

Appendix C. Data extraction forms

Table 1. Study Characteristics

Author, year Country Funding Setting Special population Risk of Bias rating	Inclusion/Exclusion Criteria	Intervention (n) Comparator (n) Follow-up (primary outcome)	Demographics
	Inclusion: Exclusion:	Intervention: Comparator: Follow-up:	N= Age (mean): Race/ethnicity (%): White: Black: Other: Gender (% male): Comorbidities (%): Chronic Respiratory Failure: COPD: Congestive Heart Failure: Comorbidity Index: Baseline characteristics: SpO ₂ : Respiratory Rate: PaO ₂ /FiO ₂ ratio: pH: PaO ₂ : PaCO ₂ :

Table 2. Risk of Bias Assessment for Included Studies

Author, Year	Random Sequence Generation	Allocation Concealment	Blinding of Participants/ Personnel	Blinding of Outcome Assessment	Incomplete Outcome Data	Selective Reporting	Overall Risk of Bias

Table 3. Treatment Characteristics

Author Year Setting Follow-up Comparator	Adherence/Intolerance describe measure		Treatment Settings				Treatment Weaning Criteria		
	Intervention	Control	Protocol		Received		Provider Discretion	Protocol or Definition	Not Reported
			Intervention	Control	Intervention	Control			

COT=conventional oxygen therapy; HFFM=high-flow face mask; HFNC=high-flow nasal cannula; NIV=non-invasive ventilation; NR=not reported; PEEP=positive end-expiratory pressure

Table 4: Patient-Centered Outcomes, Part 1

Author Year Setting Follow-up Comparator	All-cause Mortality % (n/N)		ICU Admissions and/or Transfers % (n/N) (mean # of days)				Length of Hospital Stay (mean # of days)	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control

CI=confidence interval; COT=conventional oxygen therapy; ED=emergency department; HR=hazard ratio; ICU=intensive care unit; IQR=interquartile range; NIV=Non-invasive ventilation; N/A=not applicable; NR=not reported; RD=risk difference; SD=standard deviation

Table 5: Patient-Centered Outcomes, Part 2

Author Year Setting Follow-up Comparator	Treatment Escalation (describe) % (n/N)		Intubation % (n/N) (mean # of days)				Intubation Criteria		
	Intervention	Control	Intervention	Control	Intervention	Control	Provider Discretion	Protocol or Definition	Not Reported

CI=confidence interval; COT=conventional oxygen therapy; ED=emergency department; HR=hazard ratio; ICU=intensive care unit; IQR=interquartile range; NIV=non-invasive ventilation; NR=not reported; VAS=visual analog scale

Table 6: Patient-Centered Outcomes, Part 3

Author Year Setting Follow-up Comparator	Discharge Disposition % (n/N for each location)		Hospital Readmissions (30 day) % (n/N)		Functional Independence (mean, SD)—describe measure		Patient Comfort (mean, SD) – describe measure	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control

COT=conventional oxygen therapy; ED=emergency department; ICU=intensive care unit; IQR=interquartile range; NIV=non-invasive ventilation; NR=not reported; NS=not statistically significant

Discharge Disposition: home, assisted living facility, nursing home, long-term care hospital

Table 7: Patient-Centered Outcomes, Part 4

Author Year Setting Follow-up Comparator	Compromised Nutrition				Gastric Dysfunction			
	% (n/N)		# days w/o nutrition		% (n/N) with placement of nasogastric tube		% (n/N) with nausea, vomiting, or abdominal distension	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control

COT=conventional oxygen therapy; ED=emergency department; ICU=intensive care unit; NIV=non-invasive ventilation; NR=not reported

Compromised Nutrition: (enteral/parenteral nutrition or days without nutrition)

Gastric Dysfunction: (placement of a nasogastric tube for decompression or treatment of abdominal distension/nausea/vomiting)

Table 8: Patient-Centered Outcomes, Part 5

Author Year Setting Follow-up Comparator	Hospital-acquired Pneumonia % (n/N)		Barotrauma % (n/N)		Skin Breakdown or Pressure Ulcers % (n/N)		Delirium % (n/N)	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control

COT=conventional oxygen therapy; ED=emergency department; ICU=intensive care unit; NIV=non-invasive ventilation; N/A=not applicable; NR=not reported

Barotrauma: (pneumothorax, pneumomediastinum, pneumoperitoneum, or ventilator-induced lung injury)

Table 9: Intermediate Outcomes, Part 1

Author Year Setting Follow-up Comparator	Respiratory Rate (mean, SD)		PaO ₂ /FiO ₂ ratio (mean, SD)		SpO ₂ (mean, SD)	
	Intervention	Control	Intervention	Control	Intervention	Control

COT=conventional oxygen therapy; ED=emergency department; ICU=intensive care unit; IQR=interquartile range; NIV=non-invasive ventilation; NR=not reported; NS=not statistically significant; SD=standard deviation

Table 10: Intermediate Outcomes, Part 2

Author Year Setting Follow-up Comparator	pH (mean, SD)		PaO ₂ (mean, SD)		PaCO ₂ (mean, SD)	
	Intervention	Control	Intervention	Control	Intervention	Control

COT=conventional oxygen therapy; ED=emergency department; ICU=intensive care unit; NIV=non-invasive ventilation; NR=not reported; SD=standard deviation