

Frailty: recognizing the signs and managing the issues

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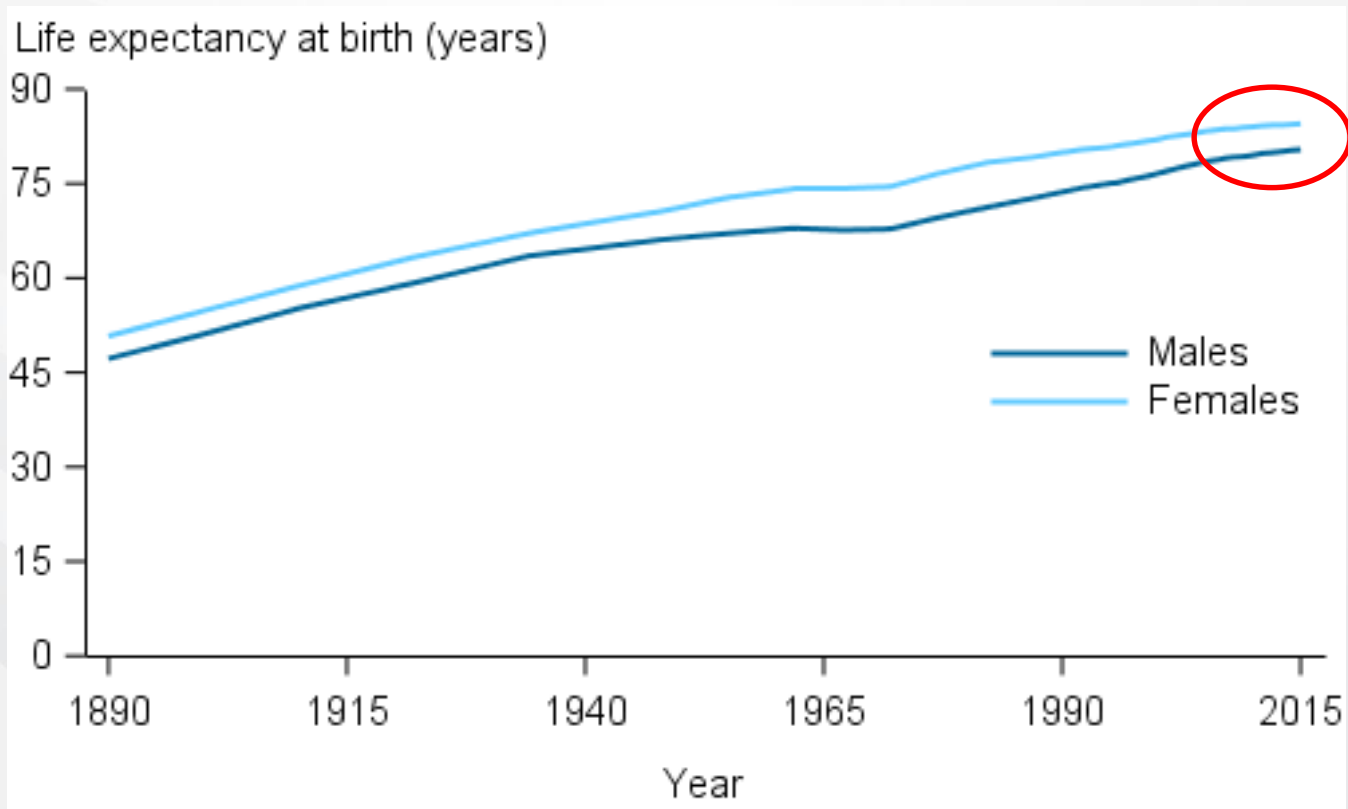
Health
Northern Sydney
Local Health District



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Life expectancy in Australia:

