scientific evidence is uncertain with regard to whether *Technology-related factors* have, in the opinion of the frail older adult, an impact on increasing movement.

Rationale of the recommendation

Based on the focus areas indicated by frail older adults, three conditional recommendations were formulated as an answer to the clinical question: How can healthy movement behaviour be stimulated and maintained for frail older adults? These focus areas are important in the opinion of the guideline panel and of frail older adults, but since the efficacy of the focus areas in treatment has not been studied in the literature, no strong recommendations have been formulated.
The importance of the various factors were assessed according to the eight criteria of the EtD process, including evidentiary value, relevance and value for the patient.

- Consider taking the following *contextual factors* into consideration in the treatment of a frail older adult, as these factors may. according to the frail older adult, be important for stimulating and maintaining healthy movement behaviour:
  - Paying attention to *individual characteristics with regard to movement* (Capability, Motivation and Opportunities) has a reasonable evidentiary value, was seen as very relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as very important.
- Consider taking the following *intervention characteristics* into consideration in the treatment of a frail older adult, as these characteristics may, according to the frail older adult, be important for stimulating and maintaining healthy movement behaviour:
  - The intervention characteristic 'Goals and planning' have a high evidentiary value, is seen as very relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as very important.
  - The intervention characteristic 'Feedback and monitoring' has a reasonable evidentiary value, is seen as relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Social support' has a reasonable evidentiary value, is seen as very relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as very important.
  - The intervention characteristic 'Shaping knowledge' has a very low evidentiary value, is seen as relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Natural consequences' has a very low evidentiary value, is seen as relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Comparing behaviour' has a low evidentiary value, is seen as somewhat relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Associations' has a low evidentiary value, is seen as relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.

  - The intervention characteristic 'Repetition and substitution' has a reasonable evidentiary value, is seen as relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Reward and threat' has a low evidentiary value, is seen as somewhat relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.
  - The intervention characteristic 'Follow-up care' has a low evidentiary value, is seen as relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as important.
- Consider taking the following *remaining factors* into consideration in the treatment of a frail older adult, as these factors may, according to the frail older adult, be important for stimulating and maintaining healthy movement behaviour:
  - The focus area 'Qualities and traits of the therapist' has a low evidentiary value, is seen as relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as important.
  - The focus area 'Intervention impacts' has a high evidentiary value, is seen as relevant, and patients attach great value to it. For these reasons, it was decided to assess this factor as very important.
  - The intervention characteristic 'Technology-related factors' has a low evidentiary value, is seen as somewhat relevant, and patients attach reasonable value to it. For these reasons, it was decided to assess this factor as important.

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D Occupational therapy

D.1 Identifying factors relevant to frailty

Recommendations

Identify information on the person, activities, and environment of the frail older adult. Limit the number of methods and measurement instruments that you use to avoid overburdening the frail older adult.

When characterising **the person** behind a frail older adult, consider paying specific attention to:

- their life story/life events;
- coping (strategies);
- symptoms of disease, co-morbidity or age, and specifically to sleep patterns, fatigue, nutritional status (including under- or overweight and unintended/undesired change), pain, and skin condition;
- physical functioning and posture;
- sensory skills, with extra attention to eyesight, sense of feeling and touch, smell, hearing, proprioception, interoception, and the vestibular system;
- feelings and emotions;
- cognitive functioning

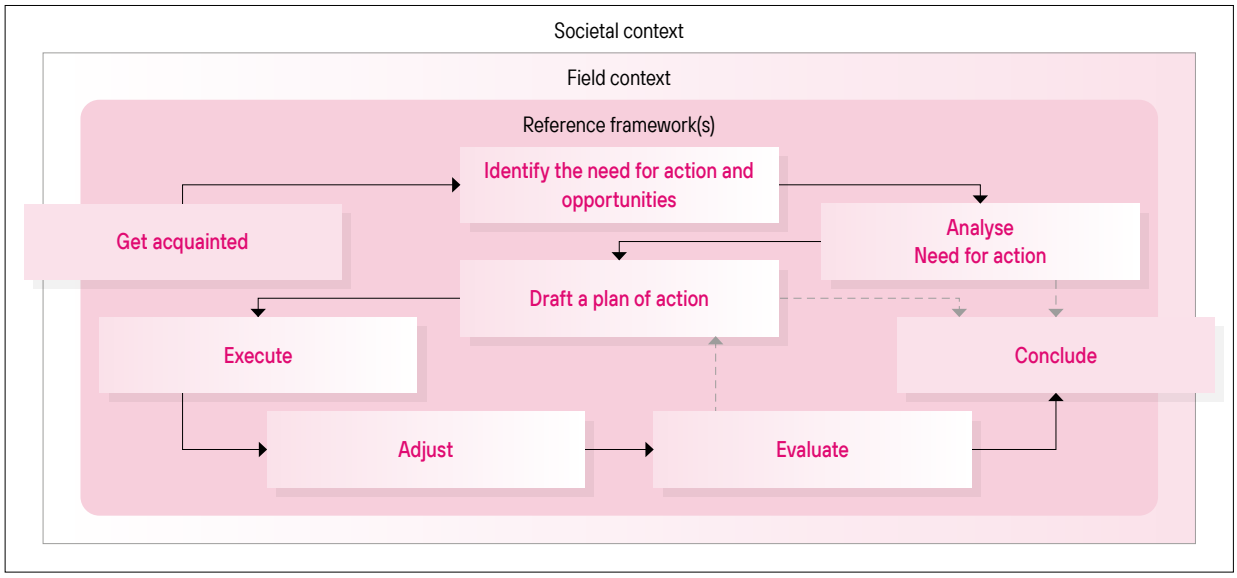
When identifying **activities** of frail older adults, consider paying specific attention to:

- changes in activities (reduced activities) due to age, disease, or changes in interest;
- activities that the person can still do (despite impairments and/or disease) and that are perceived as meaningful;
- what support from the physical and social environment is needed for doing meaningful activities.

When examining the **environment** of frail older adults, consider paying specific attention to:

- the social environment;
- the physical environment, and in any event the home and immediate living environment;
- formal use of healthcare.

Gather information on frail older adults in a systematic way following the steps from an occupational-therapy process model; see figure. Use for example the Canadian Performance and Process Framework (CPPF).



Source: Grondslagen van de ergotherapie (Foundations of occupational therapy) (2017)

Figure D.1.1 | **The occupational-therapy process for gathering information on a frail older adult**

Avoid ethical dilemma

The purpose of gathering information is to establish treatment goals, together with the person who is receiving treatment, that are in line with the wishes of the person and their family and friends. To avoid an ethical dilemma, it is important to pay attention to a possible difference between the need for assistance from the person who is receiving treatment and that from their family and friends, since there may be a conflict of interests.

Methods and instruments

Topics that are relevant to the occupational therapist are shown in the following table with examples of corresponding measurement instruments.

Table D.1.1 | **Examples of methods and measurement instruments to identify relevant information with frail older adults**

Information on relevant topics	Method/measurement instrument
Person	
life story/life events	• ethnographic interview (part of the EDOMAH programme for Occupational Therapy for People with Dementia and their Informal Caregivers at Home) • list of roles • Occupational Performance History Interview 2.1 (OPHI-II)
coping (strategies);	• observation
symptoms of disease, co-morbidity or age	• questioning during intake (with family and friends) • consult the record of the frail older adult
physical functioning and posture	• (structured) observation • Assessment of Motor and Process skills (AMPS) • coordination with exercise/physical therapist if available
sensory skills	• (structured) observation • coordination with exercise/physical therapist if available
feelings and emotions;	• questioning during intake (with family and friends) • coordination with psychologist if involved • Occupational Performance History Interview 2.1 (OPHI-II)
cognitive functioning	• see D.2 'Measurement instruments for cognitive functioning'
Activities	
changes in activities	• Canadian Occupational Performance Measure 5th ed. (COPM) • Activity Card Sort (ACS) • Occupational Performance History Interview-Version 2.1 (OPHI-II)
performance of meaningful activities	• (structured) observation • Canadian Occupational Performance Measure 5th ed. (COPM) • Assessment of Motor and Process skills (AMPS)
necessary support from the social or physical environment in the performance of activities	• questioning during intake (with family and friends)

Information on relevant topics	Method/measurement instrument
Environment	
social environment	• consult the record of the frail older adult • questioning during intake (with family and friends) • Informal Care Toolkit for paramedics
physical environment	• observation • Helping hand occupational therapy visit at home • Format Functional Advice - National Standard Framework for Aids
formal use of healthcare.	• consult the record of the frail older adult

The table was assembled by the guideline panel and relies on practice-based considerations. The examples serve as illustration and are not exhaustive. The methods and measurement instruments are not further described in this guideline and have not been researched. This table has been added for further context with the recommendations.

Reason

The occupational therapist's treatment focuses on the wishes and/or problems of the frail older adult. The treatment starts with information gathering and questioning in order then to set goals together with the frail older adult to give direction to the content of the treatment. An important part of this process consists of forming a holistic picture of the person. This implies that the person is looked at as a whole, consisting of interacting parts, rather than a sum of various different parts. The family and friends of the frail older adult are often involved in the treatment. The occupational therapist does not have a standard set of information that needs to be identified at a minimum for the functional diagnosis of frail older adults in order to form a holistic picture. There is also no clearly indicated way in which this information must be gathered systematically. There is a call from the field for more handles in this regard.

Clinical question

Which target-group-specific information must an occupational therapist explore to get a holistic picture of the frail older adult with regard to the latter's specific context, opportunities and needs, in order to decide on a treatment goal together with the older adult? And how must the occupational therapist gather this information systematically?

Conclusions based on the literature

Information that an occupational therapist must identify to get a holistic picture of the frail old adult is divided into the following topics: person, activities and environment. These topics are further divided into several sub-topics, based on models that are mentioned in the Foundations of Occupational Therapy (Grondslagen van Ergotherapie, 2022), C-MOPE, PEO-P, MOHO and OTPF. In table D.1.2 (see table D.1.1 in the justification for the extended overview) there is a schematic overview of the factors regarding the identification of information that was extracted from the literature.

Table D.1.2 | **Important factors to identify in occupational therapy**

Main topics and sub-topics	Factors
Person	

Personal factors/life cycle-determinants	• Gender and age
	  - Female gender is positively associated with higher COPM-P&S scores following an occupational therapy intervention
	• Marital status
	• Living conditions (single, with a partner, etc.)
	• Level of education
	• Current job status
	• **Life story/life events**
	• Preferences, interests and changes therein
	• Personal choices and goals (linked to (social) activities, pain/symptoms, use of strategies or living conditions)
	• Motivation
	  - More willingness to change was positively associated with the attainment of goals
	• Knowledge of and need for information on disease and activities
	• Self-confidence
	• Extent to which someone makes an effort to organise and plan things
	• Interpersonal characteristics that can have an impact on the performance of daily activities:
	  - Willingness to take risks
	  - Communication style, verbal and non-verbal
	  - Capacities to interact, communicate needs and emotions, express feelings, and trust others
	  - Need for control, preference for autonomy in the relationship
	  - Reaction (capacity) to change and challenge, capacity to adapt, reaction to differences in people
	  - Preferences and possibilities with regard to giving and receiving feedback
	Preferences for interaction, trusting other people and receiving physical contact

Physiology (of disease or age)	• Type of disease(s) (e.g. cancer, stroke, Parkinson's disease, heart failure)
	• Severity of the disease
	• Course of the disease (e.g. time since stroke until release to rehabilitation setting or home situation)
	• **Symptoms of the disease, co-morbidities or age, including fatigue, pain or skin condition**
	• Energy level
	• **Sleep pattern and fatigue in general**
	• **Nutritional status**
	• Pain
	  - A higher amount of pain is negatively associated with the achievement of goals
	  - The presence of pain predicts worse COPM-P&S scores after an occupational-therapy intervention
	• Co-morbidity
	A fracture, neurological condition other than a stroke, dizziness of balance problems as the main condition, and discomfort, anxiety, or depression predict worse COPM-P&S scores after an occupational-therapy intervention

Motor skills	• **Physical (im)possibilities, posture, body functions, physical capacity, endurance, walking ability**
Sensory skills	• **Eyesight, sense of touch and feel, smell and hearing decrease as a person grows older**
Cognitive functioning	• **Executive (dys)function(s)** • **Memory (loss)** • **Attention span** • **Learning ability**

