ASSESSING FRAILTY, SARCOPENIA AND MALNUTRITION:

A PRACTICAL PATHWAY FOR EARLY IDENTIFICATION AND INTERVENTION IN THE COMMUNITY

Frailty is a common and complex clinical syndrome in older adults, marked by a decline in physical strength, endurance, and physiological function[1]. It often co-exists with sarcopenia (loss of muscle mass and strength) and malnutrition, increasing the risk of falls, hospitalisation, loss of independence, and poorer health outcomes[2].

Sarcopenia is a core component of physical frailty, directly contributing to reduced strength, slower gait, and impaired mobility. Malnutrition plays a key role in the development and progression of both sarcopenia and frailty, with prevalence rising alongside increasing severity[3]. Those with or at risk of malnutrition face a fourfold risk of frailty[4] and are three to four times more likely to develop sarcopenia[5,6]. Their inclusion in this pathway reflects their central role in frailty progression and the opportunity for targeted, modifiable interventions.

When communicating with patients, care should be taken to frame these terms in ways that are meaningful and accessible. For example, frailty may be better understood as the body finding it harder to recover from illness or injury, sarcopenia as muscle weakness or reduced strength, and malnutrition as undernutrition or not getting enough of the right nutrients. These descriptions, often reflected in patient-facing resources, can help reduce stigma and improve understanding, supporting more empathetic and effective conversations. The Malnutrition Pathway has produced a patient leaflet to help individuals and carers better understand frailty, its contributing factors, and ways to support health and wellbeing.

GO TO PATIENT LEAFLET

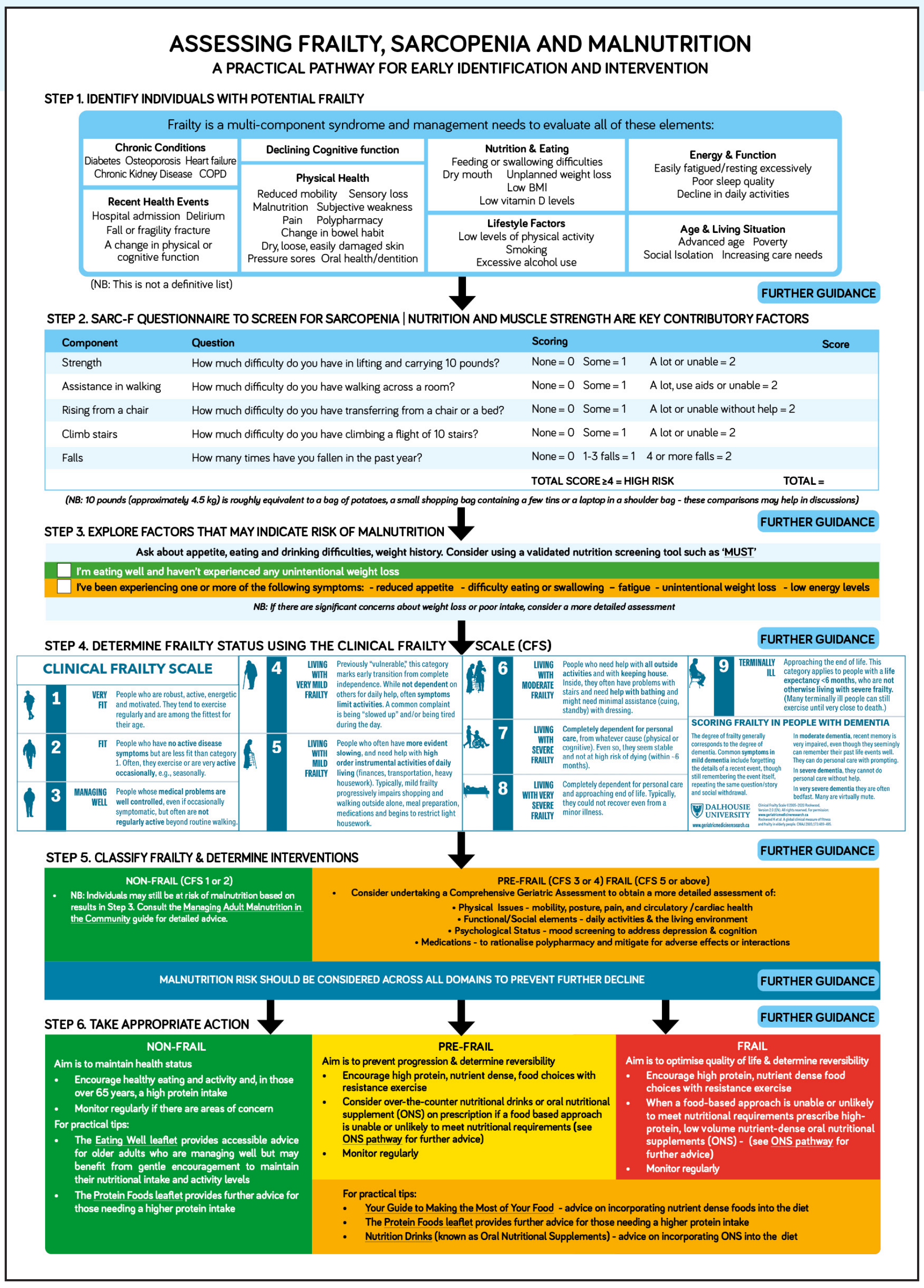
This pathway provides a practical, person-centred approach for identifying frailty and its contributing factors across physical, functional, cognitive, nutritional, and lifestyle domains. It incorporates validated screening tools such as SARC-F[7] (for sarcopenia) and 'MUST'[8] (for malnutrition) and aligns with best practice in Comprehensive Geriatric Assessment (CGA)[9]. These tools, used in combination with physical, functional, psychological, and environmental assessments, enable a holistic and comprehensive view of an individual's frailty status and guide appropriate interventions.

