

Supplementary Table 2. Summary of findings from included non-COVID-19 studies

Study Details	Study Design	Case numbers	Study Population	Intervention	Outcome Measure(s)	Summary of Findings	Study Limitations
Bellone, Basile (2018), Italy	Case Series	3	Non-intubated patients with acute respiratory failure secondary to bilateral pneumonia with no significant improvement after 48 hours of standard treatment	PP prescribed 6 hours/day + HFNC	<ul style="list-style-type: none"> Daily PaO₂/FIO₂, RR and PaCO₂ 	<ul style="list-style-type: none"> Improvement in respiratory parameters throughout the course of 5 days - most significant improvement between day 2 and 3 	<ul style="list-style-type: none"> No comparator group Small sample size Limited documentation Multiple potential confounders
Ding, et al (2020), China	Prospective observational cohort study	20	Non-intubated patients with moderate to severe ARDS due to pneumonia (influenza / other viruses)	Treatment algorithm utilising an escalating protocol of HFNC / HFNC+PP / NIV / NIV+PP as determined by severity and response *Average period of PP was 2h, 2x/day	<ul style="list-style-type: none"> Rate of intubation Improvement in PaO₂/FIO₂ ratio 	<ul style="list-style-type: none"> Intubation rate was 55% (11/20 patients) *The authors felt this compared favourably to the anticipated intubation rate for moderate to severe ARDS of 75% Patients with more severe initial hypoxia were more likely to be intubated PaO₂/FIO₂ showed a trend of increase in transitions from HFNC to HFNC+PP to NIV to NIV+PP 	<ul style="list-style-type: none"> No comparator group Small sample size
Muralidhar (2015), India	Case Series	16	Non-intubated patients with severe ARDS and limited response to NIV in supine position	NIV (mask BIPAP) + PP	<ul style="list-style-type: none"> Intubation Oxygenation Complications 	<ul style="list-style-type: none"> 14/16 patients "improved" and transitioned to supine NIV 2/16 patients required intubation No complications 	<ul style="list-style-type: none"> No comparator group Small sample size Retrospective Limited documentation (published as a poster presentation abstract) Not peer-reviewed
Perez-Nieto, et al (2020), Mexico	Case Series	6	Non-intubated patients with acute respiratory failure secondary to non-infective ARDS *Causes included: thoracic trauma with pulmonary contusions, lupus pneumonitis, bone marrow transplantation, atelectasis	PP prescribed 2-3h every 12h for 2 days + NIV or HFNC	<ul style="list-style-type: none"> PaO₂/FIO₂ ratio and S/F ratio Need for Intubation Mortality 	<ul style="list-style-type: none"> All patients exhibited improved oxygenation with PP 2/6 patients required intubation 1 patient died 	<ul style="list-style-type: none"> No comparator group Small sample size Retrospective
Scaravilli, et al (2015), Italy	Case Series	15	Non-intubated ICU patients with acute respiratory failure (P/Q ₂ /FIO ₂ <300mmHg) + 1 episode of PP (?) *Causes included: - pneumonia (13) - fasciitis (1) - Sepsis of unknown origin (1)	PP (duration 2-8h) *Variable O ₂ delivery devices used	<ul style="list-style-type: none"> Respiratory and haemodynamic parameters *data collected: - 1-2h prior to PP - during the last hour of PP - 6-8h post re-supination Complications 	<ul style="list-style-type: none"> In total, 43 PP procedures were performed 18 of these were performed with no change in respiratory support / O₂ delivery device Improvement in PaO₂ occurred with PP relative to pre-PP and post-PP, though this did not reach statistical significance No significant change was noted in respiratory rate or haemodynamic parameters Complications: 2 PP procedures were interrupted due to patient intolerance 	<ul style="list-style-type: none"> No comparator group Small sample size Retrospective Confounder: variation in O₂ delivery device (Hudson mask/ HFNC / Helmet CPAP / NIV mask) and variation in FIO₂/PEEP

Sorenson, et al (2002), Denmark	Pilot study case series	4	Non-intubated patients with acute respiratory failure secondary to pneumonia	PP + O2 via nasal cannulae (duration 50-300min)	<ul style="list-style-type: none"> • PaO2/FiO2 • Intubation 	<ul style="list-style-type: none"> • All patients exhibited significant improvements in oxygenation • None required intubation 	<ul style="list-style-type: none"> • No comparator group • Small sample size • Conference abstract only
Tulleken, et al (1999), The Netherlands	Case Report	1	Non-intubated 16 year old male with acute respiratory failure secondary to near-drowning	PP + supplemental O2 via face mask 2 sessions of: <ul style="list-style-type: none"> • 3 hours • 20 hours 	<ul style="list-style-type: none"> • PaO2 	<ul style="list-style-type: none"> • Significant improvement in oxygenation within 1 hour • No ventilatory support required 	<ul style="list-style-type: none"> • No comparator group • Small sample size
Valter, et al (2003), Denmark	Case series	4	Patients with acute respiratory failure in whom intubation was deemed indicated. *Causes included: bilateral pneumonia, infective exacerbation of COPD, bilateral pulmonary infiltrates with new myelodysplastic syndrome.	PP + supplemental O2 but no ventilatory support	<ul style="list-style-type: none"> • Intubation • Oxygenation • Death • Time to discharge 	<ul style="list-style-type: none"> • All 4 patients exhibited significant improvement in symptoms and oxygenation within 1 hour • 1 pt was 1 day post extubation with deterioration at time of prone position which prevented re-intubation however died from a cerebral infarction 4 days later. • None subsequently required intubation • 3/4 patients had been trialled and failed on NIV prior to PP 	<ul style="list-style-type: none"> • No comparator group • Small sample size