Main topics and sub-topics	Factors
Cognitive functioning *(continued)*	• **Concentration ability** • **Understanding (of disease)** • **Regulation of emotions** • **Cognitive flexibility** • **Impact of cognition on the safe performance of activities** Older adults with mild cognitive issues benefit more from HOME intervention than those without cognitive issues
Psychological functioning	• Positive or negative mental state (depression, stress and anxiety) • Resilience • **Coping strategies:** Which are spontaneously applied by the person and with which do they have more difficulty. These coping strategies influence a person's ability to adapt. Holding on to the hope of once again being able to perform an activity is crucial in reaching for one's limits and improving. Coping strategies mentioned are: - Adapting activities, pacing, setting priorities, planning, explaining to others (about disease/possibilities), asking/getting help from others, use of humour, physical contact, expression of anger, talking to oneself, keeping hope, and considering oneself fortunate • **Feelings and emotions:** Disease and functional loss can lead to diverse emotions and feelings and are influenced by coping strategies and personality. Emotions and feelings mentioned are: - Anger, fear or concern, despondency, anxiety about falling - Feeling of meaninglessness, emptiness due to a lack of (opportunities for) meaningful activities (alienation) - Feeling of exclusion due to physical impairments (marginalisation) - Different emotions that go with different phases of a disease, for example with a stroke: - Shock phase - Phase in which the person's life changes - Phase in which the person continues with their life and must continue to do their best • Mental fatigue
Quality of life	General quality of life or related to health
Meaning	• Meaning or spirituality has to do with finding a purpose in the activities that someone does in life, and being involved in meaningful activities in their own (social) environment and finding fulfilment in these activities • Older adults occupy themselves with living wills and long-term care due to their age and health condition People with a chronic disease, such as Parkinson's disease, describe their spiritual experience as living with daily uncertainty, making plans for the future, and ensuring a meaningful life
Daily actions/activities	
Activities	• Wishes of a person with regard to performing meaningful (daily) activities • **Changes in activities (reduced activities) due to age, disease, or changes in interest, such as falling (fall prevention, fall risk)** • **Activities that a person can still perform (despite impairments and/or disease)** • Type of activities - Leisure/free time - Rest/sleep - Housekeeping - ADL and IADL - Self-care - Communication - Mobility inside and outside the home - Activities to prevent deterioration, both mental and physical

Main topics and sub-topics	Factors

Activities *(continued)*	• Type of activities
	  - Leisure/free time
	  - Rest/sleep
	  - Housekeeping
	  - ADL and IADL
	  - Self-care
	  - Communication
	  - Mobility inside and outside the home
	  - Activities to prevent deterioration, both mental and physical
	• Intensity of activities (low, medium, high)
	• Amount of activities (time per week)
	• Satisfaction with activity
	• Performance of activity, including:
	  - Degree of (in)dependence in performing activities
	  - Amount of (extra) time and effort required for an activity, duration for which a person can continue with an activity
	• Relevance of, importance of, pleasure in, and value of an activity for the person
	• Balance/imbalance: no activities or a lack or surplus of activities
	• Alternative solutions if someone cannot perform and activity
	Support needed from the social/physical environment to perform activities

Mobility outside and transport	• Mobility outside and use of transport, e.g. car Driving a car: for this, strategic abilities (e.g. determining the purpose of a journey, navigation), tactical skills (making decisions while driving, adapting to weather conditions), and operational skills (operating the car, visual and motor skills) influence and are influenced by physical, sensory and cognitive factors, regulating emotions, and insight
Environment	
Social environment	• The social sphere can be divided into various sub-spheres: cultural and social policy in the neighbourhood, social support, both instrumental and emotional, and social capital (social network) • In the social sphere the concept of 'community' is described: the physical environment, people in the environment, and the social network and meaning that a person gives to it • A social life consists of social activities and social networks, where a person makes contact with others, such as: work, free time, support from family and friends, and support from professionals, institutions or society - After a HOME intervention, older adults with the support of family have improved participation, while older adults without support have no improved participation • The size of a social network (from one person or within a community) determines how much social participation can take place • Through impairments and disease, people can lose social activities or contacts, relationships with others remain intact despite disease or impairments, they receive help or delegate their activities to others and can belong somewhere through relationships with others Circumstances beyond the person's control can be an obstacle to social participation (deprivation)
Physical environment	• The physical environment (place of residence, environment, neighbourhood) forms part of the community • Adjustments to the home and environment that the person has already made, and willingness of the person to make adjustments • Obstacles in the environment; reduced access in- and outside the home, aids or furniture blocking access, unsuitable furniture Goals are achieved more frequently (following an occupational-therapy intervention) if people had dangers in the home environment (e.g. no stair railing) compared to those who had no dangers in the home environment

Main topics and sub-topics	Factors
Formal use of healthcare.	• **Current use of help at home, professional or informal** • **Hospitalisations/treatments in the past** • **Type of treatment and medication**
Technology	• Which supporting instruments or aids are used for which activity • (Un)successful use of supporting instruments or aids in daily life • Willingness to use support instruments or aids • Use of the phone

Factors for which a specific recommendation was formulated, are indicated in **bold print** in the table.

The occupational therapist must carry out the information-gathering process systematically through methodical actions, as shown in the CPPF model and described in table D.1.1, consisting of the following steps:

1 Meet by starting the treatment relationship
2 Identify the need for action and opportunities, and gather information on the older person, their environment, and the task; involving family and friends or paying a home visit can be of use to this end
3 Analyse needs for action, form a picture of the older adult and their goals (prioritise problems, select goals); focus areas:
   a Involvement of professionals in the case of legal incapacity and/or frailty
   b Involvement of family and friends
   c Use of stimulating capabilities
4 Draw up an action plan in which a general strategy is determined, based on the needs in the obtained picture and with the use of a structured work method based on a (occupational-therapy) model
5 Execute the action plan
6 Adjust
7 Assess, check the reaction to the plan
8 Conclude

Rationale of the recommendation

The guideline panel considers the identification of factors with regard to the person, activities and environment as extremely important and common practice. A strong recommendation is therefore formulated with regard to these three topics. To get a holistic picture of frail older adults, it is important to lay out all sub-topics as well. Since the identification of information with regard to the person, activities, and environment resorts under the current method of occupational therapy at the start of treatment, the guideline panel assessed which factors are different or essential for the treatment of frail older adults. The recommendations were therefore formulated per topic, highlighting only factors that the guideline panel considers to have an influence on the frailty of older adults. Because the evidence could not be assessed sufficiently with regard to quality and the effect of identifying this information was not taken into consideration, it was decided to make a weak recommendation in respect of the specific factors. The recommendations are based on best practice and expert opinion from the members of the guideline panel.

Person

Finding out the life story is important because it throws light on coping strategies that the older person has used in the past. The guideline panel considers it essential to identify psychological factors, in particular coping strategies and feelings and emotions. Information on coping is essential for the content of the treatment path. Certain feelings and emotions can form a barrier to the impact of the treatment.

Physical fragility, which shows in reduced appetite, fatigue, and other symptoms of disease, co-morbidity and age, have a significant influence on the performance of daily activities and on participation in frail older adults. This is the core of the treatment given by the occupational therapist. In addition, there are risks of malnutrition, skin tears, and decubitus. The recommendations are therefore aimed at identifying symptoms, nutritional status, skin condition and fatigue, and interception of risk factors. Since certain physical possibilities could be conditional to certain interventions, the guideline panel considers that the physical possibilities of frail older adults must be identified.
There is often sensory and cognitive deterioration. In addition, the older person does not always have a correct or sufficient understanding of their own capabilities and disease. Identifying sensory and cognitive abilities is therefore essential. Since the duration of a treatment, the duration of the overall treatment path and the form of treatments depend on cognitive functioning, this factor must be fully explored.

Activities

The guideline panel considers the assessment of activities, in particular current activities, changes in activities, and balance/imbalance, to be essential. Occupational therapists focus on the ability to perform and continue to perform meaningful (daily) activities. Identifying activities forms a standard part of the occupational-therapy treatment. This is recognised in contracts with health insurers. It is desirable to monitor activities of frail older adults, preferably in their own living environment. There may for example be a reduced self-insight and understanding of the disease, and an over- or underestimation on the part of the older adult and of family and friends. Information on activities forms the basis for deciding on the content of occupational-therapy treatment. Identifying current daily activities and changes in activities due to age or disease will help the older adult and their family and friends as well as the occupational therapist to understand possible causes and consequences. Aligning with what is meaningful for the older adult and setting treatment goals that relate thereto can increase the quality of life. When the frail older adult receives support to be able to perform or continue to perform activities, the chances of staying at home independently are increased. With the current pressure on healthcare, this is a desirable outcome. It furthermore helps to reduce the load on family and friends.

Environment

The guideline panel considers it essential to identify the social environment. The network, consisting of the partner, children, family, friends and acquaintances, must be clearly identified. Attention must also be paid to the size and support capacity of the network and the various roles of the people in it. Occupational therapists are often asked to define the social environment, and with the increasingly ageing population, this will happen more and more frequently.
The guideline panel considers it essential to define the physical environment. Specific attention must be paid here to the fall risk. Due to the low evidentiary value, it was decided to give this a weak recommendation.

Other sub-topics

For the sub-topics meaning, mobility outside and transport, use of healthcare, and technology, the EtD process was not followed. These sub-topics are important to identify, but the results and inventory thereof do not differ from other target groups. No further attention will therefore be paid to these aspects in this module.

Sources

- van Hartingsveldt M, Kos D, Ie Granse M. Grondslagen van ergotherapie: Bohn Stafleu van Loghum; 2022.

D.2 Identifying cognitive functioning

The following recommendations focus on essential factors and focus areas when identifying cognitive functioning in frail older adults. Components rather than the full package of information that the occupational therapist collects in this regard are therefore described.

Recommendations

- Use the Assessment of Motor and Process skills (AMPS) or the Perceive Recall Plan Perform (PRPP) system to identify cognitive functioning during a daily activity in a structural way with frail older adults.
- Consider taking the Allen Cognitive Level Screen (ACLS) if the aim is to determine the level of cognitive functioning and give the accompanying healthcare advice to professionals and family and friends. Take the ACLS in combination with observations of daily functioning, for example by means of the aforementioned recommended measurement instruments AMPS or PRPP.

An occupational therapist who is not trained in one of the measurement instruments can use questionnaires that are based on these measurement instruments or apply other methods to describe cognitive functioning. These methods will, however, not yield a standardised interpretation, hence the results will be descriptive.

Reason

One of the things that occupational therapists are regularly asked to do is to lay out cognitive functioning in frail older adults. From the barrier analysis it appears that occupational therapists use various instruments to lay out cognitive functioning and that it is unclear according to which criteria the right choice of a certain instrument can be made. According to the International Classification of Functioning, Disability and Health (ICF) model, higher cognitive functions are correlated to purposeful behaviour, for instance decision-making, abstract thought, planning and carrying out plans, mental flexibility, and determining what behaviour is appropriate in what circumstances, often referred to as executive functions (Cieza and Stucki 2008; Stucki 2008). Cognitive functioning forms the link between cognitive functions and everyday actions. This module focuses specifically on cognitive functioning in daily life, and not on cognitive functions and/or deterioration. Instruments with which neuro-cognitive disorders can be identified, are not discussed in this module. The following definition is used for cognitive functioning: "The way in which a person uses their available cognitive capacities in the here and now to perform meaningful activities as well as possible. In this definition the complexity of the activities, personal and environmental factors are also included." (Lindenschot 2022, p. 36).

Clinical question

What instrument(s) can an occupational therapist use most effectively to identify cognitive functioning in daily activities in frail older adults?

Conclusions based on the literature

- **AMPS-P** | The literature found does not contain any evidence for content validity, structural validity or criterion validity. Mixed results for internal consistency (GRADE: Low) and test-retest reliability (GRADE: Very low). Adequate intercultural validity (GRADE: Impossible), inter-rater reliability (GRADE: Impossible), construct validity (GRADE: High) and responsiveness (GRADE: Low). Measurement error still undetermined (GRADE: Moderate).

- **A-ONE** | The literature found contains no evidence for content validity, structural validity, intercultural validity, measurement error, criterion validity and responsiveness. Internal consistency, reliability, and construct validity are adequate. GRADE could not be applied due to incomplete reporting.
- **ACLS** | The literature found contains no evidence for content validity, structural validity, internal consistency, intercultural validity, measurement error, and responsiveness. The inter-rater reliability (GRADE: Impossible), criterion validity (GRADE: High) and construct validity (GRADE: Moderate) are adequate. The test-retest reliability is poor (GRADE: Impossible).
- **PRPP** | The literature found contains no evidence for content validity, structural validity, intercultural validity, measurement error, criterion validity, construct validity, and responsiveness. There is also no evidence for internal consistency for phase 1 of the PRPP. The internal consistency and intra-rater reliability of the total score for phase 2 are adequate (GRADE: Low). A single intake does not yield an adequate inter-rater reliability, but it may be adequate when the average of several intakes is taken (GRADE: Low). The intra-rater reliability varies or is inadequate for various subscales of phase 1 of the PRPP (GRADE: Low).

