Awake proning in non-intubated COVID-19 patients?

Guidance from an international group of healthcare workers

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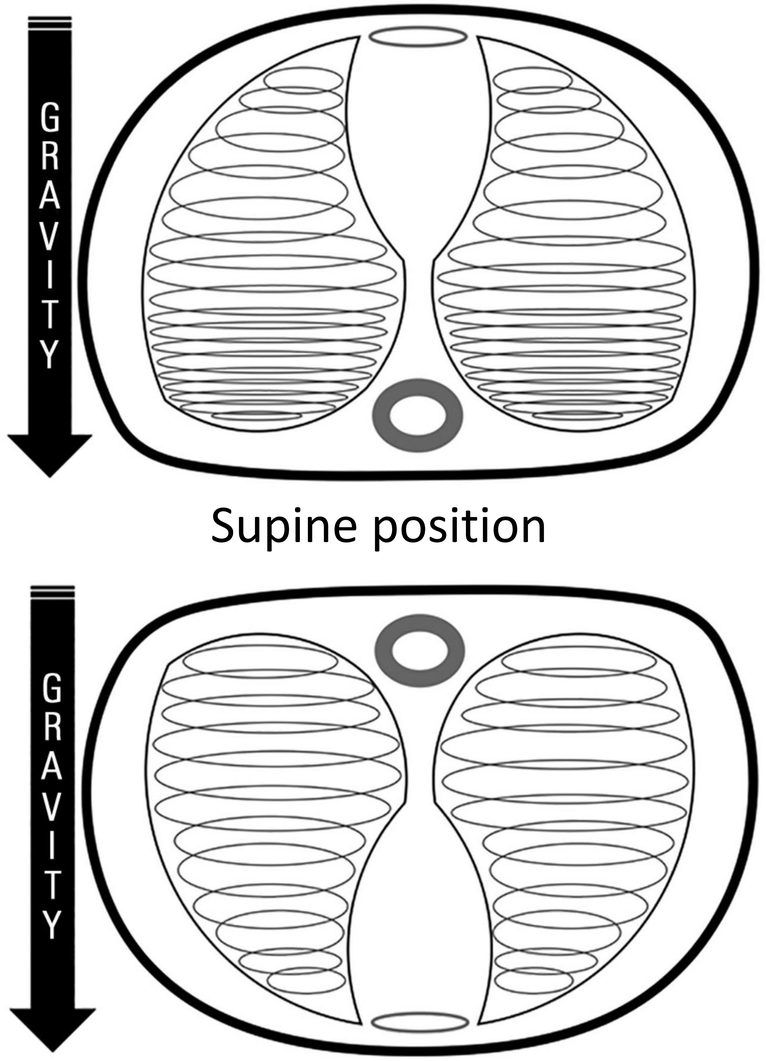
Background

- prone positioning in ARDS patients
- improvement of oxygenation
- COVID-19
- prevention
- cheap intervention



