



Mass General Brigham

Reducing Physical Restraint Use in the ED: Trauma- and Bias-Informed De-escalation Training for Agitated and Aggressive Behavior

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Problem Statement

Physical restraints are used at a higher rate in black and Hispanic patients than white patients across MGB emergency departments.

Physical restraints can result in significant psychological distress and re-traumatization, as well as serious adverse patient outcomes, including physical injuries, asphyxiation, and even death.

At the MGB level, black and Hispanic patients have a 22% (OR=1.22, 95% CI 1.01-1.48) and 45% (OR=1.45, 95% CI 1.22-1.73) higher odds of physical restraint, respectively, as compared to white patients when controlling for potentially contributing factors.[‡] These findings likely reflect racial disparities related to the use of force in agitation management in the ED. Racial disparities in care reinforce distrust in the health care system and exacerbate the traumatic experiences and poor health outcomes among black patients.

Our project goal is to reduce the gap in restraint use between black and white patients presenting to 3 MGB EDs (BWFH, BWH, and MGH) over the two years following the completion of trainings.



Year 1 Accomplishments - Overview

ALCOHOL WITHDRAWAL SYNDROME ASSESSMENT

Notes:
 - Progression is variable and not always linear
 - Stages may overlap or skip
 - Seizures do not predict DT's

Questionnaire Timeline	Minor Symptoms	Alcoholic Hallucinations	Delirium Tremens (DT's)
0	Anxiety, Insomnia, Gastrointestinal upset, Headache, Palpitations, Anorexia	Visual, Auditory, Tactile	Agitation, Hallucinations, Disorientation, Tachycardia, Hypertension, Fever, Diaphoresis
1	Very mild	Usually resolved within 48 hours	Generalized tonic-clonic convulsions
2	Mild		May occur as early as 2 hours after alcohol cessation
3	Moderately severe		Peak at 5 days, lasts up to 7
4	Severe		
5	Extremely severe		
6	Seizures		
7	Seizures		

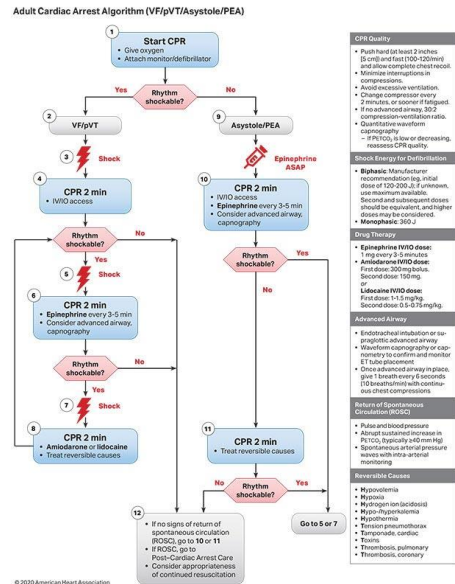
Anxiety
 Ask "Do you feel nervous?"
 0 Normal activity
 1 Somewhat more than normal activity
 2 Moderately anxious or guarded, so anxiety is inferred
 3 Moderately anxious and restless
 4 Moderately fidgety and restless
 5 Paces back and forth during most of the interview, or constantly thrashes about

Agitation
 Observation
 0 Normal activity
 1 Somewhat more than normal activity
 2 Moderately anxious or guarded, so anxiety is inferred
 3 Moderately fidgety and restless
 4 Moderately fidgety and restless
 5 Paces back and forth during most of the interview, or constantly thrashes about
 6 Moderately fidgety and restless
 7 Paces back and forth during most of the interview, or constantly thrashes about

Paroxysmal Sweats
 Observation
 0 No sweat visible
 1 Barely perceptible sweating, palms moist
 2 Moderately obvious on forehead
 3 Severe, even with arms not extended

Tremor
 Observation
 0 No tremor
 1 Not visible, but can be felt fingertip to fingertip
 2 Moderate, with patient's arms extended
 3 Severe, even with arms not extended

Standardization of how we describe agitation



Team-based algorithmic approach to de-escalation



Interdisciplinary Antiracism and Trauma-informed (ART) De-escalation Training Program



Year 1 Accomplishments – Process Metrics

Standardization of how we describe agitation

- Implementation of Broset Violence Checklist (BVC) at BWH in May 2022
- Roll out of ABRAT at MGH now

Development of standardized de-escalation workflow that incorporated self-bias check

- Roll out at BWFH May–June 2021, pilot at BWH May- Aug 2021
- New workflow being developed at MGH as of October 2022