Rationale of the recommendation

Scientific evidence and considerations from the field together determine the recommendations. Assessing the clinimetric characteristics with the help of COSMIN criteria is a relatively recent method with rigorous assessment. This could partly explain why little evidence was found. The expert-based opinion of the members of the guideline panel is therefore of significant importance in formulating the recommendations.

An important consideration is the lack of training for A-ONE, which means that this instrument can still only be used by occupational therapists who have already been trained. This instrument will possibly be used less and less in practice in the future. Moreover, little has been published in the past 10 years on the clinimetric characteristics of A-ONE, and the instrument was only studied with frail older adults who had had a CVA. The guideline panel therefore decided not to recommend A-ONE.

Preference is given to AMPS and PRPP, as both these instruments are used in a natural setting. Observations give an idea of how someone acts in a home setting. A link can thus be made with meaningful activities and daily actions, and the results give a higher level score ACLS on the other hand takes place in an artificial or clinical setting. In addition, ACLS includes a learning effect, which means that the instrument can only be used once. Chances are – due to incomplete reporting for example – that the ACLS will be taken twice, which would give an inaccurate score. ACLS is nevertheless an instrument that is valued in practice. The results on clinimetric characteristics confirm the value of ACLS. Due to the high degree of applicability and usability, it is a valuable instrument that gives an immediate score, particularly for the level of cognitive functioning. This score can be interpreted directly and shared with other (healthcare) professionals. The score also gives advice on the approach to take for family and friends. ACLS must be combined with two observations of daily activities. This can be done by observing at other moments, or by doing ACLS together with PRPP or AMPS, where observations of daily actions are also carried out. Due to the pros and cons it was decided to formulate a conditional recommendation for ACLS.

Even though there is currently no training available for AMPS, the instrument is considered very valuable by the guideline panel, as it is gauged for each therapist and gives clear information on process capabilities. An opinion can then be given on the question of whether someone acts safely and can live independently, of whether they need help. This is to a certain extent supported by the available literature. The literature found leans towards adequate clinimetric characteristics of PRPP. With PRPP as well, an assessment can be made of whether someone acts safely, whether or not they can live independently, and what level of support if any is needed. Since the guideline panel judges that the favourable outcomes outweigh the unfavourable outcomes, the use of AMPS and PRPP might lead to savings and the chances of implementation are seen as very likely, it was decided to formulate a strong positive recommendation for AMPS and PRPP. In addition, little resistance is expected from stakeholders, including older adults themselves, provided that the instruments are explained in the proper way and applied by the occupational therapist. Seeing that the guideline panel recommends both instruments, the occupational therapist can choose which instrument they want to use, depending on the setting, the frail older adult, and the available and/or received training.

Sources

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D.3 Occupational-therapy approaches and interventions

Recommendations

- Treat frail older adults in their own home environment if possible.
- Consider following a problem-solving and/or behavioural activation approach when treating frail older adults who experience functional and/or cognitive problems, provided that the approach matches the possibilities that the older adult has.
  See the table below.
- Apply interventions with several components in order to achieve the personal goals of the frail older adult.
  See the table below.

In this regard, take into consideration that:

  - you must first set goals together with the older adult, in line with the Joint Decisions approach;
  - the components must be in line with the need for assistance, goals, and possibilities of the older adult;
  - priorities must be determined at an early stage with the frail older adult with regard to the goals and components, so that he main goals can be reached within the budgeted hours.

- Advise about adjustments in the frail older adult's living environment, in line with the goals and aimed at performing meaningful activities and/or participation, making use of the National standard framework for aids (Landelijk normenkader hulpmiddelen (2020)) and the Helping hand for occupational therapy home visits (Handreiking Ergotherapeutisch Huisbezoek (2022)).
- Do a fall-prevention intervention with frail older adults if the Fall analysis indicates that such an intervention is desirable. Consult the occupational-therapy guideline on fall prevention (Ergotherapierichtlijn Valpreventie (2016)) for detailed information on interventions in this regard.
  Consider arranging an interdisciplinary cooperation with an exercise or physical therapist. See C.3 'Balance training' for the forms of balance training that are recommended in this guideline.
- Use capability training as part of the treatment of frail older adults. However, keep the feasibility of this in mind and make sure the training is in line with the desired maintenance of capabilities. See the table below.
- Guide the primary family and friends of the frail older adult in needs for assistance that are related to the care of the frail older adult and their ability to perform daily activities, self-management and/or participation by means of interventions as described in the Paramedics Informal Care Toolkit, the Guideline on Informal Care of V&VN, and the Occupational therapy for People with Dementia and their Informal Caregivers at Home(EDOMAH) programme mentioned in it.
  See the table below.
  In this regard, take into consideration that:
  - you must first establish goals with the family and friends;
  - the intervention must be in line with the goals and possibilities of the family and friends;

Interventions

The following table summarises examples of interventions. Please note: It is important not to overburden the frail older adult. Only use interventions when necessary.

Table D.3.1 | **Examples of interventions for frail older adults**

Recommendation	Approach	Example(s)
functional and/or cognitive problems	problem-solving approach	• the strength-based approach
	behavioural activation approach	• Motivating discussions
personal goals	several intervention components	• 'The other conversation' to be conducted with the spider web Positive Health
capabilities	capability training	• learn how to use aids • encourage to continue with hobbies • strategy training • EDOMAH (dementia target group)
primary family and friends	Guidance for family and friends	• EDOMAH (dementia target group)

The table was assembled by the guideline panel and relies on practice-based considerations. The examples serve as illustration and are not exhaustive. The interventions are not further described in this guideline and have not been researched. This table has been added for further context with the recommendations.

General principles

In the treatment of frail older adults, the following is important:

- Use an open approach when dealing with frail older adults (and their family and friends) and ensure appropriate communication,
  see B.2 'Communication with frail older adults'.
- Make an inventory of information with regard to the person, activities and environment, see D.1 'Identifying relevant factors for frailty'.
- Together with the frail older adult (and their family and friends), set feasible goals and keep wishes and possibilities in mind.
- Practise meaningful activities and/or strategies with the frail older adult (and relevant people in their environment).
- Check in a follow-up session if the frail older person remembers the intervention and is doing it correctly.
- Agree on the care with other professionals who are involved, and give preference to interdisciplinary work.
- The aim for the occupational therapist is that the frail older adult must be able to function as independently and self-sufficiently as possible.

Reason

The barrier analysis has shown that occupational therapists do not have a comprehensive overview of the available interventions that they can apply within the occupational-therapy treatment and supervision of frail older adults and their family and friends.

The target group of frail older adults has grown in recent years due to an ageing population. As a result, this target group has also grown in the field of occupational therapy. And it is expected to keep growing. Many interventions are available, but the barrier analysis has shown that occupational therapists do not have a comprehensive overview of the available interventions that they can apply within the occupational-therapy treatment and the supervision of frail older adults and their family and friends. There is a need for a list of effective treatments and interventions, which will also stimulate a uniform method.

Clinical question

Which interventions aimed at achieving the set goals can occupational therapists apply in the treatment phase of frail older adults and/or cohabiting family and friends?

Conclusions based on the literature

Considering the size of the module it was decided not to draw joint conclusions, but to give descriptions for each area in the section 'From evidence to recommendation'. These can be found in Chapter D.3 of the justification of this guideline. In addition, the conclusions from the literature are presented schematically in Appendix D.3.5.

Rationale

Considering the size of the module, it was decided to describe the rationale for each type of intervention or approach. As a result, there may be repetitions in the text.

Occupational therapy in the living environment

Despite the lack of convincing scientific evidence, the guideline panel chose to let echoes from the field weigh in the decision to recommend and in the strength of the recommendation. A number of developments in recent years have also not been or could not be taken into account in the search of this guideline, including the EDOMAH programme.

Problem-solving and behavioural activation approach

Since the guideline panel judges that the desired effects are decisive, the use of these approaches might lead to savings and since the chances of implementation are regarded as very likely, it was decided to formulate a strong recommendation. In addition, little resistance is expected from older adults, provided that the instruments are applied in the right way by the occupational therapist. The guideline panel does, however, advise caution with regard to applying these approaches to older adults with cognitive problems.

Occupational therapy with several components

Seeing that the guideline panel considers the desired effects to outweigh the undesired effects, in terms of performing daily activities and the quality of life of the older adult and their family and friends as well as possible savings if implemented in a timely manner, it was decided to formulate a positive recommendation. Little resistance is expected from stakeholders (including older adults themselves), since occupational therapy consisting various components ensures bespoke care, aimed at the personal goals of the older adult.

Self-management and lifestyle interventions

The guideline panel has decided not to formulate any recommendations for the domain of self-management, also because the evidentiary value is too low. The considerations from the field do not outweigh the fact that the evidence is too diverse and of too low quality to formulate a recommendation. The guideline panel, moreover, considers that it is less effective to use this intervention within the target group of frail older adults.

Adjustments in the living environment

Despite the moderate evidentiary value, the guideline panel has formulated recommendations for the use of interventions that focus on adjustments in the living environment. The guideline panel decided to allow voices from the field to weigh heavily in the decision to formulate a strong recommendation.

Fall prevention

In view of the reasonable quality of evidence and the importance of the remaining considerations, the guideline panel decided to formulate a strong recommendation.

Capability training

Despite the low evidentiary value, guideline panel decided to formulate a recommendation for the use of capability training in the treatment of frail older adults. The scientific information was analysed and the guideline panel looked at experiences in the field. The guideline panel decided to allow voices from the field to weigh heavily in the decision to strongly recommend this intervention.

Training in driving capability

Considering the low amount of confidence in the quality of evidence and the fact that the outcomes cannot be generalised to the Dutch population of frail older adults, the guideline panel chose not to formulate a recommendation.

Occupational therapy where the fellow human is explicitly involved

As the guideline panel considers that the desired effects probably outweigh the undesired effects, it was decided to formulate a positive recommendation for interventions aimed at the fellow human of the frail older adult. This is, moreover, already done in occupational therapy, and its timely use can probably prevent complaints and costly care when customised healthcare is offered.

Occupational therapy and hospitalisation

Based on the current organisation of healthcare and the lack of evidence, the guideline panel decided not to formulate any recommendation for the use of occupational therapy in a hospital setting.

Cooperation with other disciplines

The domain of cooperation with other disciplines is already considered by the guideline panel as a component of another part of the Paramedical Guideline on Frail Older Adults and was therefore not included in the recommendations of this module, see generic module B.3. The quality of the evidence that was found was, moreover, rated as low and very low.

Life review

The guideline panel decided not to formulate any recommendation for the domain of life review, due to a lack of knowledge. The guideline panel furthermore knows very little about the use of this intervention.

Sources

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E Skin therapy

E.1 Identification of skin tears

Recommendation

Be aware of the occurrence of skin tears in frail older adults who in practice come with a need for skin-therapy assistance. In particular, be alert to the prevention of the following prognostic factors:

- ecchymosis
- purpura
- elastosis
- haematoma
- oedema
- skin changes related to skin ageing
- age
- history of previous skin tears
- adhesive dressings
- fall risk
- polypharmacy
- transepidermal water loss (TEWL) on forearms and lower legs
- reduced ADL performance
- dementia
- low body mass index (BMI < 20)
- inability to change position or move autonomously
- gender

Explanation

To answer the clinical question "How can the skin therapist signal to prevent the occurrence of skin tears in frail older adults?" a study of the literature was carried out to find prognostic factors that are linked to the occurrence of skin tears. However, due to the lack of studies of sufficient methodological quality, including prognostic prediction models, the aforementioned prognostic factors for skin tears were identified separately from one another. Together the set therefore does not form a diagnostic instrument. A possible follow-up policy is also lacking in practice. For this reason, the evidence found is not sufficient for clinical decision-making in the skin-therapy practice.
Identification on the other hand does form a standard part of skin-therapy treatment. By identifying factors that might be linked to the occurrence of skin tears in frail older adults, the skin therapist can play a role in giving information and advice to the help requester and their family and friends.
Lastly, a few prognostic factors that were identified fall outside the professional field of skin therapy, including the fall-risk factor, the reduced ADL performance factor, the dementia factor, the low BMI factor, and the factor of not being capable of autonomous repositioning/movement. For these prognostic factors, a multidisciplinary setting with a possibility of referral and/or additional support from other (paramedical) healthcare professionals may be desirable. This module only gives suggestions for referral options to disciplines that cooperate in the Paramedical Guideline on Frail Older Adults, but other aspects should also be taken into consideration, such as patient preferences and context, which means that the choice of referral to another (paramedical) healthcare professional is made in the treatment room rather than being stipulated in the guideline.

