Improving diet and nutrition in older people to change the trajectory of frailty

This article is the fourth of a series on frailty, prepared by Dr Chris Bollen of BMP Healthcare Consulting for the Hunter New England Central Coast Primary Health Network frailty early intervention program.

When you're over 65, losing weight is bad for your health!

Between 30-40% of older people living in the community - and even more living in residential aged care - are experiencing malnutrition.

Malnutrition represents "a state of deficient energy or protein intake or absorption, characterized by weight loss and changes in body composition".

The recent Royal Commission into Aged Care Quality and Safety made many references to nutrition issues for all older people.

Malnutrition is often missed in the overweight person

A common issue is only worrying about malnutrition in people who have a BMI less than 20. However, an increasing trend in Australia is for people over 65 to have obesity coexisting with malnutrition.

One myth is that 'they can live off their fat for weeks', and often, if an overweight older person loses 5 kg no one worries about it. Society has been conditioned to applaud weight loss at any age due to the discussed risks of obesity, and body image.

Excess body weight can place undue strain on the heart, joints and spine; increase the risk of high blood pressure, diabetes, respiratory diseases, osteoarthritis and other conditions; and exacerbate these conditions where they already exist.

But this advice needs to be changed for people over 70. A focus should be on increasing the quality of the food being eaten and building muscle.

Obese people can have a very poor micronutrient intake - they may consume sufficient energy, but the poor quality will be reflected in inadequate protein, low levels of many vitamins and minerals. This can lead to (or exacerbate) anaemia and other nutrient deficiencies, which will worsen their function and other long term health conditions.

There are nine "Ds" that impact an older person's weight: poor **d**entition, **d**ysgeusia (loss of taste), **d**ysphagia, **d**iarrhea, **d**epression, **d**isease, **d**ementia, **d**ysfunction, and **d**rugs.

Poor nutritional status often presents as unintentional weight loss. When an older person loses weight, they experience a doubling in their risk of death, even if they are overweight[1].

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[1] Morley JE. (2010). Nutrition and the aging male. *Clinics Geriatric Medicine*, 26(2):287-99.

What are the barriers to better nutrition?

The following concerns may impact on a person's risk of poor nutrition:

- Financial problems
- Poor budgeting skills
- Mobility issues
- Lack of cooking skills
- Inability to shop
- Access to appropriate foods
- Food hygiene issues
- Inability to feed oneself
- Mental health
- Communication issues with language and comprehension
- Social isolation - mealtimes are often a social outlet, and eating alone is rarely enjoyable

How is risk of malnutrition assessed?

The Mini-Nutritional Assessment (MNA®) is a validated nutrition screening and assessment tool that can identify people age 65+ who are malnourished or at risk of malnutrition.

The MNA assesses a person against recognised risk factors for undernutrition, such as mobility issues, cognitive impairment, psychological distress and loneliness.

Why is the response to older people's nutrition deficits different from usual care?

The "Australian Guide to Healthy Eating" is an excellent dietary guide for well people. It is applicable to elderly people who are living a healthy active life with no significant health problems and who are not living with, or at risk of, frailty. However, it is not designed for all older people.

When working with a pre-frail or frail person, it is important to look at their goals and the 4 Ms for better care of older people[2]: What **M**atters, **M**obility, **M**edicines and **M**entation.

How is nutrition linked to the 4Ms for better care of older people?

As people age, they need adequate food with the right nutrition for energy, resistance to infection, improving wound healing, good bowel function and, importantly, to support any exercise program aiming to build muscle and improve mobility and independence.

Older people have a reduced ability to use protein, and need more protein, not less![3]
Calculate 1 to 1.2g/kg/day - or more, if acute or chronic disease is present.

For example, if a patient is lying in bed due to an injury or an infection, the stress of the concurrent issue will cause the gut to reduce protein absorption. This in turn increases skeletal muscle protein catabolism, accelerating loss of muscle mass, strength and a decline in **M**obility.

So, in summary, all older people should aim for 25 to 30g of protein per meal.

[2] John A. Hartford Foundation
[3] PROT-AGE study from 2013

What should be done if someone screens positive for undernutrition or malnutrition?

