Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# **Coding Instructions:**

Capture the last Clinical Frailty Scale score documented by the surgeon or advanced practice provider prior to the start of the operative procedure. If a score is documented by both a surgeon and an APP, capture the score documented by the surgeon.

# Intent, Clarification, and FAQ:

**Q:** Should the score be based on the patient's baseline status, or should new and acute symptoms related to their current cardiac surgical procedure be considered?

**A:** The intent is to capture the patient's baseline health status (two weeks ago). The baseline health state is what the person was like before any acute events.

**Q:** Can the data abstractor infer the score based on clinical documentation?

**A:** No. A score must be documented by a physician or advanced practice provider.

## Data Collection and Submission Processes:

**Hospitals using ARMUS STS software:** A custom field will be added by ARMUS for your use.

**Hospitals using other STS software:** An Excel spreadsheet template will be provided to collect the CSF for submission to the MSTCVS QC Coordinating Center. Please ensure the file is sent via a secure method.

Clinical Frailty Score data is to be submitted to the MSTCVS Coordinating Center quarterly, aligning with the STS data harvest submission deadline.

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# **REDCap Variables**

Field #: 1

Long Name: REDCap Record ID

Short Name: record\_id

Field Type: Auto Populated Text

**Definition:** Unique value generated by the REDCap software that identifies each record in the database.

------

Field #: 2

Long Name: STS Participant ID Short Name: sts\_part\_id

Field Type: Text

**Definition:** Indicate the STS Participant ID where the procedure was performed.

#### Intent/Clarification:

MSTCVS QC will use this value to communicate issues about individual records with the participant. It will also be used by the Coordinating Center to link the REDCap record to the STS record.

\_\_\_\_\_\_

Field #: 3

Long Name: STS Record ID Short Name: sts\_record\_id

Field Type: Text

**Definition:** An arbitrary, unique value generated by the software that permanently identifies each record in the participant's STS database (note that unlike the PatID value, this does not identify the individual patient). The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once assigned to a record, this value can never be changed or reused.

#### Intent/Clarification:

MSTCVS QC will use this value to communicate issues about individual records with the participant. It will also be used by the Coordinating Center to link the REDCaprecord to the STS record.

------

Field #: 4

Long Name: Date of Surgery Short Name: date\_of\_surgery Field Type: Text (date\_mdy)

**Definition:** Indicate the date the patient entered the operating room for the index cardiac surgical procedure. Index cardiac surgical procedure is defined as the initial major cardiac surgical procedure of the hospitalization.

#### Intent/Clarification:

MSTCVS QC will use this value to communicate issues about individual records with the participant. It will also be used by the Coordinating Center to link the REDCap record to the STS record.

Required date format: mm-dd-yyyy

Subject to revision. Last updated 1/9/2024

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

\_\_\_\_\_\_

Field #: 5

Long Name: Date of Discharge Short Name: date\_of\_discharge Field Type: Text (date\_mdy)

**Definition:** Indicate the date the patient was discharged from the hospital.

#### Intent/Clarification:

MSTCVS QC will use this value to communicate issues about individual records with the participant. It will also be used by the Coordinating Center to link the REDCap record to the STS record.

#### Required date format: mm-dd-yyyy

Field #: 6

Long Name: Clinical Frailty Score Short Name: mstcvs\_frailty\_score

Field Type: Radio / Text

**Definition:** Indicate the numeric Clinical Frailty Score as documented by a physician or advanced practice provider:

- 1. Very Fit
- 2. Fit
- 3. Managing Well
- 4. Living with Very Mild Frailty
- 5. Living with Mild Frailty
- 6. Living with Moderate Frailty
- 7. Living with Severy Frailty
- 8. Living with Very Severe Frailty
- 9. Terminally III
- 10. Not Documented

#### Intent/Clarification:

Capture the last Clinical Frailty Scale score documented by the surgeon or advanced practice provider prior to the start of the operative procedure. If a score is documented by both a surgeon and an APP, capture the score documented by the surgeon. The intent is to capture the patient's baseline health status (two weeks ago). The baseline health state is what the person was like before any acute events.

