



# Nutrition is Critical for Rehabilitation

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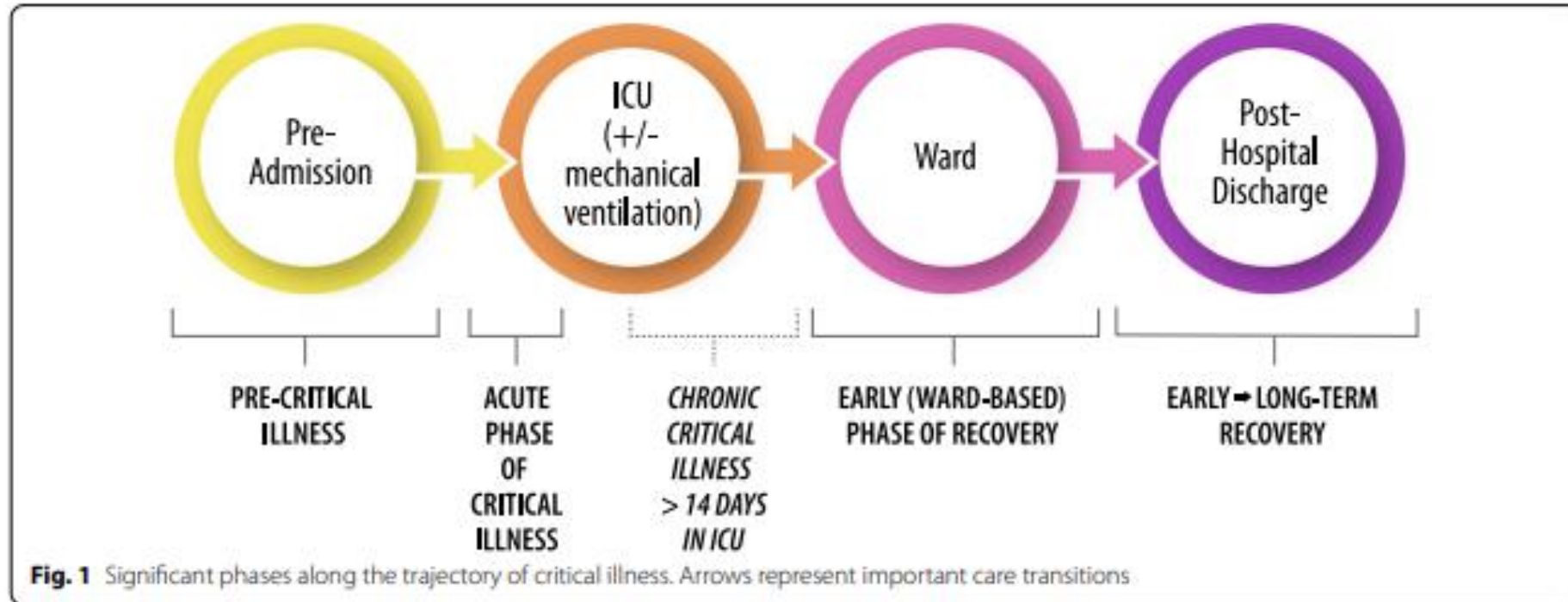
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# Aims