Reason

Skin tears are traumatic wounds that may occur due to various causes. Skin tears are defined as "A skin tear is a traumatic wound caused by mechanical forces, including removal of adhesives. Severity may vary by depth (not extending through the subcutaneous layer)" (Payne 1993). The ISTAP system uses a simple method to classify skin tears, categorising them as either Type 1, Type 2 or Type 3 (French 2014; LeBlanc 2014). Type 1 is described as a wound where there is no tissue loss and where there is a linear tear or flap tear, and the skin flap can be repositioned to cover the whole of the wound bed.. With Type 2 there is a partial tissue loss and the skin flap cannot be repositioned to cover the whole of the wound bed. Type 3 refers to total tissue loss in the skin flap that exposes the entire wound bed (Payne 1993). As ageing skin is typically fragile, less force is required to cause a traumatic injury, meaning that incidence of skin tears is often increased.

Skin tears can occur on any part of the body but are often sustained on the extremities such as upper and lower limbs or the dorsal aspect of the hands. Skin tears may increase the length of hospitalisation, increase health costs, and have an impact on quality of life (LeBlanc 2014). The ageing population could likely lead to an increase in the incidence of skin tears. It is therefore important for the therapist be aware of the preventative role of identification. If the factors that influence the occurrence of skin tears are identified as early as possible, (serious) complications can be prevented and timely treatment can be started if necessary.

Frail older adults with various (skin-therapy) indications are regularly seen for medical history taking and treatment in the professional field of skin therapy. According to the Professional Profile of Skin Therapist, skin-therapy screening and identification form an important part of skin-therapy practice (NVH 2023). Through screening for and identification of so-called red flags, pattern recognition and clinical reasoning, the skin therapist can track important symptoms that can point to underlying diseases or conditions that lie outside the professional scope of the skin therapist. Based on this assessment, the skin therapist can decide on a treatment or action to refer the patient (back) to the healthcare professional that would be most appropriate. In skin-therapy practice, however, there seems to be no clear picture of factors in the population of frail older adults that is already known in the skin-therapy field that should lead the skin therapist to signal in order to prevent the occurrence of skin tears.

Note: Due to the clear distinction from medical diagnosis, which can only be done by medical practitioners, this module uses the term identification (Dutch Government, 2022).

Clinical question

How can the skin therapist signal to prevent the occurrence of skin tears in frail older adults?

Conclusions based on the literature effectiveness and evidentiary value

In total, 17 prognostic factors are described, including 6 clinically visible skin factors and 11 other factors, with varying degrees of scientific evidentiary value. The guideline panel considers the evidentiary value as reasonable for the following factors: purpura, haematoma, skin changes associated with ageing, reduced ADL performance, and needing assistance to change position or move around. The guideline panel considers the evidentiary value as low for the following factors: ecchymosis, elastosis, oedema, history of previous skin tears, adhesive dressings, polypharmacy, TEWL on forearms and lower legs, dementia, and low BMI. The guideline panel considers the evidentiary value as very low for the following factors: fall risk, male gender. A systematic analysis of the literature, however, revealed no studies that construed an internally or externally validated prediction model with prognostic factors that could predict the occurrence of skin tears. The separately identified prognostic factors appear from various multivariate analyses and can therefore not be implemented together as an intervention in the form of a diagnostic instrument in skin-therapy practice.

Rationale of the recommendation

Despite the lack of studies of sufficient methodological quality, as well as the lack of a diagnostic instrument for clinical decision-making, identification forms an important part of skin-therapy treatment. Based on clinical expertise from the field (expert opinion), the guideline panel therefore considers that the identification of prognostic factors by the skin therapist (provided a justified positive and justified negative estimate is made) can play a preventative role in the occurrence of skin tears. It is therefore important to distinguish between preventative identification by the skin therapist and diagnostic identification/screening by (general) practitioners. The skin therapist can also play an important part in educating the patient and their family and friends. The identification of factors can also be a reason to take action in referring the patient (back) to other healthcare professionals that would be the most appropriate. The guideline panel

stresses the importance of multidisciplinary collaborations to improve healthcare throughout the chain.
Following the analysis of the literature as well as clinical expertise from the field (expert opinion), it is considered that skin therapists must be on the watch for the appearance of skin tears in frail older adults that occur in practice. In particular, be alert to the prevention of the following prognostic factors:

- ecchymotic haemorrhages
- purpura
- elastosis
- haematoma
- oedema
- skin changes related to skin ageing
- age
- history of previous skin tears
- adhesive dressings
- fall risk
- polypharmacy
- transepidermal water loss (TEWL) on forearms and lower legs
- reduced ADL performance
- dementia
- low body mass index (BMI < 20)
- not able to change position or move without help
- gender

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E.2 Self-management interventions

Recommendation

- Consider introducing complex self-management interventions together with stand-alone/single self-management interventions or normal care, to stimulate and/or increase self-management on the part of frail older adults with an indication for decongestant therapy.

Complex self-management interventions are defined as a combination of at least two interacting core components of self-management. Use at least two interacting core components, consisting of: assessment (asking about and identifying the person and context), developing customised care, and information and advice.

The degree of self-management supervision depends on the care needs of the patient. In this regard, take into consideration:

- personalised and context-oriented care. See also C.5 'Self-management of movement behaviour'.
- the feasibility of complex self-management interventions with regard to, for instance, level of education, health literacy, socio-economic status, digital literacy, possible impairments in physical capacities, acquired brain injury (ABI), dementia, physical or mental impairments, and stage of disease (terminal patients).

Reason

Decongestant therapy for frail older adults consists of a combination of various treatments to reduce lymphoedema (or chronic oedema), including compression (e.g. bandages, Velcro systems or therapeutic elastic stockings), advice on mobility and skincare, possibly accompanied by manual lymph drainage (MLD) or mobilising tissue engineering (NVDV 2023). For the administration and success of decongestant therapy, self-management forms an important part of the treatment (NVDV 2023). Active participation from the patient, family and friends, and informal caregivers is beneficial to the care process. Self-management is defined as a person's ability to deal with the physical, psychological and social consequences of a condition/impairment and the associated adjustments in lifestyle, in conjunction with the social environment. Self-management means that patients can choose for themselves to what extent they want to keep control of managing the condition and be involved in deciding on the available care that is introduced (Barlow 2002). The barrier analysis has shown that skin therapists experience that they are not always sufficiently equipped with the proper evidence-based competencies to encourage self-management in (frail) older adults with an indication for decongestant therapy. They experience this as a barrier in their daily practice.

In 2022, KNGF and VvOCM published a Self-management guideline (KNGF 2022). The guideline shows various self-management interventions that were found to be effective in enhancing self-management among patients. A number of behavioural-change interventions, however, appear to be less effective with frail older adults. Health instructions from the skin therapists are not always followed (French 2014) (Sullivan 2017). A possible explanation for this is reduced cognitive and physical functioning, but also decreased motivation for health improvement in the longer term (McPhee 2016). There is a need in practice for evidence-based tools to further self-management in frail older adults.

Clinical question

How can a skin therapist stimulate/increase self-management in frail older adults with an indication for decongestant therapy?

Conclusions based on the literature effectiveness and evidentiary value

The impact of complex interventions to improve self-management compared to regular treatment seems to be effective for the outcome measure of quality of life (SMD 0.52, 95% CI -0.16-1.21). It can, however, not be stated with certainty that the actual desired effect of the complex intervention will also be found clinically relevant.

The impact of complex interventions to improve self-management compared to regular treatment does not seem to be effective or the effect found cannot be determined with certainty for the outcome measure of activities of daily living (ADL) (SMD 0.04, 95% CI -0.05-0.14).

Based on the included systematic review of (Wong 2018), it cannot be concluded with certainty that the use of complex self-management interventions is effective with frail older adults when it comes to improving quality of life and activities of daily living ADL). Although the previously defined threshold value for clinical relevance of SMD ≥ 0.5 was reached for the outcome measure of quality of life, it cannot be stated with certainty that this is in fact due to the use of the intervention. The added value of using complex self-management interventions with frail older adults is, however, supported by a large systematic review by (van Het Bolscher-Niehuis 2016). In this systematic review, based on 12 RCTs, it was concluded that offering a multi-component structure of self-management interventions for frail older adults presents an added value for the performance of activities of daily living of frail older adults, particularly when it is presented in the form of a personalised plan. Due to the lack of statistical results and meta-analysis, this systematic review is, however, not included in the guideline, although it does support the results and the systematic review by (Wong 2018). Both studies furthermore indicate that the identification of the exact operating mechanism of the (combination of) components appears to be tricky.

Rationale of the recommendation

The guideline panel considers that the use of complex self-management interventions with frail older adults who receive decongestant therapy does have a clinically relevant effect on improving the crucial outcome measure of quality of life. The level of evidentiary value for this is, however, very low. There is a trivial impact on the improvement of the crucial outcome measure of ADL, for which the evidentiary value was found to be moderate/reasonable. The guideline panel, however, considers that any form of increasing autonomy and self-management has a positive effect on increasing quality of life as well as on increasing ADL. The guideline panel considers that the use of complex self-management interventions for patients could therefore be of significant value for keeping a grip on their own life. Personalised care and context must, however, be kept in mind here, and the skin therapist must consider the feasibility of complex self-management interventions in a strongly heterogeneous population with various aspects, including level of education, health literacy, socio-economic status, digital literacy and the limited physical capacities of older adults. Self-management is in line with the changing mindset in healthcare; prevention rather than therapy, focusing on self-management and joint decision-making. The use of self-management interventions is also likely to be cost-effective.

- Consider using complex self-management interventions compared to stand-alone self-management interventions or usual care, for frail older adults who have an indication for decongestant therapy to improve quality of life and activities of daily living.

Complex self-management interventions are defined as a combination of at least two interacting core components of self-management. Use at least two interacting core components, consisting of: assessment (asking about and identifying the person and context), developing customised care, information and advice plus education (Wong 2018).

The degree of self-management/assistance depends on the care needs of the patient. In this regard, take the following aspects into account:

- personalised and context-oriented care. See also C.5 'Self-management of movement behaviour'.
- the feasibility of complex self-management interventions with regard to, for instance, level of education, health literacy, socio-economic status, digital literacy, possible impairments in physical capacities, acquired brain injury (ABI), dementia, physical or mental impairments, and stage of disease (terminal patients).

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E.3 Lymphoedema in the presence of complicating factors

Recommendation

- Consult with the doctor/referring medical specialist on the method of oedema reduction as well as considering normal or mitigated compression for frail older adults with lymphoedema (or chronic oedema) and complicating factors such as heart failure or arterial insufficiency.
- Consider intermittent pneumatic compression therapy (IPC) only for frail older adults with lymphoedema (or chronic oedema) and the complicating factor of arterial insufficiency when other forms of co-morbidity are also present, such as complicated wounds or immobility, dependency or orthostatic oedema. A condition for using IPC in a home setting is monitoring by a therapist and in combination with other modes of decongestant therapy, such as bandaging, therapeutic elastic stockings, and movement. Start IPC at 40 to 45 mmHg and possibly build up to a higher pressure.
- Consider using therapeutic elastic stockings with a mitigated compression for frail older adults with lymphoedema (or chronic oedema) and the complicating factor of arterial insufficiency. It is advised to wear a class 1 adapted therapeutic elastic stocking, preferably with a high degree of stiffness. Therapeutic elastic stockings are used if maximum oedema reduction has been reached.
- Consider manual lymph drainage (MLD) in the initial phase for frail older adults with heart failure and oedema. Apply MLD only in combination with other modes of decongestant therapy, including bandaging, therapeutic elastic stockings, and movement.
- Be cautious when bandaging with several layers for frail older adults with oedema and severe heart failure (class III-IV). Build up the compression at an easy pace, for example by bandaging on one side, using just one layer of bandages, or bandaging with lower mmHg pressure.
- Treat frail older adults with the complicating factor of chronic venous insufficiency (CVI), immobility, and kidney failure in the usual way according to the lymphoedema guideline ('Richtlijn lymfoedeem'). If in doubt, consult with the doctor or medical specialist.