Field #: 7

**Long Name: Complete** 

Short Name: mstcvs\_clinical\_frailty\_assessment\_complete

Field Type: Yes/No

**Definition:** Unique field generated by the REDCap software to allow users to track completeness of record. This field may be left blank.

Subject to revision. Last updated 1/9/2024

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# Clinical Frailty Scale Guidance and Training:

The following guidance and training resources were obtained from the Dalhousie University Geriatric Medicine group and compiled in this document for enhanced accessibility by MSTCVS Quality Collaborative participants.

# Clinical Frailty Scale:

https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html

The **Clinical Frailty Scale (CFS)** was introduced in the second clinical examination of the Canadian Study of Health and Aging (CSHA) as a way to summarize the overall level of fitness or frailty of an older adult after they had been evaluated by an experienced clinician (Rockwood *et al.*, 2005).

Although introduced as a means of summarizing a multidimensional assessment in an epidemiological setting, the CFS quickly evolved for clinical use, and has been widely taken up as a judgement-based tool to screen for frailty and to broadly stratify degrees of fitness and frailty. It is not a questionnaire, but a way to summarize information from a clinical encounter with an older person, in a context in which it is useful to screen for and roughly quantify an individual's overall health status.

The highest grade of the CFS (level 7) as published in 2005, incorporated both severe frailty and terminal illness. Later, it became evident that we needed to distinguish between identifiable groups who were otherwise lumped together in the original scale – severely frail, very severely frail and terminally ill - as clinically distinct groups who required distinctive care plans. Therefore, in 2007 the CFS was expanded from a 7-point scale to the present 9-point scale, and it has been used extensively in that format. We published on the predictive validity of the 9-point CFS in 2020 (Pulok *et al.*, 2020).

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# 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.
t	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.



#### **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.



Clinical Frailty Scale ©2005–2020 Rockwood, Version 2.0 (EN). All rights reserved. For permission: www.geriatricmedicineresearch.ca Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# Clinical Frailty Scale Guidance and Training:

Guidance for using the **Clinical Frailty Scale** has been published in Rockwood K, Theou O. Using the Clinical Frailty Scale in allocating scarce health care resources. *Can Geriatr J.* 2020;23:254-259.

Excerpt from above mentioned manuscript:

#### Using the Clinical Frailty Scale to Grade Degrees of Fitness Prior to the Level of Risk Associated with Frailty

How a person moves, functions, and think helps to delineate the first three levels of the scale. For example, consider a patient who is not impaired in any instrumental or personal activity of daily living (ADL), who is able to move readily, and who is taking an angioconverting enzyme (ACE) inhibitor. If that person is taking the ACE inhibitor for treatment of hypertension and exercises or engages in vigorous activity daily, their score would be **Level 1– Very Fit**. The same profile, with regular but less frequent or less vigorous physical activity would be scored as **Level 2 – Fit** (previously "Well"). Another person who fits the broad description and who is using the ACE inhibitor as part of post myocardial infarction management, but whose ischemic heart disease has been otherwise asymptomatic, would also be scored based on their degree of physical activity. If their symptoms were mostly controlled, but not entirely so, they would be scored as **Level 3 – Managing Well**. Likewise, a person on an ACE inhibitor as part of symptomatic management of congestive heart failure would be scored as Level 3 – Managing Well, as long as their symptoms did not limit activities, in which case they would be scored as Level 4 – Living with Very Mild Frailty (previously "Vulnerable").

#### Using the Clinical Frailty Scale to Grade Clinically Meaningfully Increased Risk

For Levels 4 to 7, mobility, function, and cognition are key factors. Each reflects high-order aspects of health: they integrate a lot of information. This means that there are many ways to have mobility problems, for example: a sprained ankle, diabetic nerve damage, dehydration, heart failure, kidney damage or pneumonia. In consequence, these key domains are sensitive signs of health, but are not very specific. It is the combination of impaired function and impaired mobility, which are commonly accompanied by several illnesses, that make it likely someone is frail.