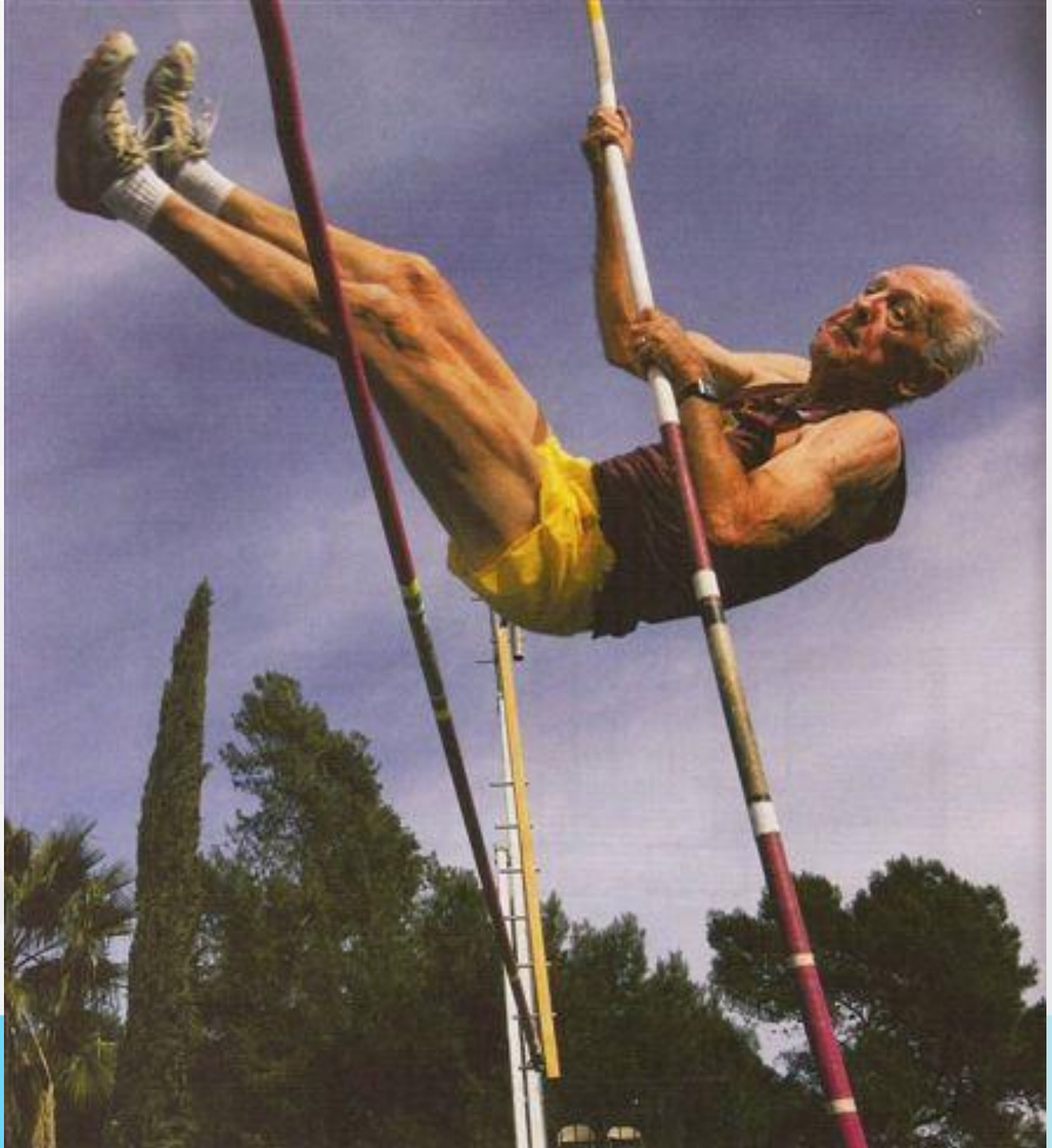
Men 81 years
Women 85 years



The background is a solid blue color with several large, overlapping, curved lines in a lighter shade of blue. These lines sweep across the frame from the bottom left towards the top right, creating a sense of motion and depth.

What is frailty?











