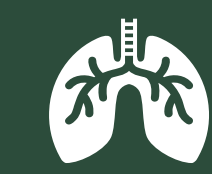


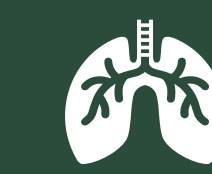
A Statewide Comparison of Prehospital Mechanical and Manual Ventilation in Injured Patients

Authors: LaLumia, Andrea, MEd, NRP; Yoneoka, Yukiko, MS; Robison, Melanie, MPA, CCP-C; Berge, Nichole S., MPS, NRP; O'Neil, Christine, MEd, NRP; Yang, Betty Y., MD, MS & Crowe, Remle, PhD, NREMT

Mechanical ventilation represents an important intervention to improve effectiveness and consistency in respiratory support yet may be underutilized in the prehospital setting.

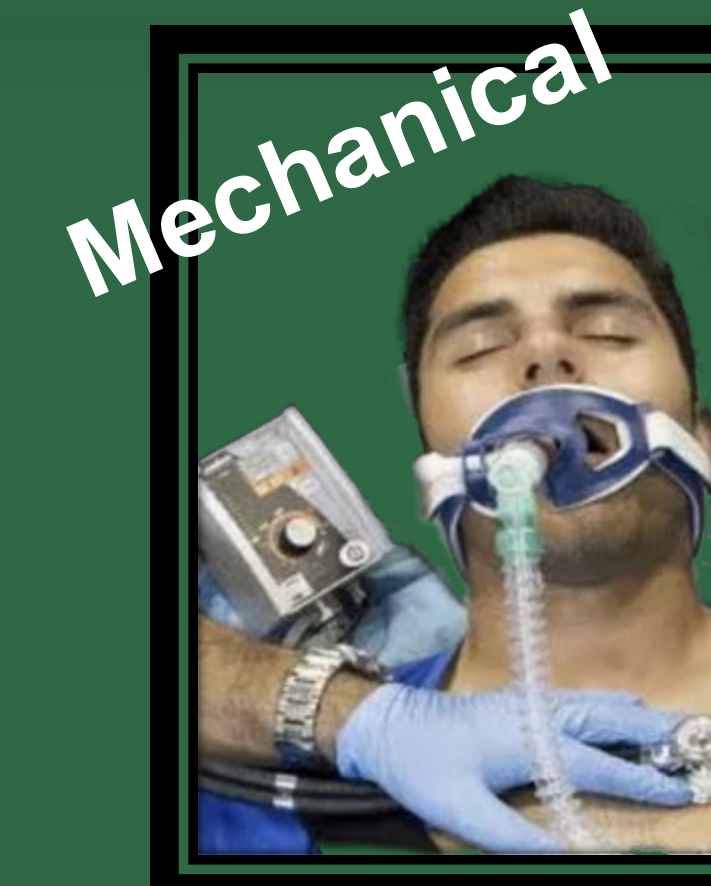
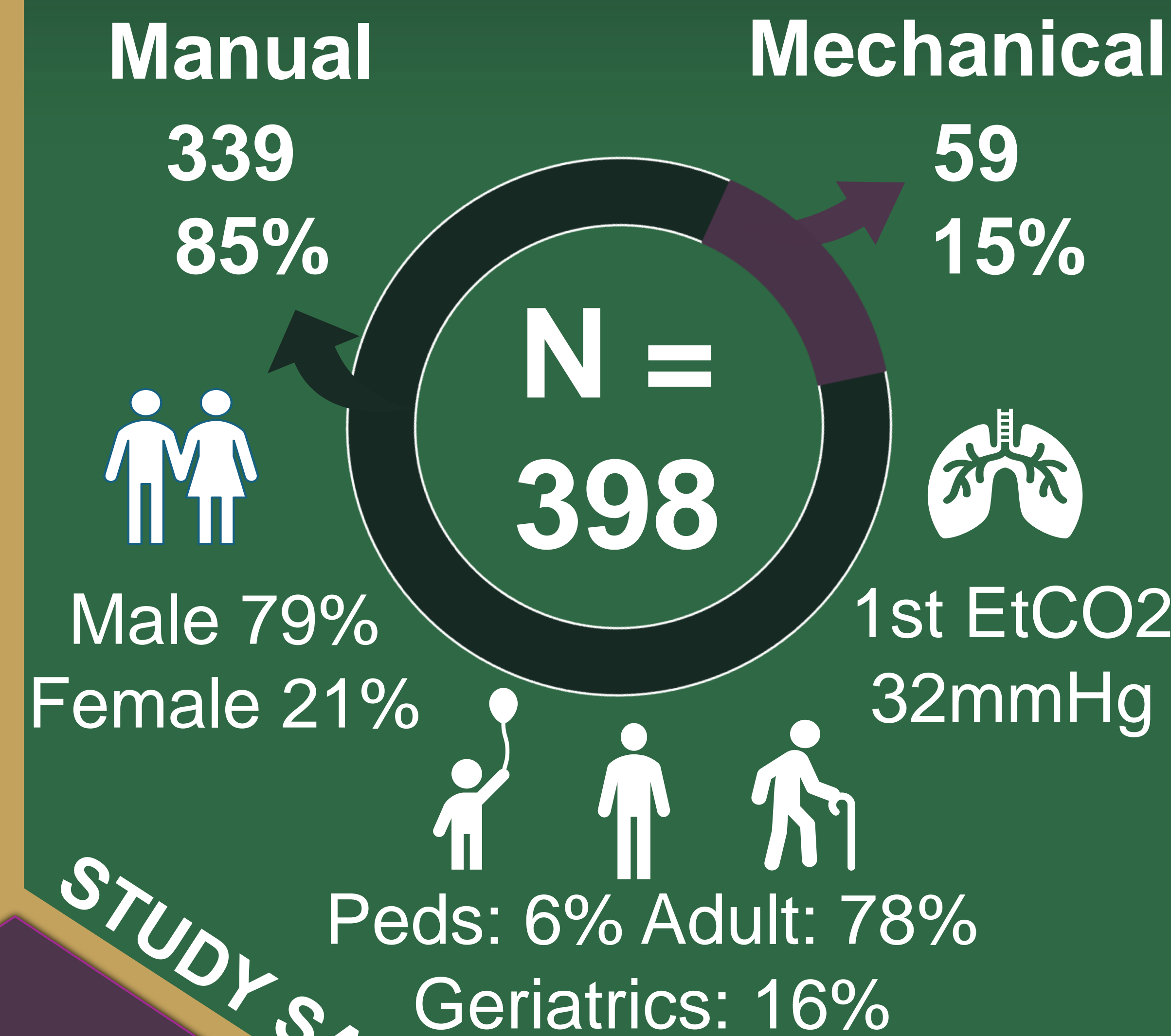