Level 4 – previously "Vulnerable" is now Living with Very Mild Frailty, reflecting recent research with the Canadian Longitudinal Study of Aging that captures the increased risk with the corresponding degree of deficit accumulation. People with many chronic conditions often report incomplete symptom control, and of feeling "slowed up" or tired. A similar complaint is that their health stands in the way of doing as they wish, or that what they had done easily is now accomplished only with great effort. Otherwise, Level 4 is characterized by the person who, although not completely dependent in performing daily activities, seems at risk of at least mild dependence. Identifiable characteristics of this risk include incomplete symptom control and a reduction in demanding activities. Problems with heavy housework, lifting (e.g., difficulty taking out the trash) or climbing more than a flight of stairs are useful signs. Although these activities might still be attempted, often they are not done as well or as often. When asked, "compared to others of your own age, how would you rate your health?", many at this stage will no longer rate their health as "excellent" or even "good", but rather as "fair" or "poor". Levels 5 to 7 relate to changes in function. Varying degrees of dependence in instrumental ADLs define.

**Level 5 – Living with Mild Frailty** (previously "Mildly Frail"). At this level, typically, there is no more pretense of doing heavy housework or the like items that began to be impaired in Level 4. A person does not need to be dependent in all demanding activities to qualify as Level 4, nor in all aspects of instrumental ADLs to qualify as Level 5. We are interested in change; someone who never did the banking would not now be scored as dependent in that.

With **Level 6 – Living with Moderate Frailty** (previously "Moderately Frail"), dependence now extends past instrumental ADLs to intermediate ones, notably including dependence in bathing. Often at this level minimal assistance with

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

personal care might be needed. Moderate dementia is the case when people who are dependent in their performance of instrumental ADLs can still do their basic or personal ADLs with prompting. This can also be the case in people who are cognitively intact, but whose disability obliges them to have someone nearby (so-called "standby assistance" or "set-up"). Again considering bathing, an example of moderate frailty might be requiring someone to draw the bath when the dis-abled person has difficulty managing the taps, or assisting with transferring in and out of the tub, or washing their hair. Notably, a systematic review found that bathing disability is a risk factor for greater disability in personal ADLs.

Level 7 – Living with Severe Frailty (previously "Severely Frail") is characterized by progressive dependence in personal ADLs. People need not be dependent in every aspect of personal care to be scored as Level 7. When assessing functional dependence in intermediate (Level 6) and personal (Level 7) ADLs, lifelong habit is a less relevant consideration; most everyone needs to bathe, groom, and use the toilet. Still, people living with severe frailty can be mobile. Progressively taking to bed—but not being largely bedfast—is the hallmark of the progression of severe frailty.

#### Using the Clinical Frailty Scale in People Towards the End of Life

The understanding of what happens at the end of life has evolved in relation to its association with ageing. Older people who are terminally ill are much more likely to receive formal palliative care if they have a diagnosis of cancer than if they have a disease with a recognized terminal phase, such as dementia or heart failure.

**Level 8 – Living with Very Severe Frailty** (previously "Very Severely Frail") is the not uncommon state in which a frail person takes to bed, often for weeks, prior to dying. This is either heralded by an identifiable episode, such as an infection, or the person just slips away, commonly after some days of reduced oral intake. Very severely frail people who die without a single apparent cause typically follow such a trajectory, commonly without much pain or even distress, often, with the exception of impaired bowel function.

**Level 9 – Terminally III** is notable for being the only level in which the current state trumps the baseline state, in that the terminally ill person might have been operating at any frailty level at baseline. On the Clinical Frailty Scale card, this person is pictured seated in a chair. This reflects the fact that many older adults who are dying with a single system illness—notably cancer—have a reasonable level of function until about the very end. That is why we portray the situation in that way. Even so, if a terminally ill person was completely dependent for personal care at baseline, they would be scored as Level 8.

