e-Table 1. Study Characteristics and Outcomes

Author, Year	Setting	Study Design/ Country	N, intervention (control)	Intervention	Therapy	Population	Definition of ARDS	Outcomes	Key findings
Belda et al, 2004	ICU	Pre-post/UK	22 (23)	Education	LTVV	ALI/ARDS	Did not specify	Patient: hospital mortality, TV at day 1 and day 3 of mechanical ventilation; Provider: change in survey response	Decreased mean day 3 TV from 10.3 to 8.9 (p=0.02); increased hospital mortality from 43% before to 50% after (p=0.77)
Wolthuis et al, 2005	ICU	Pre-post/Netherlands	64 (50)	Education, Feedback	LTVV	ALI/ARDS	Berlin Criteria	Mean ICU TV at 6 months and 1 year	Reduction in 6-month mean TV from 9.9 ± 2.2 ml/kg to 8.2 ± 1.8 ml/kg PBW (p=0.013)
Wolthuis et al, 2007	ICU	Retrospective/ Netherlands	Study 1:22 Study 2:12 Study 3:8 (17)	Education, Feedback	LTVV	ALI/ARDS	AECC	TV, RR, PEEP, PIP, FIO$_2$, PaO$_2$, PaCO$_2$, arterial pH at multiple time points	Mean TV was 7.6 ml/kg PBW at intervention site vs. 10.3 ml/kg at non-intervention site
Kalb et al, 2014	ICU	Pre-post/ USA	3447 (3813)	Education, Protocol	LTVV	ARDS or non- ARDS with P/F <300	Did not specify	Adherence to LTVV (TV < 6.5 ml/kg PBW for patients with ARDS, TV <7.5 ml/kg PBW for patients without ARDS), ventilator duration ratio (VDR)	Adherence to TV < 6.5 ml/kg PBW in patients with ARDS/ALI improved 23.3% to 37% (p<0.005). Adherence to TV < 7.5 ml/kg PBW increased 34% to 47.5% (p<0.001). Absolute and mean VDR reduction (0.92 ± 0.28; −15.8%, p<0.05)
Luedike et al, 2015	ICU	Pre-post/ Germany	33 (26)	Protocol	Prone positioning	ARDS	Discharge diagnosis of ARDS	Use of prone positioning, NMB, ECMO, 28-day mortality, 180-day mortality, number of ARDS diagnoses	Increased in prone positioning from 7% to 73% (p<0.05); ARDS diagnosis increased by 79% (p<0.05); No significant change in 28- and 180- day mortality
Nota et al, 2016	ICU	Interrupted time-series/Australia	2822 (3543)	Education	LTVV	ALI	Did not specify	Adherence to LTVV (TV <6.5 ml/kg PBW)	Increased adherence to LTVV by 29.4% from baseline
Fuller et al, 2017	ED/ICU	Pre-post/USA	43 (186)	Education, Protocol	LTVV	ARDS	Berlin	Primary: hospital mortality; Secondary: ventilator, ICU and hospital free days; adherence to LTVV (TV ≤6.5 ml/kg PBW)	Adjusted mortality reduction from 54.8% to 39.5% in intervention group (OR 0.36, 95% CI 0.16-0.82, p=0.02); Higher ventilator free days in intervention group (11.6 ± 10.8 vs. 7.7 ± 9.9 days, p=0.03); For patients in the ED with ARDS, reduction in TV from 8 ml/kg PBW (7.1-9.1) to 6.4 ml/lg (6.1-6.8) and increased adherence in LTVV from 11.1% to 61.5% (p<0.01)
Birkhoelzer et al, 2019	ICU	Pre-post/USA	60 (77)	Education, Protocol	LTVV	Primary lung disease or complications (i.e., ARDS)	Did not specify	Primary: compliance with LTVV (% of total time ventilated < 8 ml/kg of IBW); Secondary: FiO$_2$, PEEP, plateau pressure, documentation of IBW	Increased time receiving TV < 8 ml/kg IBW with intervention (68.2% vs. 81%)
Gallo de Moraes et all, 2020	ICU	Pre-post/USA	Total:122 (112) Prone:16 (12)	Protocol	Prone positioning	ARDS	Berlin	Time from onset of hypoxemia to initiation of prone positioning, ICU LOS, hospital LOS, ICU- and hospital- mortality	For patients placed in prone position: median time to prone positioning was shorter after the intervention (42.2 hr vs 16.3 hr; p=0.007); ICU and hospital LOS were shorter after protocol implementation (14.3 d vs 6 d, p=0.03; 21.9 d vs 7.5 d, p=0.08, respectively); there were no differences in ICU or hospital mortality

Definitions of abbreviations: AECC= American European Consensus Conference; ALI= acute lung injury; ARDS= acute respiratory distress syndrome; ED= emergency department; ECMO= extra corporeal membrane oxygenation FiO$_2$= fraction of inspired oxygen; IBW= ideal body weight; ICU= intensive care unit; LOS= length of stay; LTVV= low tidal volume ventilation; OR= odds ratio; PaCO$_2$= partial pressure of carbon dioxide; PaO$_2$= partial pressure of oxygen; PBW= predicted body weight; PEEP= positive end expiratory pressure; P/F = PaO2/ FiO2; PIP= peak inspiratory pressure; RR= respiratory rate; TV= tidal volume; UK= United Kingdom; USA= United States of America; VDR= ventilation duration ratio