While not intended to be too prescriptive the pathway offers a flexible framework to support clinical judgement and highlight key domains that warrant consideration when assessing and managing frailty. It aims to support early detection, prompt intervention, and tailored care planning, including dietary strategies, physical activity, and where appropriate, the use of oral nutritional supplements (ONS) to optimise outcomes for older adults living with or at risk of frailty.

TOOLS USED ON THE PATHWAY

- Observational and contextual indicators
- SARC-F Questionnaire[7]
- Eating and Drinking Assessment (with option to use 'MUST'[8] if nutritional concerns are significant)
- Clinical Frailty Scale (CFS)[10]
- Comprehensive Geriatric Assessment (CGA)[9]

GO TO PATHWAY DIAGRAM



ASSESSING FRAILTY, SARCOPENIA AND MALNUTRITION

A PRACTICAL PATHWAY FOR EARLY IDENTIFICATION AND INTERVENTION

STEP 1. IDENTIFY INDIVIDUALS WITH POTENTIAL FRAILTY

Frailty is a multi-component syndrome and management needs to evaluate all of these elements:

- **Chronic Conditions**: Diabetes, Osteoporosis, Heart failure, Chronic Kidney Disease, COPD
- **Recent Health Events**: Hospital admission, Delirium, Fall or fragility fracture, A change in physical or cognitive function
- **Declining Cognitive function**
- **Physical Health**: Reduced mobility, Sensory loss, Malnutrition, Subjective weakness, Pain, Polypharmacy, Change in bowel habit, Dry, loose, easily damaged skin, Pressure sores, Oral health/dentition
- **Nutrition & Eating**: Feeding or swallowing difficulties, Dry mouth, Unplanned weight loss, Low BMI, Low vitamin D levels
- **Lifestyle Factors**: Low levels of physical activity, Smoking, Excessive alcohol use
- **Energy & Function**: Easily fatigued/resting excessively, Poor sleep quality, Decline in daily activities
- **Age & Living Situation**: Advanced age, Poverty, Social Isolation, Increasing care needs

(NB: This is not a definitive list)

FURTHER GUIDANCE

STEP 2. SARC-F QUESTIONNAIRE TO SCREEN FOR SARCOPENIA | NUTRITION AND MUSCLE STRENGTH ARE KEY CONTRIBUTORY FACTORS

Component	Question	Scoring	Score
Strength	How much difficulty do you have in lifting and carrying 10 pounds?	None = 0 Some = 1 A lot or unable = 2	
Assistance in walking	How much difficulty do you have walking across a room?	None = 0 Some = 1 A lot, use aids or unable = 2	
Rising from a chair	How much difficulty do you have transferring from a chair or a bed?	None = 0 Some = 1 A lot or unable without help = 2	
Climb stairs	How much difficulty do you have climbing a flight of 10 stairs?	None = 0 Some = 1 A lot or unable = 2	
Falls	How many times have you fallen in the past year?	None = 0 1-3 falls = 1 4 or more falls = 2	
		TOTAL SCORE ≥4 = HIGH RISK	TOTAL =

(NB: 10 pounds (approximately 4.5 kg) is roughly equivalent to a bag of potatoes, a small shopping bag containing a few tins or a laptop in a shoulder bag - these comparisons may help in discussions)

FURTHER GUIDANCE

STEP 3. EXPLORE FACTORS THAT MAY INDICATE RISK OF MALNUTRITION

Ask about appetite, eating and drinking difficulties, weight history. Consider using a validated nutrition screening tool such as 'MUST'

- ☐ I'm eating well and haven't experienced any unintentional weight loss
- ☐ I've been experiencing one or more of the following symptoms: - reduced appetite - difficulty eating or swallowing – fatigue - unintentional weight loss - low energy levels

NB: If there are significant concerns about weight loss or poor intake, consider a more detailed assessment

FURTHER GUIDANCE

STEP 4. DETERMINE FRAILTY STATUS USING THE CLINICAL FRAILTY SCALE (CFS)

CLINICAL FRAILTY SCALE

1 VERY FIT – People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.

2 FIT – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.

3 MANAGING WELL – People whose medical problems are well controlled, even if occasionally symptomatic, but often are not regularly active beyond routine walking.

4 LIVING WITH VERY MILD FRAILTY – Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up" and/or being tired during the day.

5 LIVING WITH MILD FRAILTY – People who often have more evident slowing, and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

6 LIVING WITH MODERATE FRAILTY – People who need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7 LIVING WITH SEVERE FRAILTY – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).

8 LIVING WITH VERY SEVERE FRAILTY – Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.

9 TERMINALLY ILL – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise living with severe frailty. (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In severe dementia, they cannot do personal care without help.

In very severe dementia they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

FURTHER GUIDANCE

STEP 5. CLASSIFY FRAILTY & DETERMINE INTERVENTIONS

NON-FRAIL (CFS 1 or 2)

- NB: Individuals may still be at risk of malnutrition based on results in Step 3. Consult the Managing Adult Malnutrition in the Community guide for detailed advice.