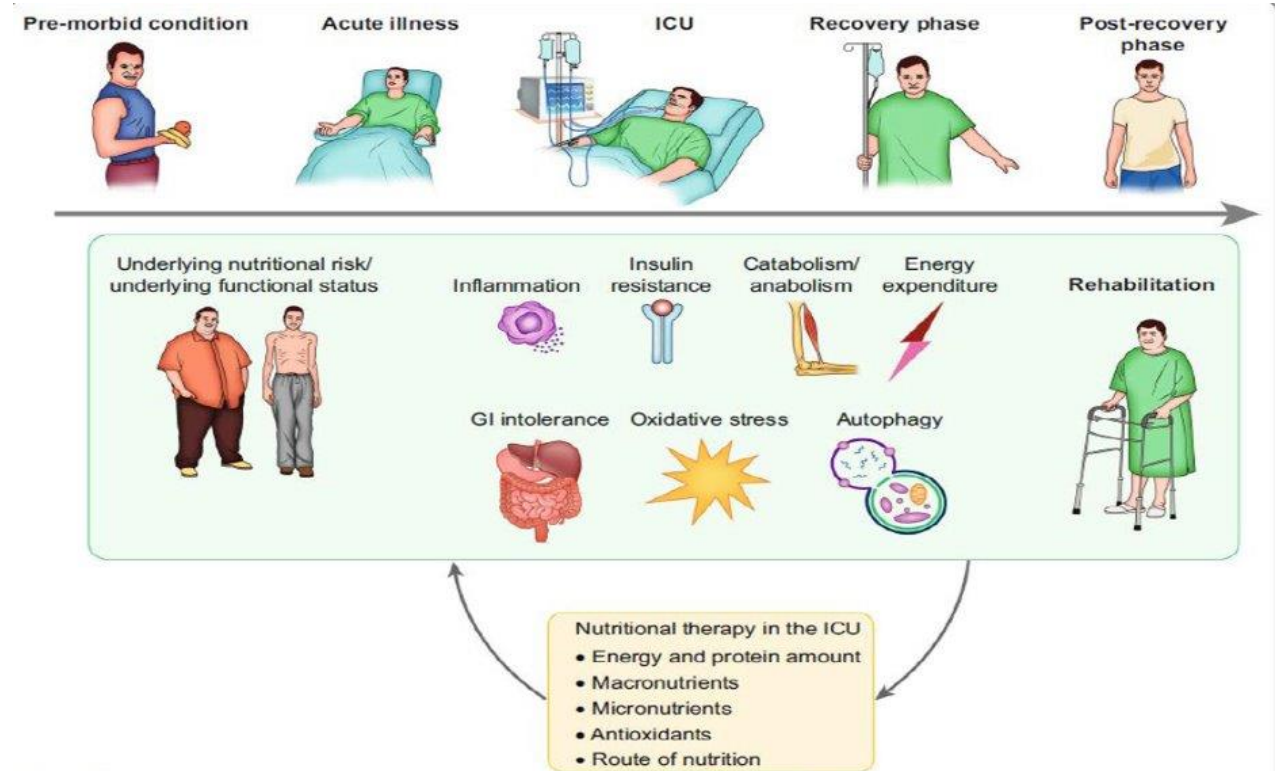
Learn about	Understand	Understand	Consider	Understand
<p>Learn about the role of nutrition throughout the critical care journey and beyond</p>	<p>Understand how critical illness affects metabolism and muscle mass</p>	<p>Understand the impact of malnutrition on critical care patients</p>	<p>Consider the best route of nutrition at different stages of the patient's journey</p>	<p>Understand barriers to meeting nutritional needs</p>

# Phases of critical illness to rehabilitation



# Nutrition and critical care

- Critical care survivors are often malnourished due to the many confounding factors affecting their intake/catabolism
- Nutrition rehabilitation following a critical illness is rarely prioritised and remains an underrecognised area