Guerin, PROSEVA trial, *NEJM*, 2013
Khallet, *Respiratory Care*, 2016

Setten, *Rev Bras Ter Intensiva*. 2016

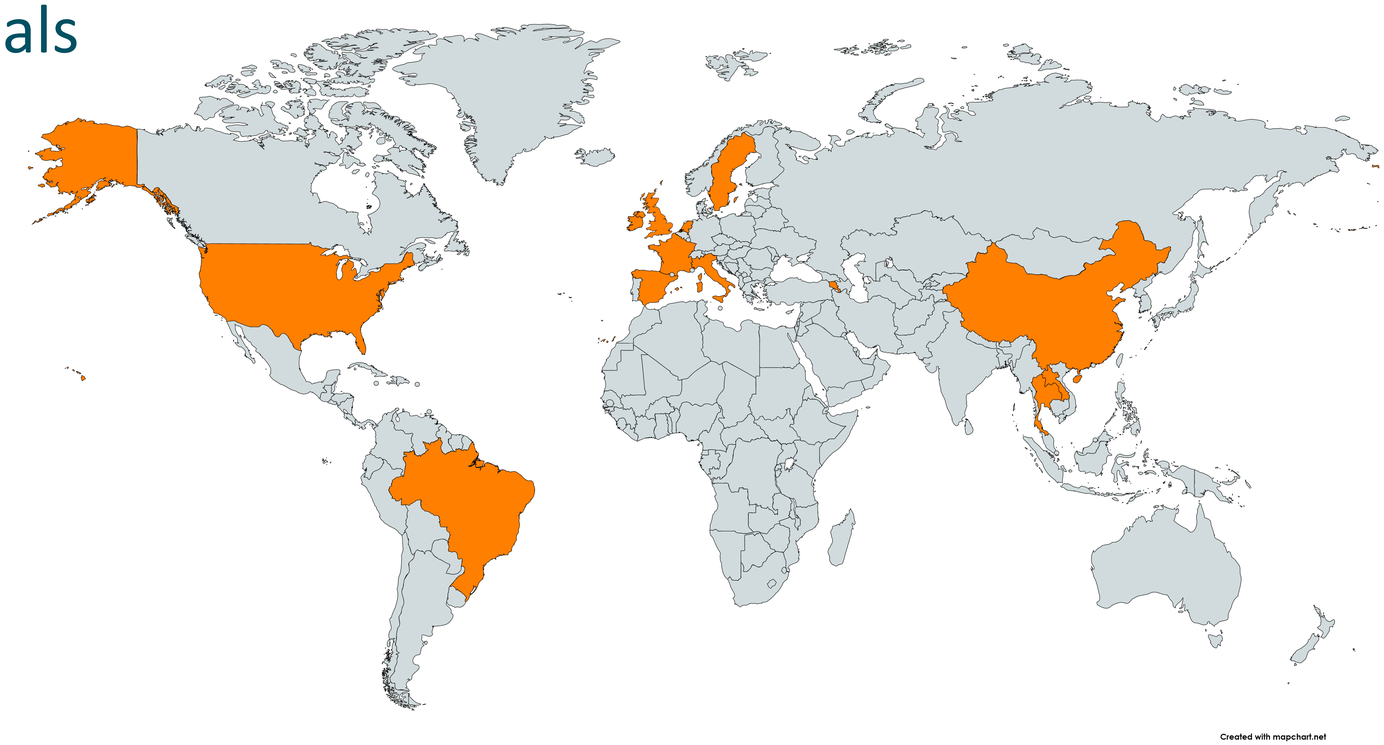
Aim

awake proning in COVID-19

- evidence on effectivity
- pragmatic recommendations
- use in resource limited settings

Methods

- group of 43 healthcare professionals
- 13 countries
- literature search
- expertise
- three subgroups



Schultz MJ, Dünser MW, Dondorp AM, 2019. Development of the Guidelines: Focus on Availability, Feasibility, Affordability, and Safety of Interventions in Resource-Limited Settings. In: Dondorp AM, Dünser MW, Schultz MJ, eds. Sepsis Management in Resource-limited Settings. Cham: Springer International Publishing; 25-30.

Methods practical

- contact network and publications
- email instructions
- work together in online google docs
- consecutive work
- core-team for editing and process guidance
- students MCC and medical

Schultz MJ, Dünser MW, Dondorp AM, 2019. Development of the Guidelines: Focus on Availability, Feasibility, Affordability, and Safety of Interventions in Resource-Limited Settings. In: Dondorp AM, Dünser MW, Schultz MJ, eds. Sepsis Management in Resource-limited Settings. Cham: Springer International Publishing; 25-30.