PRE-FRAIL (CFS 3 or 4) FRAIL (CFS 5 or above)

- Consider undertaking a Comprehensive Geriatric Assessment to obtain a more detailed assessment of:
  - Physical Issues - mobility, posture, pain, and circulatory /cardiac health
  - Functional/Social elements - daily activities & the living environment
  - Psychological Status - mood screening to address depression & cognition
  - Medications - to rationalise polypharmacy and mitigate for adverse effects or interactions

MALNUTRITION RISK SHOULD BE CONSIDERED ACROSS ALL DOMAINS TO PREVENT FURTHER DECLINE

FURTHER GUIDANCE

FURTHER GUIDANCE

STEP 6. TAKE APPROPRIATE ACTION

NON-FRAIL

Aim is to maintain health status

- Encourage healthy eating and activity and, in those over 65 years, a high protein intake
- Monitor regularly if there are areas of concern

For practical tips:

- The Eating Well leaflet provides accessible advice for older adults who are managing well but may benefit from gentle encouragement to maintain their nutritional intake and activity levels
- The Protein Foods leaflet provides further advice for those needing a higher protein intake

PRE-FRAIL

Aim is to prevent progression & determine reversibility

- Encourage high protein, nutrient dense, food choices with resistance exercise
- Consider over-the-counter nutritional drinks or oral nutritional supplement (ONS) on prescription if a food based approach is unable or unlikely to meet nutritional requirements (see ONS pathway for further advice)
- Monitor regularly

FRAIL

Aim is to optimise quality of life & determine reversibility

- Encourage high protein, nutrient dense food choices with resistance exercise
- When a food-based approach is unable or unlikely to meet nutritional requirements prescribe high-protein, low volume nutrient-dense oral nutritional supplements (ONS) - (see ONS pathway for further advice)
- Monitor regularly

For practical tips:

- Your Guide to Making the Most of Your Food - advice on incorporating nutrient dense foods into the diet
- The Protein Foods leaflet provides further advice for those needing a higher protein intake
- Nutrition Drinks (known as Oral Nutritional Supplements) - advice on incorporating ONS into the diet

GO TO PATHWAY DIAGRAM

CONTRIBUTORS

GO TO REFERENCE SECTION

The Malnutrition Pathway C.I.C.

ASSESSING FRAILTY, SARCOPENIA AND MALNUTRITION

A PRACTICAL PATHWAY FOR EARLY IDENTIFICATION AND INTERVENTION

STEP 1. IDENTIFY INDIVIDUALS WITH POTENTIAL FRAILTY

Frailty is a multi-component syndrome and management needs to evaluate all of these elements:

Chronic Conditions
Diabetes Osteoporosis Heart failure
Chronic Kidney Disease COPD

Recent Health Events
Hospital admission Delirium
Fall or fragility fracture
A change in physical or cognitive function

Declining Cognitive function

Physical Health
Reduced mobility Sensory loss
Malnutrition Subjective weakness
Pain Polypharmacy
Change in bowel habit
Dry, loose, easily damaged skin
Pressure sores Oral health/dentition

Nutrition & Eating
Feeding or swallowing difficulties
Dry mouth Unplanned weight loss
Low BMI
Low vitamin D levels

Lifestyle Factors
Low levels of physical activity
Smoking
Excessive alcohol use

Energy & Function
Easily fatigued/resting excessively
Poor sleep quality
Decline in daily activities

Age & Living Situation
Advanced age Poverty
Social Isolation Increasing care needs

(NB: This is not a definitive list)

FURTHER GUIDANCE

STEP 2. SARC-F QUESTIONNAIRE TO SCREEN FOR SARCOPENIA | NUTRITION AND MUSCLE STRENGTH ARE KEY CONTRIBUTORY FACTORS

Component	Question	Scoring			Score
Strength	How much difficulty do you have in lifting and carrying 10 pounds?	None = 0	Some = 1	A lot or unable = 2	
Assistance in walking	How much difficulty do you have walking across a room?	None = 0	Some = 1	A lot, use aids or unable = 2	
Rising from a chair	How much difficulty do you have transferring from a chair or a bed?	None = 0	Some = 1	A lot or unable without help = 2	
Climb stairs	How much difficulty do you have climbing a flight of 10 stairs?	None = 0	Some = 1	A lot or unable = 2	
Falls	How many times have you fallen in the past year?	None = 0	1-3 falls = 1	4 or more falls = 2	
		TOTAL SCORE ≥4 = HIGH RISK			TOTAL =

(NB: 10 pounds (approximately 4.5 kg) is roughly equivalent to a bag of potatoes, a small shopping bag containing a few tins or a laptop in a shoulder bag - these comparisons may help in discussions)

FURTHER GUIDANCE

STEP 3. EXPLORE FACTORS THAT MAY INDICATE RISK OF MALNUTRITION

Ask about appetite, eating and drinking difficulties, weight history. Consider using a validated nutrition screening tool such as 'MUST'

- ☐ I'm eating well and haven't experienced any unintentional weight loss
- ☐ I've been experiencing one or more of the following symptoms: - reduced appetite - difficulty eating or swallowing – fatigue - unintentional weight loss - low energy levels

NB: If there are significant concerns about weight loss or poor intake, consider a more detailed assessment

FURTHER GUIDANCE

STEP 4. DETERMINE FRAILTY STATUS USING THE CLINICAL FRAILTY SCALE (CFS)

CLINICAL FRAILTY SCALE

1 VERY FIT — People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.

2 FIT — People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.

3 MANAGING WELL — People whose **medical problems are well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.

4 LIVING WITH VERY MILD FRAILTY — Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.

5 LIVING WITH MILD FRAILTY — People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

6 LIVING WITH MODERATE FRAILTY — People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 LIVING WITH SEVERE FRAILTY — **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).

8 LIVING WITH VERY SEVERE FRAILTY — Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.

9 TERMINALLY ILL — Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty.** (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY
www.geriatricmedicineresearch.ca

Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

FURTHER GUIDANCE

STEP 5. CLASSIFY FRAILTY & DETERMINE INTERVENTIONS

NON-FRAIL (CFS 1 or 2)

- NB: Individuals may still be at risk of malnutrition based on results in Step 3. Consult the Managing Adult Malnutrition in the Community guide for detailed advice.

