pair
Palliative and Advanced Illness Research Center

Prone Positioning Intervention within ICU

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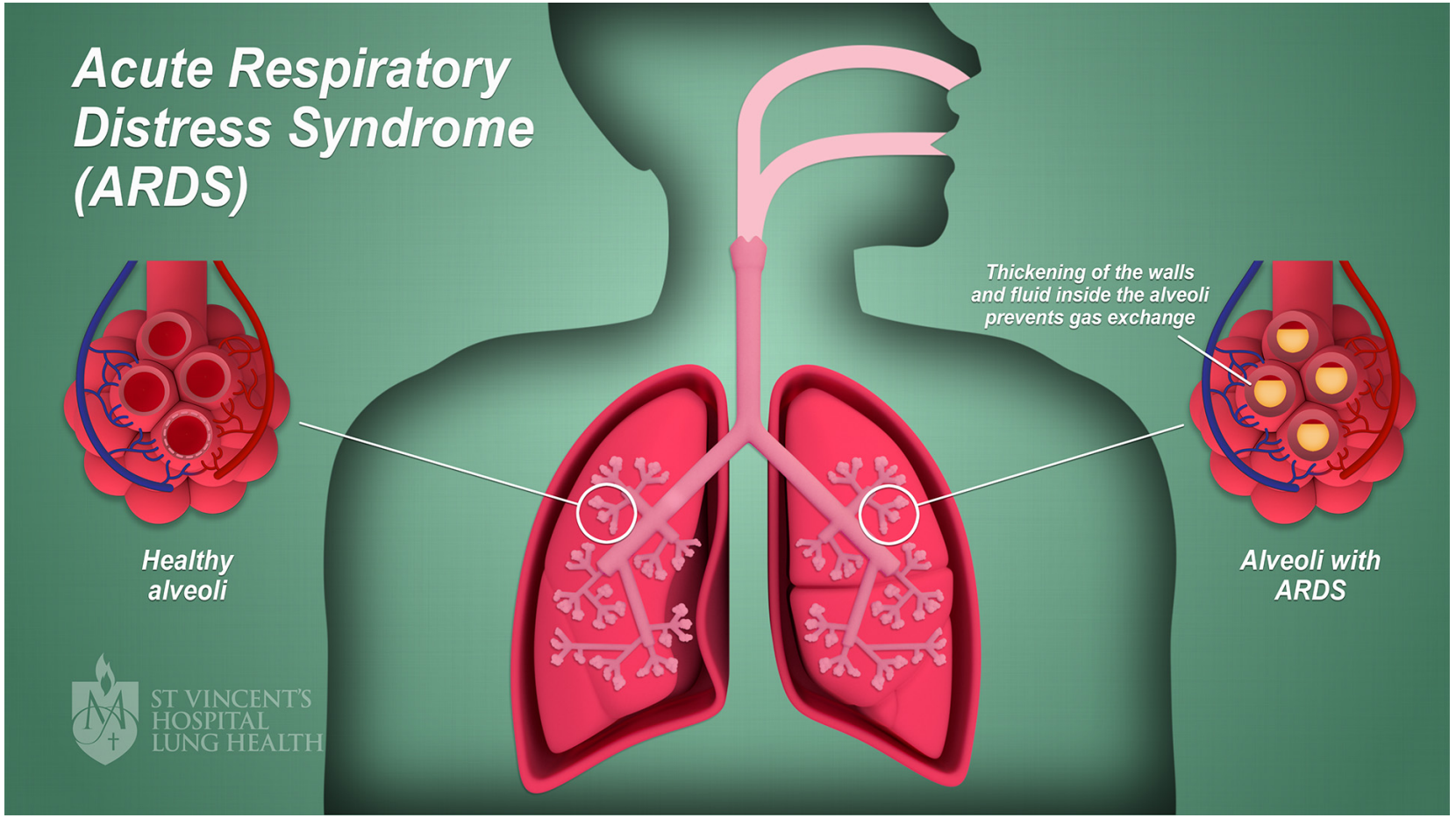
Objectives

->Significance
->Aims
->Methods
->Results
->Limitations
->My role in this project
->Lessons Learned
->Acknowledgment

Background

What is Acute Respiratory Distress Syndrome (ARDS)?



https://www.svhlunghealth.com.au/conditions/ards-acute-respiratory-distress-syndrome
https://www.mayoclinic.org/diseases-conditions/ards/symptoms-causes/syc-20355576

Background Continued. . .

