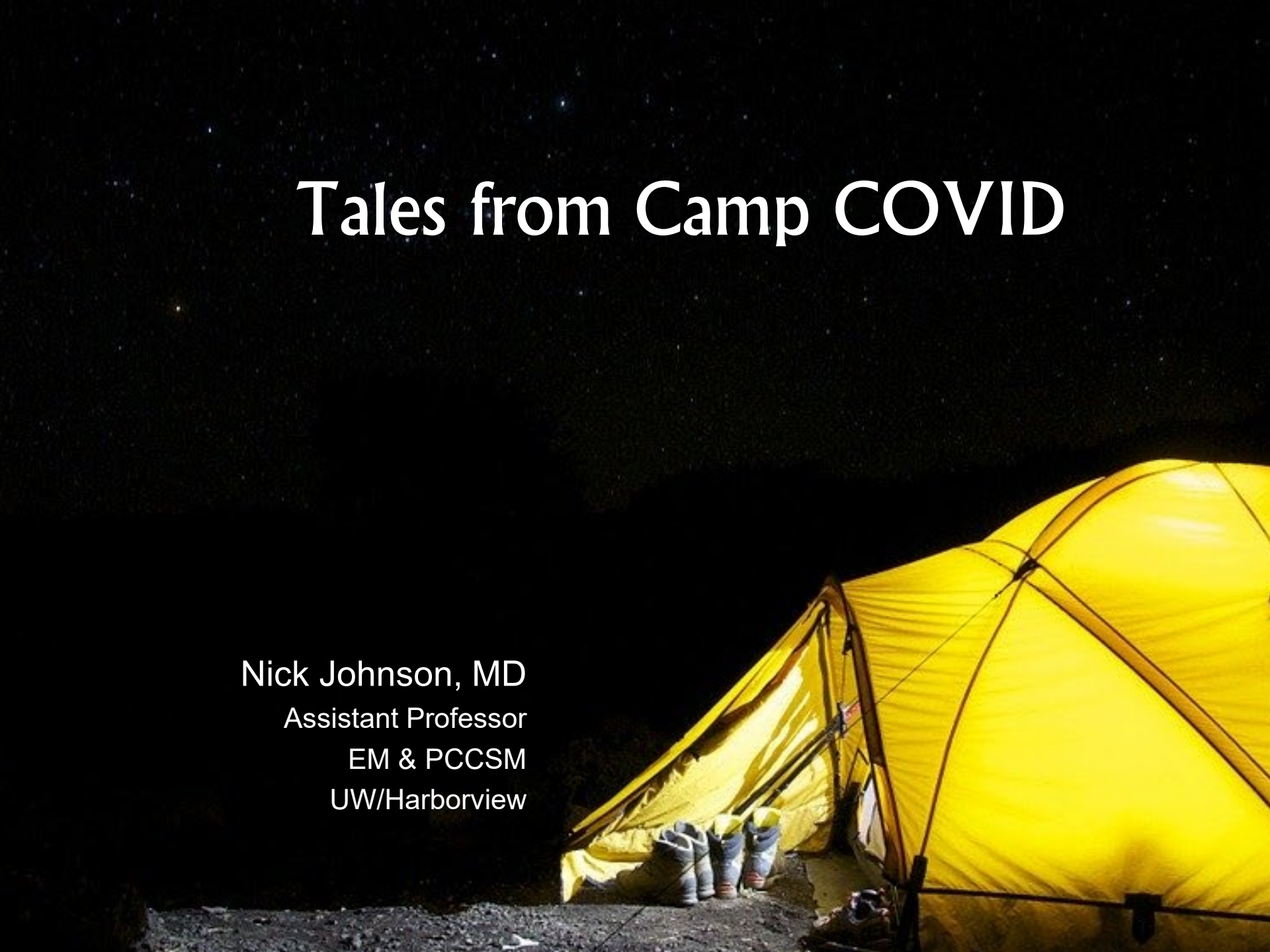
Tales from Camp COVID



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@NickJohnsonMD

Objectives

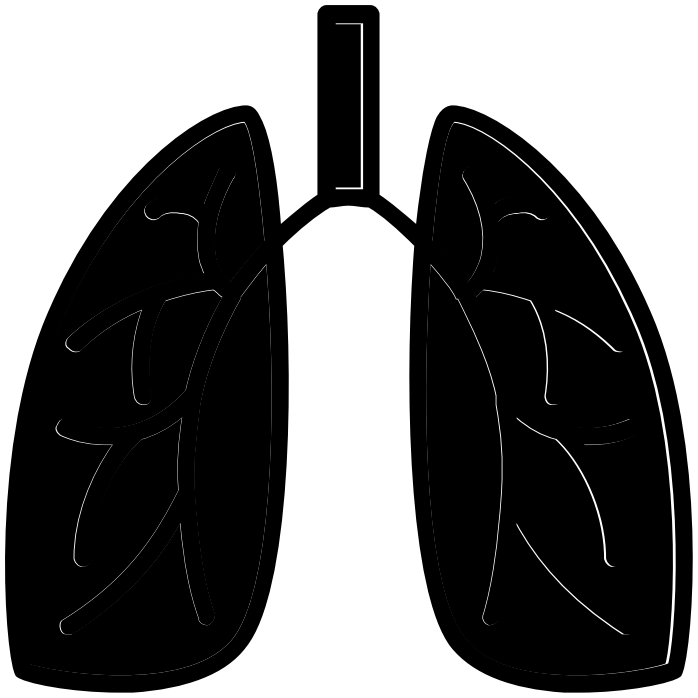
When do we intubate?

How do we ventilate?

Evolving Approach

Early Intubation &
Mechanical Ventilation

(>6L cannula)



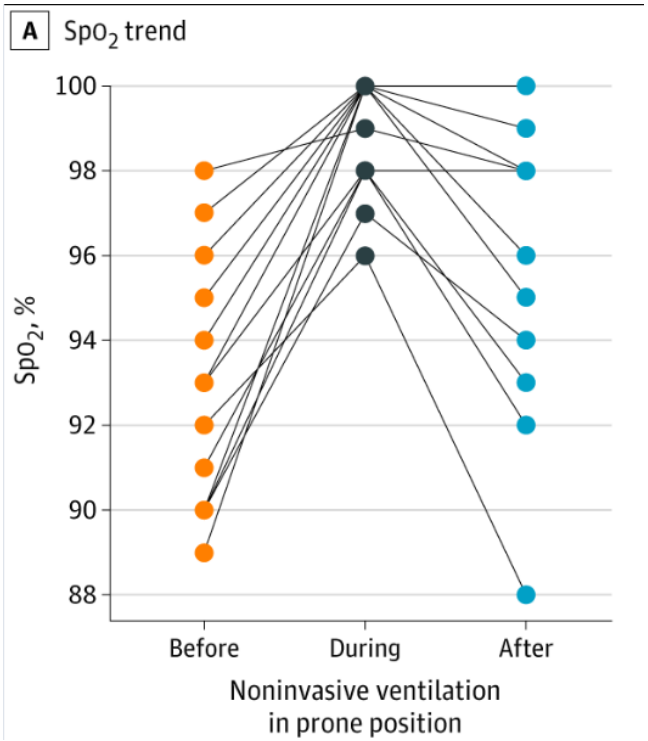
Trial of HFNC

Self-proning

Intubation when needed

Awake & Prone