#### **Final Hints About Scoring and Next Steps**

Within each level of the Clinical Frailty Scale, individual characteristics will vary. About 80% or more of people will fit the description offered for a given level. If they fit two categories equally well, in routine care it is best to score the scale at the higher or more dependent level. Sometimes we see people who are dependent in a single instrumental ADL that arises in a specific circumstance (e.g., relying on someone whom they trust to do banking duties due to the closure of a nearby bank branch or difficulty with the automated banking). In that case, the determination will often rest on the extent to which the person is aware of income and outflow; being aware of it and knowing that it remains a matter of importance can suffice. We recognize that there is likely to be some variability in judgement in these circumstances, especially in the extent to which the rater or the person (or the informant) feel comfortable discussing such matters. This is inherent in a judgement-based measure and, in our view, a price worth paying compared with attempting to automate scoring that can specify all the variants its designers can imagine.

Clinical Frailty Scale Measurement Description and Frequently Asked Questions



# Top Tips to help you use the Clinical Frailty Scale

The Clinical Frailty Scale (CFS) was designed to summarise the results of a Comprehensive Geriatric Assessment. It's now commonly being used as a triage tool to make important clinical decisions, so it is imperative that it is used correctly.

- It's all about the baseline
  If the person you are assessing is acutely
  unwell, score how they were 2 weeks ago,
  not how they are today.
- The CFS is an objective clinical assessment tool. Frailty must be sensed, described, and measured not guessed.
- Trust, but verify
  What the person you are assessing says is important, but should be cross-referenced with family/carers. The CFS is a judgement-based tool, so you must integrate what you are told, what you observe, and what your professional clinical experience tells you from dealing with older adults
- Over-65s only
  The CFS is not validated in people under
  65 years of age, or those with stable singlesystem disabilities. However, documenting
  how the person moves, functions, and has
  felt about their health may help to create an
  individualised frailty assessment.
- For people who appear very close to death, the current state (i.e. that they are dying) trumps the baseline state.

- Having medical problems does not automatically increase the score to CFS 3

  A person who isn't bothered by symptoms and whose condition(s) doesn't limit their lives can be CFS I or 2 if they're active and independent.
- People in this category are not dependent (though they may need assistance with heavy housework), but often complain of "slowing down". They're becoming sedentary, with poor symptom control.
- Dementia doesn't limit use of the CFS
  Decline in function in people living with
  dementia follows a pattern similar to frailty:
  mild, moderate and severe dementia
  generally map to CFS 5, 6 and 7 respectively.
  If you don't know the stage of dementia,
  follow the standard CFS scoring.
  - Drill down into changes in function

    When considering more complex activities of daily living (such as cooking, managing finances, and running the home) the focus is on change in function. A person who has always relied on someone else to perform a particular activity should not be considered dependent for that activity if they've never had to do it before and may not know how.

Kenneth Rockwood, Sherri Fay, Olga Theou & Linda Dykes



Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# Using the Clinical Frailty Scale to Rapidly Assay Grades of Fitness and Frailty:

CFS Guidance Document - Version 2020-Apr-06 2 of 2 Geriatric Medicine Research | Dalhousie University, Halifax, Nova Scotia | gmru@dal.ca

The Clinical Frailty Scale (CFS) is an inclusive 9-point scale introduced to summarize the overall level of fitness or frailty of an older adult after they have been evaluated by a health care professional. (Here a health care professional is defined as anyone with a license or registration – e.g. MD, RN, LPN, OT, PT, SW, psychologist.) The CFS is scored so that higher scores mean greater risk. It is not a questionnaire, but a judgement-based tool to screen for frailty and to broadly stratify degrees of fitness and frailty.

