

Conscious prone positioning in nonintubated COVID-19 patients with acute respiratory distress syndrome: systematic review and meta-analysis

Pronação consciente em pacientes com COVID-19 não intubados e com síndrome do desconforto respiratório agudo: revisão sistemática e metanálise

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Table 1S - Search strategy

	Results	Date
1 - MEDLINE VIA PUBMED		
#1 "COVID-19"[Mesh]	192,933	November 30, 2022
#2 "prone positioning OR awake prone positioning "[Mesh]	150	
#3 #1 AND #2	48	
2 - SCOPUS		
#1 TITLE-ABS-KEY ("Covid-19")	385,573	December 21, 2022
#2 TITLE-ABS-KEY ("prone positioning OR awake prone positioning")	692	
#3 #1 AND #2	334	
3 - EMBASE		
#1 'coronavirus disease 2019/exp	265,292	December 31, 2022
#2 'prone positioning OR awake prone positioning'/exp	156	
#3 #1 AND #2	298	
4 - WEB OF SCIENCE		
#1 ALL=("Covid-19")	330,594	December 31, 2022
#2 ALL=("prone positioning OR awake prone positioning")	365	
#4 #1 AND #2 AND #3	84	

Table 2S - Excluded primary studies

Study	Reason for exclusion
Hallifax RJ, Porter BM, Elder PJ, Evans SB, Turnbull CD, Hynes G, Lardner R, Archer K, Bettinson HV, Nickol AH, Flight WG, Chapman SJ, Hardinge M, Hoyles RK, Saunders P, Sykes A, Wrightson JM, Moore A, Ho LP, Fraser E, Pavord ID, Talbot NP, Bafadhel M, Petousi N, Rahman NM; Oxford Respiratory Group. Successful awake proning is associated with improved clinical outcomes in patients with COVID-19: single-centre high-dependency unit experience. <i>BMJ Open Respir Res.</i> 2020;7(1):e000678.	It does not have data on oxygenation variables; control group different from the standard management described.
Caputo ND, Strayer RJ, Levitan R. Early self-proning in awake, non-intubated patients in the emergency department: a single ED's experience during the COVID-19 pandemic. <i>Acad Emerg Med.</i> 2020;27(5):375-8.	It does not have data on oxygenation variables, mortality or intubation rate.
Shoultz B, Barber M, Millham L, Mulla M, Nanji N, Steele G, et al. Feasibility and limitations of proning protocol for nonintubated patients with COVID-19. <i>J Patient Exp.</i> 2021;8:2374373520981486.	The research design does not match the research question
Downing J, Cardona S, Alfalasi R, Shadman S, Dhahri A, Paudel R, et al. Predictors of intubation in COVID-19 patients undergoing awake proning in the emergency department. <i>Am J Emerg Med.</i> 2021;49:276-86.	The research design does not match the research question
Cherian SV, Li C, Roche B, Reyes SA, Karanth S, Lal AP, et al. Predictive factors for success of awake proning in hypoxemic respiratory failure secondary to COVID-19: a retrospective cohort study. <i>Respir Med.</i> 2021;181:106379.	The research design does not match the research question.
Khanum I, Samar F, Fatimah Y, Safia A, Adil A, Kiren H, et al. Role of awake prone positioning in patients with moderate-to-severe COVID-19: an experience from a developing country. <i>Monaldi Arch Chest Dis.</i> 2021;91(2).	It does not have data on oxygenation variables or mortality.
Barker J, Pan D, Koeckerling D, Baldwin AJ, West R. Effect of serial awake prone positioning on oxygenation in patients admitted to intensive care with COVID-19. <i>Postgrad Med J.</i> 2022;98(1159):360-4.	It does not have mortality data, nor the procedure performed.
Jouffroy R, Darmon M, Isnard F, Geri G, Beurton A, Fartoukh M, et al. Impact of prone position in non-intubated spontaneously breathing patients admitted to the ICU for severe acute respiratory failure due to COVID-19. <i>J Crit Care.</i> 2021;64:199-204.	It does not describe treatment strategy in control group.
