

# Nutrition Support Across The Continuum Of Care

## Nutrition in Critical Illness and Beyond

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## Introduction

Mortality rates from critical illness have reduced...

Nutrition status deteriorates during early critical illness & beyond...

Greater fat mass gain & decreased LBM up to one year.

Significant physical & functional disability up to 5 years



# Nutrition Support & Recovery From Critical Illness

**Pre-morbid condition**



**Acute illness**



**ICU**



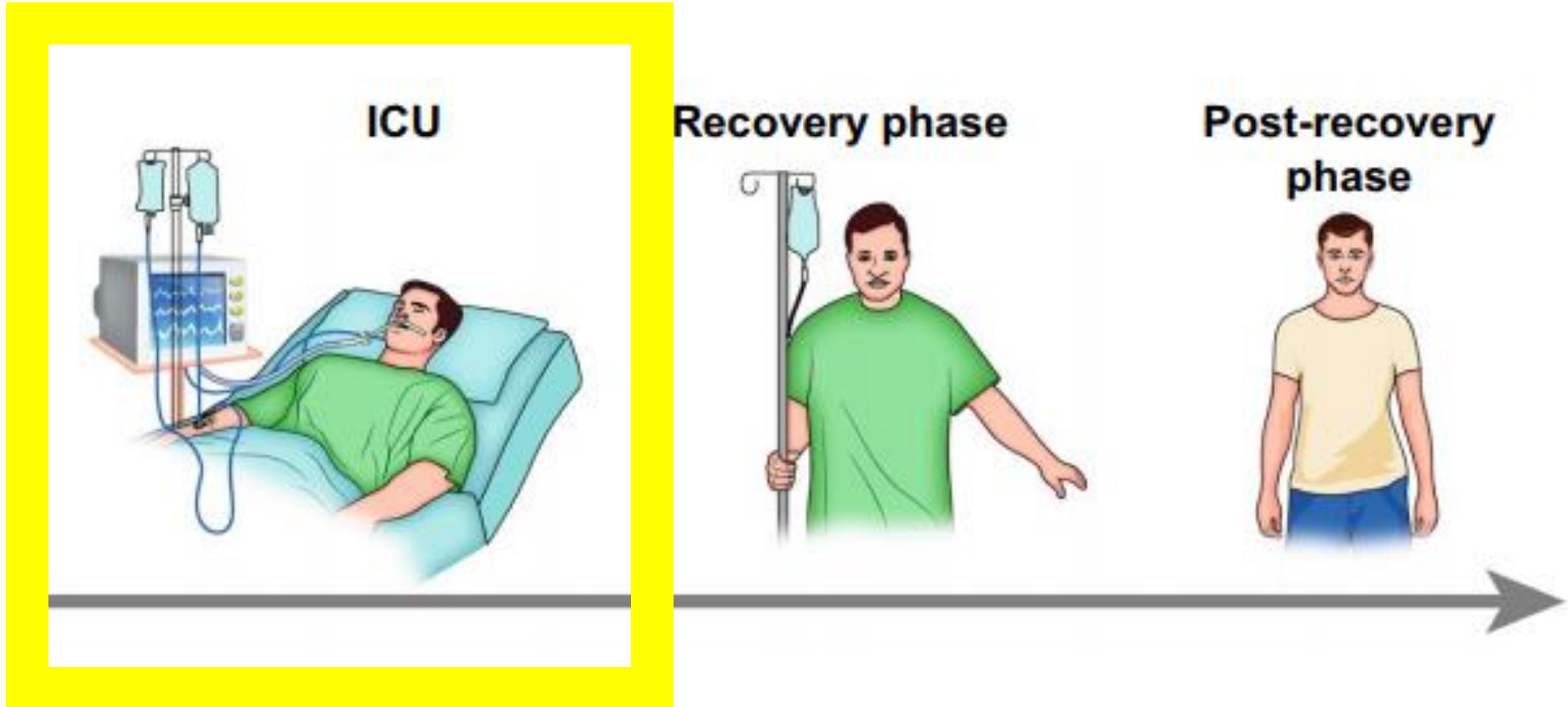
**Recovery phase**



**Post-recovery phase**



# Nutrition Support to Enhance Recovery



# Critical Care Nutrition Guidelines.

JPEN J Parenter Enteral Nutr. 2016 Feb;40(2):159-211. doi: 10.1177/0148607115621863.