NAEMSP recommends prehospital mechanical ventilation to reduce wide variations often found with manual ventilation.



OBJECTIVE

To describe the use of mechanical ventilation by EMS and outcomes for trauma patients



VS



TRANSPORT		
Ground	34%	83%
Air	66%	17%
URBANICITY		
Urban	57%	68%
Rural	43%	32%
INJURY SEVERITY SCORE		
Median Max ISS	12	10

BACKGROUND

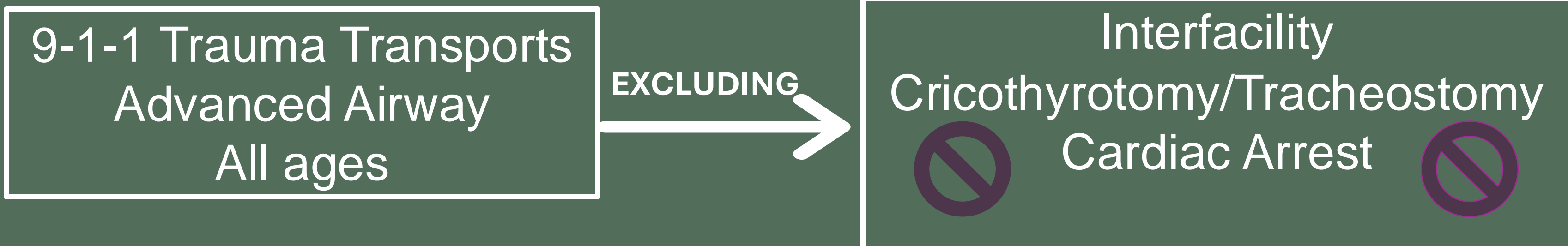
STUDY SAMPLE

Mechanical Ventilation is associated with a **54% HIGHER** survival rate

CONCLUSION

Mechanical ventilation by EMS was infrequently utilized in trauma patients. In univariable comparisons, mechanical ventilation was associated with correction of EtCO2 values and increased survival to discharge, though statistical significance was not reached in multivariable modeling. Limitations include the small number of patients who received mechanical ventilation, missing EtCO2 Values and the retrospective nature of this study.

