

Supplementary Table S5. Energy and protein intake

Study, year (country)	Study design (period)	n	Population	Age mean/median, years	Group 1 control, (n)	Group 2 (n)	Nutrition prescription/ intervention	Actual intake (Group 1 vs 2)	Main findings (Group 1 versus 2)
Dickerson et al. <sup>32</sup> 2013 (US)	Retro obs Apr 2009– Apr 2011	74	Age ≥18 years, critically ill trauma patients with obesity (BMI >30), given EN or PN therapy, with NB determination	Old: 69±6 Young: 42±12	Older ≥60 years (33)	Younger <60 years (41)	<ul style="list-style-type: none"> <li>• Hypocaloric (21–25kcal/kg/day), high protein (≥2g/kg/day) regime for &gt;10 days</li> <li>• BW for calculation: IBW<sup>a</sup></li> </ul>	<p>Average nutrition intake throughout the observation period (mean: 30 days):</p> <ul style="list-style-type: none"> <li>• Calories: 21±5 vs 18±4 kcal/kg/day (<i>P</i>=0.002)</li> <li>• Protein: 2.1±0.4 vs 1.9±0.3g/kg/day (<i>P</i>=0.016)</li> </ul>	<ul style="list-style-type: none"> <li>• Positive NB at 1 week (both groups were at isonitrogenous intakes at this time): 55% vs 56% (<i>P</i>=0.919)</li> <li>• Survival rate: 85% vs 95% (<i>P</i>=0.231)</li> <li>• VAP rate: 48% vs 39% (<i>P</i>=0.592)</li> <li>• Duration of MV: 30±13 vs 25±11 (<i>P</i>=0.092)</li> <li>• ICU LOS in survivors: 31±13days vs 28±17days (<i>P</i>=0.163)</li> <li>• Hospital LOS in survivors: 35±14days vs 42±25days (<i>P</i>=0.315)</li> </ul>
Dickerson et al. <sup>33</sup> 2015 (US)	Retro obs June 2005– June 2009	249	Age ≥18 years, critically ill trauma patients, given EN or PN, with NB determination within 5–14 days post-injury  Excludes obese patients and those on hypocaloric, high protein regime	Old: 69 (range: 65–77) Young: 35 (range: 27–47)	Older ≥60 years (54)	Younger (<60 years) (195)	<ul style="list-style-type: none"> <li>• Calories Old: HBE × 1.3–1.4 Young: 30–32kcal/kg/day</li> <li>• Protein Old: 1.5–2.5g/kg/day Young: 2–2.5g/kg/day</li> <li>• BW for calculation: pre-resuscitation BW</li> </ul>	<p>Nutrition intake during NB determination:</p> <ul style="list-style-type: none"> <li>• Calories 13 (7–21) vs 16 (8–24) kcal/kg/day (not significant)</li> <li>• Protein: 1.1 (0.6–1.5) vs 1.3 (0.8–1.9) g/kg/day (<i>P</i>=0.025)</li> </ul>	<ul style="list-style-type: none"> <li>• NB: –6.5 (–13.8 to –1.7) vs –9.7 (–16.1 to –3.4) g/day (<i>P</i>=0.065)</li> <li>• NB had a non-linear relationship with protein intake (<i>R</i>=0.51 for older and <i>R</i>=0.5 for younger, both <i>P</i>&lt;0.001) <ul style="list-style-type: none"> <li>– Old: NB improves at protein intake &gt;1.50g/kg/day</li> <li>– Young: NB improves at protein intake &gt;0.99g/kg/day</li> </ul> </li> <li>• Survival rate: 74% vs 94% (<i>P</i>=0.001)</li> <li>• Duration of MV: 13 (8–24) vs 13 (8–12) (not significant)</li> <li>• ICU LOS: 18 (12–32) vs 18 (12–27) (not significant)</li> <li>• Hospital LOS: 28 (16–41) vs 29 (20–43) (not significant)</li> </ul>
Wade et al. <sup>34</sup> 2015 (international)	Retro obs (INS database, NR)	1,279	Age ≥18, trauma, MV, received ≥3 days of nutrition therapy	Old: 75.7±7.1 Young: 38.2±13.8	Older >65 years (224)	Younger <65 years (1,055)	<ul style="list-style-type: none"> <li>• Calories Old: 23.8±4.7 kcal/kg/day vs young: 25.5±5.1 kcal/kg/day (<i>P</i>&lt;0.001)</li> <li>• Protein</li> </ul>	<p>Average 12 days nutrition adequacy:</p> <ul style="list-style-type: none"> <li>• Calories: 60.2±26.3 vs 56.3±26.3% (not significant)</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of calories received was not a significant predictor for time to discharge alive from the hospital, overall and between age groups</li> <li>• Timing of EN initiation: 1.6±1.4 vs 1.7±1.6 days (not significant)</li> </ul>

							Old: 1.2±0.3 vs young: 1.3±0.3 (P<0.001)	• Protein: 57.2±27% vs 51.6±26.8% (not significant)	
Tañada et al. <sup>35</sup> 2021 (Philippines)	Retro obs April–December 2020	55	Age ≥18years, ICU patients with RT-PCR-confirmed COVID-19 on MV, started EN therapy within 48 hours of admission	69 (range: 61–75)	Older ≥75 years (NR)	Younger <75 years (NR)	<ul style="list-style-type: none"> <li>• Calories: 25kcal/kg/day</li> <li>• Protein: 1.0g/kg/day</li> <li>• BW for calculation: IBW for non-obese and AdjBW for obese</li> </ul>	<ul style="list-style-type: none"> <li>• Average nutrition intake per day from day 3 to 7 of ICU stay</li> <li>• Calories: 17.8 (12.5–22.2) kcal/kg/day</li> <li>• Protein: 0.81 (0.62–0.98) g/kg/day</li> </ul>	<ul style="list-style-type: none"> <li>• No significant correlation between calories and protein intake with ICU LOS, hospital LOS, length of vasopressor use, and duration of MV in the older and the younger group.</li> </ul>

AdjBW: adjusted body weight;<sup>b</sup> BMI: body mass index; BW: body weight (kg); EN: enteral nutrition; HBE: Harris-Benedict equation; IBW: ideal body weight;<sup>c</sup> ICU: intensive care unit; INS: international nutrition survey; LOS: length of stay; MV: mechanical ventilation; NB: nitrogen balance; NR: not reported; PN: parenteral nutrition; Retro obs: retrospective observational study, RT-PCR: real-time reverse-transcription–polymerase-chain-reaction; VAP: ventilator-associated pneumonia

<sup>a</sup> Devine BJ. Gentamicin therapy. *Drug Intell Clin Pharm* 1974;8:650-5.

<sup>b</sup> In Tañada et al.,<sup>35</sup> calculated by (actual body weight – IBW) × 0.33 + IBW where actual body weight refers to the weight of the patient on admission, prior to IV hydration, in kilograms.

<sup>c</sup> In Dickerson et al.<sup>32</sup> and Tañada et al.,<sup>35</sup> IBW of men is 50kg + 2.3kg for each inch over 5 feet, and women is 45.5kg + 2.3kg for each inch over 5 feet.

Superscript numbers: Refer to REFERENCES