Note that the CFS is not designed for people whose disabilities reflect single-system problems (e.g. spinal cord injury) or developmental delay, not a gradual accumulation of health deficits with age. The CFS focuses on a few items that can be readily observed without special training. The key point is to find out about the person's baseline health state. This is especially needed in clinical settings where changes in how healthy someone appears can change quickly. For example, when older people are ill enough to come to the Emergency Department, even people who have been fit can appear frail.

The baseline health state is what the person was like before they were ill (i.e. two weeks ago). It is hard for someone to get better than they were two weeks before they became ill. Understanding their baseline is essential in planning for their care. If the person themself cannot tell you about their health over the past two weeks, you must speak with someone who can. The more information you have about someone, the better you are able to score them on the scale. That is why it requires talking to someone who knows what the person is usually like. Scoring the CFS requires you to incorporate this information, with what you observe, and with what you know from experience in dealing with older adults. The CFS requires judgment; it's not a questionnaire in which you write down whatever the patient tells you. If it is not clear to you, ask a colleague whose judgment you trust.

The CFS is introduced by saying something like: "I'd like to know about how you are [your dad is] doing overall." We then ask about four features: how the person moved, functioned, thought and felt about their health over the last two weeks. We can ask about which medications the person uses; experienced clinicians can quickly assay which illnesses are likely present from what medications are being prescribed and/or used. We also ask about how active an individual is. This allows the first three levels to be identified. For example, consider a patient who is not impaired in any instrumental or personal activity of daily living (ADL), who is able to move readily, and who is taking an ACE inhibitor. If that person taking the ACE inhibitor for treatment of hypertension, exercises or is otherwise engaged in vigorous activity daily, the CFS score would be Level 1 - Very Fit. The same profile, with regular but less frequent or less vigorous activity would be scored as Level 2 - Well. Another person who fits the broad description, and who is using the ACE inhibitor as part of post myocardial infarction management, but whose ischemic heart disease has been otherwise asymptomatic, would also be scored based on their degree of physical activity. If their symptoms were mostly controlled, but not entirely so, they would be scored as Level 3 - Managing Well. Likewise, a person on an ACE inhibitor as part of symptomatic management of congestive heart failure would be scored as Level 3 - Managing Well, as long as their symptoms did not limit activities, in which case they would be scored as Level 4 - Vulnerable. People with many chronic conditions often report incomplete symptom control, feeling slow, or tired A similar complaint is that their health stands in the way of doing as they wish.

Clinical Frailty Scale Measurement Description and Frequently Asked Questions

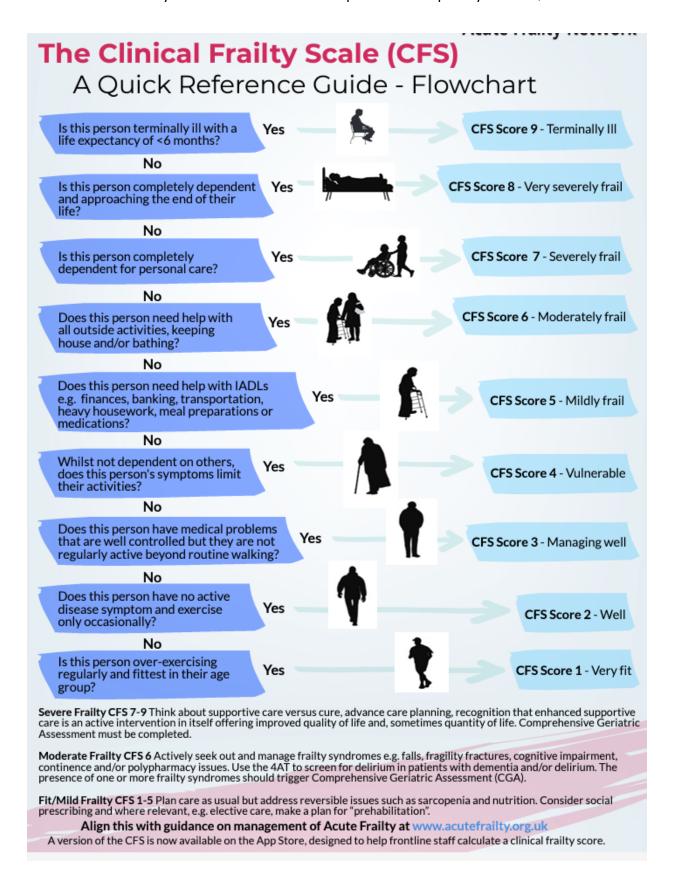
For levels 4 to 7, mobility, function and cognition are key. Each reflect high-order aspects of health: they integrate a lot of information. This means that there are many ways to have mobility problems, for example: a sprained ankle, diabetic nerve damage, dehydration, heart failure, kidney damage or pneumonia. In consequence, these key domains are sensitive signs of health but are not very specific. It is the combination of impaired function and impaired mobility, which are commonly accompanied by several illnesses, that make it likely that someone is frail.

