

# Isolated Hip Fractures: Factors Beyond 48 Hours

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## Background

- Isolated hip fractures comprise 340,000 U.S. hospitalizations annually.<sup>1,2</sup>
- The risk of a 50 year old woman developing a hip fracture during her remaining lifespan is 29%, which is higher than the risk of breast cancer, stroke or dementia.<sup>3</sup>
- Guidelines from the American Academy of Orthopaedic Surgeons recommend that surgical management of hip fractures within 48 hours have improved outcomes.<sup>4</sup>
- Recent studies suggest that 24 hour intervention is associated with 30 day mortality benefit and reduced complication rates.<sup>5</sup>

## Objective

To determine risk factors for morbidity and mortality in elderly patients with isolated hip fractures.

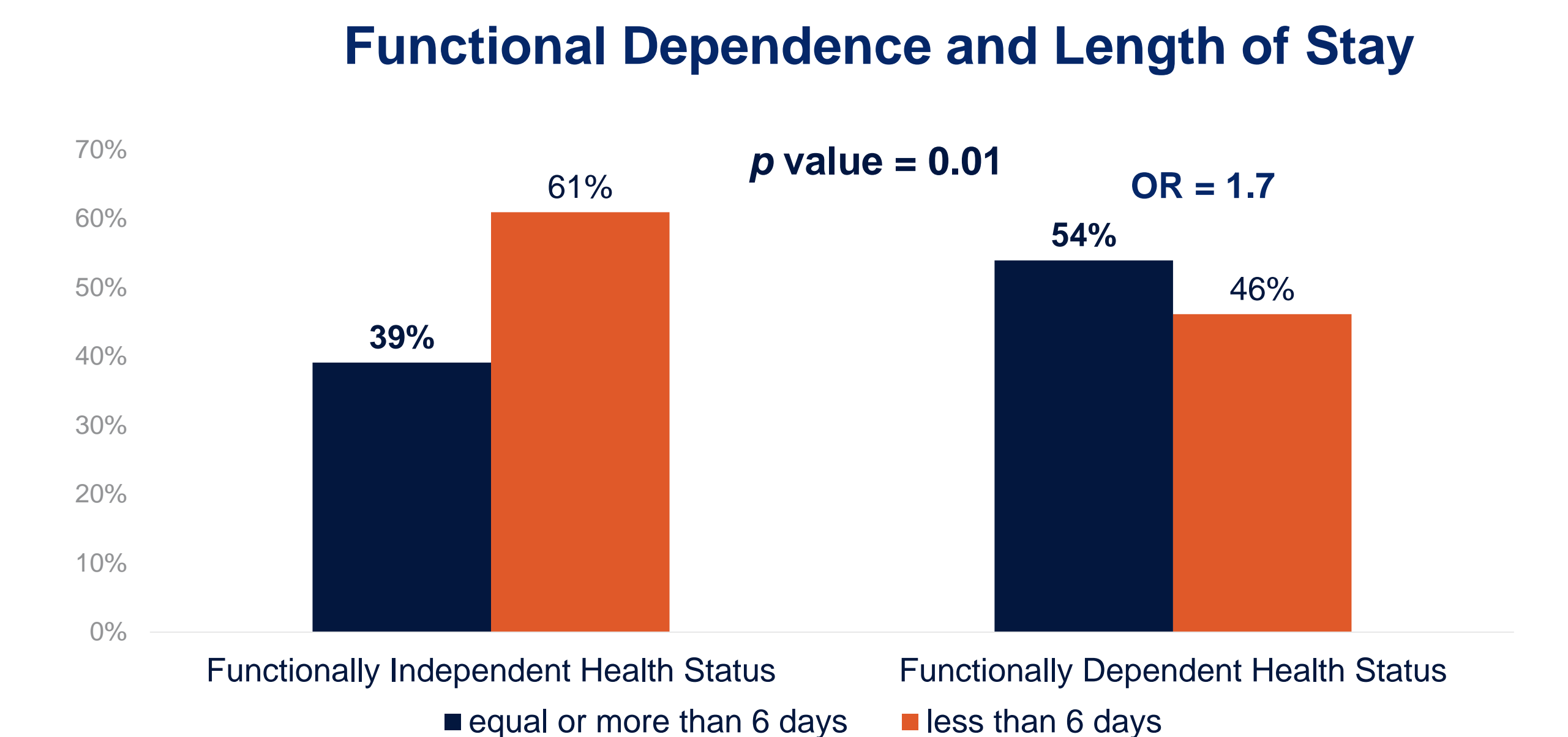
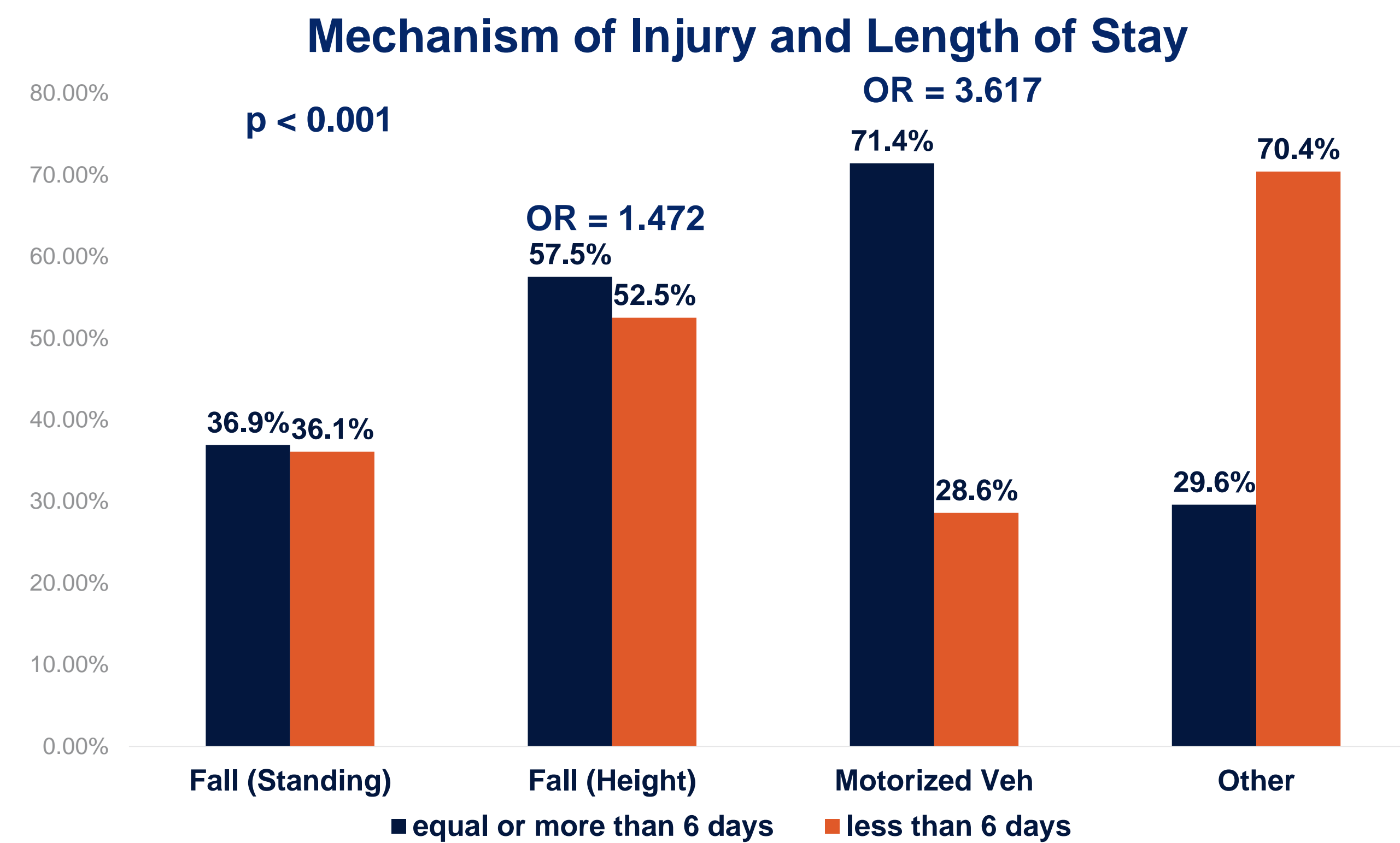
## Methods

