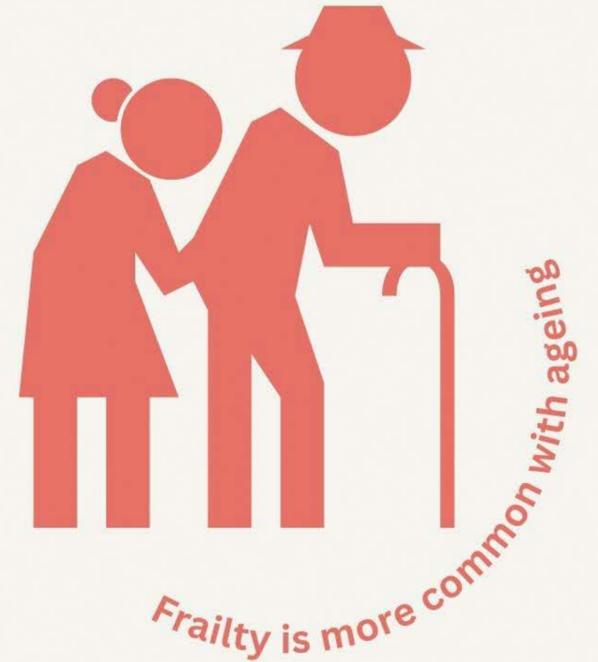


# What is Frailty

- A syndrome rather than disease
- Coexists and interacts with comorbidity and disability
- Associated with poor outcomes



## Prevalence of Frailty



More than 50%  
of TTSH ED  
attendees who  
are 65 years and  
older are frail



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Approximately  
16% of Central  
Zone residents  
who are 65 years  
and older  
are frail



Scan QR to  
learn more about  
CFS-FAST

Edward Chong et al., 2019

# Nutrition

Malnutrition plays an important role in the pathogenesis of frailty. Inadequate nutrition contributes to chronic diseases progression and is an important contributing factor linking frailty and sarcopenia.



## 1. Meeting adequate intake for older persons



### Energy

- Recommended daily intake : 30kcal per kg body weight
- Customise based on gender, nutritional status, physical activity and clinical condition



### Protein

- Recommended daily intake : 1.0-1.2g protein per kg body weight
- Helps to preserve lean body mass, fight infections, build and repair tissues
- Focus on good quality protein (e.g. fish, egg, lean meats and dairy products)

## Key Nutritional Elements for All Adults



### Energy (calories)

### Protein



### Calcium

## 2. If above intake is met, consider consuming an additional 25-30g of good quality protein per meal (examples shown below) to improve protein synthesis



1 plate of chicken rice + 1 egg



1 plate of wonton noodles + 1 glass of cow's milk

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# Oral Health

Older people with swallowing difficulties or poor oral health are at greater risk of pneumonia, malnutrition and sarcopenia. Strategies to maintain oral hygiene can reduce the risk of aspiration pneumonia and improve nutritional status.

(Sjögren et al., 2016; Scannapieco, 2021; Azzolino et al., 2019; Tanaka et al., 2018; Dibello et al., 2021)



**Encourage brushing twice daily – morning and night**



**Remind patients with cognitive impairment when it is time to brush their teeth**



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**Assist these patients with twice daily oral care**

- 1. Patients with no teeth : Use oral swab stick
  - 2. Patients with teeth : Use toothbrush
- Both can be dipped in chlorhexidine mouthwash



**Positioning strategies:**

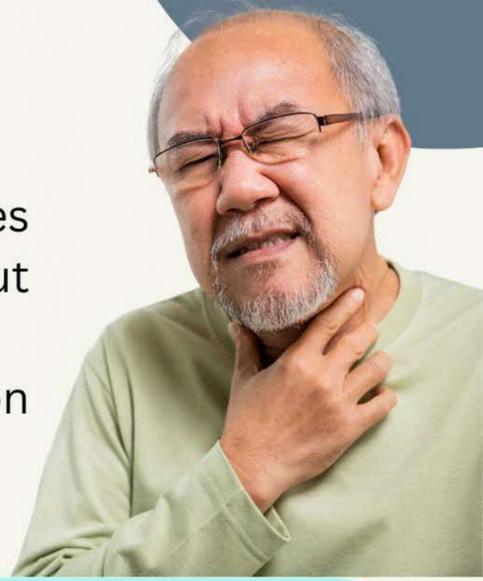
- 1. Approach patient from the front
- 2. Use a gloved finger to gently retract the lips and cheeks for easier access into the mouth
- 3. Patients who can't open their mouth fully : focus on the accessible areas
- 4. Patients with swallowing difficulties : Seat them upright or on a commode to minimise aspiration during brushing