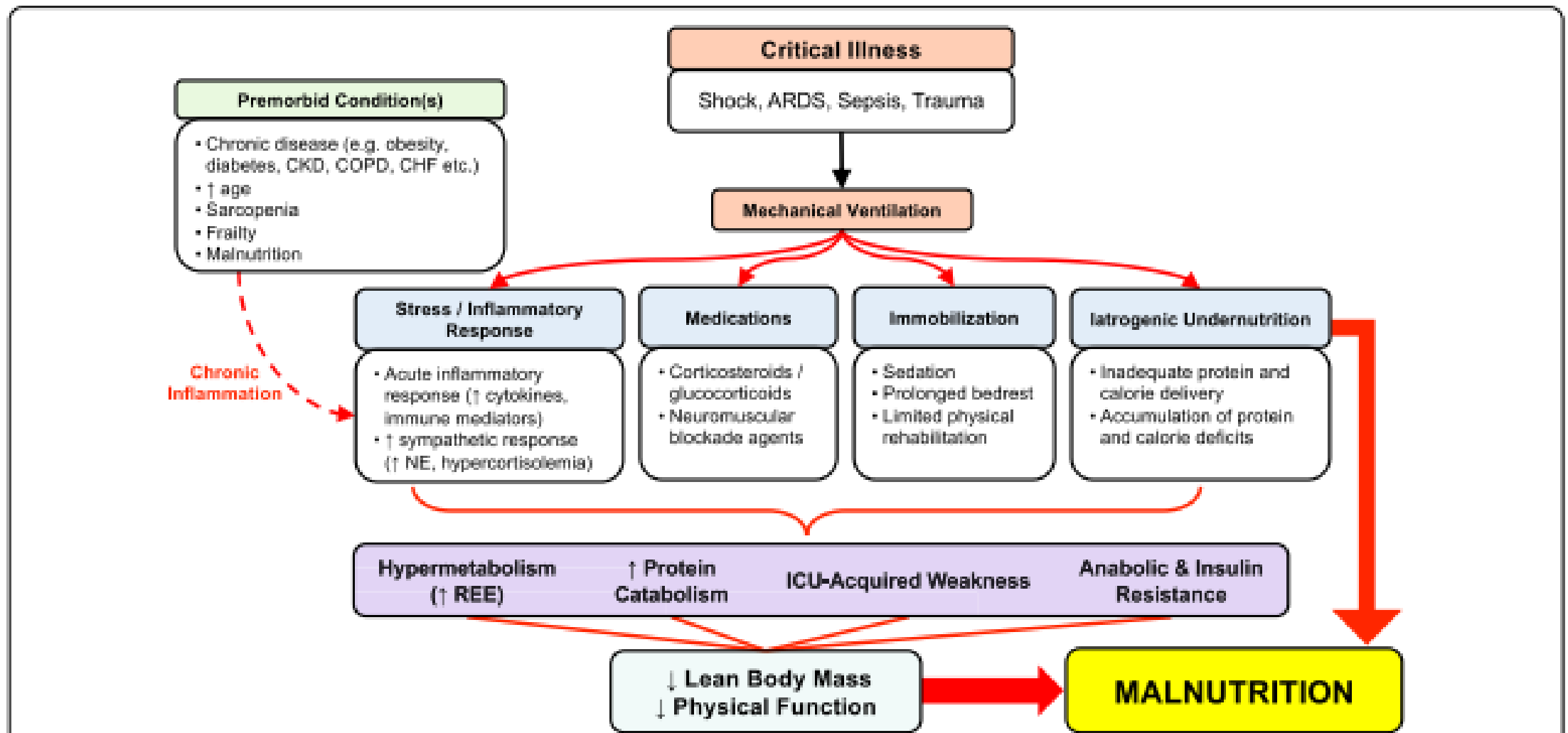


**Fig. 2** How does nutritional support during critical illness affect patient recovery? The effect of nutritional support on recovery may be influenced by the amount of calories, protein, other macronutrients, micronutrients, and route of administration. It is probably influenced by pre-morbid nutritional and functional status, by several pathophysiologic processes associated with critical illness, and by the level of rehabilitation. In return, all these variables may influence nutritional needs.

# Malnutrition in critical care

Malnutrition risk

# How does critical illness contribute to malnutrition?



**Fig. 2** Factors influencing the development of disease-related malnutrition following the onset of critical illness. ARDS: acute respiratory distress syndrome; CHF: congestive heart failure; CKD: chronic kidney disease; COPD: chronic obstructive pulmonary disease; ICU: intensive care unit; and NE: norepinephrine

# When should we worry about nutrition for critical care rehabilitation?

## From day one

- Guidance suggests starting enteral nutrition within 48 hours of admission unless contraindicated