Year 1 Accomplishments – Process Metrics

Implementation of Interdisciplinary De-escalation Training Program

- Pilot resident-led simulated interdisciplinary trainings on verbal de-escalation at BWH (Apr) and MGH (Nov) of 2020
- Development of department-wide interdisciplinary de-escalation trainings incorporating
 - Resident pilot material focusing on racial bias in restraint use with built-in bias check algorithm
 - Trauma-informed care concepts
 - Integrated with MGH Police & Security AVADE® Workplace Violence Prevention training (MGH)
 - Code de-escalation workflow (BWH/ BWFH)
- Department-wide interdisciplinary de-escalation trainings including nursing, attendings, PAs, residents, ESAs and security
 - MGH: Launched 4/2022, 197 staff members trained
 - BWH/BWFH: Launched 2/2022 (BWH) and 4/2022(BWFH), 177 staff members trained



Year 1 Accomplishments – Clinical Outcome Metrics

Interdisciplinary de-escalation training program – feedback from our participants

- **Creating a safe space to discuss structural racism and bias in healthcare**
 - “I felt like I could be open and honest.”
 - “I felt safe speaking up and asking questions!”
 - “We had great conversations on things that are often uncomfortable to talk about.”
- **Hands-on practice with standardized patients**
 - “Great actors, very realistic situations.”
 - “I feel more confident with how to de escalate agitated patients through verbal and nonverbal communication.”
 - “This was such an important activity. In my 30 years of practicing emergency medicine, this is the best session on this topic that I have ever attended. Thank you.”
 - “Just a quick word of thanks for all your work putting [this training] together the bias training as part of the in-person AVADE sessions. I just did mine tonight and (unsurprisingly) was blown away by how high-yield, thoughtful, and practical the teaching and simulations were. [Trainer name]— it helped that you were such a great presenter/facilitator!”



Year 1 Accomplishments – Clinical Outcome Metrics








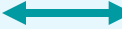

Pre- and post-training survey of participants at BWH/BWFH

T-test, paired two sample for means – all questions below statistically significant $p < 0.05$

Survey Question (Scale 0-5)	Pre-training Mean	Post-training Mean
I feel prepared to manage an agitated patient in the ED.	3.58	4.03
I am confident in my ability to manage an agitated patient while considering their safety in the ED.	3.68	4.03
I am confident in my ability to maintain my personal safety and my colleague' safety while managing an agitated patient in the ED.	3.62	4.03
I feel prepared to work in a team to manage an agitated patient in the ED.	3.81	4.12
I feel confident in my ability to speak up if I perceive a problem during de-escalation regardless of who might be affected.	3.73	4.06
I have received adequate education on how to manage agitation safely in the ED.	3.36	4.08
I am confident in my ability to implement verbal de-escalation techniques when working with an agitated patient in the ED.	3.58	4.08
I feel prepared to apply trauma-informed care principles when managing an agitated patient in the ED.	3.33	4.05
I feel prepared to conduct a bias check when managing an agitated patient in the ED.	3.45	4.11
I feel prepared to implement the Code De-escalation Workflow in the ED.	3.16	4.11



Results Following Introduction of Code De-escalation at BWFH

% Patients Restrained during 10-month period before intervention (Time A) vs. after intervention (Time B)									
	Pilot Time A	Pilot Time B		Control 1 Time A	Control 1 Time B		Control 2 Time A	Control 2 Time B	
Patients on psych hold	7% (38/546)	4.1% (28/677)	 P= 0.04	6.4% (49/769)	6% (53/877)	 P = 0.86	5.4% (88/1625)	8.3% (109/1311)	 P = 0.002
All patients	0.4% (79/19,790)	0.2% (41/20,229)	 ** P <.001	0.2% (77/31,730)	0.2% (77/35,212)	 P = 0.57	0.3% (122/43,529)	0.4% (152/36,573)	 P =0.001

**No significant difference in change of restraint use among racial, language and age groups



Year 1 Challenges

Challenges in holding regular interdisciplinary de-escalation training sessions

- Competing priorities: staffing shortages and departmental crowding
 - Offering CME/CNE credits to participants
 - Integrating the training participation into the MGPO/BWPO Quality Incentive Program
 - Adding evening classes at BWH to train night nursing staff
- Engagement of Security (BWH, BWFH)
 - Renewing support, commitment to interdisciplinary training

Challenges in managing agitation due to departmental crowding and capacity-related issues

- Increased incidents of agitation among patients driven by politically- and racially-divisive events
- Moral injury / burnout
 - Despite this, staff appreciate the training and being equipped with the tools to care for patients with acute agitation



Looking Ahead: Plans for Year 2

- **MGH:**

- Continue in-person trainings at a rate of 4 per month through the month of June 2023.
- We are working in tandem with ED Nursing and ED Quality & Safety to standardize and integrate universal ABRAT assessments, escalation safety huddles, and code SAM process, with established pathways for metrics tracking.
- Data analyses and publication(s) following completion of the training program.

- **BWH/BWFH:**

- Continue in-person training sessions at 4 per month at BWH and 2 per month at BWFH through the month of June 2023.
- We have analyzed the data assessing the impact of Code De-escalation at BWFH.
- We are currently working on our manuscript for this pilot project.
- Further data analyses and publication(s) will follow the completion of the training program in June 2023.





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