Photo: @EricLeeMD



Sartini et al. JAMA 2020

COVID-19 & ARDS

Covid-19 Does Not Lead to a "Typical" Acute Respiratory

Distress Syndrome

Luciano Gattinoni[1], Silvia Coppola[2], Massimo Cressoni[3], Mattia Busana[1], Sandra Rossi[4], Davide Chiumello[2]

16 patients

Mean compliance: 50 ml/cmH_2O

Mean shunt fraction: 0.5 ± 14

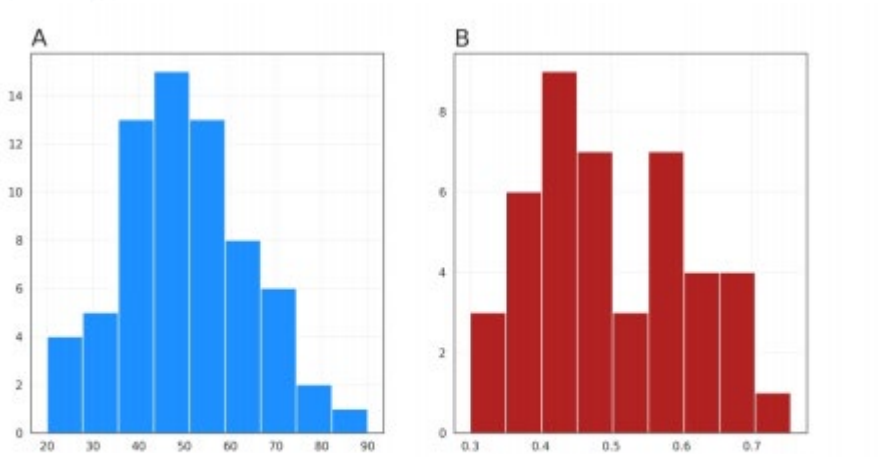
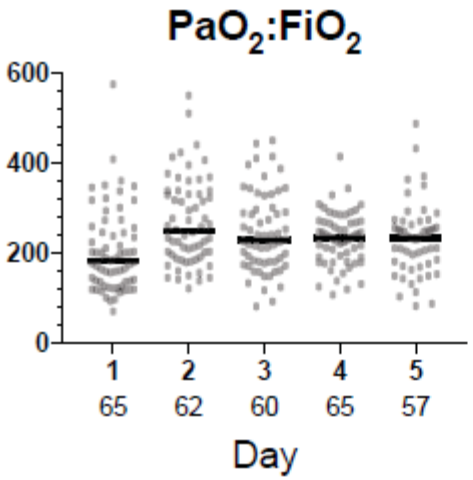