## Throughout admission

- Evidence that many don't receive full prescribed nutrition

## After extubation

- Evidence that oral intake can remain poor for months post ICU discharge

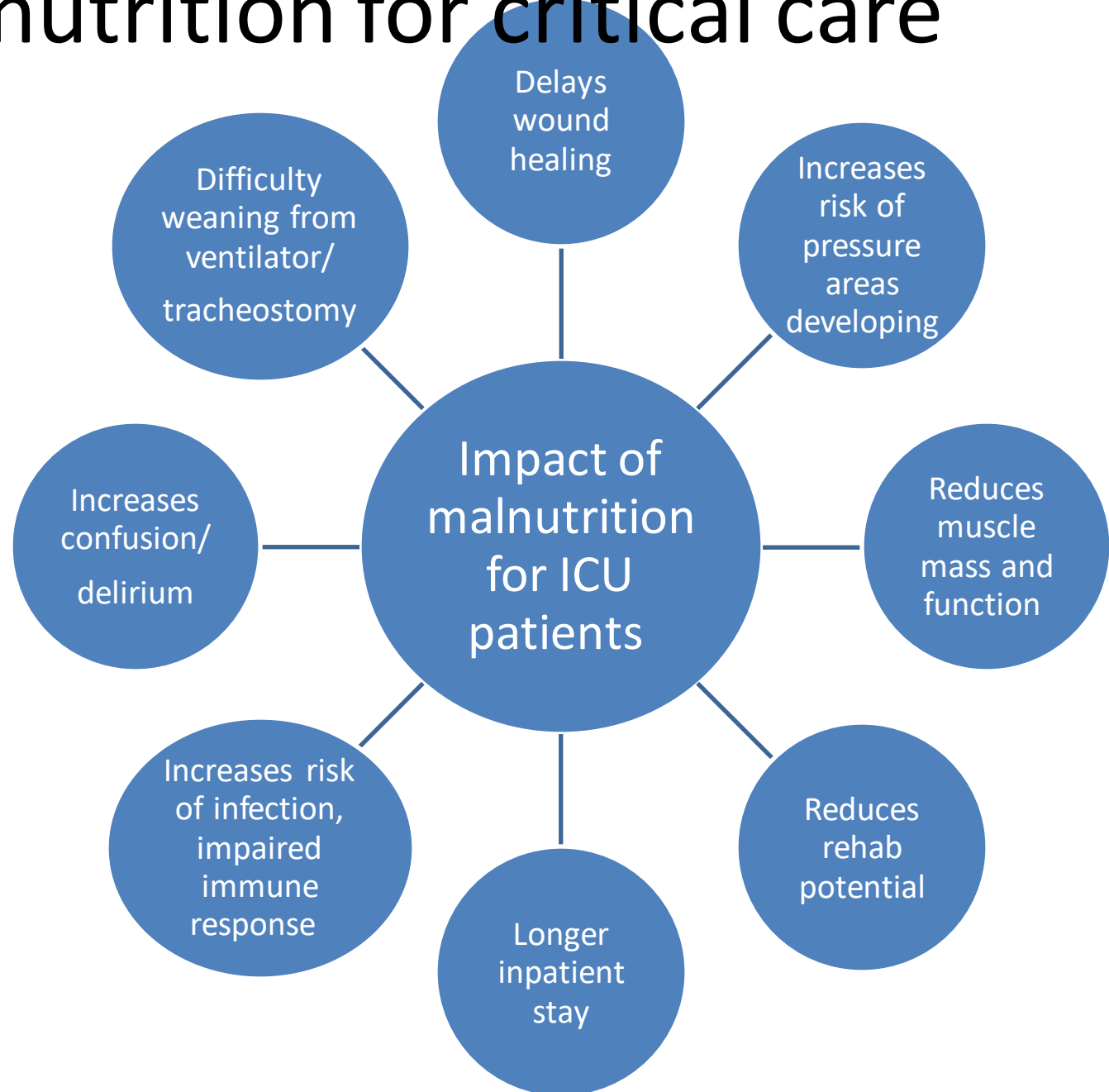
## After ICU discharge

- Often patients are discharged to wards on inadequate nutrition

# Why worry about nutrition for critical care rehabilitation?

Malnutrition is a huge cost to the NHS – the cost of treating someone who is malnourished is about 2-3 x more than someone who is not malnourished.