## **Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.).**

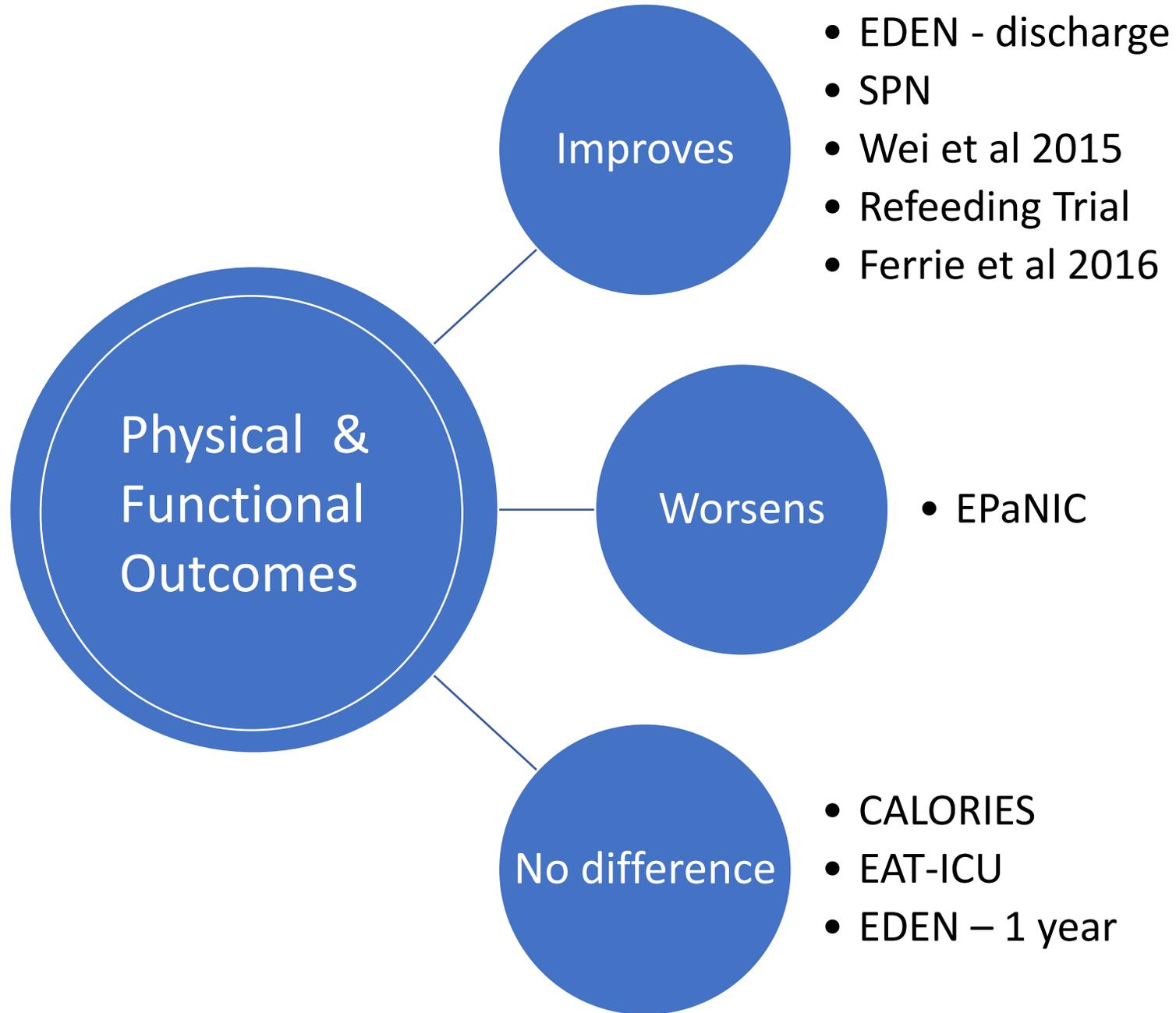
McClave SA<sup>1</sup>, Taylor BE<sup>2</sup>, Martindale RG<sup>3</sup>, Warren MM<sup>4</sup>, Johnson DR<sup>5</sup>, Braunschweig C<sup>6</sup>, McCarthy MS<sup>7</sup>, Davanos E<sup>8</sup>, Rice TW<sup>9</sup>, Cresci GA<sup>10</sup>, Gervasio JM<sup>11</sup>, Sacks GS<sup>12</sup>, Roberts PR<sup>13</sup>, Compher C<sup>14</sup>; Society of Critical Care Medicine; American Society for Parenteral and Enteral Nutrition.