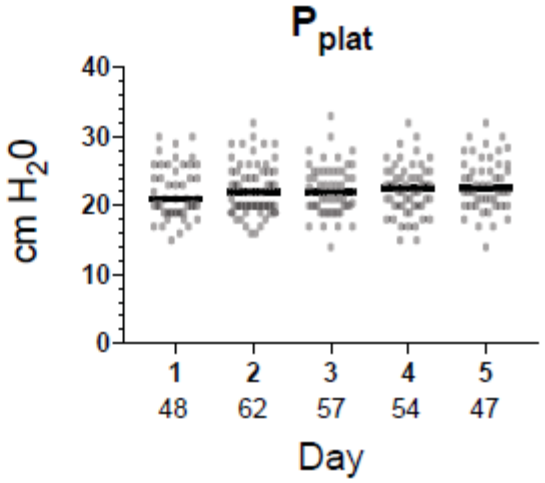
Figure 1

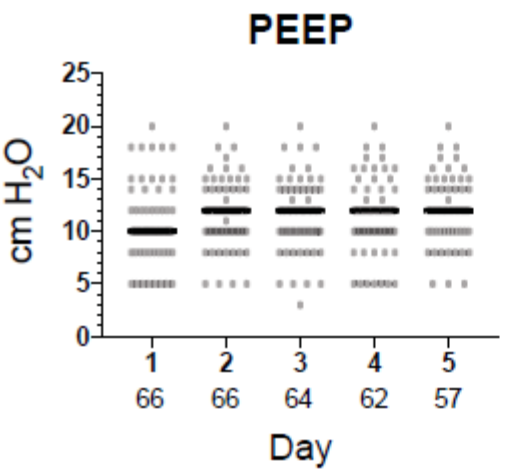
Low compliance?

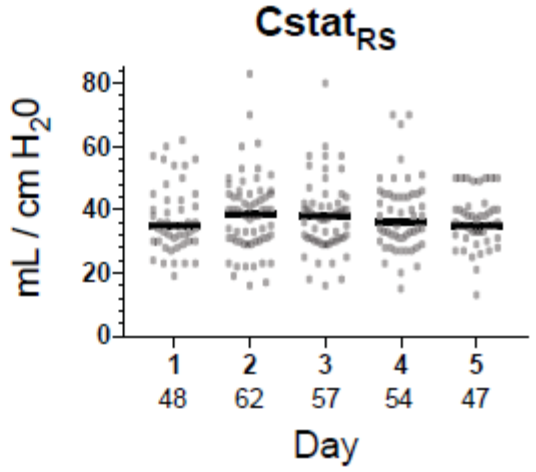
ARDS Study	Compliance (ml/cmH_2O)
ACURASYS (N=162)	32 ± 11
ALVEOLI (N=273)	31 ± 15
LaSRS (N=90)	25 ± 12
PROSEVA (N=229)	35 ± 15
COVID ARDS Study	**Compliance (ml/cmH_2O)**
Bhatraju et al (N=13)	29 (IQR 25-36)
Gattinoni et al (N=16)	**50 ± 14**
Ziehr et al (N=66)	35 (IQR 30-43)
Schenck et al (N=267)	28 (IQR 23-38)
Auld et al (N=217)	34 (IQR 28-46)