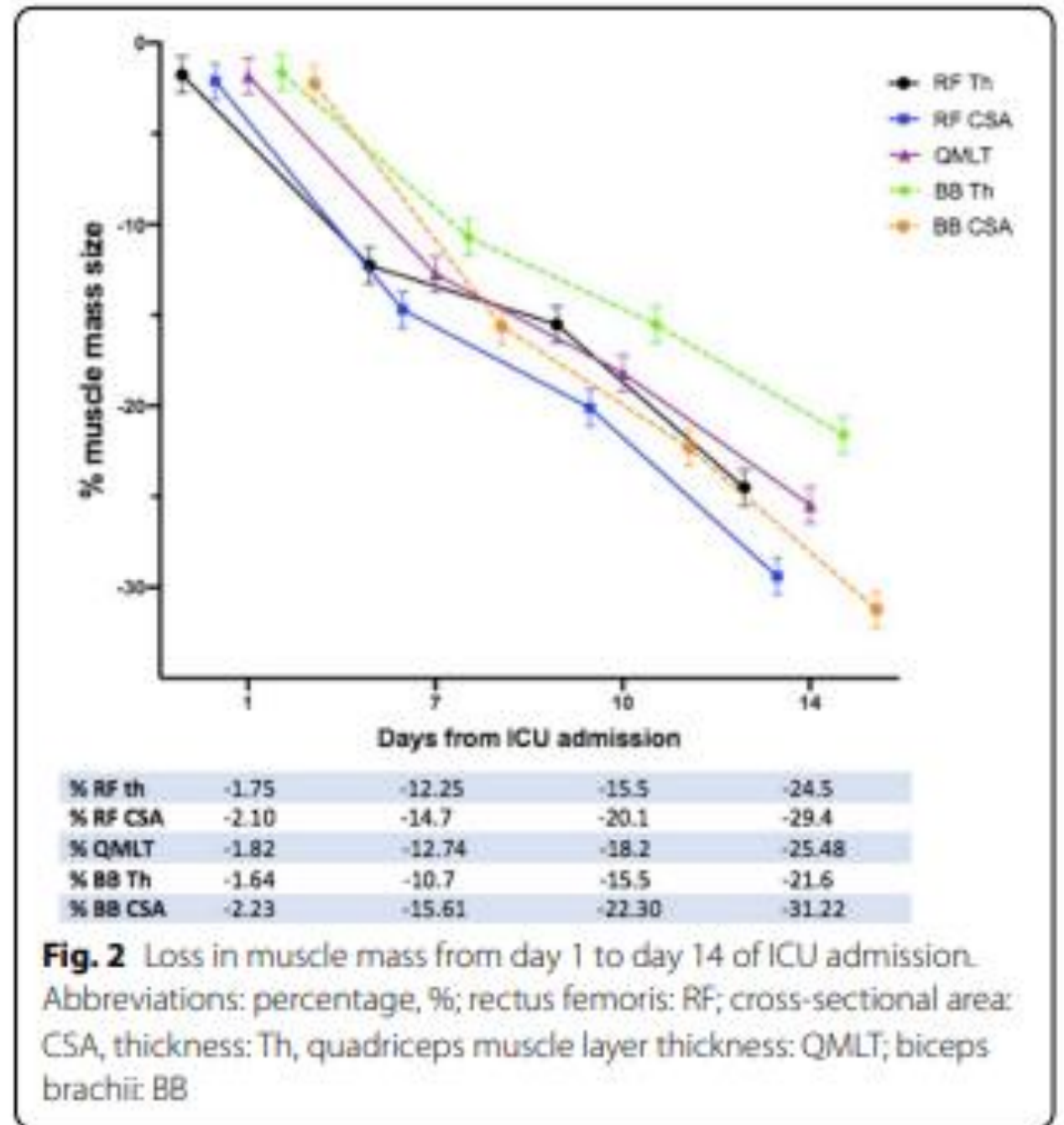
Complication rates are increased by 40% post surgery, and mortality rates by 30%.





# Muscle wasting in critical care

- During first week of critical care admission
  - Lose 2% skeletal muscle daily
- 50% of patients have ICU-AW
- Can lose 15% muscle mass in first week, 30% by week 2
- The more organs failing, the more rapid the loss in muscle mass.