PRE-FRAIL (CFS 3 or 4) FRAIL (CFS 5 or above)

- Consider undertaking a Comprehensive Geriatric Assessment to obtain a more detailed assessment of:
  - Physical Issues - mobility, posture, pain, and circulatory /cardiac health
  - Functional/Social elements - daily activities & the living environment
  - Psychological Status - mood screening to address depression & cognition
  - Medications - to rationalise polypharmacy and mitigate for adverse effects or interactions

MALNUTRITION RISK SHOULD BE CONSIDERED ACROSS ALL DOMAINS TO PREVENT FURTHER DECLINE

FURTHER GUIDANCE

STEP 6. TAKE APPROPRIATE ACTION

FURTHER GUIDANCE

NON-FRAIL

Aim is to maintain health status

- Encourage healthy eating and activity and, in those over 65 years, a high protein intake
- Monitor regularly if there are areas of concern

For practical tips:

- The Eating Well leaflet provides accessible advice for older adults who are managing well but may benefit from gentle encouragement to maintain their nutritional intake and activity levels
- The Protein Foods leaflet provides further advice for those needing a higher protein intake

PRE-FRAIL

Aim is to prevent progression & determine reversibility

- Encourage high protein, nutrient dense, food choices with resistance exercise
- Consider over-the-counter nutritional drinks or oral nutritional supplement (ONS) on prescription if a food based approach is unable or unlikely to meet nutritional requirements (see ONS pathway for further advice)
- Monitor regularly

FRAIL

Aim is to optimise quality of life & determine reversibility

- Encourage high protein, nutrient dense food choices with resistance exercise
- When a food-based approach is unable or unlikely to meet nutritional requirements prescribe high-protein, low volume nutrient-dense oral nutritional supplements (ONS) - (see ONS pathway for further advice)
- Monitor regularly

For practical tips:

- Your Guide to Making the Most of Your Food - advice on incorporating nutrient dense foods into the diet
- The Protein Foods leaflet provides further advice for those needing a higher protein intake
- Nutrition Drinks (known as Oral Nutritional Supplements) - advice on incorporating ONS into the diet

STEP 1 – IDENTIFYING INDIVIDUALS WITH POTENTIAL FRAILTY

Frailty is a multi-component syndrome shaped by a decline across multiple domains - physical, cognitive, nutritional, emotional, and social[11-13]. Early recognition is vital to help prevent deterioration and support tailored interventions that maintain independence and quality of life[11,14].

Start by identifying individuals who may be at increased risk[15], particularly those experiencing one or more of the following:

- Advanced age (over 75 years old), especially those living alone or in unsupported settings
- Progressive memory loss or cognitive decline
- Multiple long-term health conditions or complex medication regimens
- Recent illness, injury, falls, hospital admission or acute confusion/delirium
- Fatigue, low energy, or reduced ability to manage daily activities
- Unintentional weight loss, poor appetite, or difficulties eating
- Limited mobility or low levels of physical activity
- Social isolation, reduced engagement, or lifestyle factors that may impact health
- Individuals who are already receiving care or may need extra support to manage daily life

This step helps guide whether the individual is at risk and whether the pathway is appropriate for use with the individual. The list outlined is not a definitive one and additional factors may be relevant depending on the individual's circumstances and clinical history.

RETURN TO PATHWAY DIAGRAM

STEP 2 - SCREEN FOR SARCOPENIA USING SARC-F QUESTIONNAIRE

THE SARC-F QUESTIONNAIRE[7]

A simple, quick, and validated tool used to identify signs of sarcopenia, or muscle loss, which is a key component of frailty. By asking about strength, walking ability, ability to rise from a chair, stair climbing, and history of falls, SARC-F provides a practical way to screen for those who may benefit from further physical assessment, resistance exercise programmes, or nutritional intervention to prevent deterioration.

NB: While SARC-F is a useful screening tool, responses should be interpreted with care in individuals who are not able-bodied, as physical limitations unrelated to sarcopenia as scores may reflect baseline limitations rather than new-onset sarcopenia. Clinical judgement and additional assessment may be required.

STEP 3: ASSESS EATING AND DRINKING DIFFICULTIES WHICH MAY INDICATE MALNUTRITION RISK

Asking about reduced appetite, unintentional weight loss, and eating difficulties helps identify early signs of malnutrition. These symptoms could reflect reduced nutritional intake or increased nutritional needs, even in the absence of a formal score. Also consider risk factors for malnutrition to identify likelihood of malnutrition before it develops. Risk factors include diseases that place people at high risk due to physical effects of a disease or treatment, malabsorption, increased requirements, dysphagia, reduced cognitive function[16-18]. Together these warning signs and risk factors allow for timely conversations, dietary advice, support, onward referral if needed, and, where appropriate, guide the use of oral nutritional supplements (ONS)[19,20].

The Malnutrition Universal Screening Tool (MUST) is a widely used screening tool in primary and secondary care, to assist in the identification of adults who are malnourished or at risk of malnutrition. It evaluates current weight status, weight loss, and acute disease effects that may affect nutritional intake. ***NB: Screening should be repeated regularly, in line with local policy.***

In addition to screening, identifying factors contributing to malnutrition is key in determining the most appropriate nutritional care. Remember that some treatments and medications can have side effects which can impact on nutritional status, eating and drinking, and warrant consideration.

