

# Decreasing Hip Fracture Delirium Complications Utilizing Pain Blocks in the ED

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## Learning Objectives

- Assess the causation between delirium and lower quality outcomes in the hip fracture population.
- Identify the benefits of using fascia iliaca blocks for acute hip fractures.
- Discuss methods that can be used to decrease delirium in patients with acute hip fractures.

## Background

- Hip Fracture patients who have a major hospital acquired complication such as delirium have been shown to have an increased mortality risk <sup>1</sup>
- In FY 2018, 17% overall hip fracture complication rate was at an all time high with 25% of complications being delirium
- 60% of delirium was diagnosed prior to surgery
- Average time from ED arrival to surgery was 24.2 hours
- Average Morphine Milligram Equivalent (MME) prior to surgery was 38
- Needed to improve pain management without increasing systemic opioid use

## Goals

- Provide fascia iliaca blocks to 90% of hip fracture patients in the ED
- Decrease average MME prior to surgery to <20
- Eliminate delirium prior to surgery
- Decrease overall delirium complications by 75%

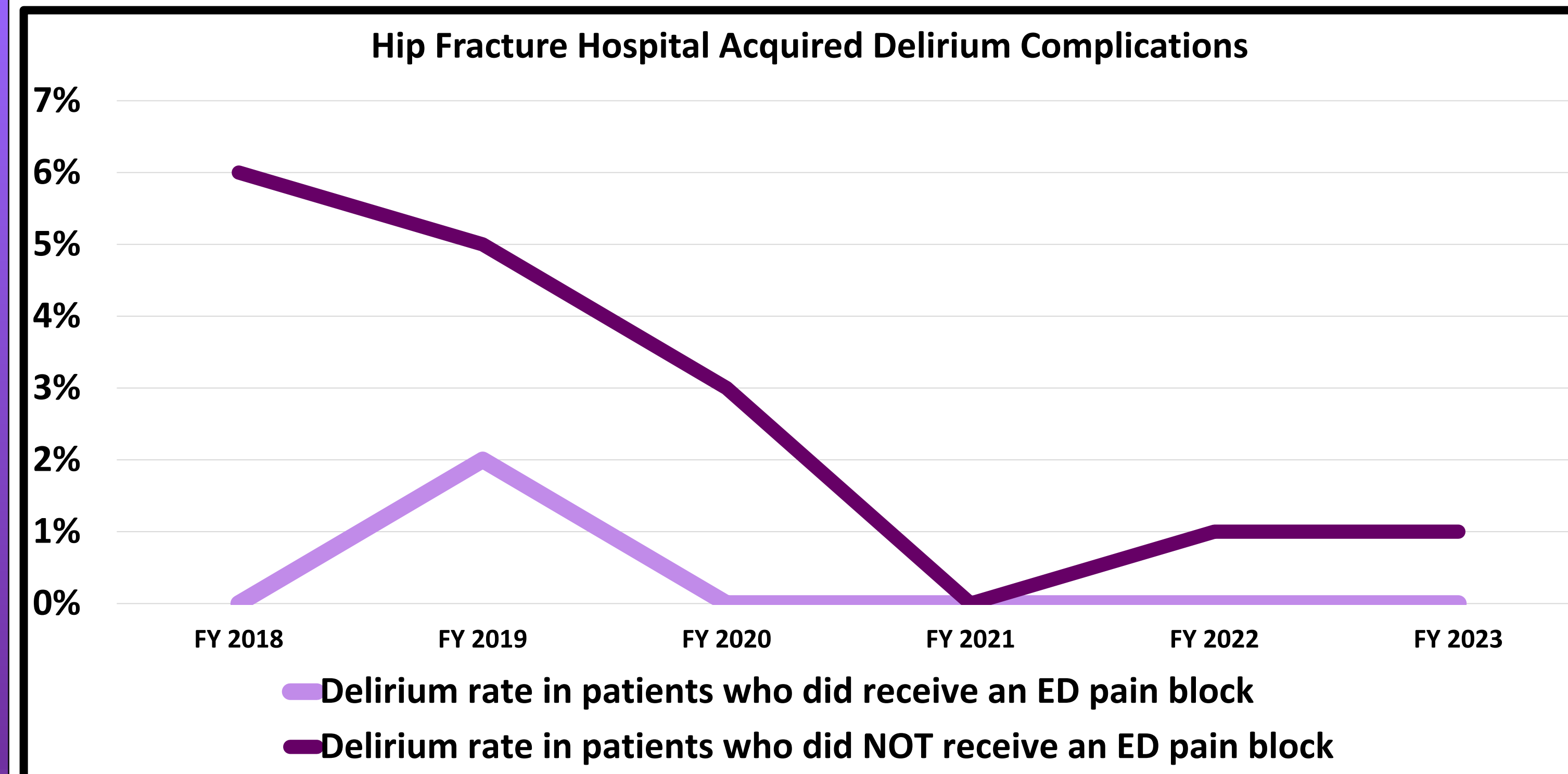
## Interventions/ Methods

- Upon approaching anesthesia team, they were unable to provide comprehensive block team coverage for ED patients.
- Switched to ED providers and residents performing ED pain blocks
- Created monthly provider scorecards specific to each ED attending and resident to illustrate individual performance
- Performance breakdown shared with ED leadership and staff on a monthly basis.

## Results

	% Received ED pain block	Overall delirium rate	Delirium prior to sx	MME prior to sx	Average daily MME after sx
FY 2018	2%	6%	4%	38	34
FY 2019	26%	4%	2%	36	32
FY 2020	41%	2%	0%	24	28
FY 2021	96%	0%	0%	16.9	12.1
FY 2022	89%	0.5%	0%	18	14
FY 2023	87%	0.5%	0%	15	11

\*average annual hip fracture population is 280 (sx: surgery)



Provider staffing, patient care protocols prior to surgery, and hip fracture hospitalization order sets did not significantly change during this time. No adverse events related to the administration of fascia iliaca pain blocks in the ED have been recorded

## References

<sup>1</sup>Edelstein DM, Aharonoff GB, Karp A, Capla EL, Zuckerman JD, Koval KJ. Effect of postoperative delirium on outcome after hip fracture. Clin Orthop Relat Res. 2004; 422(422): 195-200. doi:10.1097/01.blo.0000128649.59959.0c

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## Results

- 90% of eligible hip fracture patients received a pain block over the last 3 years
- Current average MME prior to surgery is 15
- Delirium prior to surgery has been eliminated since 2020
- No patient who received a pain block in the ED developed delirium in the last 3 years.

## Outcomes & Impact

- 94% of patients respond *Strongly Agree* to question "Were you kept comfortable prior to surgery"
- Current daily average MME after surgery is 11 compared to 34 at baseline
- Length of stay is 16 hours shorter in patients who received an ED pain block compared to those that did not
- Percentage of patients discharged home doubled from 18% in 2018 to 32% in 2023.

## Conclusion

Pain blocks administered by ED providers effectively managed pain in hip fracture patients, leading to decreased opioid use and diminished incidence of delirium

## Key Takeaways

- Be innovative , standard protocols may not fit your system
  - For example, most systems utilize anesthesia to provide ED pain blocks but they were unable to provide 24/7 coverage in our system.
- Explore alternative ways to use your resources to achieve your desired outcomes