Literature search

- in Medline
- until late October 2020
- searchterms:

‘coronavirus disease’, ‘COVID-19’, and ‘SARS-CoV-2’,

‘prone positioning’, ‘awake proning’, ‘non-intubated’,

‘oxygen therapy’

Results

- increasing amount of articles
- observational cohort & case-report
- oxygen delivery interfaces
- no randomized evidence

Ding, *Crit Care*, 2020; Gianluca, *Medicina intensiva*, 2020; Depres, *Crit Care*, 2020; Caputo, *Academic Emergency Medicine*, 2020; Elharrar, *JAMA*, 2020; Elkawatty, *Respiratory medicine case reports*, 2020; Ng, *Eur Respir J*, 2020; Coppo, *the Lancet Respiratory Medicine*, 2020; Winearls, *BMJ Open Respir*, 2020; Xu, *Crit Care*, 2020; Sartini, *JAMA*, 2020; Sztajnbok, *Respiratory medicine case reports, 2020;* Slessarev, *Can J Anaesth, 2020*

Results

- improves oxygenation within minutes
- saturation increase ~ 4 %
- reduces dyspnea
- prevention intubation unclear
- longer term outcomes unclear

Ding, *Crit Care*, 2020; Gianluca, *Medicina intensiva*, 2020; Depres, *Crit Care*, 2020; Caputo, *Academic Emergency Medicine*, 2020; Elharrar, *JAMA*, 2020; Elkawatty, *Respiratory medicine case reports*, 2020; Ng, *Eur Respir J*, 2020; Coppo, *the Lancet Respiratory Medicine*, 2020; Winearls, *BMJ Open Respir*, 2020; Xu, *Crit Care*, 2020; Sartini, *JAMA*, 2020; Sztajnbok, *Respiratory medicine case reports, 2020;* Slessarev, *Can J Anaesth, 2020*

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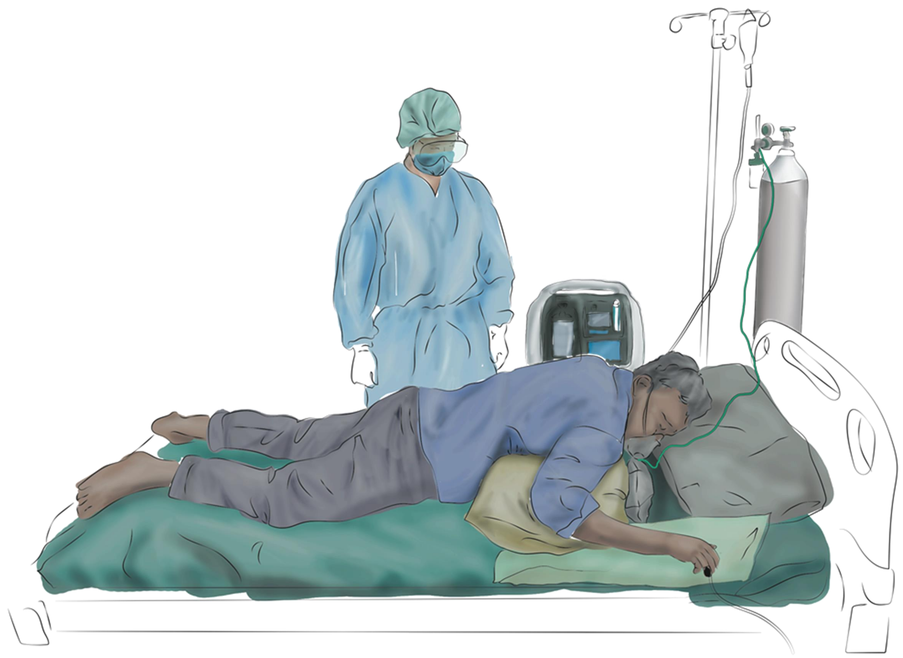
When to start awake proning?

indication:

- acute respiratory failure
- supplemental oxygen

threshold:

- saturation < 90% until > 94%



Thompson et al, *JAMA International Medicine*, 2020; Bower and He, *Critical Care*, 2020
Coppo, *Lancet Respiratoy Medicine*, 2020; Caputo, *Academic Emergency Medicine*, 2020; Sztajnbok, *Respiratory medicine case reports*, 2020