Reason

A guideline is a document with recommendations, aimed at improving the quality of healthcare. Guidelines are not statutory regulations, but comprehensive, scientifically founded and widely supported insights and recommendations that healthcare providers must follow to deliver good healthcare. Since guidelines take the average patient as a starting point, healthcare providers can in individual cases, for example patients with a complicating factor, deviate from the recommendations in the guideline if necessary. Deviations from guidelines are at times, if the patient's situation requires it, even essential. When there is a deliberate deviation from the guideline, it must, however, be substantiated, documented and, where needed, be done in consultation with the patient (Korzec 2008; Zorg 2012).

Lymphoedema (or chronic oedema) is characterised by an abnormal accumulation of lymph fluid in a part of the body and is caused by a failure in the lymphatic system. Based on (patho)physiological considerations, lymphatic insufficiency can be relative or absolute. If the swelling is the result of an excess lymphatic supply in a normal drainage system, it is referred to as 'dynamic insufficiency' ('high-output insufficiency/heightened preload'); If there is a blockage of a lymph vessel or a functional failure, it is referred to as 'mechanical or static lymphatic insufficiency' ('low-output insufficiency/heightened afterload') (Verdonk 2021).

Complex decongestant therapy (CDT) (also called oedema therapy) is frequently done by skin therapists, both to prevent progression and to reduce the consequences of lymphoedema (or chronic oedema) (NVDV 2023). CDT consists of a patient-centred plan based on the characteristics and preferences of the patient, where a combination of the following treatments can take place: decongestant lymphatic therapy (DLT), compression therapy (CT), intermittent pneumatic

compression therapy (IPC), manual lymph drainage (MLD), exercise therapy/movement, mobilising tissue and fascia release techniques, information and advice with supporting care aimed at reducing risks, skincare, and mental support (NVDV 2023). The intensity and combinations of treatments used differ in the initial and maintenance phase (NVDV 2023). In day-to-day skin-therapy practice, certain components of CDT for frail older patients that often have to do with a complicating factor, however, seem to be insufficiently feasible according to the regular guidelines. Chronic venous insufficiency (CVI), kidney failure, and hypostatic/orthostatic/dependency oedema are complicating factors that characterise forms of oedema where there is a preload or high-output failure (Committee 1995). These forms of oedema lead to a failing lymphatic system for which regular CDT is indicated. It is therefore also safe to apply the recommendations from the lymphoedema guideline (NVDV 2023) with this population. Heart failure and arterial insufficiency are, however, complicating factors that seem to require a different approach, which means that the skin-therapy treatment must be adapted. A barrier analysis among skin therapists shows that they lack evidence-based tools to be able to deviate in a substantiated way with frail older adults who have an indication for CDT as well as the complicating factor of heart failure or arterial insufficiency.

Clinical question

How do you treat frail older adults with lymphoedema (or chronic oedema) and complicating factors?

Conclusions based on the literature effectiveness and evidentiary value

Based on the included literature (*n*=1), it can be concluded that IPC is an effective, complication-free method with which to improve walking distance (mobility), haemodynamics and quality of life for patients with arterial insufficiency/claudication. The level of evidentiary value for this is, however, very low.

Based on the included literature (*n*=2), it can be concluded that therapeutic elastic stockings with adjusted pressure can be used effectively and safely for patients with arterial insufficiency. The use of therapeutic elastic stockings does not lead to deterioration of microperfusion or reduced arterial pressure. Walking distance/mobility furthermore appears to have improved after wearing therapeutic elastic stockings with reduced pressure. The therapeutic elastic stockings are comfortable to wear and are seen as being easy to put on and take off. The level of evidentiary value for this is, however, very low.

Based on the included literature (*n*=1), it can be concluded that there is no contraindication for manual lymph drainage applied to the lower extremities for patients with class III-VI heart failure, where all haemodynamic parameters remain unchanged compared to the baseline measurement. The level of evidentiary value for this is, however, very low.

Based on the included literature (*n*=1), it can be concluded that the application of several layers of bandages on one leg is contraindicated for patients with severe heart failure (class III-IV), where various haemodynamic parameters changed during measurement. The level of evidentiary value for this is, however, very low.

Rationale of the recommendation

The application of IPC is, due to costs, practical aspects, time investment, load on the patient, health inequality, and the limited evidentiary value among the patient population of frail older adults with heart failure and/or arterial insufficiency, indicated only for a very small population. A condition for introducing an IPC device in the home setting is periodic monitoring by a therapist in combination with other modes of decongestant therapy. The maximum mmHG varies according to the literature between 90-120 mmHg (Verdonk 2021). The guideline panel is, however, of the opinion that the effectiveness of IPC is already visible at a lower pressure (mmHg). The guideline panel therefore advises always to start IPC at 40-45 mmHg and then possibly to build it up to a higher pressure.

The use of therapeutic elastic stockings is, due to desired effects for the patient compared to not wearing therapeutic elastic stockings, the cost effectiveness and health equality, indicated for frail older adults with arterial insufficiency. It is advised to wear a class 1 adapted therapeutic elastic stocking, preferably with a high degree of stiffness. The stockings must be measured by a qualified therapist, with customisation and personal supervision of the patient being essential.

The use of MLD is, due to the desired effects for the patient compared to not using MLD, indicated for frail older adults with oedema and heart failure. MLD must always be done by a qualified therapist, with customisation, supervision, and a combination of other complementary modes of decongestant therapy being essential.

The use of dressings with several layers of bandage for patients with severe heart failure (class III-IV) is contraindicated due to deteriorations in the haemodynamic parameters. Due to the lack of a concrete definition in the use of dressings with several layers of bandages, it cannot be stated with certainty, based on the found literature, what the effect is on frail older adults with a complicating factor. It is therefore advised to slowly build up compression, for example with bandaging only on one side, applying only one layer of bandages or bandaging with a low mmHg pressure. In complex cases involving complicating factors, the method of oedema reduction will be discussed with the doctor/medical specialist.

The evidentiary value of the included literature with regard to effective and safe treatment interventions for frail older adults with lymphoedema (or chronic oedema) as well as the complicating factor of heart failure or arterial insufficiency, is very low. Based on this, the following recommendations are formulated:

- Consult with a doctor/medical specialist on the method of oedema reduction as well as considering normal or mitigated compression for frail older adults with lymphoedema (or chronic oedema) and the complicating factor of heart failure or arterial insufficiency.
- Consider using intermittent pneumatic compression therapy (IPC) only for frail older adults with lymphoedema (or chronic oedema) and the complicating factor of arterial insufficiency when other co-morbidity are also present, such as complicated wounds or immobility/dependency/orthostatic oedema. A condition for using IPC in a home setting is monitoring by a therapist and in combination with other modes of decongestant therapy, such as bandaging, therapeutic elastic stockings and movement. Start IPC at 40-45 mmHg and possibly build up to a higher pressure.
- Consider using therapeutic elastic stockings with a mitigated compression for frail older adults with lymphoedema (or chronic oedema) and the complicating factor of arterial insufficiency. It is advised to wear a class 1 adapted therapeutic elastic stocking, preferably with a high degree of stiffness. Therapeutic elastic stockings are measured at maximum oedema reduction.
- Consider applying manual lymph drainage (MLD) in the initial phase for frail older adults with heart failure and oedema. A condition for MLD is to apply it only in combination with other modes of decongestant therapy, including bandaging, therapeutic elastic stockings, and movement.
- Be cautious when applying bandaging with several layers for frail older adults with oedema and serious heart failure (class III-IV). At the start of the therapy, slowly build up compression, for example by bandaging only on one side, applying only one layer of bandages or bandaging with a low mmHg pressure.
- Treat frail older adults with the complicating factor of chronic venous insufficiency (CVI), immobility, and kidney failure according to the lymphoedema guideline ('Richtlijn lymfoedeem'). Treatment in the normal range If in doubt, consult with the doctor or medical specialist.

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F Dietetics

F.1 Factors of malnutrition and sarcopenia

Recommendations

Use the ICF model to identify factors that influence the occurrence of malnutrition and/or sarcopenia in frail older adults.

When diagnosing malnutrition, identify at least whether there is a presence of:

- functions and anatomical characteristics: oral problems (including difficulties with chewing, for example due to an ill-fitting denture, and difficulties with swallowing*), problems with flavour and taste, depression or mental issues, not a good perception of health, reduced appetite, physical impairments, wounds, polypharmacy, cognitive impairments or dementia;
- activities: reduced physical activity, taking meals at home, needing help to eat;
- external factors: hospitalisation;
- personal factors: low level of education, living alone, single, low income.

* Examples of questions to identify difficulties with swallowing: "Do you sometimes need to cough after eating or drinking, or does your voice sound different (gurgly) after eating or drinking?" or "Do you have more difficulties when eating or drinking than before?" or "Have you adapted your food in any way?" Think of adapted consistency or avoidance of certain foods.

When diagnosing sarcopenia, check at least for the presence of:

- functions and anatomical characteristics: (risk of) malnutrition, cognitive impairments, depression, ADL impairments, co-morbidity (osteopenia/osteoporosis, osteoarthritis, diabetes, lung and/or heart disorders, cancer), falls;
- activities: physical inactivity;
- personal factors: higher age, living alone, single, loneliness.

Check which information of the frail older adult has already been ascertained by paramedics or other healthcare professionals. Make arrangements in the local/regional network for interdisciplinary cooperation.

Reason

Malnutrition and sarcopenia occur frequently in frail older adults. Malnutrition is an acute or chronic condition where a lack or imbalance of energy, protein, and other nutrients leads to measurably adverse effects on body composition, functioning, and clinical results (Cederholm 2017). Sarcopenia is a progressive, generalised skeletal muscle disorder that is linked to an increased chance of unfavourable outcomes, including falls, fractures, bodily impairments and death (Cruz-Jentoft 2019). Malnutrition and sarcopenia often occur simultaneously. Information on malnutrition and sarcopenia can for instance be found on the websites of the Dutch knowledge centre for malnutrition (Kenniscentrum Ondervoeding). There are various validated measurement instruments for determining the risk of malnutrition. As soon as (the risk of) malnutrition or sarcopenia has been determined, the dietitian enters the picture. In order to establish a proper dietetic diagnosis in frail older adults as a basis for starting intervention(s), it is important for the dietitian to identify the various factors that play a role in malnutrition and/or sarcopenia in frail older adults. It is, however, unclear which factors play a role in the start and persistence of malnutrition and/or sarcopenia.

Clinical question

Which factors must the dietitian identify to further the optimal diagnosis and treatment of malnutrition and/or sarcopenia in frail older adults?

Conclusions based on the literature

In total, 8 systematic reviews were included, 6 related to malnutrition and 2 related to sarcopenia. Based on these systematic reviews, it can be concluded that various factors are associated with malnutrition and sarcopenia. The level of evidentiary value for this lies between reasonable and very low. The guideline panel chose to include factors for which there is low to reasonable evidence as factors that are of interest.

Rationale of the recommendation

The factors that came forward from the literature have a very low to reasonable evidentiary value. With regard to malnutrition, all the associated factors have a low to very low evidentiary value. The guideline panel considers that the factors that are revealed with reasonable or low evidence in the included systematic reviews are important to be identified with (a risk of) malnutrition and/or sarcopenia. In addition, the guideline panel mentions a number of factors from clinical expertise that also play a role in malnutrition. Despite the lack of good evidentiary value, the recommendations are still formulated strongly (identify the following factors…) rather than weakly (consider identifying the following factors…). The guideline panel chose to do so because of the importance of an unequivocal diagnosis and a corresponding dietary treatment plan. From their own clinical expertise, the guideline-panel members indicate that these factors are important to identify in all frail older adults with malnutrition or sarcopenia.
To align with the method of dietitians, the guideline panel recommends using the ICF model to identify the factors. Identifying the factors consists of listing all the available information from other professionals involved, and asking additional questions to the frail older adults and/or their informal caregivers.
When sarcopenia is diagnosed, the guideline panel advises adding cancer to the co-morbidities as well as identifying whether there is a question of loneliness.

Malnutrition

With regard to (the risk of) malnutrition, the guideline panel advises based on the aforementioned criteria to identify at least the following factors: Oral problems (including difficulties with chewing), depression and mental problems, bad perception of health, reduced appetite, physical impairments, reduced physical activity, taking of meals at home, needing help to eat, hospitalisation, low level of education, living alone, single, low income. Based on the expertise of the guideline-panel members, the following factors should also be identified: difficulties with swallowing, an ill-fitting denture, problems with flavour and taste, wounds, reduced cognitive functioning, and polypharmacy. Since not all dietitians are familiar with the signs that accompany difficulties with swallowing, these signs are indicated in the recommendations: coughing after eating or drinking, or an altered (gurgly) voice after eating or drinking. It can also be asked whether the patient has more trouble eating and drinking and whether they have made adjustments in their eating (adapted consistency or avoiding certain food).