Definition of Frailty 1: Physical phenotype

Operationally defined as:

“A clinical syndrome in which three or more of the following are present:

- **unintentional weight loss (>4.5kgs in last year)**
- **self-reported exhaustion**
- **weakness (grip strength)**
- **slow walking speed**
- **low physical activity”**

FRAIL scale

FRAIL scale

- **F**atigue
- **R**esistance (ability to climb one flight of stairs)
- **A**mbulation (ability to walk one block)
- **I**llnesses (Greater than 5)
- **L**oss of Weight (>5%)

0 = robuste / 1-2 = pre-frail / ≥ 3 = frail

Definition of Frailty 2: Accumulated deficits model

- **Biological process**
- **“Accumulated deficits”**
- **Gender specific**
- **Clearly related to mortality**
- **Expressed as an “index”**

Frailty Index

Appendix 1: List of variables used by the Canadian Study of Health and Aging to construct the 70-item CSHA Frailty Index

- Changes in everyday activities
- Head and neck problems
- Poor muscle tone in neck
- Bradykinesia, facial
- Problems getting dressed
- Problems with bathing
- Problems carrying out personal grooming
- Urinary incontinence
- Toileting problems
- Bulk difficulties
- Rectal problems
- Gastrointestinal problems
- Problems cooking
- Sucking problems
- Problems going out alone
- Impaired mobility
- Musculoskeletal problems
- Bradykinesia of the limbs
- Poor muscle tone in limbs
- Poor limb coordination
- Poor coordination, trunk
- Poor standing posture
- Irregular gait pattern
- Falls
- Mood problems
- Feeling sad, blue, depressed
- History of depressed mood
- Tiredness all the time
- Depression (clinical impression)
- Sleep changes
- Restlessness
- Memory changes
- Short-term memory impairment
- Long-term memory impairment
- Changes in general mental functioning
- Onset of cognitive symptoms
- Clouding or delirium
- Paranoid features
- History relevant to cognitive impairment or loss
- Family history relevant to cognitive impairment or loss
- Impaired vibration
- Tremor at rest
- Postural tremor
- Intention tremor
- History of Parkinson's disease
- Family history of degenerative disease
- Seizures, partial complex
- Seizures, generalized
- Syncope or blackouts
- Headache
- Cerebrovascular problems
- History of stroke
- History of diabetes mellitus
- Arterial hypertension
- Peripheral pulses
- Cardiac problems
- Myocardial infarction
- Arrhythmia
- Congestive heart failure
- Lung problems
- Respiratory problems
- History of thyroid disease
- Thyroid problems
- Skin problems
- Malignant disease
- Breast problems
- Abdominal problems
- Presence of snout reflex
- Presence of the palmomental reflex
- Other medical history

Clinical Frailty Scale*



1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.



2 Well – 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**, but are **not regularly active** beyond routine walking.



4 Vulnerable – 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 Mildly Frail – These people often have **more evident slowing**, and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.



6 Moderately Frail – People 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 Severely Frail – **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 Very Severely Frail – Completely dependent, approaching the 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 evidently frail**.

Scoring frailty in people with dementia

The degree of frailty 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.


* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

Definition of frailty 3:

Multidimensional model of frailty

- Frailty is a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (**physical, psychological, social**), which is caused by the influence of a range of variables and which increases the risk of adverse outcomes

Tilburg Frailty Indicator Questionnaire



Part A Determinants of frailty

1. Which sex are you?
2. What is your age?
3. What is your marital status?
4. In which country were you born?
5. What is the highest level of education you have completed?
6. Which category indicates your net monthly household income?
7. Overall, how healthy would you say your lifestyle is?
8. Do you have two or more diseases and/or chronic disorders?
9. Have you experienced one or more of the following events during the past year?
 - the death of a loved one
 - a serious illness yourself
 - a serious illness in a loved one
 - a divorce or ending of an important intimate relationship
 - a traffic accident
 - a crime
10. Are you satisfied with your home living environment?

Part B Components of frailty

B1: Physical components

11. Do you feel physically healthy?
12. Have you lost a lot of weight recently without wishing to do so?

Do you experience problems in your daily life due to:

13. difficulty in walking?
14. difficulty maintaining your balance?
15. poor hearing?
16. poor vision?
17. lack of strength in your hands?
18. physical tiredness?

B2 Psychological components

19. Do you have problems with your memory?
20. Have you felt down during the last month?
21. Have you felt nervous or anxious during the last month?
22. Are you able to cope with problems well?

