

Supplement Table 2. Summary of included studies evaluating candidates for nutritional therapy in critically ill adult patients (KQ1)

Study	Design	Participants	Comparison	Summary
Puthuchearry et al., 2013 [21]	Prospective observational study	63 adult ICU patients; serial USG muscle CSA, muscle biopsy on days 1, 3, 7, 10	No intervention natural course of muscle loss	Rapid muscle wasting from ICU admission rectus femoris CSA –12.5% (day 1–7) and –17.7% (day 1–10); greater loss in multi-organ failure.
Fazzini et al., 2023 [22]	Systematic review & meta-analysis	22 studies; adult critically ill patients with muscle mass measures	Pooled estimates of muscle loss across studies	During first week, RF thickness –1.75%/day RF CSA –2.10%/day ICU-acquired weakness prevalence 48%.
Heyland et al., 2011 [23]	Prospective cohort study	1,172 mechanically ventilated critically ill patients	Low vs. high nutrition risk (NUTRIC <5 vs. ≥5)	Increased energy & protein intake associated with improved survival only in high-risk (NUTRIC ≥5; p=0.01). No benefit in low-risk patients. Supports risk-stratified nutrition therapy.
Chong et al., 2025 [24]	Systematic review & meta-analysis (including RCTs)	Malnourished or nutrition-risk critically ill adults	Higher vs. lower energy/protein provision	No significant mortality benefit with higher nutrition delivery (RR 0.99; 95% CI 0.85–1.17). Even in high-risk group, no survival improvement (aOR 1.37; p=0.59). Suggests individualized approach needed.

ICU, intensive care unit; USG, ultrasonogram; RF, rectus femoris; CSA, cross-sectional area; NUTRIC, nutritional risk in the critically ill; RCT, randomized controlled trial; RR, risk ratio; CI, confidence interval; aOR, adjusted odd ratio.