Sarcopenia

With regard to (the risk of) sarcopenia, the guideline panel advises based on the aforementioned criteria to identify at least the following factors: (risk of) malnutrition, cognitive limitations, depression, ADL impairments, co-morbidities (osteopenia/osteoporosis, osteoarthritis, diabetes, lung and/or heart disorders, cancer), falls, inactivity, higher age, living alone, single. The guideline panel further advises adding cancer to the co-morbidities and also identifying whether there is a question of loneliness.

F.2 Joint decision-making on dietary interventions and quality of life

Recommendations

Consider using the following step-by-step plan to reach a joint decision together with the frail older adult and/or family and friends about a treatment plan that is in line with personal goals, wishes and needs. The steps can be looked at during one or more consultations.
The step-by-step plan assumes that the frail older person is able to give informed consent. If the frail older adult gives the impression of being insufficiently able to assess their own situation, go through the step-by-step plan in the presence of their family and friends.

'Joint decision-making for dietitians with frail older adults' step-by-step plan:

1 Preparation: identify previous history, current situation, and the involvement of other (paramedical) healthcare providers and family and friends. The following aspects are involved here:
   - What is the medical diagnosis?
   - Are there any treatment limits?
   - Is there a living will in which the frail older adult has stipulated what their wishes in terms of treatment are, such as life-extending treatments or for example tube feeding?
   - Is there a friend or family member or informal caregiver who must be included in the dietetic treatment? Enquire about this with the frail older adult or the contact person when planning the first consultation.
   - Which other (paramedical) healthcare providers are involved? If the frail older person has consented to it, ask these healthcare providers for information on the reasons for treatment and the treatment plan. What are the reasons for referral and which factors regarding nutritional status have the other healthcare providers identified?

2 Discuss life goals, values, wishes and needs with regard to quality of life, as part of the dietetic diagnosis. Do this in dialogue with the family and friends, if they are present during the conversation. The following could be taken into account:
   - Talk about what is important for the older adult with regard to quality of life, both in terms of physical functioning and of mental and social factors. Also make use of any information from other (paramedical) healthcare providers.
   - Talk about eating and drinking: need for assistance , previous dietary treatments, eating pattern, habits, taste, preferences, wishes, needs, problems.

3 Summarise wishes, needs and life goal(s), and formulate possible treatment goal(s). Take the following questions into consideration:
   - Is it likely that the introduction of a dietary intervention for an optimal nutritional status will improve or maintain the frail older adult's quality of life?
   - Is it likely that this dietary intervention will improve or maintain the frail older adult's functioning?
   - Is it likely that the dietary intervention will extend the life of the frail older adult?
   - Is life extension desired from the frail older adult's perspective?
   - What are the risks or expected disadvantages of the possible dietary intervention(s) for the frail older adult?

4 Discuss different treatment options with the advantages and disadvantages of each option, and the preferences of the frail older adult. Discuss the options that are in line with the wishes of the frail older adult and, if present, with family and friends. Not starting with treatment can also be an option.
   - Present the options, depending on the life goals and values. For example introducing/ruling out fluid nutrition, temporary introduction of tube feeding, continuing/stopping with dietary intervention for specific conditions, comfort feeding. The substantiated abandoning of further dietary treatment can also be an option here.
   - If the frail older adult agrees to it, also discuss the options with other involved (paramedical) healthcare providers so that treatment goals are in line with the treatment goals of other (paramedical) healthcare providers.

5 Decision-making: jointly formulate a decision and draft a (treatment) plan.
6 Evaluation: evaluate the decision-making process and, if necessary, adjust the (treatment) plan.
   - If the treatment is aimed at preventing malnutrition, it is recommended to evaluate after one week
   - If further dietary treatment is abandoned, it is recommended to make contact within two or three weeks with the healthcare providers involved to evaluate.

Reason

It is the task of dietitians, based on the factors that have an impact on nutritional status, wishes, needs and wellbeing (according to the ICF diagram), to establish a dietetic diagnosis and, together with the frail older adult and their family and friends, to introduce an appropriate nutritional intervention. There may be situations where focusing on an optimal food intake and the accompanying nutritional intervention is not advisable or even desirable, for example because it is unclear whether it will contribute to the frail older adult's quality of life. The effort that such a nutritional intervention would entail and what the frail older person will get in return could furthermore also be weighed up and taken into consideration. When is fluid nutrition or tube feeding appropriate and when is it no longer? And what for instance are considerations for stopping to supplement micro nutrient deficiencies? It is not always clear for dietitians how they, together with the frail older adult, family and friends, and other healthcare providers, can weigh up or strive for an optimal nutritional status or food intake that is suitable compared to the quality of life, wishes and needs of the frail older adult.

Clinical question

Which considerations play a role in joint decision-making about whether or not to strive for an optimal nutritional status in frail older adults?

Literature

No systematic literature review was done in relation to this clinical question. The reasons for this are that the question is specific to the Dutch situation, where joint decision-making play an important role. Aligning with the models used in the Netherlands is therefore important. The considerations are substantiated with a non-systematic literature review. In addition, existing (European) nutritional guidelines and models with regard to joint decision-making were used. Based on the expertise in the guideline panel and consultation with representatives of the Dutch association of specialists in geriatric medicine (Vereniging van specialisten ouderengeneeskunde or Verenso) and the Patient Federation, the considerations were described.

Conclusions

Models and tools for joint decision-making with frail older adults both from professional associations of specialists in geriatric medicine, nurses and healthcare assistants and from clinical geriatricians were described. The Proactive Advanced Care Planning model of Verenso (Verenso 2017) gives direction to the topics on which and the moments when a discussion can take place around joint decision-making in the current and future situation. The model 'Joint decision-making with frail older adults' outlines steps to prepare for this discussion, give shape to it, and make decisions (van de Pol 2017). Important principles in these models are the values and personal goals of the frail older adults. These principles are also important for dietitians when making joint decisions together with frail older adults and their family and friends regarding dietary interventions. In the decision-making process it is furthermore important to take into account whether the dietary interventions are meaningful from a medical point of view. To be able to weigh different dietary interventions up against each other, it is important for frail older adults and their family and friends to know what the advantages and disadvantages of the proposed options are in their specific case.

Rationale of the recommendation

The guideline panel considers it important to align with models that are customary in the Netherlands so that healthcare for frail older adults can be effectively coordinated with other professionals. The model 'joint decision-making with frail older adults' contains 6 steps that dietitians, too, can apply effectively when making joint decisions on the right nutritional intervention. It is furthermore important to identify questions regarding the advantages and disadvantages of the various options as well. The questions, such as those in the ESPEN guideline for deciding whether or not to administer tube feeding (Volkert 2019), can be helpful in this regard.

Sources

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F.3 Dietary interventions in the presence of (a risk of) malnutrition in combination with heart failure, chronic kidney damage or Parkinson's disease

Recommendations

- Consider a dietary treatment for (a risk of) malnutrition in frail older adults with (a risk of) malnutrition and heart failure. If applicable here, keep in mind restrictions on moisture, sodium, and/or potassium.
- Consider, with frail older adults with malnutrition and chronic kidney damage, introducing a protein-enriched diet with evaluation of the course of kidney function. The recommended amount of protein can then be adjusted as needed if uremic complaints, renal acidosis, and/or hyperphosphatemia arise.
- Consider a dietary treatment for (a risk of) malnutrition in frail older adults with (a risk of) malnutrition and Parkinson's disease. Refer to a dietitian with expertise in the field of Parkinson's disease to coordinate the timing of protein intake with the intake of L-DOPA and monitor any response fluctuations when a protein-rich diet is introduced. Consult the Paramedic Guideline on Parkinson (ParkinsonNet, 2023) for more information on dietary treatment with Parkinson's disease.

Reason

Frail older adults with (a risk of) malnutrition often have several (chronic) conditions, such as chronic kidney damage, Parkinson's disease or heart failure. It is not always clear for dietitians on the basis of which underlying conditions preference should be given to which nutritional recommendations. The ESPEN 'guideline on clinical nutrition and hydration in geriatrics' (Volkert 2019) gives recommendations for frail older adults with a number of specific conditions: hip fractures, delirium, decubitus, obesity and diabetes mellitus. Hence, this ESPEN guideline is referred to for recommendations regarding these conditions. In June 2023, the ESPEN 'guideline on nutritional support for polymorbid medical inpatients' was issued (Wunderle 2023). This guideline specifically looks at dietary treatment for hospital patients with multimorbidity.

There are several conditions in frail older adults for which the dietary recommendations can be contradictory to those given in the treatment of malnutrition. Moisture restriction can for example stand in the way of the adequate intake of sufficient protein-rich foodstuffs (e.g. dairy products) for frail older adults with chronic kidney damage or heart failure. With chronic kidney damage it can be medically indicated to limit proteins, whereas these are essential for the treatment of malnutrition. One of the conditions which there is a need for advice on an optimal diet, is when in addition to malnutrition there is also a question of Parkinson's disease (on account of instance medication, high energy consumption, and gastro-intestinal issues).

This module gives recommendations for the dietary treatment of frail older adults with (a risk of) malnutrition in combination with heart failure, chronic kidney damage or Parkinson's disease. These conditions were selected by the guideline panel because dietitians often experience these as barriers to dietary treatment.

Heart failure

With heart failure the heart's ability to pump is reduced, which means that less oxygen is available in the body. Due to fluid leakage from blood vessels, patients with heart failure often retain moisture. Heart failure is classified into 4 classes according to the New York Heart Association (NYHA):

Class I | No limitation of tolerance to exercise; Ordinary physical activity does not cause undue fatigue, palpitations or dyspnoea.

Class II | Some limitation of tolerance to exercise; no discomfort at rest, but ordinary physical activity causes undue fatigue, palpitations or dyspnoea.

Class III | Severe limitation of tolerance to exercise; no or slight discomfort at rest, but slight physical activity causes undue fatigue, palpitations or dyspnoea.
Class IV | No physical effort is possible without discomfort; discomfort also occurs at rest (see also NHG standard for heart failure)

The Artsenwijzer Diëtetiek (physicians' guidelines on dietetics) describes when it is necessary to refer to a dietitian, and what the objectives of dietary treatment are in the case of heart failure. A distinction is made between a generic dietitian and a dietitian with specialist expertise in the field of heart conditions.

Chronic kidney damage

There are various stages of chronic kidney damage. These are determined on the basis of eGFR (estimated glomerular filtration rate) and the extent of albuminuria. eGFR is an estimated clearance that is influenced for instance by the amount of muscle mass. In stages G4 and G5 (see the table below) the kidneys are not sufficiently able to remove waste products from the blood. In this case, according to the Chronic Kidney Damage guideline, it is advised to limit protein.

To determine the stages of chronic kidney damage. it is recommended to use the table below.

Table F.3.1 | **Determining the stages of chronic kidney damage based on eGFR and albuminuria versus prognosis**

				Albuminuria categories Description and range		
				A1	A2	A3
				Normal	Moderately increased	Severely increased
				< 3 mg/mmol	3 to 30 mg/mmol	> 30 mg/mmol
eGFR categories Description and range (ml/min/1.73 m²)	G1	Normal or high	> 90			
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney failure	< 15			

No CNS (88%) Mildly increased risk (9.2%) Moderately increased risk (2.0%) Strongly increased risk (< 1%)

The colour coding in this table is based on the relative risk of death, cardiovascular endpoints, the occurrence of acute kidney insufficiency, and final-stage kidney failure. The percentages in the colour coding legend indicate the prevalence in the general population (as found in the PREVEND study).

See also the guideline on Chronic Kidney Damage of the Dutch federation of medical specialists (Federatie Medisch Specialisten).

The Artsenwijzer Diëtetiek (physicians' guidelines on dietetics) describes when it is necessary to refer to a dietitian and what the objectives of dietary treatment are in the case of chronic kidney damage. A distinction is made between a generic dietitian and a dietitian with specific expertise in the field of kidney conditions (care profiles 3 and 4). These dietitians with specific expertise work mostly in hospitals or in dialysis centres.
This module is limited to frail older adults with chronic kidney damage who are not dialysed.