B3 Social components

23. Do you live alone?
24. Do you sometimes miss having people around you?
25. Do you receive enough support from other people?

Tilburg Frailty Indicator (TFI)*
Gobbens RJJ, van Assen MALM, Luijckx KG, Wijnen-Sponselee MTh, Schols JMGA. The Tilburg Frailty Indicator: psychometric properties. J Am Med Dir Assoc 2010; 11(5):344-355.

The Edmonton Frail Scale

NAME :

d.o.b. : _____

DATE : _____

Frailty domain	Item	0 point	1 point	2 points
Cognition	Please imagine that this pre-drawn circle is a clock. I would like you to place the numbers in the correct positions then place the hands to indicate a time of 'ten after eleven'	No errors	Minor spacing errors	Other errors
General health status	In the past year, how many times have you been admitted to a hospital?	0	1-2	≥2
	In general, how would you describe your health?	'Excellent', 'Very good', 'Good'	'Fair'	'Poor'
Functional independence	With how many of the following activities do you require help? (meal preparation, shopping, transportation, telephone, housekeeping, laundry, managing money, taking medications)	0-1	2-4	5-8
Social support	When you need help, can you count on someone who is willing and able to meet your needs?	Always	Sometimes	Never
Medication use	Do you use five or more different prescription medications on a regular basis?	No	Yes	
	At times, do you forget to take your prescription medications?	No	Yes	
Nutrition	Have you recently lost weight such that your clothing has become looser?	No	Yes	
Mood	Do you often feel sad or depressed?	No	Yes	
Continence	Do you have a problem with losing control of urine when you don't want to?	No	Yes	
Functional performance	I would like you to sit in this chair with your back and arms resting. Then, when I say 'GO', please stand up and walk at a safe and comfortable pace to the mark on the floor (approximately 3 m away), return to the chair and sit down'	0-10 s	11-20 s	One of : >20 s , or patient unwilling , or requires assistance
Totals	Final score is the sum of column totals			

Scoring :

0 - 5 = Not Frail

6 - 7 = Vulnerable

8 - 9 = Mild Frailty

10-11 = Moderate Frailty

12-17 = Severe Frailty

TOTAL

/17

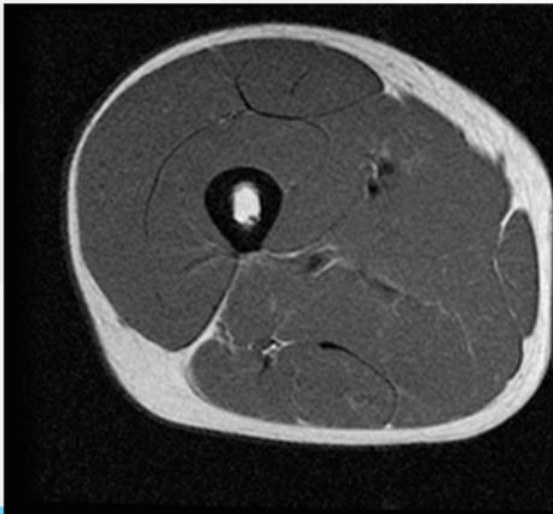
Administered by : _____

Consequences of frailty

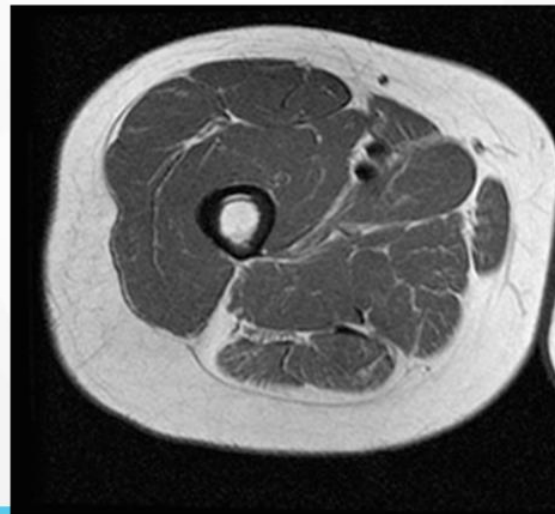
- **Approx 21% people over age 65 are frail, 48% are pre-frail**
- **Frailty is associated with:**
 - increased likelihood of hospitalisation
 - longer length of hospital stay
 - increased risk of functional decline
 - increased risk of institutionalisation
 - increased risk of death
 - **increased risk of falls:**
 - Prefrail 1.5 times risk of falls
 - Frail 2.5 – 3 times risk of falls
 - Due to:
 - **sarcopaenia** and subsequent muscle weakness with reduced physical performance (2 – 3 times more likely to fall)
 - Multiple medications
 - Multiple comorbidities

What is sarcopaenia?