Below are some examples of factors that can interfere with eating and drinking, along with ideas on dietary modifications that may help. In all cases, consideration should be given to whether nutritional intake can be increased by dietary advice and education or if oral nutritional supplementation is required:

Examples of problems/symptoms	Considerations	
Early satiety, reduced appetite, feeling full after large amounts	Eating nutrient dense/nutritious foods, little and often, full after small amounts e.g. high calorie/energy, high protein foods	Consider if any medications are causing or aggravating symptoms and whether they can be stopped or if alternative medicines/treatments may help - seek advice from a Pharmacist
Dry mouth, sore mouth, fatigue, chewing difficulties	Soft, easy to chew, moist diet with added sauces. Consider if issues are caused by external factors e.g. poor dentition, oral thrush, and refer as appropriate	
Loss of taste, taste changes	Enhance taste with sauces, marinating, trying new foods, adding herbs, spices or zest	
Difficulty swallowing	Consider referral to a Speech and Language Therapist, see also the advice on managing dysphagia - malnutritionpathway.co.uk/dysphagia.pdf	
Change in bowel habit, vomiting	Check for causes e.g. disease, side effects of treatment, infection - seek further advice on treatment, consider referral to a Dietitian	
Pain	Identify cause, seek advice on management and suitable medication	
Anxiety, depression	Under nutrition can be a cause and a consequence of anxiety or depression. Consider referral to other services where appropriate	

NB: In all cases consider whether dietary modifications will be enough to improve dietary intake

STEP 4: THE CLINICAL FRAILTY SCALE (CFS)[10]

A validated and widely used tool, the Clinical Frailty Scale (CFS) helps healthcare professionals assess an individual's overall level of frailty based on physical function, comorbidities, and cognitive status. With scores ranging from 1 (very fit) to 9 (terminally ill), the CFS supports consistent identification of frailty severity and informs decisions around early intervention, care planning, and the need for Comprehensive Geriatric Assessment (CGA). CFS is validated for use in adults aged 65 and over; however, it can also be useful in other age groups where frailty assessment is clinically relevant - such as individuals with long-term disability, early-onset complex comorbidities, or those experiencing homelessness and social vulnerability.

GO TO REFERENCE SECTION

RETURN TO PATHWAY DIAGRAM

STEP 5: CLASSIFY FRAILTY AND DETERMINE INTERVENTIONS

5A: CLASSIFYING FRAILTY

Non-Frail

Individuals in this group show no significant concerns based on the Clinical Frailty Scale. They are typically living independently, with good appetite, mobility, and overall resilience. Indicators typically include:

- CFS score of 1–2
- SARC-F score of ≤3
- Malnutrition screening in the green category or 'MUST' score of 0

However, individuals with a 'MUST' score of 1 or more, or a SARC-F score of 4 or more, may still be at nutritional risk. Consult the Managing Adult Malnutrition in the Community guide for detailed advice.

Pre-frail (CFS 3–4) and Frail (CFS 5+)

Individuals who show declining function, poor appetite, recent weight loss, or signs of sarcopenia should receive more comprehensive assessment and tailored support. Indicators include:

- CFS score of 3 or higher
- SARC-F score of >4
- Malnutrition screening in orange category, (or 'MUST' score 1 or more)

Malnutrition and sarcopenia are commonly seen in individuals living with frailty, with prevalence increasing as frailty becomes more severe. These overlapping syndromes often co-exist and can reinforce one another, accelerating functional decline and increasing the risk of adverse outcomes. See the Nutritional Considerations section below for more information.

- Action: Consider carrying out a full Comprehensive Geriatric Assessment (CGA), delivered across five core domains:

5B: DETERMINING INTERVENTIONS

Consider carrying out a full Comprehensive Geriatric Assessment (CGA)[9]

CGA is widely recognised as the gold standard for frailty management. It is a multidisciplinary process that leads to an individualised management aimed at improving overall functional status and quality of life[21].

It provides a structured overview of domains that collectively shape an individual's resilience, functionality, and nutritional status[5]:

- ***Physical*** - assessing mobility, gait, posture, pain, and circulation
- ***Functional & Social*** - understanding daily living ability, environment, and access to support
- ***Psychological*** - exploring mood and cognition function
- ***Medication Review*** - checking for polypharmacy (5 medications or more), side effects, adherence barriers, and interactions
- ***Nutrition and Hydration Status*** - looking for indicators such as weight change, reduced oral intake and appetite

Physical Issues – General Considerations

Participation: Older adults, particularly those with frailty, may struggle with prolonged clinical examinations, however equally they may struggle to attend multiple appointments. A one stop assessment is therefore recommended if possible[9].

Assessment of Poorly Compliant Patients: Patients with cognitive impairments may be unable to consent or participate in assessments. Their capacity should be evaluated, and examinations performed in their best interests, in line with mental capacity regulations, and where appropriate, decisions should be made in consultation with next of kin, individuals holding power of attorney, or appointed advocates.

Opportunistic Assessment: Observations during routine interactions such as walking into the room or ill-fitting clothing can provide valuable clues about mobility, balance, and nutritional status. Respiratory function may also be assessed informally; signs such as shortness of breath on exertion or difficulty completing sentences may indicate underlying cardiorespiratory compromise. In community settings, the home environment itself can reveal important insights into safety, functionality, and unmet needs[14] - for example, cluttered spaces, lack of food, or difficulty accessing essential items may signal declining independence or support gaps.

Observations

There are a number of low-burden assessments that can help identify risks or issues across CGA domains:

- ***Sensory Loss:*** Quick screening assessments, such as whisper tests or visual assessments, help detect subtle audio/visual deficiencies that patients may compensate for.
- ***Feet and Footwear:*** Observing foot condition and footwear can reveal balance and functional concerns, while peripheral sensory testing aids in identifying unnoticed abnormalities.
- ***Posture, Gait and Balance:*** Simple tests like timed up and go or step counting improve mobility assessments[13].
- ***Lying and Standing Blood Pressure:*** Measuring postural changes in blood pressure provides insights into fluid balance and potential causes of dizziness or falls.
- ***Cognition and Mood:*** Interactions can hint at cognitive or mood concerns, but formal assessments are required for confirmation.
- ***Pain and Joints:*** Patients may not always report pain, so observing movement and posture can reveal limitations caused by discomfort.
- ***Swallowing Difficulties:*** If swallowing appears difficult, some individuals may require a formal swallowing assessment by a speech and language therapist.
- ***Weight and Nutrition:*** Consistently monitoring weight, assessing clothing fit, checking oral health and noting changes in bowel or digestive function can provide insights into nutritional status[22].
- ***Functional Ability:*** Difficulties in performing personal care or household tasks may indicate a need for further occupational therapy evaluation and/or social care involvement.
- ***Continence Assessment:*** Constipation and other undetected issues can be identified through assessment, ensuring comprehensive care.