Contraindications

Absolute

- indication for intubation
- known difficult airway
- respiratory rate above 40/min
- anatomic concerns

Relative

- unable to follow instructions
- cognitive impairment

Bower and He, *Critical Care*, 2020

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Awake proning in 5 steps

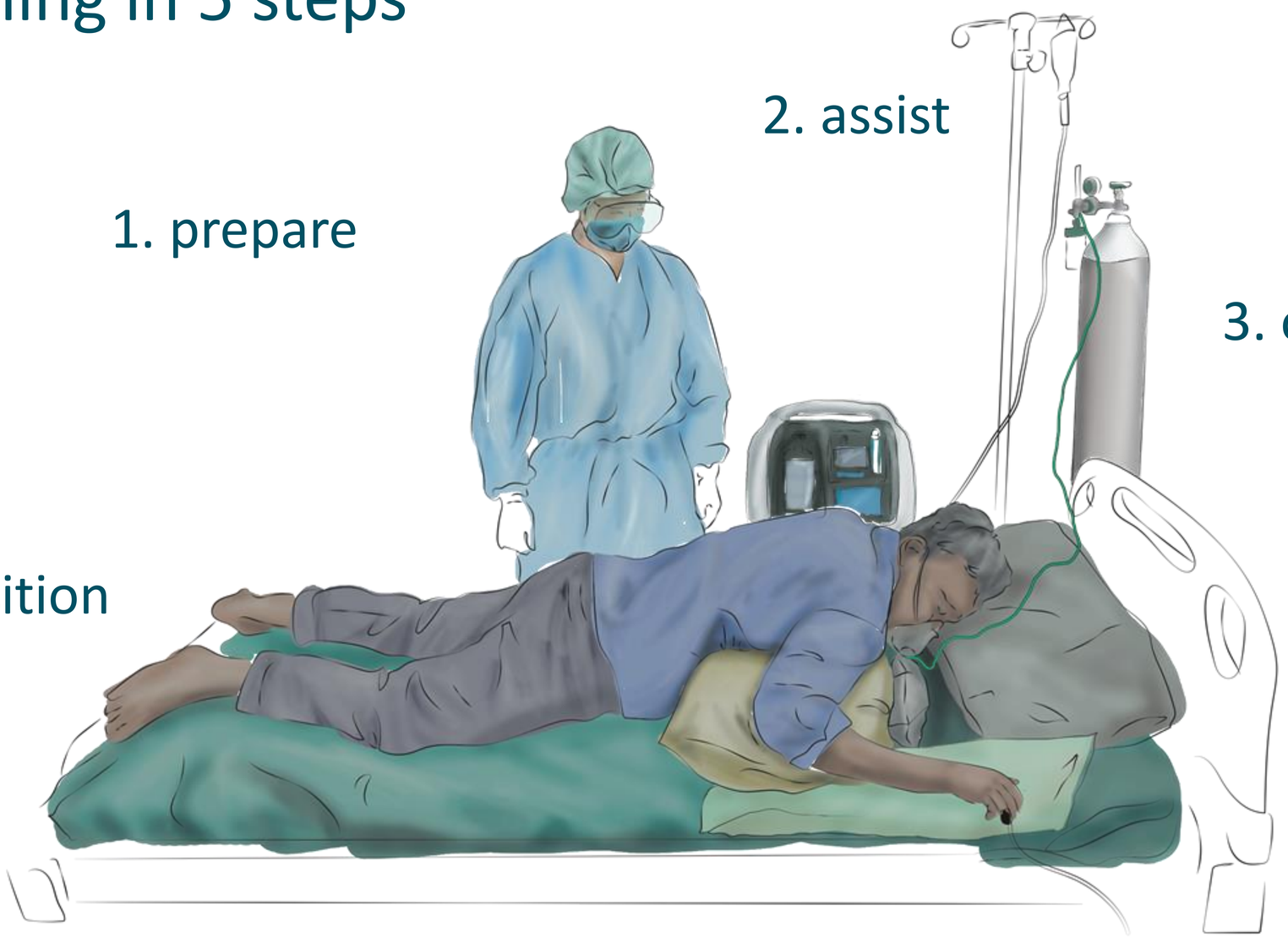
1. prepare

2. assist

3. oxygen delivery

4. monitor

5. optimize position



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During awake proning