• Data Source: 2018-2022 Utah Trauma Registry



• Independent Variables

Exposure	Encounter Characteristics	Patient Characteristics
Manual vs Mechanical	Transport Time Unit Level of Response Number of Crew Members Ventilation Type	Race/Ethnicity Age Sex

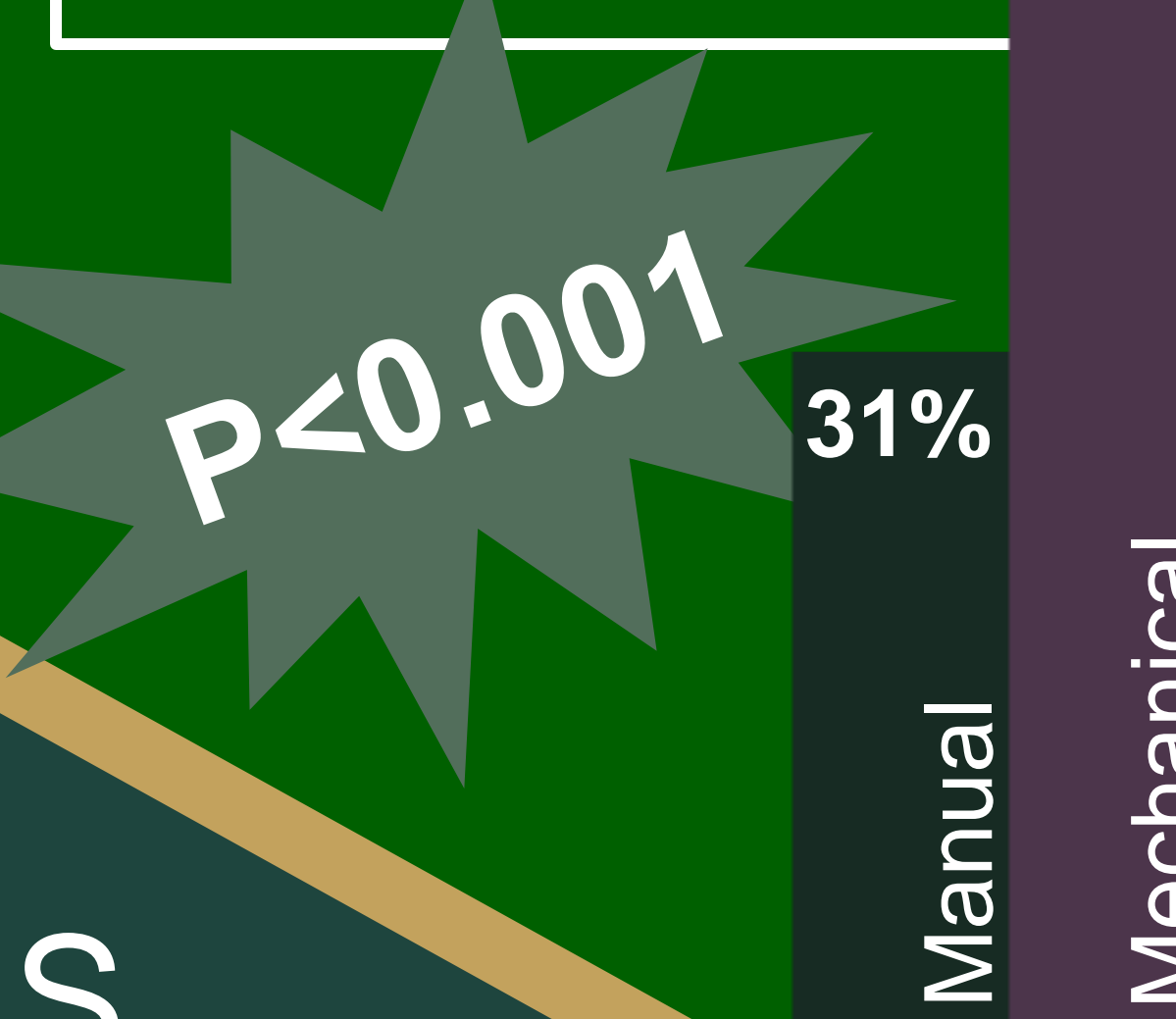
• Outcomes

Primary	Secondary
Survival to Hospital Discharge	End-tidal Carbon Dioxide (EtCO2)