Rama-Maceiras P, Sanduende Y, Taboada M, Casero M, Leal S, Pita-Romero R, et al. Critical patients COVID-19 has changed the management and outcomes in the ICU after 1 year of the pandemic? A multicenter, prospective, observational study. <i>Enferm Infecc Microbiol Clin (Engl Ed).</i> 2023;41(2):70-8.	It does not have data on oxygenation variables, mortality or intubation rate.
Nauka PC, Chekuri S, Aboodi M, Hope AA, Gong MN, Chen JT. A case-control study of prone positioning in awake and nonintubated hospitalized coronavirus disease 2019 patients. <i>Crit Care Explor.</i> 2021;3(2):e0348.	Does not define population with acute respiratory failure/ARDS due to COVID-19.
Li C, Reyes SA, Roche BM, Aisenberg GM, Lal AP, Estrada-Y-Martin RM, et al. Impact of awake proning in acute hypoxemic respiratory failure secondary to COVID-19: a retrospective cohort study. <i>Am J Respir Crit Care Med.</i> 2021;203:A2524.	Research design does not match research question.
Man MY, Lam SM, Shum HP, Li KC, Lau S, Ip VH, et al. Prone positioning in non-intubated patients with coronavirus – A single-centre experience in Hong Kong. <i>Hong Kong J Emerg Med.</i> 2021;28(6):379-82.	It does not describe treatment strategy in control group.
Bell J, Dharapak P, Patrawalla P, Giri D, Gasper J, Eng TK, et al. Efficacy of early prone positioning in patients with covid-19 pneumonia requiring supplemental oxygen, high flow nasal cannula, or noninvasive ventilation. <i>Chest.</i> 2020;158(4):A2281-2.	Research design does not match research question.
Fernandez LS, Anis K, Maltseva A. Repeated pronation in a morbidly obese patient overcome by a severe Covid-19 infection. <i>Chest.</i> 2020;158(4):A2575.	Research design does not match research question.
Birch M, Toms C, Shankar Kumar H, Calderwood C, Ainley A. Late Breaking Abstract - Non-invasive ventilation for COVID-19 at a North East London NHS Trust: a retrospective analysis. <i>Eur Respir J.</i> 2020;56(Suppl. 64):3410.	Article not available in full text.
Alsharif H, Belkhouja K. Feasibility and efficacy of prone position combined with CPAP in COVID-19 patients with acute hypoxemic respiratory failure. <i>Crit Care Med.</i> 2021;49(1 Suppl 1):120	The research design does not match the research question
Taboada M, González M, Álvarez A, González I, García J, Eiras M, et al. Effectiveness of prone positioning in nonintubated intensive care unit patients with moderate to severe acute respiratory distress syndrome by coronavirus disease 2019. <i>Anesth Analg.</i> 2021;132(1):25-30.	The research design does not match the research question
Friedman E, Franzone J, Ko ER, Corey K, Mock J, Alavian N, et al. Rationale and design of the Prone Position and Respiratory Outcomes in Non-intubated COVID-19 PatiEnts: The "PRONE" Study. <i>Contemp Clin Trials.</i> 2021;109:106541.	It does not have data on oxygenation variables, mortality or intubation rate.
Singh P, Jain P, Deewan H. Awake prone positioning in COVID-19 patients. <i>Indian J Crit Care Med.</i> 2020;24(10):914-8.	The research design does not match the research question
Jagan N, Morrow LE, Walters RW, Klein LP, Wallen TJ, Chung J, et al. The POSITIONED Study: Prone Positioning in Nonventilated Coronavirus Disease 2019 Patients-A Retrospective Analysis. <i>Crit Care Explor.</i> 2020;2(10):e0229.	It does not have data on oxygenation variables, mortality or intubation rate.