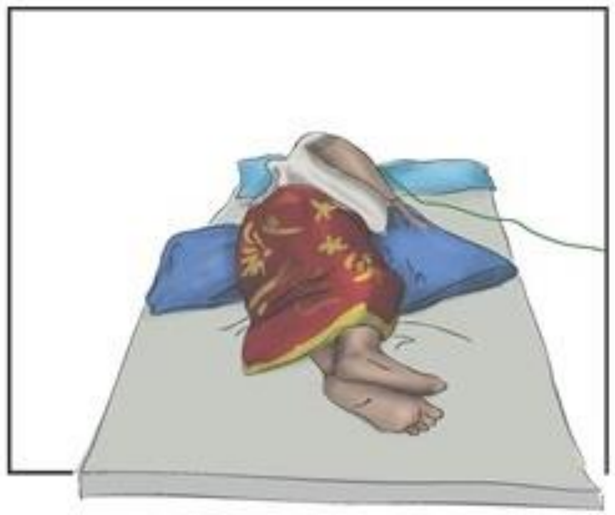
- any method of oxygen delivery
- pulse-oximetry & HD
- open wards
- suctioning materials
- oral intake
- social contact

Eloi Prud'Homme - France

Suggestion shoulder position

Oliviera, *Revista da Associacao Medica Brasileira,* 2016

Pregnant women

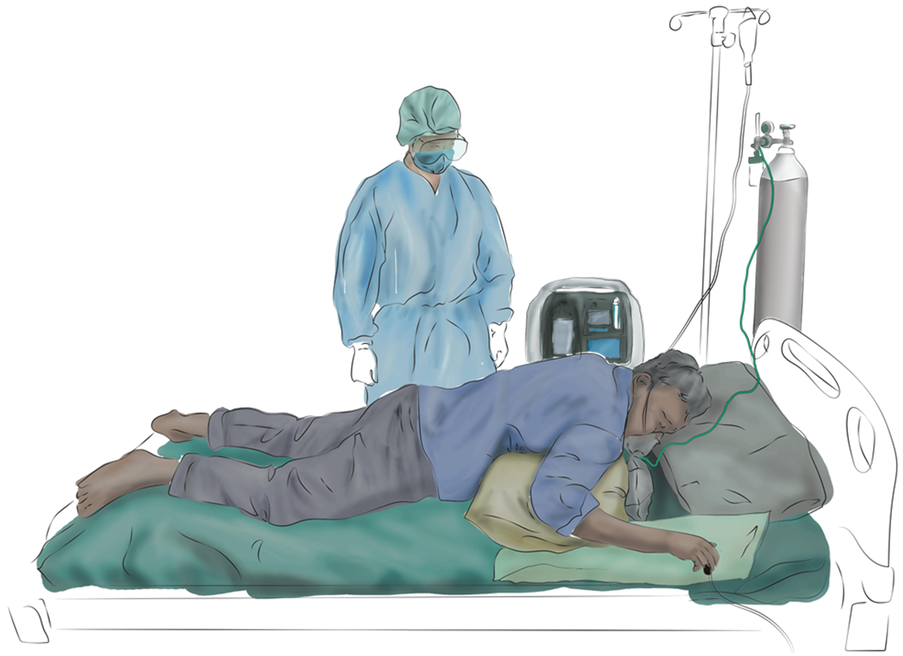


- keep saturation >92%
- extra supporting material
- prevent aortocaval pressure
- tocography and doppler fetal monitoring