**Level 4 - Vulnerable** is characterized by the person who, although not totally dependent, seems at risk. Incomplete symptom control and a reduction in demanding activities, such as heavy housework, lifting, or climbing more than a flight of stairs are useful signs. Although these activities might still be attempted, commonly they are not done as well or as often. Many people at this stage simply do not feel all that well, and might complain of being "slowed up". When asked, "Compared to others of your own age, how would you rate your health?", they will often rate their health as fair or poor.

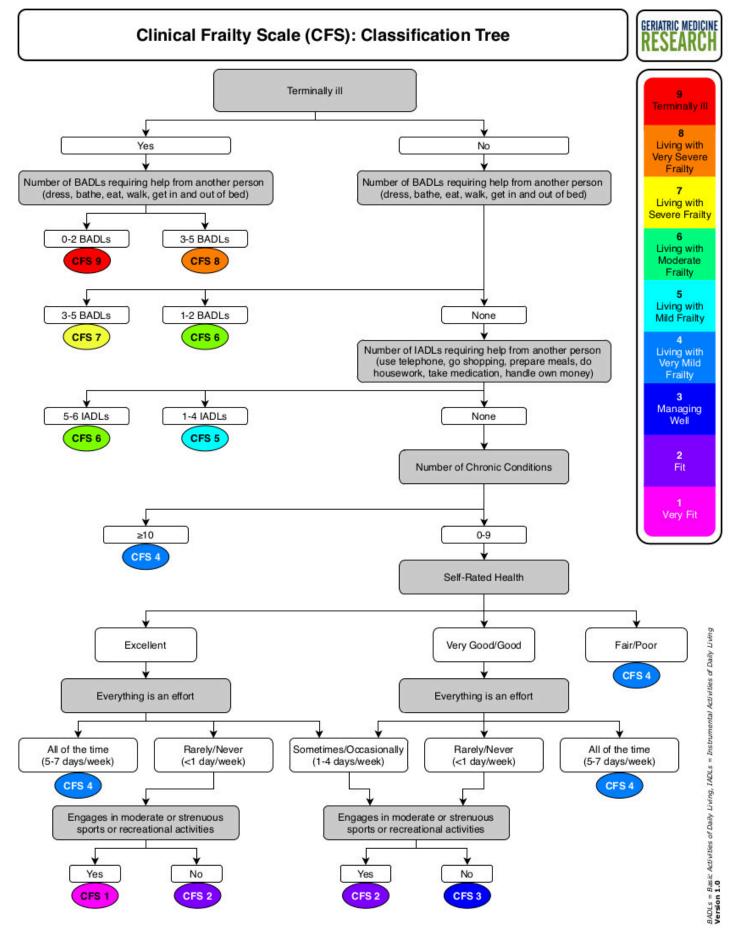
Levels 5 to 7 relate to changes in function. Varying degrees of dependence in instrumental ADLs define Level 5 – Mildly Frail. At this level, typically, there is no more pretense of doing heavy housework or the like – items that began to be impaired in Level 4. A person doesn't need to be dependent in all demanding activities to quality as Level 4, nor in all aspects of Instrumental ADLs to qualify as Level 5. We are interested in change: someone who never did the banking would not now be scored as dependent in that. With Level 6 – Moderately Frail, dependence now extends past instrumental ADLs to intermediate ones, notably including bathing. Often at this level, minimal assistance with personal care might be needed. In Level 7 – Severely Frail there is progressive dependence in personal ADLs. People do not need to be dependent in every aspect of personal care to be scored as Level 7. When assessing functional dependence in intermediate (Level 6) and personal (Level 7) ADLs, lifelong habit is a less relevant consideration: most everyone needs to bathe, groom and use the toilet.