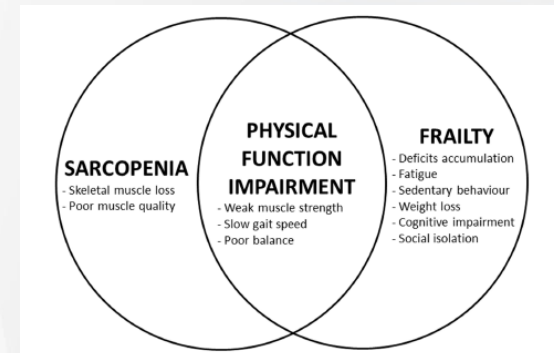
- Age related loss of muscle, associated with decreased muscle function
- Lose 1% per year of muscle from age 30, more after 75
- Biggest loss is from gluteal muscles
- Sarcopaenia is treatable with exercise and protein supplementation
- Sarcopaenia is a major contributor to frailty and falls



Age 25



Age 63



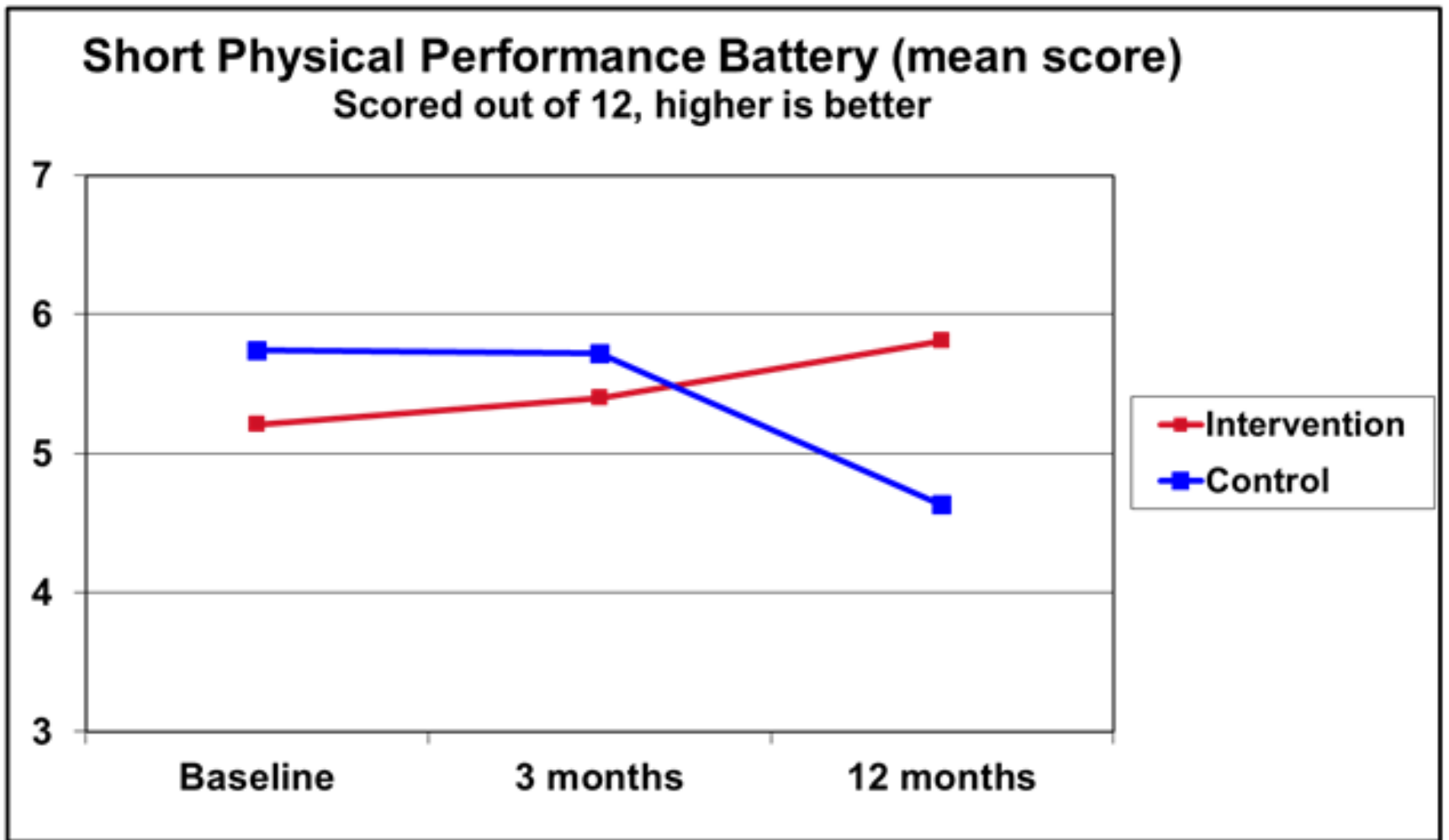
Treatment of frailty

- There are generally considered to be four evidence-based areas of intervention for older people with frailty:
 - Physical exercise (particularly resistance training)
 - Nutritional interventions (protein supplementation)
 - Multicomponent interventions
 - Individualised geriatric care
- **Frailty Intervention Trial (FIT):**
 - RCT of 241 community dwelling people aged 70yrs and over, assessed as frail using Fried Frailty criteria (3 or more criteria)
 - Randomised to intervention (mainly exercise – WEBB exercises, and nutritional advice) or control (normal care)
 - Blinded follow-up at 3 and 12 months looking at frailty (number of Fried frailty criteria) and physical performance (SPPB)





FIT Program Results



Case Mrs T: start of intervention



Fried criteria - “frail” – Walking speed, Exhaustion, Grip, Energy expenditure

Case Mrs T: end of intervention



OPINION

Open Access

Treating frailty-a practical guide

Nicola Fairhall^{1,2}, Colleen Langron³, Catherine Sherrington², Stephen R Lord⁴, Susan E Kurrle³, Keri Lockwood³, Noeline Monaghan¹, Christina Aggar⁵, Liz Gill¹ and Ian D Cameron^{1*}

Abstract

Frailty is a common syndrome that is associated with vulnerability to poor health outcomes. Frail older people have increased risk of morbidity, institutionalization and death, resulting in burden to individuals, their families, health care services and society. Assessment and treatment of the frail individual provide many challenges to clinicians working with older people. Despite frailty being increasingly recognized in the literature, there is a paucity of direct evidence to guide interventions to reduce frailty. In this paper we review methods for identification of frailty in the clinical setting, propose a model for assessment of the frail older person and summarize the current best evidence for treating the frail older person. We provide an evidence-based framework that can be used to guide the diagnosis, assessment and treatment of frail older people.

Frailty Clinical Practice Guidelines

The Asia-Pacific Clinical Practice Guidelines for the Management of Frailty

Recommendations:

- **Strong:**
 - Use a validated measurement tool to **identify frailty**
 - Prescribe **physical activity** with a resistance training component
 - Address **polypharmacy**
- **Conditional**
 - Screen for, and address, **fatigue**
 - Address **weight loss** with **protein/calorie** supplementation if appropriate
 - Prescribe **Vit D** if Vit D deficient

Where to next for frailty?