GO TO REFERENCE SECTION

RETURN TO PATHWAY DIAGRAM

Functional, Social, and Environmental Assessments

Functional, social, and environmental assessments are crucial components of Comprehensive Geriatric Assessment (CGA), as they provide context for understanding a patient's overall health and wellbeing. An individual's physical function is closely tied to their environment, while social and financial circumstances directly impact their mental and physical health.

Functional Assessment: This evaluates mobility, daily activities, and the ability to engage with digital healthcare. Sensory impairments may affect functionality, but individuals often develop unique coping strategies. Tracking functional changes over time helps guide medical decisions, from surgery considerations to determining the need for supportive care.

Assessment Tools: Various tools aid in functional assessment

There are a variety of tests available and some have been developed by individual trusts – examples include:

BARTHEL INDEX maps functional trajectories

TIMED UP & GO TEST assesses mobility

NOTTINGHAM EXTENDED ACTIVITIES OF DAILY LIVING SCALE assesses social participation

Psychological Components

Mood: Depression in older adults is common but frequently under-recognized, often attributed to aging rather than illness. Symptoms can manifest as weight loss, poor sleep, or increased pain, requiring careful observation and screening questions[23]. Formal assessments, such as the Geriatric Depression Score may help diagnose depression, particularly in those with mild cognitive impairment. Tools like the PHQ-9 (Patient Health Questionnaire) and GAD-7 (Generalized Anxiety Disorder scale) are also widely used in primary care to assess depression and anxiety symptoms.

Cognition: Cognitive decline should be assessed through conversation and screening questions, as many individuals learn to compensate for early dementia. A range of validated tools can support early identification and guide appropriate follow-up. Commonly used assessments are:

- GPCOG ***(General Practitioner Assessment of Cognition):*** a brief, validated tool designed for use in primary care. It includes a patient assessment and optional informant interview to detect cognitive impairment
- 6CIT ***(Six-Item Cognitive Impairment Test)***: a tool commonly used in primary care settings in the UK to screen for cognitive impairment. It assesses orientation, memory, and attention, and takes just 3–4 minutes to complete
- Mini-Cog a quick screening tool combining a three-word recall and a clock-drawing test. It's simple to administer and effective for identifying cognitive concerns
- 4AT Test a rapid assessment tool for delirium and cognitive impairment, requiring no special training and taking less than 2 minutes to complete
- MMSE ***(Mini-Mental State Examination):*** a classic 30-point test assessing orientation, memory, attention, language, and visuospatial skills -

Medications

Medication review is an essential part of Comprehensive Geriatric Assessment (CGA), ensuring prescriptions remain appropriate for older adults with multiple conditions. Many medications may become unnecessary or even harmful over time, particularly when prescribed to counteract the side effects of other drugs. Reviewing a patient's full medication history, assessing usage, and checking for interactions or side effects can lead to meaningful improvements in health[7]. Prioritising adjustments - whether stopping, changing doses, or ensuring correct administration - helps align treatment with the patient's evolving needs while minimising risks.

NUTRITIONAL CONSIDERATIONS

Nutritional status assessment runs through all aspects of Comprehensive Geriatric Assessment (CGA), shaping physical, functional, psychological, and medical well-being:

A decline in nutritional status may be gradual and easily overlooked. However, it can be both a driver and a consequence of frailty. For this reason, nutritional factors should be actively explored in every assessment, not viewed in isolation. Hydration status should also be considered, as inadequate fluid intake may contribute to fatigue, confusion, constipation, and increased falls risk — all of which compound frailty.

Key points to consider during the CGA include:

- Physical impact: Malnutrition and sarcopenia reduce strength, delay healing, increase fall risk, and impair functional independence
- Psychological impact: Low mood, cognitive decline, or fatigue can influence appetite, food preparation, or mealtime engagement
- Social/environmental impact: Isolation, financial hardship, or poor access to food can affect dietary quality and consistency
- Medication impact: Polypharmacy may suppress appetite or interfere with digestion and nutrient absorption

During assessment, explore barriers that may be present that are affecting nutritional intake. Addressing nutrition holistically across these domains enables early intervention to preserve muscle health, reduce frailty, and support long-term well-being in older adults.

Protein and Muscle Preservation

Older adults, especially those living with chronic diseases, have higher protein requirements than younger, healthier individuals to preserve or build muscle mass. Current guidelines recommend intakes of 1–1.5 g/kg of body weight per day, yet actual consumption among older adults is often inadequate[24,25]. If unaddressed, this deficit, coupled with low energy intake, can accelerate muscle loss, reduce immunity and strength, and impair independence, increasing the risk of falls and mortality.[24]

- Distributing protein intake evenly across the day is recommended, with approximately 25–30g of high-quality protein at each of three meals generally considered optimal[26,27].
- A high protein intake compliments resistance exercise to maximise muscle gain for effective management of sarcopenia[24].
- Protein quality varies. Animal-based proteins are generally higher quality and more effective per gram for muscle retention, though adequate amounts of plant proteins still provide comparable benefits[28,29].
- Protein-enriched products are widely available in supermarkets, including powders (e.g. whey or soy), milkshakes, yogurts, and bars, and can offer a convenient source of high-quality protein. Products are also available on prescription for individuals who have been identified at nutritional risk.
- See resources on Sarcopenia and Protein Foods for more information