Clin Nutr. 2019 Feb;38(1):48-79. doi: 10.1016/j.clnu.2018.08.037. Epub 2018 Sep 29.

## **ESPEN guideline on clinical nutrition in the intensive care unit.**

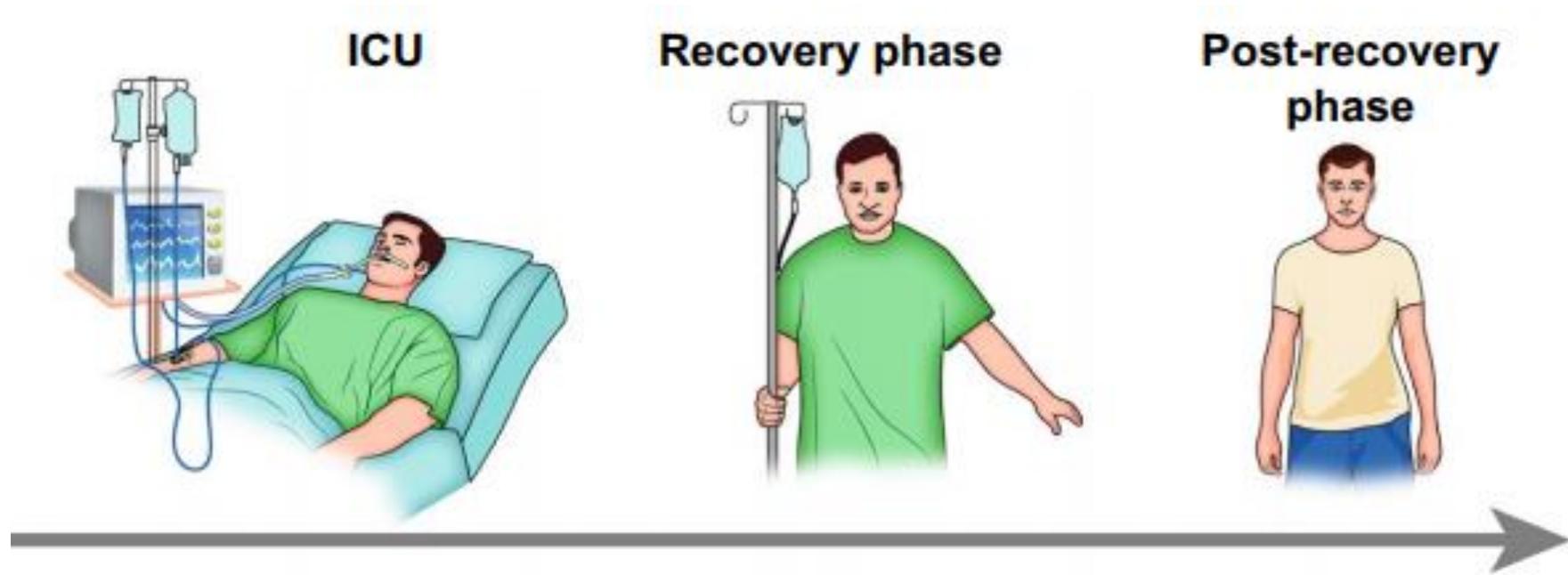
Singer P<sup>1</sup>, Blaser AR<sup>2</sup>, Berger MM<sup>3</sup>, Alhazzani W<sup>4</sup>, Calder PC<sup>5</sup>, Casaer MP<sup>6</sup>, Hiesmayr M<sup>7</sup>, Mayer K<sup>8</sup>, Montejo JC<sup>9</sup>, Pichard C<sup>10</sup>, Preiser JC<sup>11</sup>, van Zanten ARH<sup>12</sup>, Oczkowski S<sup>4</sup>, Szczeklik W<sup>13</sup>, Bischoff SC<sup>14</sup>.

# Critical Care Nutrition Trials Reporting on Physical & Functional Outcomes



# 'Biological Plausibility'





Length of nutritional intervention  
vs.  
Length of time to outcomes measure

## Nutritional targets are not met during EARLY critical illness

61% of prescribed energy and 57% of prescribed protein received first 12 day.