- **In hospital:**
- Assess using FRAIL scale
- Identify using eMR based assessment tool
- Intervene with physiotherapy, dietetics, pharmacy
- **In outpatient setting:**
- Frailty clinics with nursing, allied health, medical input
- Pre-op clinics to assess for pre-habilitation
- **In general practice:**
- Assess using FRAIL scale
- Routine assessment of sit to stand ability
- Referral for case management of frailty with allied health input (including pharmacy) depending on results of FRAIL scale

Northern Sydney Frailty Initiative

Primary Health Network and Local Health District working together to address frailty in the Northern Sydney region

- ◆ Northern Sydney has an ageing population.
- ◆ Approx 25% people aged 70 and over are frail, in Northern Sydney there are likely to be 26,000 frail older people
- ◆ Screening (with FRAIL Scale) and interventions occurring in acute hospital wards > 150 patients screened with referrals made to physiotherapist, dietitian, and pharmacist as indicated with Management Tool
- ◆ Screening (with FRAIL Scale) occurring in general practice in Over 75 assessment, and at other consultations, with referrals made as appropriate using Management Tool

FRAIL Scale

	Question	Scoring	Result
F	<p>Fatigue</p> <p>How much of the time during the past 4 weeks did you feel tired?</p> <p>A = All or most of the time B = Some, a little or none of the time</p>	<p>A = 1 B = 0</p>	
R	<p>Resistance</p> <p>In the last 4 weeks by yourself and not using aids, do you have any difficulty walking up 10 steps without resting?</p>	<p>Yes = 1 No = 0</p>	
A	<p>Ambulation</p> <p>In the last 4 weeks by yourself and not using aids, do you have any difficulty walking 300 meters?</p>	<p>Yes = 1 No = 0</p>	
I	<p>Illness</p> <p>Did your Doctor ever tell you that you have?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hypertension <input type="checkbox"/> Diabetes <input type="checkbox"/> Cancer (not a minor skin cancer) <input type="checkbox"/> Chronic lung disease <input type="checkbox"/> Heart Attack <input type="checkbox"/> Congestive heart failure <input type="checkbox"/> Angina <input type="checkbox"/> Asthma <input type="checkbox"/> Arthritis <input type="checkbox"/> Stroke <input type="checkbox"/> Kidney disease 	<p>0 – 4 answers ✓ = 0</p> <p>5 – 11 answers ✓ = 1</p>	
L	<p>Loss of weight</p> <p>Have you lost more than 5kg or 5% of your body weight in the past year?</p>	<p>Yes = 1 No = 0</p>	
Total Score			
Scoring: Robust = 0, Pre-frail = 1-2, Frail = >3			

Frailty Management Tool- Acute

Assessment Score	Intervention	Referral /Follow up
FRAIL scale 0= robust	<ul style="list-style-type: none"> Encourage ongoing activity levels Provide “Staying Active and on your feet” and “Eating Well” resource 	Provide <ul style="list-style-type: none"> Example of exercises in Staying Active and On Your Feet booklet NSW exercise venues: www.activeandhealthy.nsw.gov.au
FRAIL scale 1-2= pre-frail FRAIL scale ≥3 = frail	If Frailty Score is positive address underlying causes as outlined below	
F Feeling fatigued most or all of the time	<ul style="list-style-type: none"> Consider screening for reversible causes of fatigue (sleep apnoea, depression, anaemia, hypotension, hypothyroidism, B12 deficiency) 	<ul style="list-style-type: none"> Notify treating team
R Resistance against gravity - Difficulty walking up 10 steps without resting	<ul style="list-style-type: none"> Consider referring to an individualised progressive exercise program with resistance and strength component 	<ul style="list-style-type: none"> Physiotherapy for exercise prescription electronic referral via emr; Choose ‘blank’ reason, text write “FRAIL”
A Ambulation-Difficulty walking 300 meters unaided		
Having 5 or more I llnesses	<ul style="list-style-type: none"> Review indication, side effects and use of medication Consider discussing with pharmacist Consider reducing/de-prescribing superfluous medication 	<ul style="list-style-type: none"> Pharmacist for comprehensive medication review electronic referral via emr; Choose ‘pharmacy consult’, Reason: “other”, order comment write “FRAIL”
L oss of ≥5kg weight in 12 months	<ul style="list-style-type: none"> Consider screening for reversible causes of weight loss and consider Protein and Caloric Supplementation/Food Fortification Advice and encourage Healthy Eating; provide “Eating Well” resource 	<ul style="list-style-type: none"> Dietician for diet review and management electronic referral via eMR, Inpt Dietitian Consult. Choose ‘other’ reason, text write “FRAIL”