NB: Where rapidly progressing chronic kidney disease is the overwhelming clinical concern, a high protein intake should not be encouraged and dietetic advice should be sought[30]

GO TO REFERENCE SECTION

RETURN TO PATHWAY DIAGRAM

MULTIDISCIPLINARY SUPPORT

Following classification and CGA, a multidisciplinary approach is often essential to address the complex needs associated with frailty, sarcopenia, and malnutrition and to maximise outcomes:

- ***Physiotherapy:*** can advise on resistance-based exercise programmes, that can be carried out in the home, to help build muscle mass and promote strength, particularly in those with sarcopenia or reduced mobility
- ***Occupational Therapy:*** pacing daily activities to help manage fatigue, stimulate appetite and improve intake can be supported through practical adjustments such as appropriate seating, adaptive cutlery and positive support management.
- ***Dietetic input:*** Personalised dietary advice can help improve nutritional intake, address barriers such as fatigue or poor appetite, and ensure care plans reflect individual preferences, cultural needs, and clinical priorities
- ***Environmental and social support:*** considerations such as access to food, safe housing, and assistance with meal preparation or personal care are key to maintaining independence and wellbeing

STEP 6: TAKE APPROPRIATE ACTION

Once an individual has been classified and, where necessary, undergone CGA, interventions should reflect their needs, preferences, and capacity for improvement.

NON-FRAIL

Aim: To maintain health status

- Encourage healthy eating and activity and, in those over 65 years, a high protein intake

For practical tips:

- The Eating Well leaflet provides accessible advice for older adults who are managing well but may benefit from gentle encouragement to maintain their nutritional intake and activity levels
- The Protein Foods leaflet provides further advice for those needing a higher protein intake
- The NHS Live Well website suggests muscle-strengthening activities ranging from simple exercises for less active adults to more strenuous options for those who are fitter

Monitor regularly if there are areas of concern

PRE-FRAIL

Aim: Prevent progression and assess for reversibility

- Promote a high-protein, nutrient-dense diet to support muscle maintenance and recovery
- Introduce or encourage resistance-based activity, including strength or balance exercises where appropriate
- Where food-based strategies have failed to achieve the desired goal or where it is anticipated that dietary advice alone is unlikely to achieve an improvement in intake, e.g. in those with a limited appetite consider:
  - Over-the-counter nutritional drinks to supplement dietary intake
  - Prescribed Oral Nutritional Supplements (ONS) when clinically indicated — these can help meet protein and energy needs, preserve muscle mass, support recovery and prevent unnecessary deterioration

For practical advice tailored to patients and carers, see:

- Your Guide To Making the Most of Your Food - for advice on including nutrient dense foods in the diet for those at risk of malnutrition
- The Protein Foods leaflet provides further advice for those needing a higher protein intake
- The NHS Live Well website provides examples of muscle-strengthening activities appropriate for older adults

Monitor regularly

FRAIL

Aim: Optimise quality of life and stabilise health

- Develop individualised nutritional care plans focused on preserving muscle mass, strength, and function
- Incorporate resistance exercise as tolerated to promote functional independence - the NHS Live Well website provides examples of muscle-strengthening activities appropriate for older adults
- Where appetite is poor, dietary intake is limited, and where dietary advice and education is unlikely to assist in meeting nutritional requirements, prescribe high-protein oral nutritional supplements (ONS):
  - High-protein ONS are a valuable intervention when food intake alone is insufficient[31]. They can help preserve muscle mass, support recovery, and improve clinical outcomes in individuals at risk of or living with frailty.
  - European expert consensus recommends that ONS for older adults should provide at least 30g of protein and 400kcal per day to maintain or improve nutritional status and promote functional recovery[32].
  - Low volume, high protein ONS are especially beneficial for individuals with fatigue, poor appetite, or difficulty consuming larger portions.
  - For practical guidance on prescribing and using ONS, see: ONS Pathway for Healthcare Professionals - guidance on prescribing ONS

For practical guidance on prescribing and using ONS, see:

- Your Guide To Making the Most of Your Food - for advice on including nutrition dense foods in the diet for those at risk of malnutrition
- Nutrition Drinks (known as Oral Nutritional Supplements) - advice on incorporating ONS into the daily diet of individuals at malnutrition risk
- Protein Foods- advice on increasing protein intake