COVID ARDS is Heterogeneous





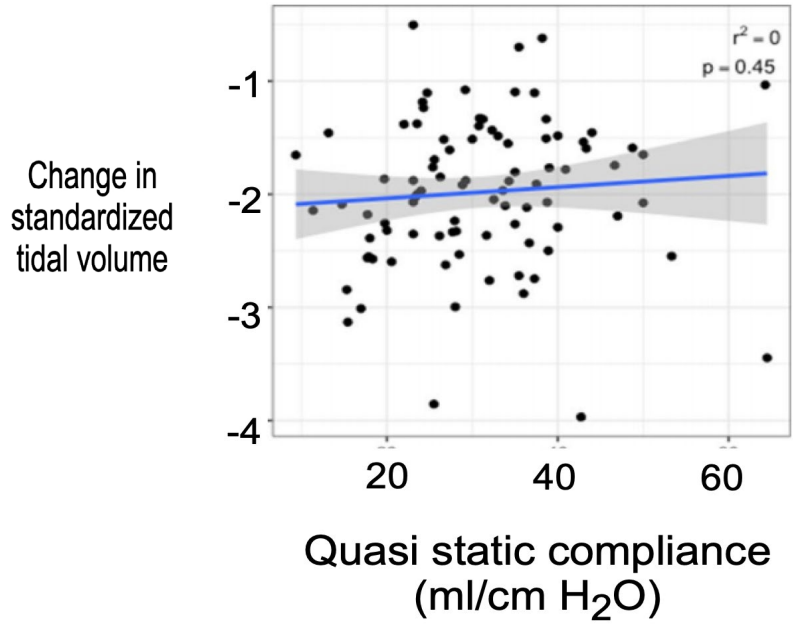




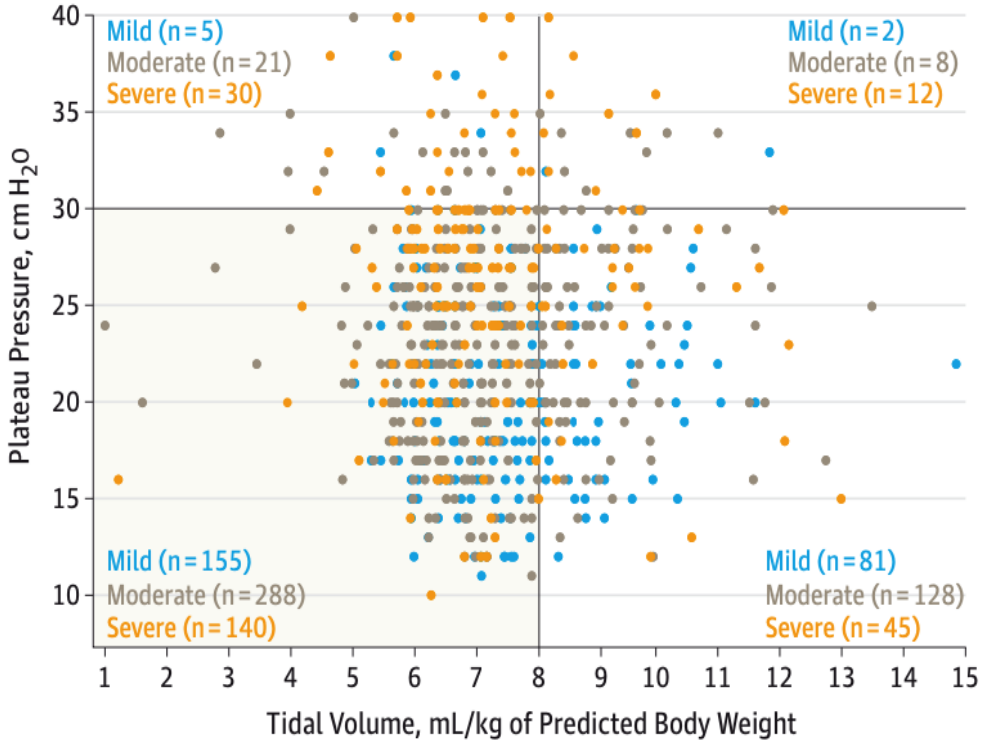
Ziehr *AJRCCM* 2020

ARDS *is* Heterogeneous

SUPERNOVA Trial



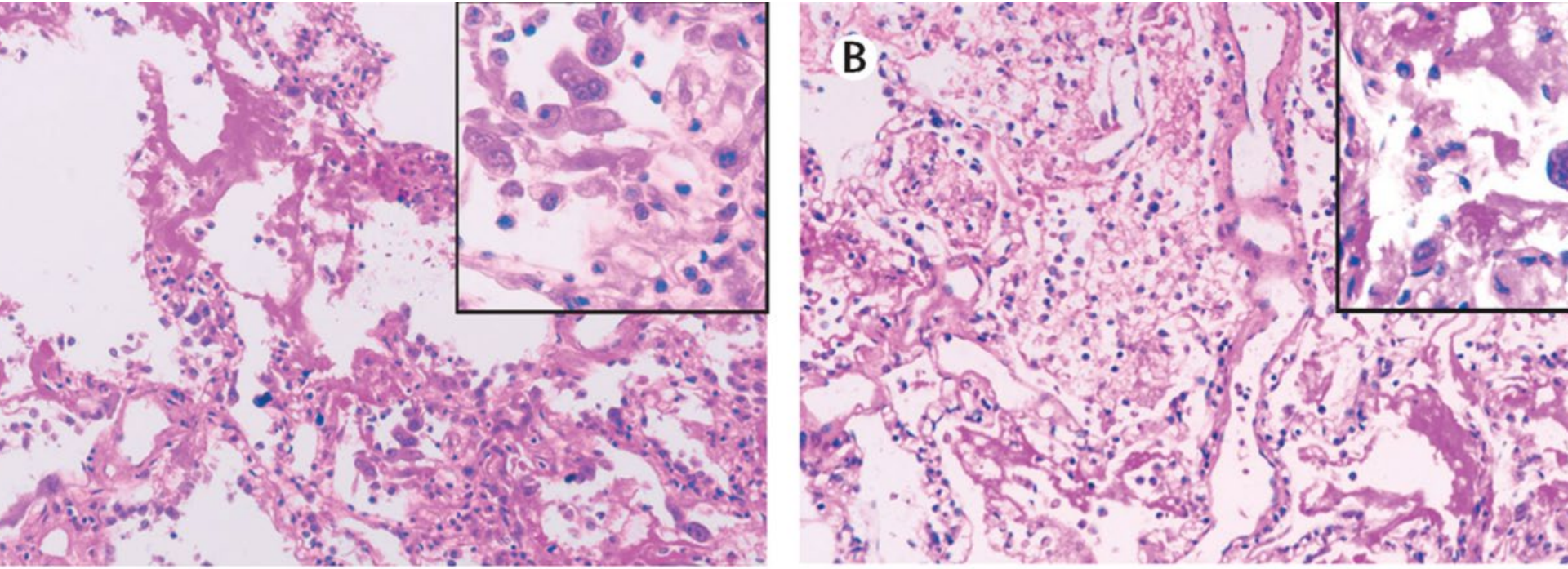
LUNG SAFE Study



Goligher et al. Intensive Care Med 2019. Bellani et al. JAMA 2(

COVID-19 & ARDS

Xu *Lancet Resp Med* 2020

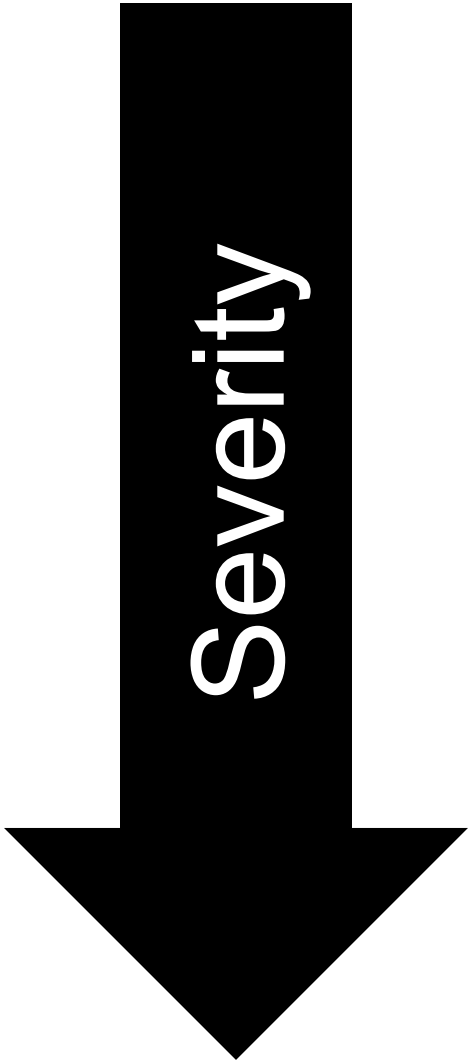


Diffuse alveolar damage
Hyaline membranes

Lymphocytic vs. neutrophilic alveolitis
Microthrombosis
Acute Fibrinous and Organizing Pneumonia (AFOP)

Good ARDS Care

- Low tidal volume ventilation
- Conservative fluid management
- Deliberate PEEP titration
- Deep sedation
- Early proning
- Neuromuscular blockade
- Inhaled pulmonary vasodilators
- ECMO



Take Home

- ✓ COVID-19 leads to spectrum of respiratory illness, including ARDS.
- ✓ Noninvasive modalities for respiratory can be considered with monitoring and considerations for staff safety.
- ✓ Once mechanically ventilated, evidence-based ICU and ARDS care applies.

Thank you!

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Drawings by Dr. Kira Newman