Tolcher et al, *Obstet Gynecol*, 2020
Oliveira et al *Clinicas (Sao Paulo)*, 2017
Dennis et al, *BMC Pregnancy and Childbirth*, 2018

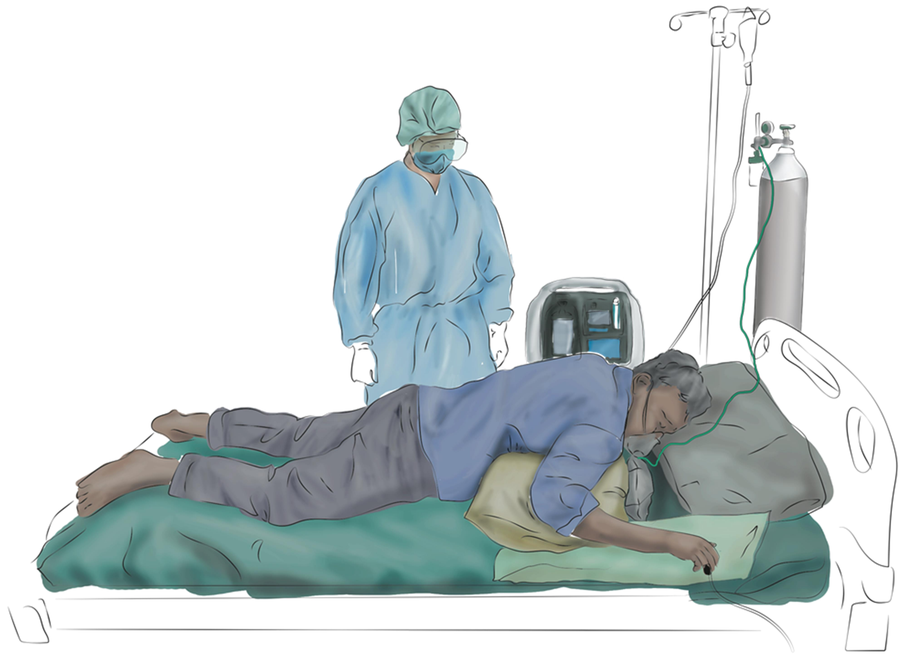
Resource restricted settings

- as rescue maneuver
- folded blankets
- monitor respiratory distress
- NIBP once an hour
- manual suction pump
- auscultation for fetal monitoring



Conclusion

- safe and attractive adjunctive treatment
- improves oxygenation
- no evidence for prevention intubation
- 5 practical aspects
- train your team
- Published in AJTMH



What did we gain?

- fast and efficient method
- online cooperation
- rapid implementation and use of evidence
- network

Participating ICU nurses, ICU doctors, physiotherapists

Eva Åkerman, Antonio Artigas, Andrew Bentley, Lieuwe D. Bos, Thomas J.C. Bosman, Hendrik de Bruin, Tobias Brummaier, Laura A. Buiteman-Kruizinga, Francesco Carcò, Gregg Chesney, Cindy Chu, Paul Dark, Arjen M. Dondorp, Harm J.H. Gijsbers, Mary Ellen Gilder, Domenico L. Grieco, Rebecca Inglis, John G. Laffey, Giovanni Landoni, Weihua Lu, Lisa M.N. Maduro, Rose McGready, Bairbre McNicholas, Diego de Mendoza, Luis Morales-Quinteros, Francois Nosten, Alfred Papali, Gianluca Paternoster, Frederique Paulus, Luigi Pisani, Eloi Prud'homme, Jean-Damien Ricard, Oriol Roca, Chiara Sartini, Vittorio Scaravilli, Marcus J. Schultz, Chaisith Sivakorn, Peter E. Spronk, Willemke Stilma, Jaques Sztajnbok, Youssef Trigui, Kathleen M. Vollman, Margaretha C.E. van der Woude.

Questions

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