Parkinson's disease

Parkinson's disease is a complex condition that is chronically progressive. Patients with Parkinson's disease are generally treated with the drug L-DOPA. Proteins from food can influence the absorption of L-DOPA during intake both in the intestines and at the blood-brain barrier. It is therefore recommended to take L-DOPA half an hour before or one hour after the meal, with for example water, juice, or apple sauce, but not with products that contain protein (see also the Paramedic Guideline on Parkinson (2023)). Although there is a good response to L-DOPA when a patient starts taking the drug, response fluctuations can develop over time, with fluctuations in the effect of the drug. Slow bowel movements and/or constipation may also occur.

Clinical question

What is the optimal diet for frail older adults with (a risk of) malnutrition in combination with heart failure, chronic kidney damage or Parkinson's disease?

Conclusions based on the literature

The literature review yielded 1 systematic review pertaining to heart failure. The following results emerged from it:
Crucial outcome measures

- A dietary intervention with protein supplements or fluid nutrition seems to result in a weight increase for older patients with heart failure and malnutrition.
- A personalised dietary intervention for older adults with heart failure and malnutrition seems to result in a reduced risk of death and rehospitalisation.

Important outcome measures

- A dietary intervention with protein supplements seems to improve physical functioning for older adults with heart failure and malnutrition.

Since no suitable research articles were found that pertain to the dietary treatment of frail older adults with malnutrition as well as chronic kidney failure, additional literature was used: a narrative review of the dietary treatment options for older adults with chronic kidney damage. The 'Diëtisten Nierziekten Nederland' (Dutch kidney-disorder dietitians) network also provided input. The website contains information on protein recommendations in the event of kidney damage, which includes frail older adults with kidney damage (Protein CNS position paper). The position paper by DNN indicates that in the event of frailty, the risk of death is in general often higher than the risk of reaching final-stage kidney failure. In the event of malnutrition, it may therefore be decided to start with a protein-enriched diet with evaluation of the course of kidney function. The recommended amount of protein can then be adjusted as needed if uremic complaints, renal acidosis, and/or hyperphosphatemia arise.

With regard to dietary treatment for frail older adults with malnutrition or the risk thereof and Parkinson's disease, no research articles were found. Simultaneously with this guideline on Frail Older Adults, however, a Paramedic Guideline on Parkinson was developed, which also pays attention to malnutrition.

Rationale of the recommendation

Heart failure

Based on the included literature, it can be concluded that the dietary treatment of malnutrition in older adults with heart failure seems to have a positive effect on weight and physical functioning. In addition, this dietary treatment seems to lead to fewer rehospitalisations and deaths. The dietary treatment mainly consisted of

protein supplements, energy and protein liquid nutrition or individual dietary advice. No effects were reported on quality of life or deterioration of complaints with regard to heart failure, such as overfilling.
A conditional recommendation was therefore formulated:

- Consider a dietary treatment for (a risk of) malnutrition in frail older adults with (a risk of) malnutrition and heart failure. If applicable here, keep in mind restrictions on moisture, sodium and/or potassium.

Chronic kidney damage

The basis for the recommendations regarding the dietary treatment of malnutrition in frail older adults with chronic kidney damage is a position paper from Diëtisten Nierziekten Nederland (DNN 2019). Due to a lack of scientific evidence, the recommendation was formulated conditionally:

- Consider, with frail older adults with malnutrition and chronic kidney damage, introducing a protein-enriched diet with evaluation of the course of kidney function. The recommended amount of protein can then be adjusted as needed if uremic complaints, renal acidosis and/or hyperphosphataemia arise.

Parkinson's disease

The recommendation regarding the dietary treatment of malnutrition in frail older adults with Parkinson's disease is based on the Paramedic Guideline on Parkinson. Again, a lack of scientific evidence meant that no strong recommendation could be made, but only a conditional recommendation:

- Consider a dietary treatment for (a risk of) malnutrition in frail older adults with (a risk of) malnutrition and Parkinson's disease. Refer to a dietitian with expertise in the field of Parkinson's disease to coordinate the timing of protein intake with the intake of L-DOPA and monitor any response fluctuations when a protein-rich diet is introduced. Consult the Paramedic Guideline on Parkinson (ParkinsonNet, 2023) for more information on dietary treatment with Parkinson's disease.

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G Speech therapy

G.1 Communicative participation and preservation of autonomy

Recommendations

- In the case of frail older adults who experience limitations in communicative participation, consider establishing the speech therapy cycle according to Com-mens for the preservation of autonomy and participation, focusing on frail older adults and their family and friends.
  - List and reinforce the strong sides of the frail older adult, to turn these into communicative participation.
  - Consider using dementia-friendly and motivating conversation strategies. In agreement with the frail older adult, write a personal communication guide and advise them if they wish it on personalised communication tools.
- Consider introducing principles from Reminiscence Therapy to improve patient satisfaction with communication and to support the frail older adult's participation in conversations.
  - During sessions, photos or objects are brought up by the frail older adult or their environment that bring back memories. This improves cognitive alertness and communicative participation.
- Consider, as part of the speech therapy cycle, using basic principles from Cognitive Stimulation Therapy (CST).
  - Do activities where the focus is on cognitive stimulation, for example conducting conversations about experiences from the past, physical activities, word associations that make use of communicative abilities, memory, and/ orientation in time and space.
  - Observe which communicative abilities have the biggest impact on the preservation of autonomy and the possibility to keep participating in a conversation with one or more persons. Use these observations when agreeing with the frail older adult on communication tips for family and friends and healthcare providers.

Reason

The reason for formulating the following clinical question is to give an understanding of the role of the speech therapist in maintaining and optimising participation and autonomy in a communicatively frail older adult and the way in which this can be highlighted in a multidisciplinary context. The need to formulate answers on such questions is high, since renewal in care for frail older adults is gaining momentum, due in part to the fact that frail older adults are living at home longer and therefore need more help in a primary care setting.

Frail older adults are ones who have difficulty maintaining control of their own lives and hence keeping their autonomy. The frail older adult is frail due to physical, cognitive, social, and/or mental obstacles (RIVM). Often there is co-morbidity, limited load capacity and, as result, a need for extra attention. Besides medical and functional care, there has in recent years also been an increasing focus on the social and mental wellbeing of frail people (>65 years of age).

There is a shift underway from a medical-somatic care model – with a special focus on physical care, activities of daily living, and safety – to a more psychosocial model, in which autonomy, wellness, dignity, inclusion, meaning, participation, wellbeing, and positive health (M. Huber 2011) are finding their rightful place. There is more attention for obstacles that someone may encounter in their life, for example in terms of participation and mental wellbeing.

In addition to care that has to do with maintaining or improving living comfort, the frail older adult also has a right to be actively involved in their environment, with the aim of ensuring their own identity and wellbeing. Moreover, healthcare is, also for the frail older adult, attuned to the specific and individual perception world of the person (personalised care) and informal caregivers or family and friends.

This requires family and friends and healthcare providers to ensure that communication is in line with the possibilities of the person who needs care. The social, societal and cultural background that can also determine communication are taken into consideration here.

The speech therapist is an expert in the field of maintaining speech and language abilities, non-verbal communication, and the pragmatic aspects of communication. The speech therapist furthermore offers help and assistance in maintaining and supporting effective communication between the frail older adult and their environment.
The speech therapist devises a process of development and change in a methodical way. In this process, strategies to stimulate communicative participation are learnt that match the capabilities of the client. The purpose of these strategies is to improve communication capabilities of (groups of) clients and to prevent problems in this area. In their capacity as coach, the speech therapist contributes to the client's empowerment (Bateson 2000). This means that the speech therapist provides knowledge and skills to the client and their environment, to ensure that the client can participate autonomously for as long as possible and maintain control over their own life. This is also done by working together with the client in a solution-centred way on the communication problems experienced and the prevention thereof (NVLF 2022). By training, schooling and/or advising both family and friends and other healthcare professionals, the dialogue partners of the frail older adults learn how to deal with changes in day-to-day communication in good time so that it is possible to maintain the care for longer and to enjoy life (more) together (Balans 2021).

The speech therapist contributes to maintaining and optimising communicative participation with a particular focus on maintaining interaction between the frail older adult and their environment. 4 topics are important here; maintaining a feeling or self-respect, a feeling of choice and control, a feeling of being of use and needed, and a feeling of personal identity. (Gerritsen 2021).

Clinical question

In what way can a speech therapist support participation and the preservation of autonomy for a communicatively frail older adult?

Conclusions based on the literature and considerations

Based on the 12 systematic reviews included, there is a low degree of evidence that substantiates the notion that group therapy and individual therapy based on reminiscence therapy and cognitive stimulation therapy can possibly contribute to the preservation of autonomy, meaning, and the ability to participate. In one systematic review, however, significant improvement was found in communicative participation after the introduction of RT and conversation groups, and the guideline panel has included this data in the evidence-to-decision path. The outcomes from the literature are fairly uncertain for drawing any conclusions from this. There seems to be a knowledge gap that can only be filled with more research in this area. At present, much research is done on providing care to frail older adults. Studies are also underway in the field of speech therapy and communication. At the time of developing the guidelines presented here, many of these studies had just been started, were still underway or had not (yet) been published. This goes for the following studies; Com-mens (Olthof 2018), SPREAD+ project (AlzheimerNederland), What Matters Most(VU), Diverse Elderly Care, The Art of Belonging, and all possible studies with AI that might still be done in the future.
The guideline panel therefore wants to underline that the guidelines established here are in line with the data that emerge at the time of the literature review, as a result of searches (in the period until May 2023). The guideline panel was asked to contribute additional clinical expertise and best practices in order to formulate an answer to the clinical question.

Considerations

The systematic literature review reveals a limited number of interventions that focus on improving participation and autonomy in older adults and that are suited to the role of the speech therapist as a communication expert.
The guideline panel expects the main reasons for this to be:

1 appropriate outcome measures for (an improvement in) participation are scarce, and
2 not enough research has yet been done on speech-therapy interventions since the shift in the role of the speech

therapist, from disorder-specific therapy in their surgery, to a more coaching role. The guideline panel considers that the interventions found in the literature review are not speech-therapy interventions aimed at stimulating communicative participation. The evidentiary value of the interventions that were found is, moreover, low. There is a need for an approach or intervention that has been developed within a Dutch-speaking context and a care structure aimed at the frail older adult with dementia and their environment. The guideline panel has had good experiences with the recently published Com-mens (Olthof 2018): a speech-therapy intervention programme that focuses on communication between older adults with dementia and their family and friends and/or healthcare providers. The use of communication aids such as Talking Mats (Murphy 2010) and Memory Wallets (Bourgeois 1992) can be a worthwhile addition.

The guideline panel considers that there should be more attention to speech-therapy supervision for frail older adults and their environment, in order to improve mutual communication, where the following four points could serve as a start:

- Instead of classic diagnostics, observation is used to assess what the strong points of both conversation partners are, which are then reinforced in the therapy. This ties in with positive health. (M. Huber 2011)
- Development of personal communication tips to share if desired with family and friends and healthcare providers
- Positive labelling of behaviours or (communicative) compensations.
- The intervention is mainly aimed at the combined treatment of a person with dementia and their family and friends.

In 2023 (shortly after the search strategy for this PICO question was carried out), a pilot study was published by M.W.L.J. Olthof-Nefkens on Com-mens (Olthof 2018). Members of the guideline panel are positive about this intervention. Com-mens is an intervention for speech therapists who work with people with incipient dementia and their family and friends. Com-mens has been developed for people with incipient dementia who are still living at home. The intervention focuses on improving day-to-day communication between the person with dementia and their family and friends. It consists of tools, such as dementia medical history taking, observation reports, profile cards, and a set of Dementia Education Cards. The guideline panel promotes the use of Com-mens for people with dementia, to improve communication with their family and friends and, in addition, contribute to stimulating participation. The guideline panel indicates that the principles of Com-mens can also be applied in institutions. Older adults who live in an institution often have an advanced stage of dementia, which reduces individual participation in therapy sessions.

Rationale of the recommendations

- Reminiscence therapy has an insufficiently substantiated impact on the important outcome measure of participation and autonomy. The guideline panel does not consider it suitable as stand-alone training. Use the principles of RT to achieve speech-therapy goals. It is cost-effective because no extra investments are needed, and is feasible within groups. The client brings their own material that fits in with their experience, enabling efforts to improve communicative participation and autonomy based on speech-therapy goas with RT principles. The applicability is high, as it can be implemented by various disciplines.
- Cognitive Stimulation Therapy has an unclear impact on the important outcome measure of participation and autonomy, with a low evidentiary value. It is not suitable for stand-alone training in a speech-therapy setting, but can be used in a multidisciplinary context. Use the principles of RT to achieve speech-therapy goals. It is cost-effective because no extra investments are needed.
- Com-mens has an (as yet) insufficiently substantiated impact on the important outcome measure of participation and autonomy, with a low evidentiary value. The guideline panel has had good experiences in practice with this intervention, as it is very concrete and specifically formulated for speech therapists.