What is Prone positioning?

https://ccforum.biomedcentral.com/articles/10.1186/s13054-020-2821-y

Significance

Who receives prone position and how does it help patients with ARDS?

- Patients with ARDS who were eligible for prone position were placed on their stomach up to 16 hours per episode after the start of mechanism ventilation.
- Improves V/Q mismatch

Evidence shows a reduction of mortality from 32.8% to 16% in patients with ARDS who had prone positioning (Guérin et al, 2013).

https://www.pennmedicine.org/updates/blogs/penn-physician-blog/2020/may/proning-during-covid19
https://www.nejm.org/doi/10.1056/NEJMoa1214103?url_ver=Z39.882003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200www.ncbi.nlm.nih.gov
https://nddmed.com/blog/the-heart-and-the-lungs-whats-the-connection

Aims

Bigger aim

Preliminary study for a larger project focused on understanding how practice in prone positioning has changed over time for patients with ARDS

Smaller aim

Smaller aim -> if rate of practice of prone positioning have changed due to the COVID-19 pandemic

Methods

- Reviewed 120 patient charts
  - HUP ICU
  - Aug-Dec, 2021
- Determined if the patients received prone positioning
- If the patient was proned, the date and time of each proning episode within 7 days of proning eligibility were collected.
- Data analyzed