**Level 8 – Very Severe Frailty** is the not uncommon state in which a frail person takes to bed, often for weeks, prior to dying. This is either heralded by an identifiable episode, such as an infection, or the person just slips away, commonly after some days of reduced oral intake. Very severely frail people who die without a single apparent cause typically follow such a trajectory, commonly without much pain or even distress; often with the exception of impaired bowel function, even without opiates. **Level 9 – Terminally III** is the only level in which the current state trumps the baseline state, in that the terminally ill person might have been operating at various frailty levels at baseline. The person is pictured seated in a chair. Many older adults who are dying with single system illness – notably cancer – have a reasonable level of function until about the very end, and that is why we portray the situation in that way. Even so, if a terminally ill person was bedfast, they would still be scored as Level 9. Within each level, individuals will vary. About 80% or more of people will fit the description offered for a given level. If they fit two categories equally well, it is best to score the scale at the higher or more dependent level.

Clinical Frailty Scale Measurement Description and Frequently Asked Questions



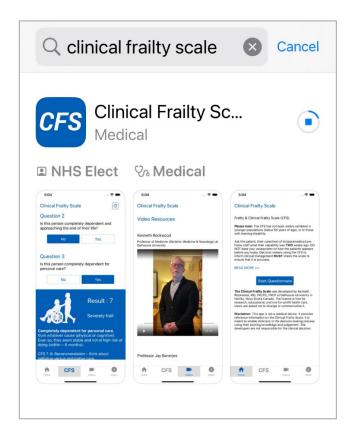
Clinical Frailty Scale Measurement Description and Frequently Asked Questions

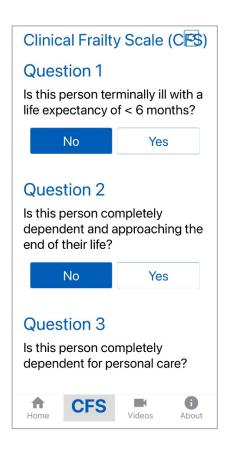


Clinical Frailty Scale Measurement Description and Frequently Asked Questions

# Clinical Frailty Scale App:

Developed by the Acute Frailty Network in the UK





Clinical Frailty Scale Measurement Description and Frequently Asked Questions

## References:

Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, Mitnitski A. <u>A global clinical measure of fitness</u> and frailty in elderly people. *CMAJ*. 2005;173(5):489-495.

Pulok MH, Theou O, van der Valk AM, Rockwood K. <u>The role of illness acuity on the association between frailty and mortality in emergency department patients referred to internal medicine</u>. *Age Ageing*. 2020;49(6):1071-1079.

Rockwood K, Theou O. <u>Using the Clinical Frailty Scale in Allocating Scarce Health Care Resources</u>. *Can Geriatr J*. 2020:23(3):210-215.

Theou O, Pérez-Zepeda MU, van der Valk AM, Searle SD, Howlett SE, Rockwood K. <u>A classification tree to</u> assist with routine scoring of the Clinical Frailty Scale. *Age Ageing*. 2021;50:1406-1411.