# Muscle loss in critical illness

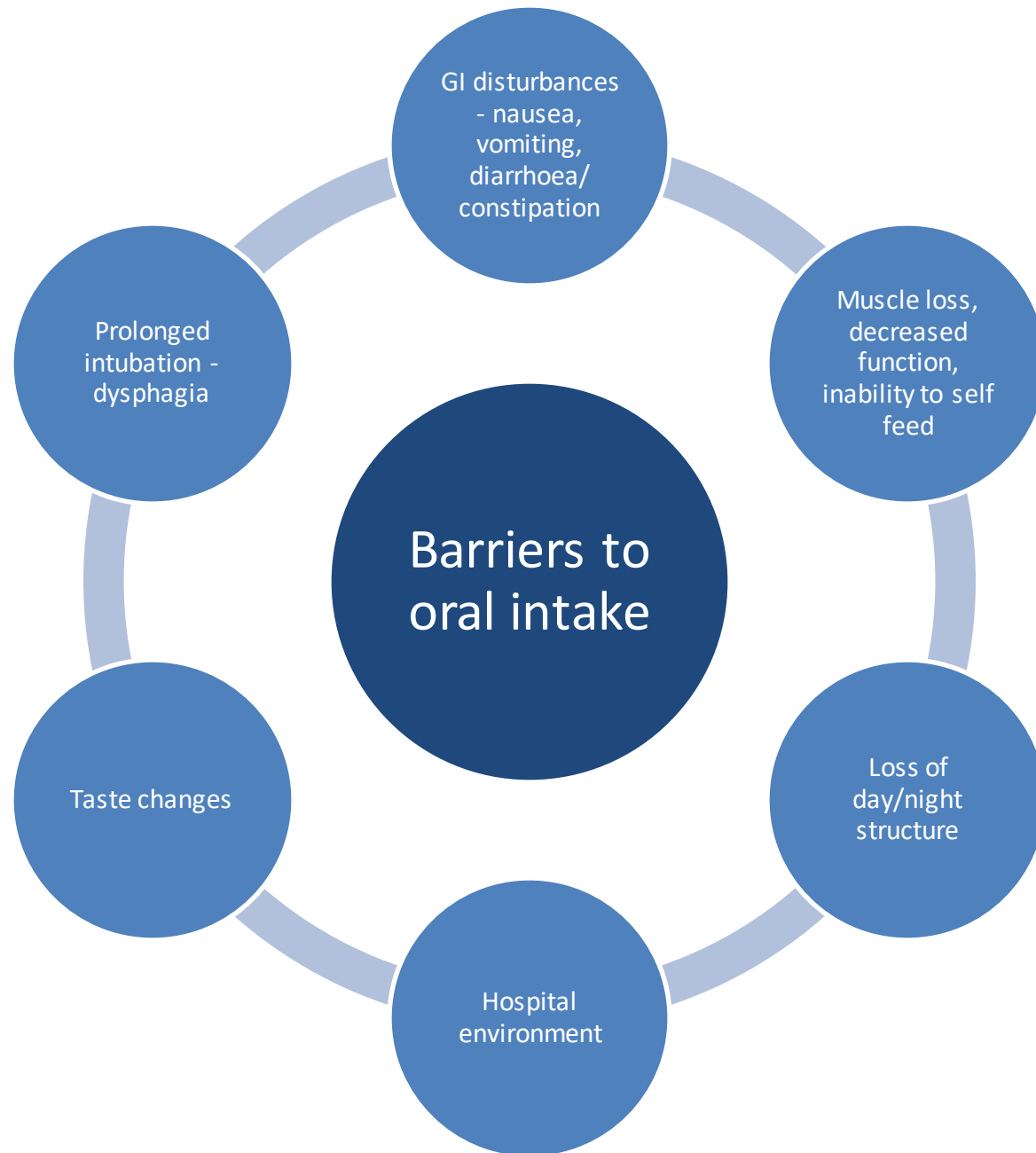
How can  
we  
minimise  
muscle  
wasting?