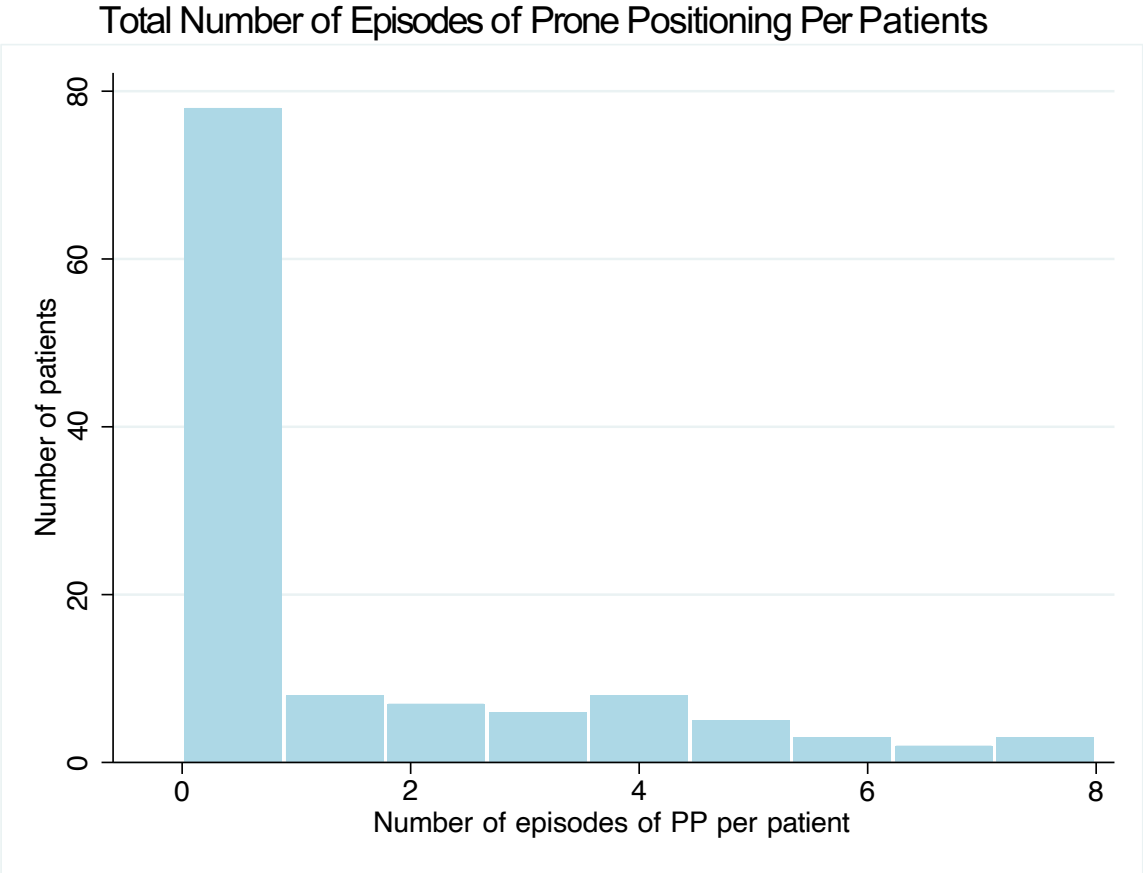
Patient Demographics

Table 1: Patient Characterisitcs	
Characteristics	N=120
Age (yrs), Median (IQR)	58.5 (49-67.5)
mean (SD)	57.6 (14.8)
Self-reported sex, n%	
Female	55 (45.83%)
Male	65 (54.17%)
Self-reported race, n%	
American Indian	1 (0.83%)
Asian	2 (1.67%)
Black	39 (32.50)
White	49 (40.83%)
more than one race	6 (5.00%)
other	8 (6.67%)
unknown	15 (12.50%)
COVID positive	
no, n%	83 (69.17%)
yes, n%	37 (30.83%)

Results

Table 2: Patient Outcomes	
Duration of mechanical ventilation (hours)	
median, (IQR)	363, (176-702)
mean, (SD)	547, (555)
Hospital length of stay	
median, (IQR)	25.4, (14.8-51.7)
mean, (SD)	36.3, (31.7)
Mortality	
survived n%	49 (40.83%)
died or went to hospice n%	71 (59.17%)
Discharge disposition	
Acute rehabilitation facility	26 (21.67%)
Died	67 (55.83%)
Home Health care	4 (3.33)
Hospice care, Home	1 (0.83%)
Hospice Care, Medical Facility	4 (3.33%)
Hospital, Long Term Acute Care	7 (5.83%)
Hospital, Short-term general	7 (5.83%
Nursing facility, skilled	4 (3.33%)
Patients who ever had at least one episode of prone positioning	
No, n%	78 (65%)
Yes, n%	42 (35%)

Results Continued



Prone Positioning Stratified by COVID Status		
Patients who received prone positioning with COVID	27 out of 37 patients	72.97%
Patients who received prone positioning without COVID	15 out of 83 patients	18.07%

Results Continued

Percentage of Data for Starts Times and Stop Times for Patients who Received Proning		
Complete data for start times, by patient	32 out of 42 patients	76.19%
Complete data for stop times, by patients	18 out of 42 patients	42.86%

Limitations

- Because data collecting is not complete at this time, we cannot look at the correlation between proning and mortality at this current moment.
- Cannot adjust for patient characteristics
- Proning eligibility alert from the hospital system is not 100% accurate.
- Cannot determine daily eligibility for proning

My role in this project

- Review patient's charts
- Consult any uncertainties when viewing patient's charts with the research coordinator and my mentor
- Attend research project meetings

Lessons Learned

- Chart reviews can be complicated
- How to conduct chart review specifically for prone positioning
- Revision is critical in improving existing work
- Gained experience with Redcap

Acknowledgements

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Thank you!

Questions?