

# Current guidelines on how to set the ventilator for (COVID-19) ARDS patients

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In this article you will find a concise list of guidelines\* on setting the ventilator for ARDS patients.

- Tidal volume: 4 – 6 ml/kg predicted body weight (PBW) 1,2
- Maintain plateau pressure < 30 cmH<sub>2</sub>O
- Maintain driving pressure < 14 cmH<sub>2</sub>O 3
- To target lung protective ventilation settings it may be necessary to apply the concept of permissive hypercapnia (pH > 7.15)
- Oxygenation goal: PaO<sub>2</sub> 55 - 80 mmHg, SpO<sub>2</sub> 88 - 95%, PEEP and Oxygen (FiO<sub>2</sub> in percent) settings according the ARDSnet tables (currently for COVID-19 the higher PEEP table is recommended<sup>2</sup>)

## Lower PEEP/higher FiO<sub>2</sub>

FiO <sub>2</sub>	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
PEEP	5	5	8	8	10	10	10	12

FiO <sub>2</sub>	0.7	0.8	0.9	0.9	0.9	1.0
PEEP	14	14	14	16	18	18-24

## Higher PEEP/lower FiO<sub>2</sub> (currently recommended for COVID-19 patients)

FiO <sub>2</sub>	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
PEEP	5	8	10	12	14	14	16	16

FiO <sub>2</sub>	0.5	0.5-0.8	0.8	0.9	1.0	1.0
PEEP	18	20	22	22	22	24

\* ARDSnet: [http://www.ardsnet.org/files/ventilator\\_protocol\\_2008-07.pdf](http://www.ardsnet.org/files/ventilator_protocol_2008-07.pdf)

## References

1. Papazian, Laurent, et al. "Formal guidelines: management of acute respiratory distress syndrome." *Annals of intensive care* 9.1 (2019): 69.
2. Kluge, S., Janssens, U., Welte, T. et al. Empfehlungen zur intensivmedizinischen Therapie von Patienten mit COVID-19. *Med Klin Intensivmed Notfmed* (2020).  
<https://doi.org/10.1007/s00063-020-00674-3>
3. Amato, Marcelo BP, et al. "Driving pressure and survival in the acute respiratory distress syndrome." *New England Journal of Medicine* 372.8 (2015): 747-755.

For additional information on COVID-19:

WHO guidelines: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>

ESICM information: <https://www.esicm.org/resources/coronavirus-public-health-emergency/>

Current evidence about COVID-19:

<https://jamanetwork.com/journals/jama/pages/coronavirus-alert>

Centers for Disease Control and Prevention, CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

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