Difficult due to increased catabolism and reduced anabolism

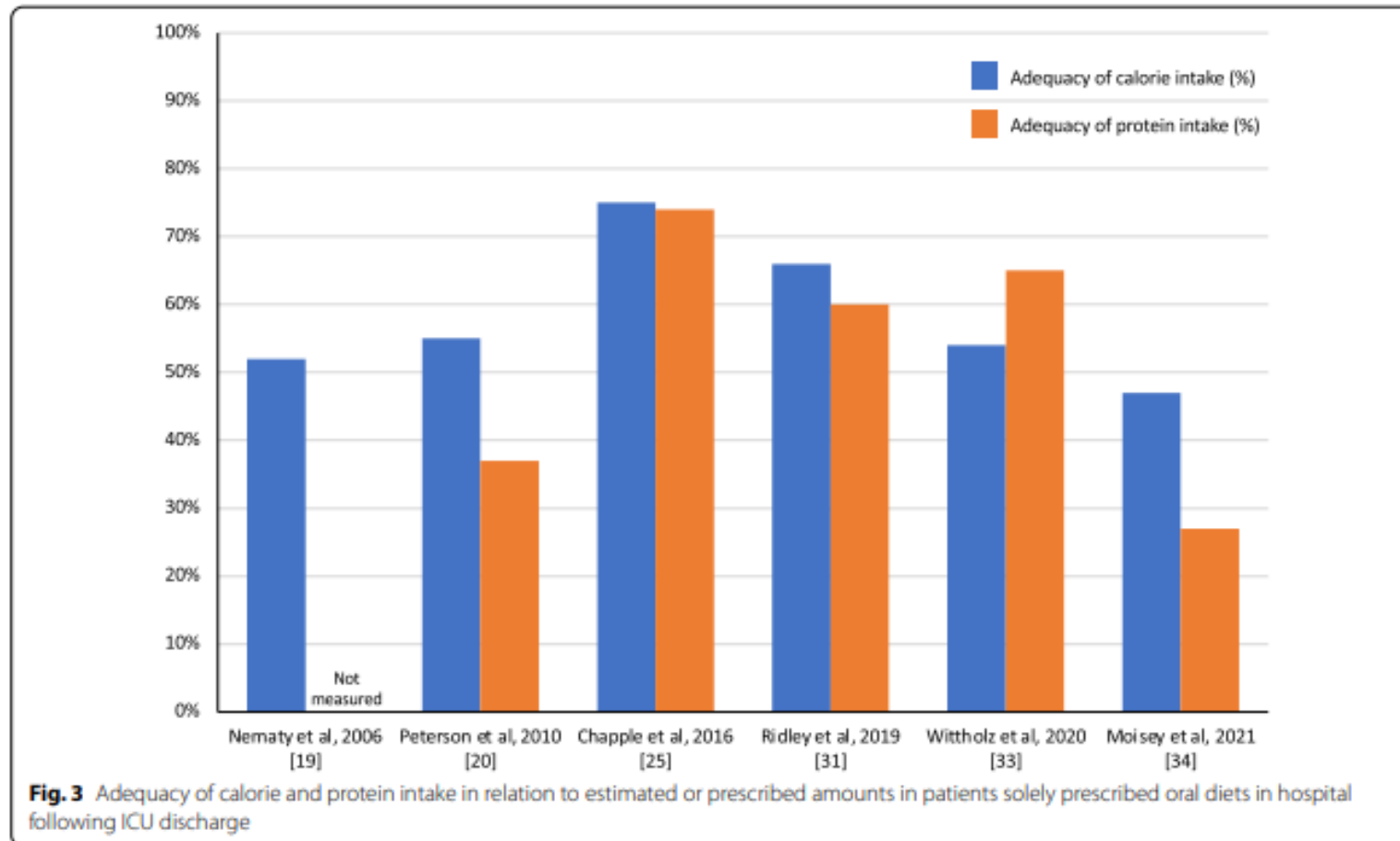
Ensure adequate nutrition (especially protein) during entire critical care stay and beyond