**For patients with dentures, refrain from wearing it to sleep. Brush teeth and clean the dentures every night.**



# Dysphagia



- Commonly associated with frailty and ageing, as swallowing muscles can be affected by loss of muscle mass or function even without structural or neuromuscular pathology
- Can lead to increased frailty, poor oral intake, malnutrition, aspiration pneumonia and prolonged hospitalisation



## General Strategies

- Maintain good oral hygiene
- Adhere to recommendation by healthcare professionals

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**voucher!**



## Strategies to consider for those with dysphagia

- Minimise distractions during mealtimes
- Sit upright for meals
- Feed only when alert
- Prompt to swallow if required
- Ensure complete swallow before next mouthful
- Supervised feeding for patient with cognitive impairment



## How to recognise dysphagia

- Effortful and/or multiple swallows
- Coughing, choking or regurgitation of food
- Drooling
- Change in voice quality after swallow

**Risk of  
dysphagia  
increases with  
frailty status**

**Refer to Speech Therapist (ST) if your patients show signs of dysphagia. Recommendations like diet modifications, swallowing rehabilitation and safe swallowing strategies may help.**



Edu series road map

# Medication Use

- Polypharmacy (taking 4 or more medications) increases the risk of developing frailty
- Doctors and pharmacists should perform medication review for patients to ensure that medications are appropriately prescribed



- Maintain healthy lifestyle to delay onset of chronic diseases



- No Traditional Chinese Medicine (TCM) or over-the-counter (OTC) supplement has been proven to prevent frailty
- Some supplements may interact with prescription medications
- Advise patients to check with their doctor/pharmacist for possible drug interactions if they are taking health supplements



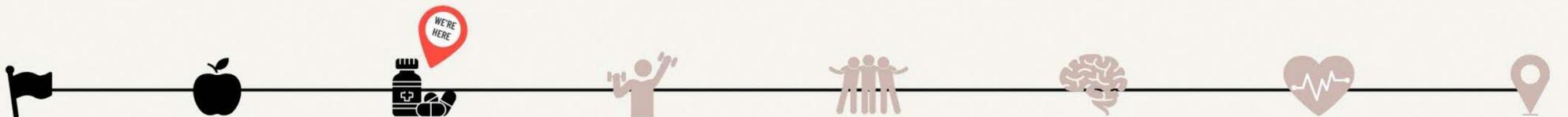
- Regular medication review
- Check if medications have side effects (e.g. poor oral intake) that may worsen frailty



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- Minimise medications to align patient's preferences, treatment outcomes and goals of care



# Physical Frailty

- A clinical syndrome presenting with a distinct phenotype
- Patients who are physically frail are at a higher risk of disability, impaired mobility, institutionalization and mortality Fried et al., 2021

## Physical Activity Recommendations

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**1**

- Aim to maximise function and improve health outcomes
- Participate in a multi-component exercise programme of at least moderate intensity

**Resistance**

- 8-10 different types of exercises that involve major muscle groups
- Rest 48hrs in between sessions
- At least 2 times per week

**Aerobic**

- At least 3 times per week
- Aim to achieve 150-300mins of moderate intensity activity per week

**Balance**

- At least 2 times per week with total duration 3hrs per week

**Flexibility**

- Stretch major muscle groups to the point of feeling tightness and hold for 30-60s



Scan QR for Exercise Types



**5**

- Aim to reverse and mitigate frailty to improve function
- Participate in a multi-component exercise programme of moderate intensity 2-3 times per week
- Start with lower intensity and shorter exercise session for frailer population and progress slowly

**Prefrail CFS 4 :** Focus more on **resistance** and **balance**

**Frail CFS 5 - 6 :** Focus more on **resistance** and **aerobic**

(Pescatello, L et al., 2013; Nick W. Bray et al., 2016)

**Prefrail:** Resistance 20mins, Aerobic 10mins, Flexibility 10mins, Balance 20mins. Total ~60mins per session.

**Frail:** Resistance 10mins, Aerobic 20mins, Flexibility 7mins, Balance 8mins. Total ~45mins per session.



**9**

- Aim to maintain function and prevent negative consequences of functional decline
- Pressure relief to prevent pressure sores
- Sitting out and mobilising as often as tolerated

**Recommended activities:**

- Active/passive ranging of all limbs based on older adult's ability
- 2 sessions per day, 1-2 sets per session, 10 repetitions per set



# Social Frailty

Social frailty can be defined as a continuum of being at risk of losing or having lost resources that are important for fulfilling one's basic social needs. Based on the social determinants of health, lack of interpersonal connections and healthy relationships can result in social frailty. Maintaining active social lives not only prevent social frailty, it can also boost happiness level and promote a sense of fulfilment.

