

Supplement Table 22. Characteristics of randomized controlled trials included in the meta-analysis evaluating indirect calorimetry-guided versus predictive equation-guided energy provision in critically ill adult patients (KQ9)

Author (year)	Study population	Study design	Study protocol		No of patients			Outcome variables
			Inter.	Con.	Total	Inter.	Con.	
Jeerangsapasuk et al. 2025 [106]	Adults (18–80 yr) ICU patients with MV and AKI	Single-center, unblinded RCT	IC-guided EGDN	Physician desecrated nutrition	80	40	40	28d mortality, 14/60 d mortality, ICU LOS, H LOS, duration of MV, FI, nosocomial infections
Elizabeth et al., 2024 [107]	ICU patients (≥50 years), expected to be MV >3 days	Prospective, single-blinded, single center RCT	IC directed feeding + 60 min/day cycle ergometry	WBF (25kcal/kg/d) + standard ICU PTx	21	10	11	US based change of RFM, ICU LOS, H LOS, ICU mortality, H mortality, FI
Singer et al., 2021 [108]	Adult ICU patients with MV (ICU ≥48 hr)	Prospective multicenter RCT	IC-based energy delivery	WBF-based energy delivery	417	209	208	Cumulative EB, ICU mortality, H mortality, infection, ICU LOS, H LOS
Farah Hanim et al., 2021 [109]	Adult ICU patients (age ≥18) with MV, expected ICU stay >4 days	Prospective single center, single blinded RCT	IC based energy target	WBF (25 kcal/kg/day) based target	146	73	73	Daily & cumulative EB, ICU mortality, ICU LOS, duration of MV, FI
Gonzalez-Granda et al. 2019 [110]	adult ICU patients with MV, expected to stay >2 days	Prospective single center RCT	IC based energy needs	WBF (25 kcal/kg/day) based energy need	40	20	20	Change in PhA, ICU LOS, H LOS, ICU mortality, H mortality
Allingstrup et al. 2017 [111]	ICU patients aged ≥18 yr, expected to stay >3 days, receiving MV	Single-center, assessor-blinded RCT	IC guided nutrition	WBF (25 kcal/kg/d) nutrition	199	100	99	6-mo physical QOL, ICU mortality, H mortality
Landes et al. 2016 [112]	Adults (≥18 yr) with MV	Single center RCT	IC based EN	HBE or WBF based EN	27	15	12	Accuracy of calorie estimate, adequacy of NT, duration of MV
Singer et al. 2011 [113]	Adults (≥18 yr) with MV	Open-label two center RCT	IC guided energy provision	WBF-based energy provision	130	65	65	EB, ICU LOS, H LOS, H mortality, infection

Inter., intervention; Con., control; ICU, intensive care unit; MV, mechanical ventilation; AKI, acute kidney injury; RCT, randomized controlled trial; IC, indirect calorimetry; EGDN, early goal-directed nutrition; LOS, length of stay; H, hospital; FI, feeding intolerance; WBF, weight based formula; PTx, physical therapy; US, ultrasound; RFM, rectus femoris muscle; EB, energy balance; PhA, phase angle; QOL, quality of life; HBE, Harris-Benedit equation; NT, nutrition therapy.

