

Reduce Incidence of Delirium in Elderly Hip Fracture Patients

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Problem Statement

- Delirium in hip fractured patients is a frequent complication, with an incidence of rate varying 13%-70%.¹
- Post operative delirium is associated with poor outcomes, such as impaired functional and cognitive recovery, increased hospital length of stay, higher cost and increased mortality.²
- Delirium can be reduced by early surgery, early delirium detection, aggressive pain management, early mobilization and early treatment of post-operative complications.³

References:

- Bruce AJ. The Incidence of Delirium Associated with Orthopaedic Surgery: a Meta-Analytic Review. Int Psychogeriatr. 2007 Apr; 19(2):197-214.
- Carpintero P. Complications of Hip Fractures: A review. World J Orthop. 2014 Sep 18;5(4):402-411
- Mok WQ. Implementation of an Integrated Delirium Prevention System of Care for Elderly Patients with Hip Fractures. IJIC 2017;17(5):A432.

Project Aim

To reduce the incidence of delirium in hip fracture patients above age of 60 at risk of developing delirium admitted to TTSH Orthopaedic Wards 12C & 12D from 7% to 3.5% over a sustained period

Lessons Learnt

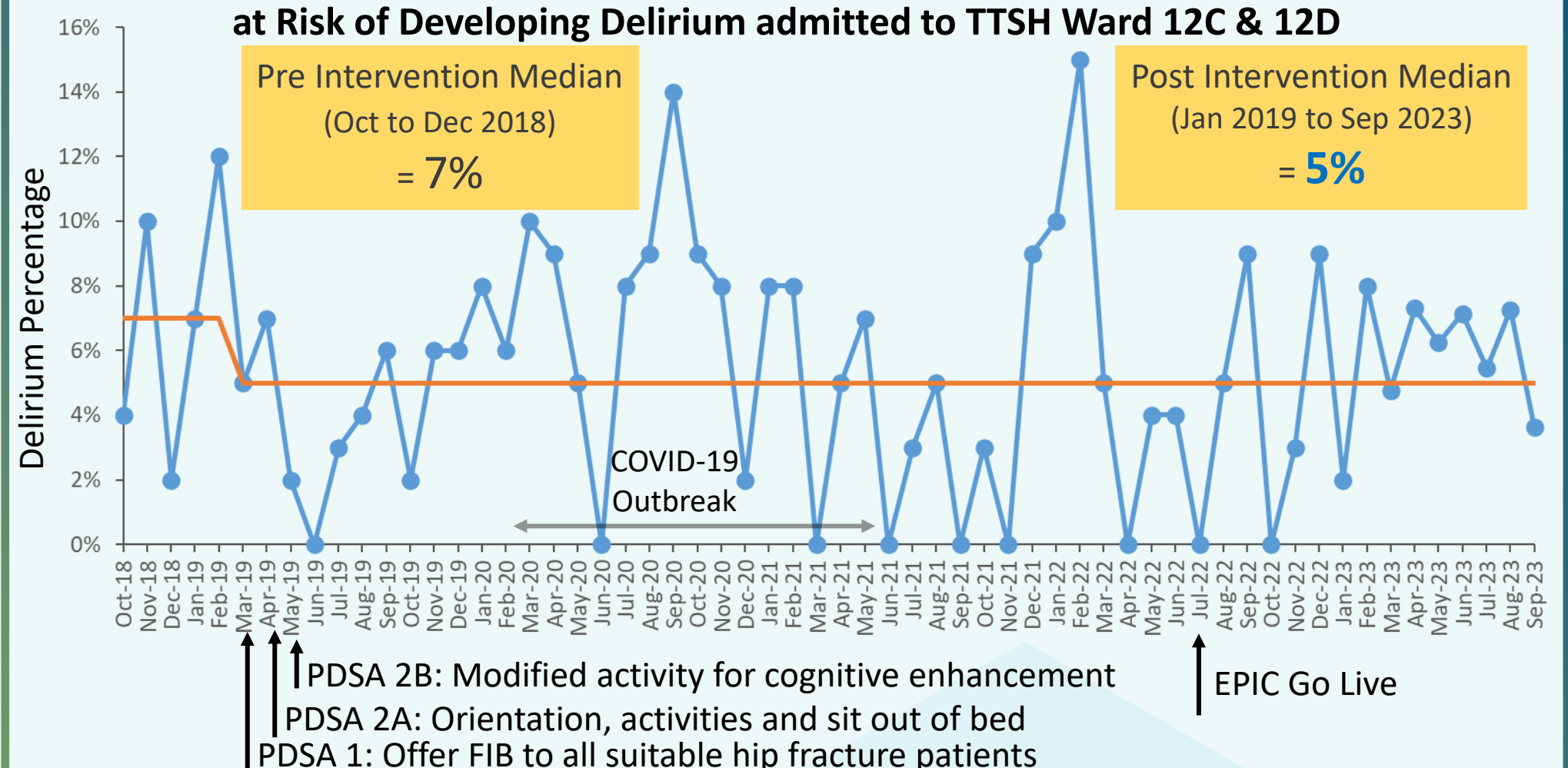
- Timely recognition of delirium symptoms such as confusion, disorientation and changes in behaviour is crucial.
- Appropriate treatment and interventions before and after surgery reduces delirium incidence.
- Engaging family in the care process, educating them about delirium and encouraging their participation in the patient's care can provide emotional support and aid in prevention.
- Effective communication among healthcare workers, patients and family is vital. Coordinated care ensure consistent monitoring and prevention.

Potential Solutions

Root Cause	Intervention	Implementation Date
Pain	PDSA 1: Offer FIB (Fascia Iliaca Block) to all suitable Hip Fracture Patients with Dynamic Pain Score >3 for effective pain control	12 Mar 2019
No activity, no cognitive engagement and immobility	PDSA 2A: Orientation, activities and sit out of bed. PDSA 2B: Modified activity for cognitive enhancement	1 Apr 2019 2 May 2019

Outcomes & Impacts

Incidence of Delirium in Hip Fracture Patients above age of 60 at Risk of Developing Delirium admitted to TTSH Ward 12C & 12D



2018 (Oct-Dec)	2019 (Jan-Mar)	2019 (Apr-Jun)	2019 (Jul-Sep)	2019 (Oct-Dec)	2020 (Jan-Mar)	2020 (Apr-Jun)	2020 (Jul-Sep)	2020 (Oct-Dec)	2021 (Jan-Mar)	2021 (Apr-Jun)	2021 (Jul-Sep)	2021 (Oct-Dec)	2022 (Jan-Mar)	2022 (Apr-Jun)	2022 (Jul-Sep)	2022 (Oct-Dec)	2023 (Jan-Mar)	2023 (Apr-Jun)	2023 (Jul-Sep)
155	133	145	137	175	103	49	80	119	131	88	104	116	104	134	120	129	136	115	165
9	10	4	6	9	8	2	9	7	8	3	3	5	10	4	6	5	6	8	9

Denominator = No of Hip fracture cases | Numerator = No of Delirium

With lower incidence of delirium, it is easier to mobilize patients and perform daily activities as they are more co-operative.

78 hospital bed days saved = **Estimated monthly cost savings \$86,892**