G.2 Communication with family and friends and healthcare professionals

Recommendations

- Consider using the following treatment principles to improve communication between a frail older adult, their family and friends, and healthcare professionals:
  - Explore the communication capabilities of the frail older adult and use positive feedback with a focus on communicative capabilities rather than limitations.
  - Provide family and friends with general, personalised education and involve them where possible in the more effective application or expansion of communicative possibilities, preferably through role-modelling, by demonstrating appropriate communication techniques.
  - Offer periodic training, to healthcare providers who work with frail older adults, in communicating with frail older adults with communication impairments, preferably through role-modelling, by demonstrating appropriate communication techniques.
  - Offer healthcare providers who work with frail older adults person-centred education and personalised advice for each frail older adult with communication disorders, preferably through role-modelling, by demonstrating appropriate communication techniques.
- Be cautious about offering intensive language therapy for frail older adults. In some cases improvement is impossible, and the focus will then be on maintaining communicative participation for as long as possible, also by advising family and friends and healthcare professionals.
- Consult the Richtlijn Diagnostiek en behandeling van Afasie* (NVLF 2015) and the Paramedische Richtlijn Parkinson (ParkinsonNet 2023) for recommendations for speech therapy in the event of communicative frailty through aphasia or Parkinson's disease, and rule out visual and auditory problems.

* The NVLF guideline on Diagnostics and treatment of Aphasia is being revised. The revised version will be available mid 2024.

Reason

Frail older adults are ones who have difficulty maintaining control of their own lives and thus keeping their autonomy. They may be frail due to physical, cognitive or social barriers or be mentally frail. Often they are dealing with co-morbidity and limited load capacity, resulting in a need for extra attention. Frail older adults can also experience communication issues, for instance due to cognitive deterioration and dementia. Intensive speech-therapy treatment of language disorders, for example aphasia, is not applicable or not properly feasible for such people. Looking for meaningful support and compensations may well be possible, in other words what can still be done? Being able to keep communicating with the people around you is vitally important for mental wellbeing, autonomy and dignity. That means, even more than with effectively treatable language disorders such as aphasia, that communication partners (including healthcare providers, family and friends) can be guided and trained on how to maintain and support communication.

Frail older adults with communication disorders live either at home or in a nursing home, both in long-term healthcare and in geriatric rehabilitation care. Communication partners include family and friends as well as the relevant healthcare professionals.
For the (intensive) treatment of aphasia and support for communication partners of people with aphasia, the speech-therapy guideline 'Diagnostics and treatment of aphasia in adults' (NVLF 2015) and recent evidence are available.

Speech therapists, however, experience a shortage of knowledge on potential treatments for frail older adults with cognitive communication disorders and supervision of their family and friends and healthcare professionals. Seeing that frail older adults continue to live at home for longer and therefore need more help in a primary care setting, the modernisation of healthcare for frail older adults is currently gaining momentum. It is therefore increasingly important for healthcare professionals in a primary care setting to work together more and more frequently and closely.

Clinical question

How can the speech therapist help to improve communication between a frail older adult and their family and friends and healthcare professionals?

Conclusions based on the literature

The recommendations are in particular aimed at the speech therapist, who plays a key role in improving communication between frail older adults, their family and friends, and healthcare professionals.

1 Positive feedback means that you as a healthcare professional, namely as speech therapist, confirms what is going well and how the frail older adult or fellow human can continue doing that.
2 The included literature suggests that interventions often focus on education and advice for family and friends with the aim to improve communication with a frail older adult. It is essential here to take the personality, wishes and preferences (in terms of communication) of the person involved into account.
3 The included literature suggests that offering training to healthcare professionals around the frail older adult could have positive outcomes for communication with a frail older adult, and that periodical training has an impact on maintaining knowledge and skills among these healthcare professionals.

Considerations and rationale

Not all interventions are developed and evaluated in the Dutch context. An intervention that was delivered outside the time line of the additional research is the study of M. Olthof on the effectiveness and applicability in speech-therapy practice of Com-mens (Olthof 2018), which can contribute significantly to the improvement of healthcare and communication around frail older adults. The applicability of these interventions, if they were translated, was therefore not evaluated, and the guideline panel can thus not recommend any intervention as a whole in the professional field. Common intervention elements and treatment principles can, however, be found in the interventions, which can be translated into recommendations for practice.

G.3 The role of the speech therapist in the multidisciplinary approach to problem behaviour

Recommendations

- Contribute to the multidisciplinary treatment plan by giving communication advice for verbal, non-verbal and supporting communication.
  - Cooperate with the treating psychologist and contribute to the behaviour analysis by paying attention during the multidisciplinary consultation to other possible or underlying problems, such as cognitive communication disorders and/or problems with hearing, eyesight and stimulus processing.
  - Use knowledge from escalating methods to formulate communication advice.
  - Cooperate with the treating psychologist to ensure that knowledge from various clinical pictures, such as different forms of dementia, acquired brain damage or Korsakov, and various forms of problem behaviour such as depressive, anxious or apathetic behaviour is incorporated in the communication advice to a frail older adult with problem behaviour and their environment.
- As a speech therapist, assume a coaching and connecting role to encourage other healthcare professionals to align with the capabilities and needs of the frail older adult and their environment in terms of verbal and non-verbal communication.
- Refer to the Guideline on Diagnostics and treatment of aphasia (NVLF 2015), the Paramedic guideline on Parkinson (ParkinsonNet 2023), and the SKILZ guideline on Swallowing Problems (SKILZ 2023) for recommendations for speech therapy with frailty due to aphasia, Parkinson's disease, or dysphagia.

Reason

Misunderstood or problem behaviour in frail older adults can lead to a risk of social isolation and loneliness. Problem behaviour in frail older adults is determined on the basis of multiple factors (Verenso 2018-b), and in the theory a methodical method with a joint vision and mindset is described as essential. Recent research in the Netherlands has shown that a multidisciplinary approach is effective and leads to a decrease in problem behaviour and the use of psychiatric drugs (Verenso 2018-b). It is important to recognise the role of communication and the proper approach with problem behaviour. The analysis of problem behaviour is very complex, and the psychologist plays an important role in determining where the client's needs lie, according to the psychosocial model. In a multidisciplinary consultation, agreement can be reached on the role of the speech therapist in this analysis. Unfortunately, there is no clear description of the role of the speech therapist in the multidisciplinary analysis. In the scope of "personalised healthcare", there is therefore a great need for a clear description of the role of speech therapy and the correct use thereof with a frail older adult in a multidisciplinary context. From the barrier analysis it appeared that there was in particular a need for input on what the role of the speech therapist was in the improvement of communication with frail older adults (with dementia) in a multidisciplinary sense. At present, much research is done on the form of care to frail older adults. The renewal in healthcare for frail older adults is currently gaining momentum due in part to the fact that frail older adults continue to live at home longer and therefore need more help in the primary care setting. It is therefore increasingly important for healthcare professionals in a primary care setting to work together more and more frequently and closely. (ParkinsonNet 2023; SKILZ 2023; Verenso 2018-a)

Clinical question

What can a speech therapist contribute to the multidisciplinary analysis and treatment of problem behaviour of a frail older adult with a focus on a communicative approach?

Conclusions based on the literature

Based on the 2 included RCTs and 4 included SRs we may conclude that there are various interventions that can contribute to cognition, behaviour, and communication, but that their levels of evidence vary. The following can be concluded;

Cognitive stimulation, reminiscence therapy, and cognitive stimulation therapy have no significant impact on problem behaviour, cognitive functions, functional skills in everyday life, depression, or quality of life compared to regular care.

Reality orientation therapy (ROT) can have a positive impact on the improvement of cognitive functions in older adults with dementia. Based on the included studies, there is no evidence of a significant decrease in behavioural problems or depression symptoms after ROT.

Multi-Modal Cognitive Enhanced therapy (MCET) is shown to be superior compared to other therapies in the improvement of general cognition in people with a mild cognitive impairment (MCI) or incipient dementia. MCET can also be effective in reducing behavioural and psychological symptoms.

Personalised care puts the emphasis on individual activities and has a favourable impact on reducing agitation, neuropsychiatric symptoms and depression, and on improving quality of life. Short-term interventions appear to be more effective than long-term interventions in reducing agitation.

Doll therapy can possibly have favourable effects on reducing disturbing and aggressive behaviour, increasing social contact, and verbal communication in people with dementia. The available evidence is, however, limited and more research is needed to confirm its effectiveness. The guideline panel does not consider doll therapy as a suitable intervention to be used by speech therapists.

Considerations

The guideline panel states that the literature and interventions that were found are not speech-therapy interventions. This makes it difficult, if not impossible, to assess the interventions in terms of their usefulness in practice.

The guideline panel, however, agrees that the speech therapist might play a role in giving communication advice and in the communicative approach to problem behaviour in the case of dementia. The speech therapist can, upon referral from a doctor or psychologist, become involved in establishing a treatment plan. From psychology it is known that people with dementia and problem behaviour demonstrate such behaviour because there is an underlying need which they are no longer able to express/signal adequately. The analysis is complex and based on multiple factors. The initiator in this analysis is the psychologist who, by means of the bio-psychosocial model, draws up an analysis in which they preferably include other disciplines. Further research and a well substantiated description of the role of the speech therapist in this analysis is highly desirable in order to reduce the knowledge gap and give affective, appropriate input in terms of of communication advice.

The lack of a well substantiated description of the role of the speech therapist in the multidisciplinary analysis is another (related) knowledge gap. This also includes a proper description of the diagnostics that should be used to identify communicative participation.

At present, much research is done on how healthcare is provided to frail older adults. Studies are also underway in the field of speech therapy and communication at various universities in the Netherlands. At the time of establishing the guidelines presented here, many of these studies had just started, were underway, or had not (yet) been published. This is the case with the following studies;

Com-mens (Olthof 2018), SPREAD+ project (AlzheimerNederland), What Matters Most(VU), Diverse Elderly Care, The Art of Belonging, and all possible studies with AI that might still be done in the future.

The guideline panel therefore underlines that the recommendations formulated here are in line with the data that emerge at the time of the literature review, as a result of searches (in the period until May 2023).

Due to the uncertainty regarding the acceptability, efficacy, and evidentiary value of the interventions coming from the literature review, the guideline panel introduced a number of considerations and best-practice experiences from clinical practice. This information led to recommendations on the role of the speech therapist in a multidisciplinary approach to frail older adults with problem behaviour. The role of the speech therapist in the treatment of frail older adults with dementia and problem behaviour is mainly to increase and/or maintain communicative participation. It is important here to cooperate in a multidisciplinary way with the psychologist, physician, psychomotor therapist, occupational therapist, time use coaches/activity coordinators, dietitian, and social worker, with the speech therapist advising in the establishment of communication advice. The aim of the speech therapist here is to ensure that the frail older person with problem behaviour does have abilities to communicate, and to gain insight into the environment of the older adult, which could help reduce problem behaviour. By highlighting communication problems and problem behaviour in different ways, multidisciplinary work can determine where the specific needs for help lie for the frail older adult with problem behaviour. By aligning with the outcomes of the psychologist's biopsychosocial analysis, a speech therapist can provide communication advice that matches the abilities and needs of the frail older adult with problem behaviour and their environment. These communication support needs are explored by means of observation, using elements from various observation lists. Doing a standardised diagnosis is often not feasible or desirable with this target group. The speech therapist, together with the older adult, their family and friends, and healthcare providers, formulates personalised communication advice that can become part of the psychologist's approach and plan. This communication advice gives an understanding of the abilities and (language) comprehension of the frail older adult. It also describes what the desired approach would be for the frail older adult with problem behaviour, and could also outline advice in the form of supportive communication.

Rationale

The guideline panel underlines the priority of a personal approach and identification of personal needs. The speech therapist can play an identifying role here and cooperate with the psychologist and/or physician to identify the client's personal (communication) needs and to bring these to the attention of other healthcare providers.
Communication advice that includes the frail older adult's personal needs could be of use here. The speech therapist can coach other healthcare providers as well as the frail older adult's family and friends, or act as a cooperation partner to make sure that the communication advice is followed. When formulating communication advice, it is recommended to cooperate with the psychologist to ensure sufficient alignment with the established approach advice of a frail older adult with problem behaviour, while safeguarding knowledge of various (mental and/or psychiatric) clinical pictures such as forms of dementia, Korsakov, delirium, anxiety, depression and apathy, and de-escalating techniques for problem behaviour.

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