

# On vs. Off-hours Arrival to Groin Time: Identifying Gaps in a Comprehensive Stroke Center

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## INTRODUCTION

- Timely treatment of patients with acute ischemic stroke (AIS) is associated with better outcomes at 90 days, including mechanical thrombectomy (MT)
- Parallel processing is paramount to minimize transition time from the emergency department (ED) to the MT suite
- Off-hours cases often do not have the same personnel available quickly for this parallel processing as daytime

## PURPOSE

- To analyze for differences in daytime vs. off-hour arrival-to-groin times for patients undergoing MT and arriving directly to the ED at a large academic comprehensive stroke center (CSC)
- To identify opportunities to close the gap between daytime and off-hour MT treatment times

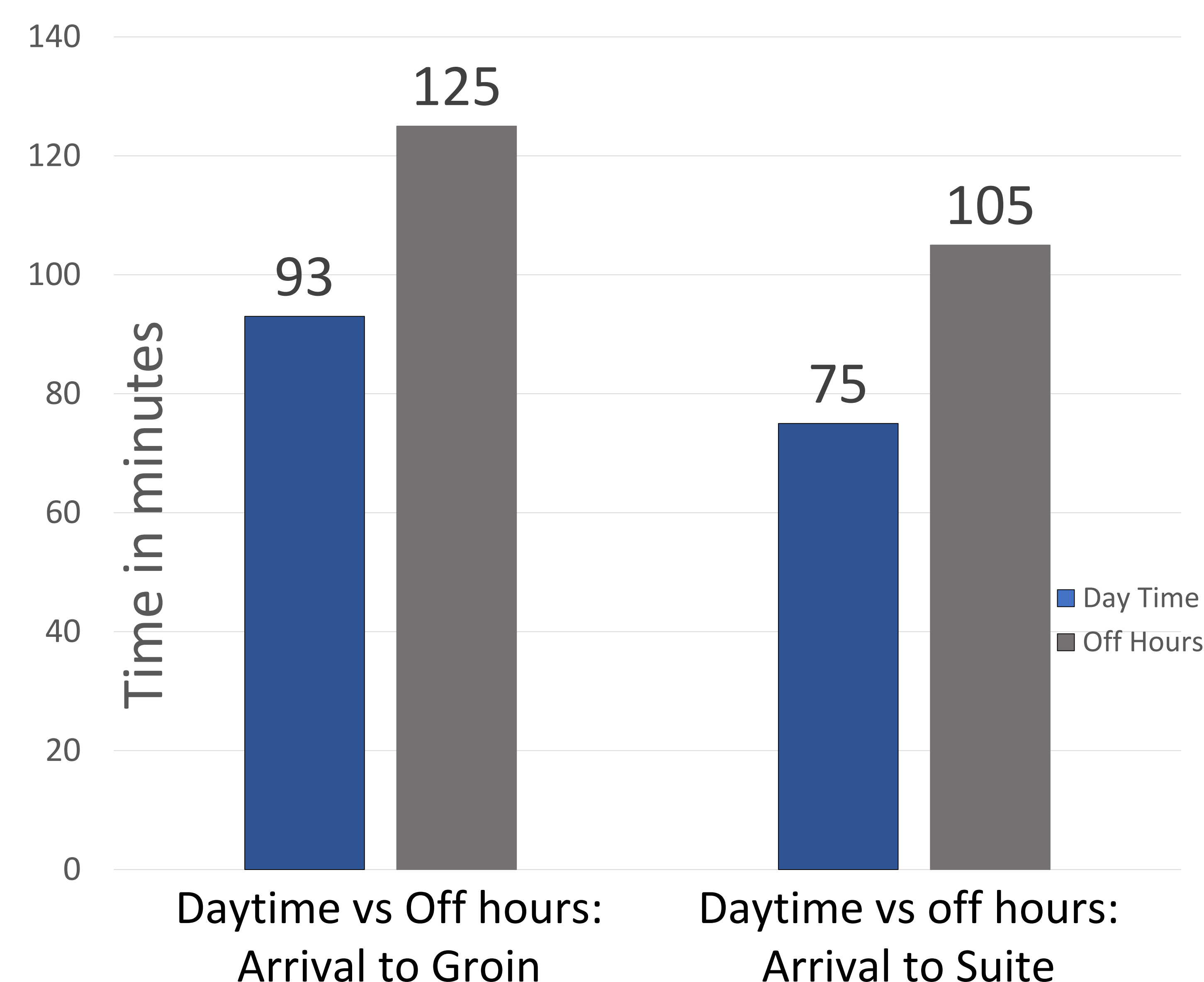
## METHODS

- The MT database maintained by the CSC was queried for all cases from July 2022- July 2023.
- Inclusion criteria: all AIS with LVO and receiving MT, patients arriving by EMS directly to the CSC ED
- Data was stratified by:
  - 07:00-17:00 = Daytime
  - 17:00-07:00 and/or Weekends = Off-hours
- Times between groups for both ED arrival-to-groin and ED arrival-to-suite were analyzed for statistically significant differences with t-test.

## RESULTS

- There was a statistically significant increase in time for arrival to suite/groin times between the day and off hour groups (see figure 1)

	Daytime N=37	Off-Hours N=43	P-value
ED Arrival-to-Groin (Mean in Minutes)	93	125	P=0.0009
ED Arrival-to-Suite (Mean in Minutes)	75	105	P=0.008
Suite-to-groin (Mean in Minutes)	16	18	P=0.24



## IMPLICATIONS FOR PRACTICE

- CSCs need to do more to bridge the gap and improve disparities for cases arriving to the CSC during off hours
- If nothing is done those patients arriving off hours will continue to be at higher risk for poorer outcomes

## NEXT STEPS

- Reasons for the longer time on off-hours will be identified
- Some cardiac cath labs have utilized nursing bridge teams to help with parallel processing, and we theorize that using such a team to facilitate preparation of the patient and suite, we can reduce treatment times for off-hour's ED MT cases and potentially improve outcomes
- UMMC will be introducing a bridge team approach for those off-hours ED cases, and arrival to groin times changes will be evaluated for improvement
- UMMC will be looking at outcome data comparing those Modified Rankin scores and other outcome measures for patients arriving during the day vs off hours

## REFERENCES

1. Powers W.J., Rabinstein A.A., Ackerson T., Adeoye O.M., Bambakidis N.C., Becker K., Tirschwell D.L. Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines for the early management of acute ischemic stroke a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2019;50:E344-E418.

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