0.6g/kg protein and 1034kcal/d

EDEN – Only met 70% estimated energy needs in ‘full feeding group’

Ferrie – failed to set achieve protein targets with PN

# But Why?

## Nutritional Targets

Lower Energy

Higher Protein

Non Nutrient energy inputs

## Route & Feed

Use of standard EN formula

Availability of higher protein feeds

Primary route – Enteral Nutrition

## Feed Stoppages

Prolonged fasting for procedures

Regular trips to theatre

GI intolerance

## Team Input & evidence

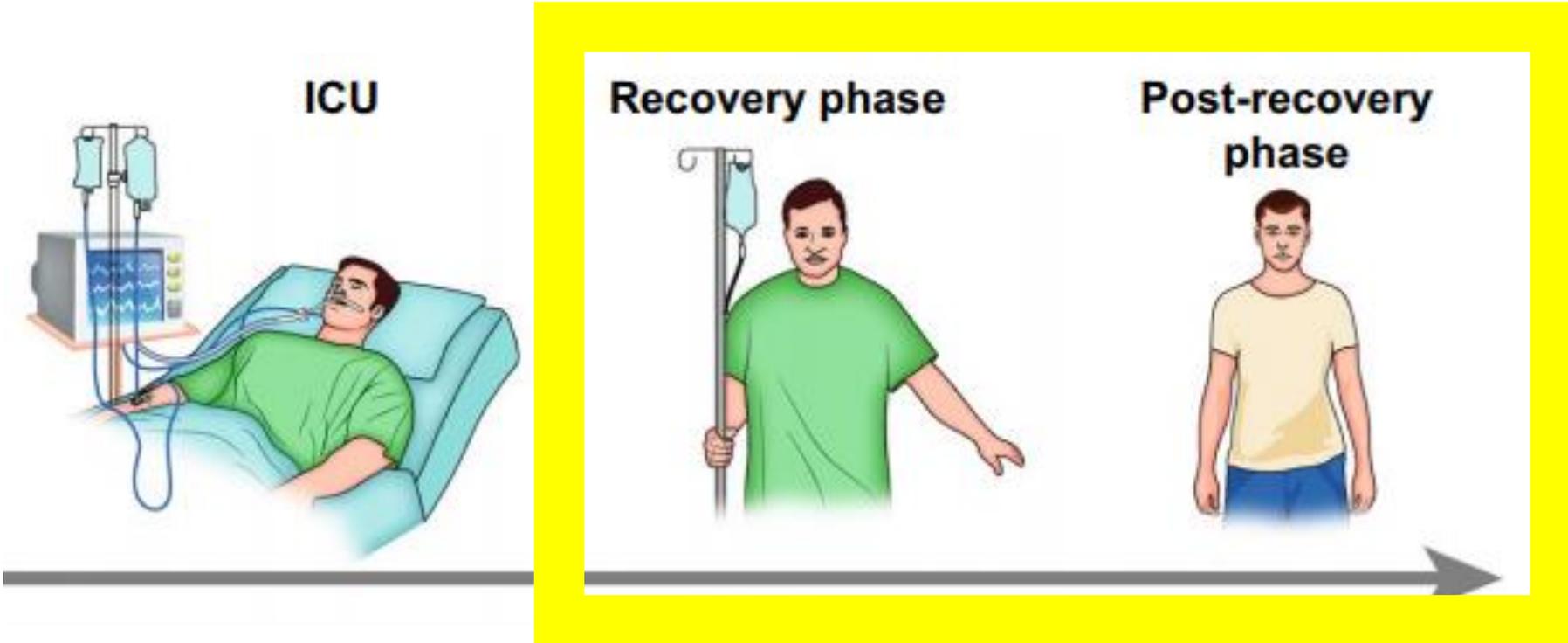
Attitude

Knowledge

Up to date knowledge

Conflicting evidence





Where the post ICU length of stay is often 3-4 x longer than the ICU stay itself.

## Nutritional Targets are not met in the recovery / rehab phase

<50% of energy & protein targets met on ALL 7 days post extubation

Significantly higher nutritional deficits on the wards than on the ICU.