Oral

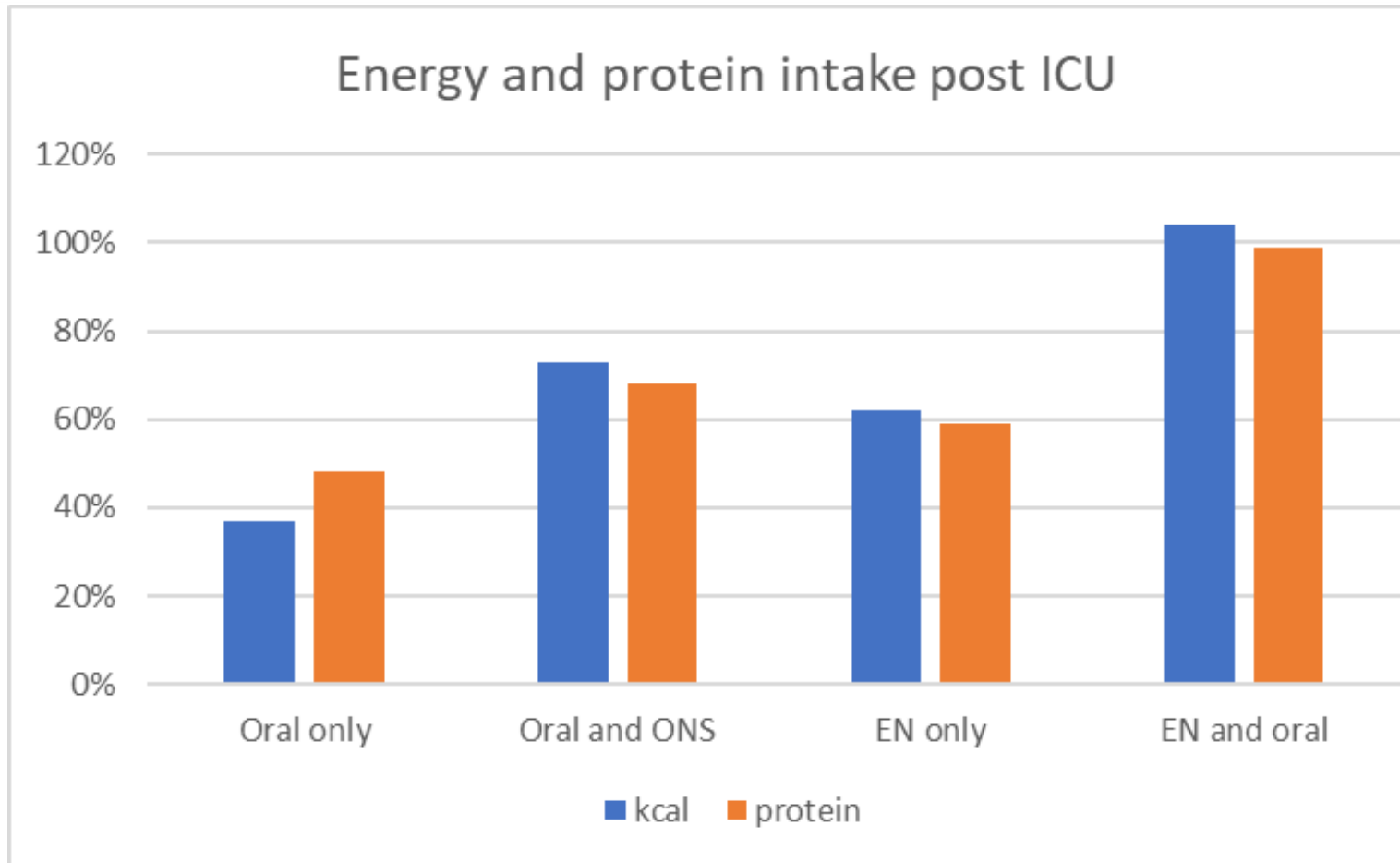
Which  
route?



# Adequacy of oral intake in hospital following ICU discharge



# Can we meet nutritional needs post ICU?



# Key points

- Meeting nutritional requirements orally is challenging in the post critical care patient
- Patients may require NG feed +/- supplements for a prolonged period
- Catabolism is increased and anabolism is decreased, meaning muscle difficult to rebuild
- Best to aim to meet nutritional needs from day 1 to discharge.... and beyond
  - use feeding protocols initially/supplements if oral
  - Consider continuing NG feeding once extubated
  - Consider nutritional supplements once extubated/eating
  - Regular reviews of weights and intake
  - Involve your dietitian



Thank you for listening

Any Questions?