- 7/1/2016 - 12/28/2020
- Isolated Hip Fractures
- Age: >65 years
- Memorial Health, Grand Strand

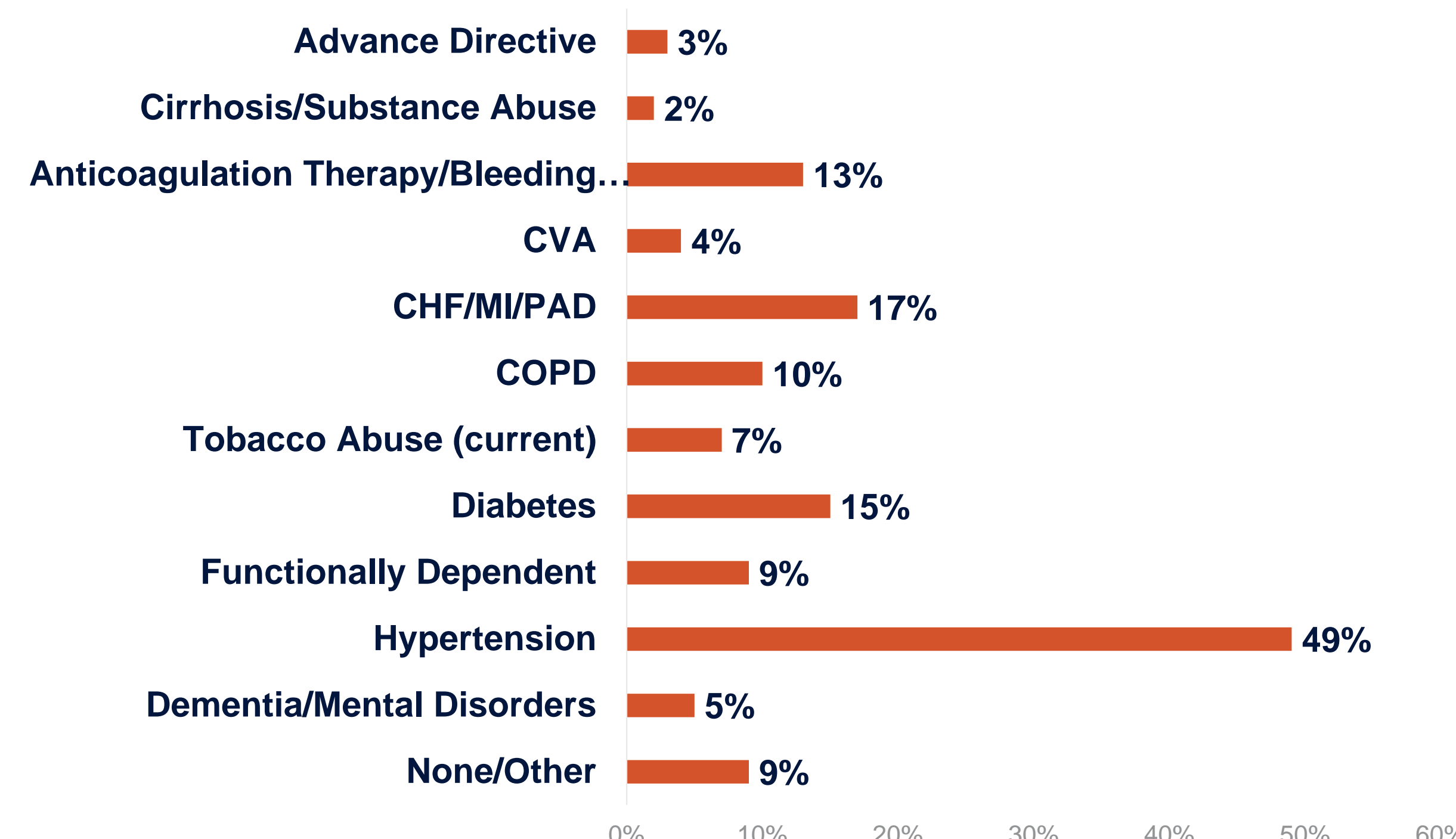
### Isolated Hip Fractures: Variables

Variable	N=785
Age	80 ± 8.5 years old
Race	Caucasian; N=721, 91%
Trauma Activation	None; N=640, 83% Consult; N=30, 3% Partial; N=100, 12%
Injury Severity Score (ISS)	9.88 ± 3.17
Transfer Status	Yes; N=90, 28% No; N=579, 71%
GCS on Arrival	14.77 ± 1.25
Hospital	Memorial; N=326, 41% Grand Strand; N=459, 58%

## Results



### Isolated Hip Fractures: Co-Morbidities



## Discussion

785 patients were included in this study to evaluate outcomes in isolated hip fractures with secondary analysis in underlying comorbidities.

Mean age = 80 y/o

The most common co-morbidity was hypertension (49%).

Average length of stay was noted to be 6 days. Hospitalizations greater than 6 days were considered prolonged in the remainder of our analyses.

A lower mean GCS of 14.77 ( $p = 0.03$ ) having a longer hospital stay ( $\geq 6$  days).

Additionally, functional dependent status prior to hospitalization was also noted to have a higher incidence of prolonged hospitalization ( $p = 0.01$ ).

The fall from height mechanism was associated with a 1.4 times likelihood of prolonged ( $> 6$  days) hospitalization ( $p = 0.026$ , 1.048 – 2.069).

Motorized vehicle accidents mechanism was associated with 3.7 times increased likelihood of prolonged hospitalization ( $p = 0.010$ , 1.365 – 9.871).

Hip fracture patients with ground-level falls were more likely to have a shorter hospital length of stay ( $< 6$  days;  $p < 0.01$ ).