	Oral	Oral+ONS	Oral+Enteral
% energy met	37%	73%	104%
% protein met	48%	68%	99%

# But Why?

## Physical Functional

Weakness & Fatigue

Dysphagia

## Attitude Beliefs

Early NGT removal

Negative Stereotypes

Competing healthcare  
related issues

Priority of nutrition  
therapy on the ward

## Organisational Culture

Handovers

Follow up continuity

Ward Dietitian Caseload

Meal timings/service

Snack / ONS delivery

Discharging priority

## Other

Sleep disturbance

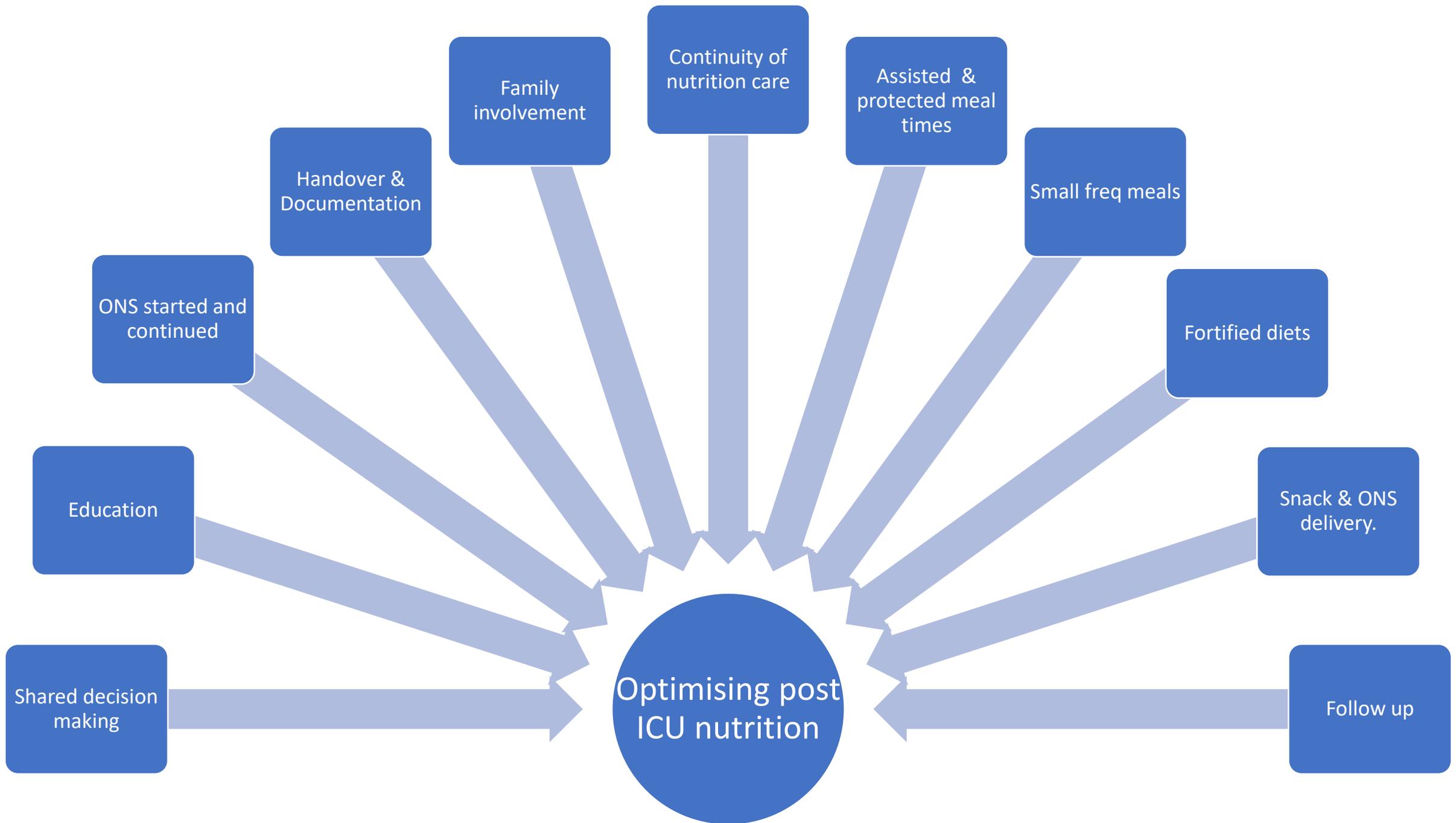
Delirium

Nausea

Taste Changes

Reduced appetite

Therapeutic Diets



Insert optional logo.  
E.g. NHS or Nutricia

## Conclusions.

- Nutritional status deteriorates over the course of critical illness.
- Research focusing on physical/function recovery is mixed.
- Limited by length of intervention & meeting nutritional targets.
- Challenges both in and outside the ICU to optimise delivery.
- Dietitians play an vital role in achieving targets in & outside the ICU.
- New research is set to advance our understanding but we need to support our patients NOW #WhatDietitiansDO

**THANK YOU**

What Questions  
Do You Have?