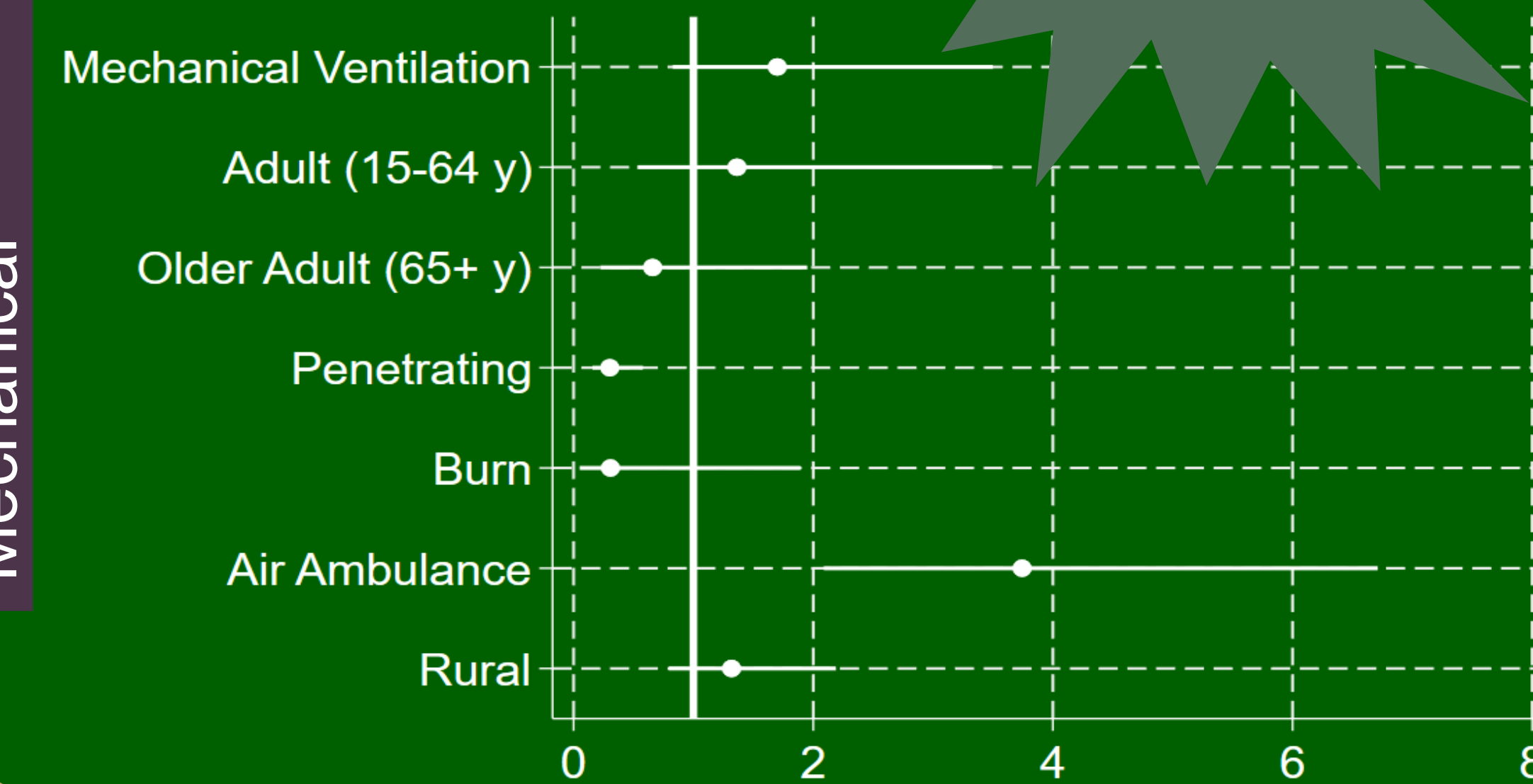
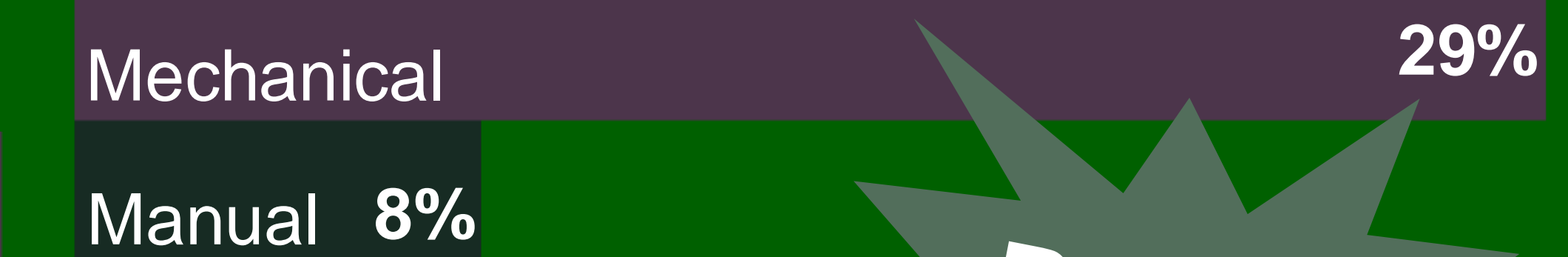
METHODS

MAIN RESULTS

SURVIVAL TO DISCHARGE



FINAL PREHOSPITAL EtCO2 35-45



ADJUSTED ODDS RATIO