26% of patients admitted to the ICU had at least two comorbidities.

Isolated hip fracture patients who were more likely to stay in the ICU were typically Motorized Vehicle Accidents ( $p < 0.01$ ), female patients and trauma patients with a lower mean GCS of 14.4 ( $p < 0.01$ ).

Those trauma patients that experienced a fall from heights were not likely to stay in the ICU ( $p = 0.01$ ).

Females were more likely to be admitted to the ICU in the setting of isolated hip fracture (OR = 2.3,  $p = 0.000$ ).

For each point increase in GCS, there was a negative impact on the likelihood of ICU admission (OR = 0.498,  $p = 0.001$ ) [Table 1]. Presence of advanced directives was directly associated with ICU admission (OR = 2.4,  $p = 0.048$ ).

Those that fell from heights ( $p < 0.01$ ), had pre-existing advanced directives ( $p < 0.01$ ), cirrhosis/substance abuse ( $p = 0.04$ ) were most likely to experience an in-hospital mortality.

## Conclusion

- Mechanism Mattered: MVC and fall from height demonstrated increased hospital length of stay
- Functional dependent status prior to hospitalization demonstrated increased length of stay
- ICU Admissions: female patients and MVC were more likely to be admitted to the ICU
- Advanced Directives: If a patient had an advanced directive, they were more likely to be admitted to the ICU.
- Cirrhosis: Cirrhosis was the only co-morbidity that demonstrated increased mortality for isolated hip fractures.

## References

Available on request from Author



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