## What can be done to prevent social frailty?



1

- Spend time together as a family including meals and outings
- Embrace lifelong learning including attending online classes
- Join interest groups and discover new passions

- Care for grandchildren and engage in intergenerational activities
- Contribute back to the society through volunteer work
- Consider post-retirement employment



5



- Leverage on technology to maintain relationships with family and friends (e.g. video calls)



9

### Caregiver Tips

- Involve older adults for family activities including meals and outings
- Stagger social visits, incorporate physical touch (e.g hugs, holding your loved one's hands)
- Consider discussing home-based care with your loved one's doctor
- Join a caregiver support group



Scan to read more on Social Determinants of Health (SDOH)

Yamada & Arai, 2023  
Healthy People 2030, U.S. Department of Health and Human Services.



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# Cognition

Cognitive impairment is one of the contributing factors to frailty. Read on for recommendations that healthcare provider can consider if there is suspicion of cognitive impairment.



If patients have chronic cognitive symptoms, consider these differential diagnoses:

- Depression
- Mild Cognitive Impairment
- Obstructive Sleep Apnoea

Implement primary prevention strategies such as:

- Screening and correcting hearing loss
- Control cardiovascular risk factors such as smoking, hypertension, obesity, and diabetes mellitus
- Prevent social isolation
- Falls prevention advice to avoid traumatic brain injury



(Petersen, Ronald C. 2011, Livingston, Gill, et al. 2020)



If patients have chronic cognitive symptoms, consider these differential diagnoses:

- Dementia
- Depression
- Dementia mimics (e.g. normal pressure hydrocephalus)

Implement secondary prevention strategies such as:

- Encourage participation in cognitive-stimulating activities (e.g. learn a new skill, engage in centre-based activities)
- Starting cognitive enhancers if there is dementia

Maintain patients' health by engaging allied health colleagues (medical social worker, dementia counsellors, physiotherapist, occupational therapist)



If patients have chronic cognitive complaints, they are likely to have neurodegenerative disorders of moderate to advanced severity.

- Management should be geared towards maximizing function and quality of life
- Review secondary prevention strategies and management of concomitant chronic diseases - ensure that they do not cause unnecessary harm or increase the burden of care
- Consider advance care planning

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Is there anything healthcare professionals can do to manage frailty? **Absolutely!**

- Frailty and its adverse outcomes can be prevented with interventions tailored to the individual patient
- Many chronic diseases and multimorbidities are associated with frailty
- Optimising these conditions may help to prevent or reduce the progression of frailty

Davide L et al, 2018; D.Angioni et al, 2020



### Tertiary prevention:

#### Avoiding adverse outcomes of frailty in those diagnosed

- Falls and fracture prevention
- Medication review to remove regular non-essential medicines
- Targeted rehabilitation for deconditioned older adults e.g. post surgery



### Secondary prevention:

#### Preventing progression to frailty of those at risk

- Early detection and management of sarcopenia
- Early detection and optimised management of chronic medical conditions
- Regular monitoring of weight and evaluation of weight loss early if present



### Primary prevention:

#### Preventing onset of frailty

- Age appropriate health screening
- Active involvement in exercise
- Enhancing nutrition
- Timely vaccinations
- Reduction of risk factors e.g. smoking cessation



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Edu series road map

# IT'S A WRAP!

As our 8-month long FRH Edu Series is coming to an end, let's recap on **WHY DO WE NEED TO KNOW ABOUT FRAILITY?**

- Frailty often coexists and interacts with comorbidity and disability
- It is associated with poor outcomes e.g. increased mortality, hospitalisation, falls, functional decline
- Frailty status is dynamic and will require reassessment with time
- Frailty status guides shared decision making in providing person-centred care

1

**Robust  
(CFS 1-3)**

Frailty can be **delayed** in robust states



5

**Frail  
(CFS 4-6)**

Frailty can be **managed** in the early stages to **prevent adverse outcomes**



9

**Very-Frail  
(CFS 7-9)**

Frailty status can **guide** clinical decisions to **optimise quality of life**



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**Examples of Programmes for Frailty :**

- Live Well, Age Well Programme by Health Promotion Board (HPB) and People's Association (PA)20
- Tsao Foundation Community Geriatric Services Centre at Whampoa (ComSA)
- Gym Tonic
- Combat Age Related Loss of Muscle (CALM) package by SportSG
- AIC Wellness Programme, Partnering Agencies' Resources
- Community Health Posts (CHP)



Edu series road map