Ideally, refer the patient to a dietician to assist with improving the diet. If access to a dietician is difficult, patients should be encouraged to adopt a high-protein, high-energy diet.

A high-protein, high-energy diet is used for a person who is otherwise eating minimal amounts. The aim is to meet normal protein requirements with a small amount of food.

This does not mean an excess of either protein or energy, but ensuring that all foods consumed provide valuable protein and energy, so that every mouthful counts. Encourage small, frequent meals, a grazing approach, bread-and-butter plate sized meals, and saving dessert for later.

How do I recommend protein?

Recommending an increase in protein requires a basic understanding of what foods contain protein and how much protein per serve can be consumed. Here are some examples of what makes a 10g protein serve:

- 40g cheese (two big slices)
- 1 cup milk
- ¼ cup milk powder
- 1 tub yoghurt (170g)
- 1.5 eggs
- 30g steak
- 40g chicken
- 50g fish
- 2/3 cup baked beans
- 50g nuts
- 2 large slices of grain bread
- 2.5 Weetbix (before milk is added)!

How can patients fortify food?

The first step is to discuss options to fortify food before considering supplements. The following foods can be added to normal meals to add:

- **protein**: grated cheese, milk powder and eggs (cheap and easy to add to meals and digest).
- **energy**: cream, butter, margarine, oils and sour cream.

Fortify milk by adding 1 cup milk powder (either skim, which is higher in protein, or full cream) into 1 litre full fat milk, and using wherever you would ordinarily use milk:

- On cereal
- In custard
- As a base for milk drinks
- In white sauces
- In mousse
- In soups and casseroles
- In mashed potato
- In tea and coffee

Flavoured milkshakes are an easy, enjoyable and nourishing, providing protein and energy.

The recipe below provides 9.4 g protein and 730 kJ energy for every 150 mls - comparable to commercial supplements - and most people say milkshakes taste better!

- 1 litre full cream milk,
- 1 cup milk powder,
- 350 mls ice cream (5-6 scoops), and
- 40 mls flavoured topping.

Frailty and nutrition

Primary care clinicians can better manage older patients by considering the following questions:

- Which nutrition screen are you using? Use a validated tool to assess nutrition (e.g. MNA®).
- How often has the patient's weight been recorded in the previous 12 months? What was the trend? What action had occurred if weight loss was noted?
- How was mobility assessed? What objective assessment occurred such as 4m walking test?
- How was muscle health assessed? What objective assessment occurred (e.g. grip strength, or five timed sit-to-stands)?

Make sure you formally assess for frailty

Remember that the simple questions for the FRAIL Scale, from Professor John Morley (Geriatrician, St Louis, Missouri)http://www.frailty.net/) require only a yes/no response:

F	**Fatigue** - Are you feeling tired or fatigued?	Yes = 1
R	**Resistance** - Do you have difficulty walking a flight of stairs? (overcoming the resistance of body weight against gravity)	Yes = 1
A	**Ambulation** - Do you have difficulty walking around the block?	Yes = 1
I	**Illnesses** - Do you have 5 or more chronic conditions?	Yes = 1
L	Has there been **loss of weight** of 5% or more over the past 12 months?	Yes = 1

If the older person scores 2, they are pre-frail, and 3+ indicates they are frail and would benefit from immediate discussion of:

1. their goals in life and the barrier(s) to achieving them!
2. their mood, assessing for any medical cause of fatigue (e.g. anaemia, heart failure, or chronic kidney disease)
3. encourage resistance muscle exercises (e.g. sit-to-stands) at home
4. increasing the intake of protein in their diet - aim for at least 1.2g/kg bodyweight
5. review the appropriateness of medications by the GP, pharmacist or geriatrician using this excellent guide to deprescribing
6. consider Vitamin D to assist muscle strength

Finally, ensure that reversible medical conditions are addressed and consider referral to a geriatric medicine specialist where frailty is associated with significant complexity, diagnostic uncertainty or challenging symptom control.

Additionally, it is not uncommon for a person to resist assistance when it is clearly needed. A great free guide to responding to patients resisting assistance is When seniors say no.

Yours sincerely,

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