

Effects of normocaloric vs. hypocaloric enteral nutrition on whole-body protein turnover in critically ill patients

SND-ID: snd1260-1. **Version:** 1. **DOI:** <https://doi.org/10.5878/b1e8-fg58>

Download data

Amino Acids and Urea.xls (34 KB)

Enrichments.xlsx (23.81 KB)

Tracer infusions.xlsx (57.32 KB)

TrialReview.pdf (242.04 KB)

Download all files

snd1260-1-1.zip (~357.17 KB)

Citation

Rooyackers, O., & Sundström Rehal, M. (2020) Effects of normocaloric vs. hypocaloric enteral nutrition on whole-body protein turnover in critically ill patients (Version 1) [Data set]. Karolinska Institutet. Available at: <https://doi.org/10.5878/b1e8-fg58>

Creator/Principal investigator(s)

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Description

Enteral nutrition (EN) is a ubiquitous intervention in ICU patients but there is uncertainty regarding the optimal dose, timing and importance for patient-centered outcomes during critical illness. Our research group has previously found an improved protein balance during normocaloric versus hypocaloric parenteral nutrition in neurosurgical ICU patients. We now wanted to investigate if this could be demonstrated in a general ICU population with established enteral feeding, including patients on renal replacement therapy.

Patients with EN >80% of energy target as determined by indirect calorimetry were randomized to or 50% or 100% of current EN rate. After 24 hours, whole body protein kinetics were determined by enteral and parenteral stable isotope tracer infusions. Treatment allocation was then switched, and tracer investigations repeated 24 hours later in a crossover design with patients serving as their own controls.

The files give all data for calculating whole body protein kinetics and the amino acids and urea concentrations at the end of the two 24h intervention periods (day 1 and day 2).

The file "Tracer infusions" gives the details of the preparation of the tracers infused during the two days, including the volumes taken up in the syringes, the dilutions and the final weight of the syringes. All this information is used to calculate the exact rates of infusion in micromol per kg

bodyweight per hour.

The file "Enrichments" includes the amount of the tracers (given as Molar Percent Excess) in the blood samples and in the dialysis samples as measured at the different time points during the 5 hours infusion of the tracers. The last 4 samples over the last 15 minutes of the two 24h periods are averaged and used for the calculations of the whole body protein turnover as specified in the publication.

The file "Amino acids and Urea" gives the concentrations of all amino acids in plasma and in the dialysate (if appropriate) and of urea in plasma at the end of the two 24h intervention periods (last sample only).

Data contains personal data

No

Language

[English](#)

Population

Adult ICU patients with invasive mechanical ventilation and an FiO₂ of $\neq < 0.6$.

Study design

Experimental study

Time period(s) investigated

2016-12-14 - 2018-03-05

Biobank is connected to the study

Yes

Data format / data structure

[Numeric](#)

Data collection 1

- Mode of collection: Biological tests
- Time period(s) for data collection: 2017-02-15 - 2018-03-07
- Source of the data: Biological samples

Geographic spread

Geographic location: [Stockholm County](#)

Responsible department/unit

Anesthesiology and Intensive Care/CLINTEC

Contributor(s)

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Funding 1

- Funding agency: Stockholm County Council
- Funding agency's reference number: 563170

Funding 2

- Funding agency: Swedish Research Council
- Funding agency's reference number: 04210

Ethics Review

Stockholm - Ref. 2016/76-31/4

Research area

[Anesthesiology and intensive care](#) (Standard för svensk indelning av forskningsämnen 2011)

Keywords

[Metabolism](#), [Amino acids](#), [Protein kinetics](#), [Icu nutrition](#)

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1. 2020-07-01

Homepage

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=366000&isReview=trueEnterthedatethatyouregisteredyourtrial>

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Published: 2020-07-01