Frailty Management Tool- Primary Care

Assessment Score	Intervention	Referral /Follow up
FRAIL scale 0= robust	<ul style="list-style-type: none"> Encourage ongoing activity levels Provide “Staying Active and on your feet” and “Eating Well” resource 	<ul style="list-style-type: none"> Re-do FRAIL scale in 12 months Community exercise with balance/resistance component including NSLHD Stepping On and Healthy Lifestyle classes. Example of exercises in Staying Active and On Your Feet booklet and NSW exercise venues: www.activeandhealthy.nsw.gov.au
FRAIL scale 1-2= Pre-frail FRAIL scale >3 = Frail	If Frailty Score is positive address underlying causes as suggested below	
Feeling fatigued most or all of the time	<ul style="list-style-type: none"> Consider screening for reversible causes of fatigue (sleep apnoea, depression, anaemia, hypotension, hypothyroidism, B12 deficiency) Use EPWORTH scale, K10 or Geriatric Depression scale in Health Assessment 	<ul style="list-style-type: none"> Consider referral to Geriatrician /Specialist for complex care patients Consider referral to Occupational Therapy for functional and home review Consider referral Psychologist using Mental Health Care Plan Consider referral to Aged Care organisation for loneliness support (isolation can be a cause of fatigue!)
Resistance against gravity - Difficulty walking up 10 steps without resting	<ul style="list-style-type: none"> Consider referring to an individualised progressive exercise program with resistance and strength component 	<ul style="list-style-type: none"> Physiotherapy or Exercise Physiologist for exercise prescription If has diabetes-> group session Medicare funded ex. physiologist Healthy Lifestyle for group exercise prescription and/or Stepping On Get Healthy for free telephone-based health coaching NSHNS Safe and Steady program
Ambulation-Difficulty walking 300 meters unaided		<ul style="list-style-type: none"> Physiotherapy or Exercise Physiologist for exercise prescription Healthy Lifestyle for group exercise prescription and/or Stepping On Get Healthy for free telephone-based health coaching Exercise options https://www.activeandhealthy.nsw.gov.au
Having 5 or more Illnesses	<ul style="list-style-type: none"> Review indication, side effects and use of medication (evidence for use of some medicines changes after age 75!) Consider discussing with pharmacist Consider reducing/de-prescribing superfluous medication 	<ul style="list-style-type: none"> Pharmacist for comprehensive medication review,(HMR item 900) Occupational Therapy for functional, home and cognitive review Self-management support from aged care org volunteer
Loss of \geq5% weight in 12 months	<ul style="list-style-type: none"> Consider screening for reversible causes of weight loss and consider Protein and Caloric Supplementation/Food Fortification (75mg protein per day required- range of products available at pharmacy) Advice and encourage Healthy Eating; provide “Eating Well” resource 	<ul style="list-style-type: none"> Weigh and asses BMI – record in patient record Dietician for diet review and management Add Sustagen Meal Delivery Services Speech pathologist for swallowing review Dentist for dental review (pain/infection/ill fitting dentures) Occupational Therapy for functional and home cooking ability review

Frailty Information

www.sydneynorthhealthnetwork.org.au/programs/frailty/



The screenshot displays the Sydney North Health Network website. At the top, there is a navigation bar with a hamburger menu icon on the left, the PHN Northern Sydney logo (An Australian Government Initiative) in the center, and the Sydney North Health Network logo on the right. To the right of the Sydney North Health Network logo are icons for a telephone and an envelope. Below the navigation bar is a banner image showing a group of diverse, smiling elderly people. Underneath the banner, the breadcrumb navigation reads "Home > Programs > Healthy Ageing & Frailty". The main heading is "Healthy Ageing & Frailty" in a large blue font. Below the heading are three prominent buttons: a blue button labeled "Clinical Resources" with a medical icon, an orange button labeled "Referrals" with a person icon, and a green button labeled "Patient Information" with a person icon.

FRAIL Scale testing site: parc.net.au



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YOUR LIFE

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Frailty in community dwelling older people

Frailty screening and support via a dedicated online resource

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Questions?