Monitor regularly

GO TO REFERENCE SECTION

RETURN TO PATHWAY DIAGRAM

REFERENCES

1. Clegg A, Young J. The frailty syndrome. Clin Med (Lond). 2011 Feb;11(1):72-5.
2. Roberts S, Collins P, Rattray M. Identifying and Managing Malnutrition, Frailty and Sarcopenia in the Community: A Narrative Review. Nutrients. 2021; 13(7):2316.
3. Verlaan S, et al. High Prevalence of Physical Frailty Among Community-Dwelling Malnourished Older Adults-A Systematic Review and Meta-Analysis. J Am Med Dir Assoc. 2017 May 1;18(5):374-382.
4. Rodríguez-Sánchez et al. Effects of Malnutrition on the Incidence and Worsening of Frailty in Community-Dwelling Older Adults with Pain. Nutrients 2025, 17, 1400.
5. Beaudart C et al. Malnutrition as a strong predictor of the onset of sarcopenia. Nutrients. 2019; 11(12): 2883.
6. Batsis JA, Villareal DT. Sarcopenic obesity in older adults: aetiology, epidemiology and treatment strategies. Nat Rev Endocrinol. 2018; 14(9): 513-537.
7. Malmstrom and Morley. SARC-F: A simple questionnaire to rapidly diagnose sarcopenia. Journal of the American Medical Directors Association. 2013;14(8):531–532.
8. Elia M, editor. The 'MUST' report. Nutritional screening for adults: a multidisciplinary responsibility. 2003. Redditch, UK, BAPEN.
9. British Geriatric Society (BGS). Comprehensive Geriatric Assessment Toolkit for Primary Care Practitioners. 2019. www.bgs.org.uk/cgatoolkit
10. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. Canadian Medical Association Journal (CMAJ). 2005;173(5):489–495.
11. Clegg et al. Frailty in elderly people. Lancet. 2013 Mar 2;381(9868):752–62.
12. Hoogendijk et al. Frailty: implications for clinical practice and public health. Lancet. 2019 Oct 12;394(10206):1365–1375
13. British Geriatrics Society. Frailty: what's it all about? 23 May 2018. www.bgs.org.uk/resources/frailty-what%E2%80%99s-it-all-about
14. Graham et al. What are the priorities for research of older people living in their own home, including those living with frailty? A systematic review and content analysis of studies reporting older people's priorities and unmet needs. Age Ageing. 2024 Jan 2;53(1):afad232.
15. Boucham et al. Factors associated with frailty in older people: an umbrella review. BMC Geriatrics. 2024; 24:737
16. Laur et al. Malnutrition or frailty? Overlap and evidence gaps in the diagnosis and treatment of frailty and malnutrition. Appl Physiol Nutr Metab. 2017;42(5):449–458.
17. Boulos C, Salameh P, Barberger-Gateau P. Malnutrition and frailty in community dwelling older adults living in a rural setting. Clin Nutr. 2016;35(1):138–143.
18. Martin et al. Presence of malnutrition and risk of malnutrition in institutionalized elderly with dementia according to the type and deterioration stage. Nutr Hosp. 2012;27:434–440.
19. Cawood A, Elia M, Stratton RJ. Systematic review and meta-analysis of the effects of high protein oral nutritional supplements. Ageing Res Rev. 2012 Apr;11(2):278–296.
20. Cramer et al. Impacts of High-Protein Oral Nutritional Supplements Among Malnourished Men and Women with Sarcopenia: A Multicenter, Randomized, Double-Blinded, Controlled Trial. J Am Med Dir Assoc. 2016;17(11):1044–1055
21. Stuck et al. Comprehensive geriatric assessment: a meta-analysis of controlled trials. Lancet. 1993;342(8878):1032–1036.
22. Pilgrim et al. An overview of appetite decline in older people. Nurs Older People. 2015 Jun;27(5):29–35.
23. Blazer DG. Depression in late life: review and commentary. J Gerontol A Biol Sci Med Sci. 2003;58(3):M249–M265.
24. Bauer et al. Evidence-based recommendations for optimal dietary protein intake in older people: a position paper from the PROT-AGE Study Group. J Am Med Dir Assoc 2013; 14 (8): 542–559.
25. Morris et al. Inadequacy of Protein Intake in Older UK Adults. Geriatrics (Basel). 2020 Feb 12;5(1):6
26. Lonnie et al. Protein for Life: Review of Optimal Protein Intake, Sustainable Dietary Sources and the Effect on Appetite in Ageing Adults. Nutrient. 2018; 10(3), 360.
27. Agergaard et al. Even or skewed dietary protein distribution is reflected in the whole-body protein net-balance in healthy older adults: A randomized controlled trial. Clinical Nutrition. 2023: 42(6), 899-908.
28. Lim et al. Animal Protein versus Plant Protein in Supporting Lean Mass and Muscle Strength: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Nutrients. 2021;, 13(2), 661.
29. Nichele S., Phillips SM, Boaventura BCB. Plant-based food patterns to stimulate muscle protein synthesis and support muscle mass in humans: a narrative review. Appl Physiol Nutr Meta.. 2022; 47(7), 700-710.
30. Piccoli et al. Nutritional status and the risk of malnutrition in older adults with chronic kidney disease – implications for low protein intake and nutritional care: A critical review endorsed by ERN-ERA and ESPEN. Clinical Nutrition. 2023; 42(4): 443 - 457
31. Cawood A et al. Systematic review and meta-analysis of the effects of high protein oral nutritional supplements. Ageing Res Rev. 2012 Apr;11(2):278-96
32. Deutz et al. Protein intake and exercise for optimal muscle function with aging: Recommendations from the ESPEN Expert Group. 2014; 33: 929-36. 21.

CONTRIBUTORS

This pathway was developed by:

- Dr Anne Holdoway, Consultant Dietitian and Clinical Director of the Malnutrition Pathway
- Dr Sanjay Suman, Consultant Geriatrician

Their clinical leadership shaped the core structure and content of the resource.

Its relevance to multidisciplinary practice has been further strengthened by the insights and feedback of the following professionals, whose contributions helped refine the pathway and ensure its clarity, accuracy, and practical value:

- Liz Anderson, Registered Nurse and Lead Nurse for Nutrition
- Tenar Batty, Clinical Specialist Occupational Therapist
- Sam Cudby, Practice Pharmacist
- Dan Griffith, Specialist Dietitian
- Paul McCallion, Advanced Physiotherapist
- Louise Nash, Specialist Frailty Dietitian
- Dr Anita Nathan, General Practitioner. Member of the GPs with an Interest in Nutrition & Lifestyle Group (GPING)
- Ruth Newton, Surgical/Nutrition Specialist Pharmacist
- Patrick Ward-Ongley, Macmillan Lead Dietitian
- Lauren Wilmott, Advanced Clinical Practitioner Occupational Therapist

This pathway has been produced with an unrestricted educational grant from Nutricia

Please send feedback or requests for permission to reproduce any part of this guide to:
The Malnutrition Pathway C.I.C., 30 Queens Drive, Thames Ditton, Surrey, KT7 0TW malnutritionpathway@franklincoms.co.uk

RETURN TO FIRST PAGE