

# TABLE 13

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**Creating a Med-Peds Complex  
Care Transitions Tool to Improve  
Quality of Hospital Care in a  
Vulnerable Population**

Hayley Severson

# Creating a Med-Peds Complex Care Transitions Tool to Improve Quality of Hospital Care in a Vulnerable Population

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## Our Aim

We aim to improve the inpatient (hospital) transition process for young adults living with medical complexity (YMC) & their caregivers by developing an informational packet to introduce them to the Medicine-Pediatrics Complex Care Service at Regions Hospital.



## Conclusions and Next Steps

**These interviews emphasize the need for broader system change to ensure ease of transition. This is more than we initially planned but is critically important.**

Create an informational packet

Link in MyChart to About Me form (which help with the patient care plan)

**Not only do we need to prepare families, but we need to improve the system. Families and patients should be involved in system change.**

Get feedback on packet from patients, caregivers, & providers

EPIC changes to facilitate easier transitions

**EPIC tools would help make this standardized and inclusive.**

Online access with QR codes to packet/video

"Complex Care Service" problem designation in Epic

**PCPs want additional supports from providers to answer patient questions.**

## Background

Transition of care from pediatrics to adult medicine is difficult, confusing, and fear-inducing for YMC and their caregivers.

Regions Hospital Medicine has created a Complex Care Service to help with this transition, using Med-Peds hospitalist providers.

YMC are particularly vulnerable in this period of change as they are more likely to require hospital services. Families/guardians are often hesitant to transition care to providers who do not know their child and their history.

There are additional things we can do prior to hospitalization to help prepare patients, particularly answering commonly asked questions and giving more details about what to expect in the adult hospital.

Primary Care has started improving transitions of care for outpatient and specialist care, but have not included inpatient care.



## Methodology

### 8 phone interviews with YMC and families

- Questions created to help understand common questions, concerns, and potential barriers when transitioning hospital care.
- Would an informational packet be useful when planning transition of in hospital care?
- Used questions posed by primary care providers and commonly asked questions from the Go! Transitions website.

### 7 surveys with outpatient pediatricians

- Understand their current transition practice
- What would be most helpful in transition to adult hospitals?

## What did we learn?

"Adult hospitals aren't ready for people with high needs."
"We go from coded care to people who don't want us."
"Still don't communicate with (my child). They treat him as someone with an intellectual disability who cannot communicate."
"Why isn't there an 'adult life' like there is child life?"
"Not being consulted at all as the parent is surprising and difficult."
"We give (their) medication at a certain time at home, and they don't follow that in the hospital."
"We're left to fend for ourselves without much support or help."
"Providers don't seem to care how I prefer to communicate."

- This transition is hard, and it would be helpful to have tools in place to improve it
- The biggest goals of families and patients are to have understanding and respect in their new care system, with strong knowledge of their needs, routines, and unique care; this can be done with the use of a "Care Plan" in Epic



# **Improving ED Time to Regional Anesthesia in Hip Fracture Patients**

Daniel Bollinger &  
Kathelyn Rivera-Ulloa



# Improving ED Time To Regional Anesthesia In Hip Fracture Patients

Kathelyn Rivera-Ulloa, MD & Daniel Bollinger, MD

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Department of Emergency Medicine



*No Disclosures*

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# Background & Scope

- **Background:**

- Excess opioid use and poor pain management for patients with hip fractures is associated with increased risk of delirium, and increased morbidity and mortality, particularly in elderly patients. Use of early regional anesthesia in patients with hip fractures can help improve analgesia and health outcomes.

- **Aim:**

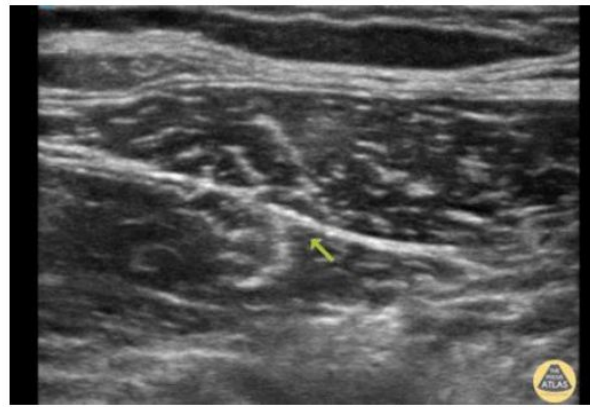
- To shorten the time to regional anesthesia in patients who present to the HCMC ER with hip fractures by 25% within 6 months of intervention

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# Methods & Intervention



- Root Cause Analysis
  - 5 WHY's to determine causes that lead to delays to nerve block
- Initial Data Collection
  - Use EPIC Slicer/Dicer to determine median time to nerve block in the last year
- Intervention
  - Utilize research assistants to identify patients arriving to ED with hip block and notify provider

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# Outcomes & Next Step

- **Outcomes**
  - Primary: Mean time to block over 6 month period
  - Secondary: opioid equivalents, hospital stay, incidence of hospital-acquired delirium
- **Next Steps**
  - Ingrained practice patterns
  - Implementation in additional injury patterns



# Sources

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# **Improving Hypopituitarism Screening Frequency in a Traumatic Brain Injury (TBI) Clinic for Veterans with TBI**

Giovanna Klimovitsky

# Improving Hypopituitarism Screening Frequency in a Traumatic Brain Injury (TBI) Clinic for Veterans with TBI

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# Background & Objective

## Background

- Approximately 18.2% of U.S. adults report a lifetime history of TBI with loss of consciousness, with higher rates in males (Prevalence of TBI, 2024).
- **TBI** is common among veterans and associated with **hypopituitarism**.
- Despite guidelines, **screening is often missed**.

## Objective:

- Evaluate **real-world screening rates** in the VA TBI clinic.
- Identify **provider-level barriers**.
- Implement **quality improvement (QI)** intervention.



# Methods

- 834 new patient visits to the TBI clinic (Oct 2023–Oct 2024).
- 70 patients randomly selected (~8%) for chart review.
- Reviewed compliance with Tan 2017 guidelines.
- REDCap survey sent to 5 providers to assess barriers and knowledge gaps.



# Results

- **28.5%** met the Tan criteria for hypopituitarism screening.
- Only 30% of those eligible received complete screening.
- Survey response rate: 80%

## Main barriers:

- a. Lack of knowledge about criteria/testing.

**Provider-Reported Barriers to Hypopituitarism Screening in the TBI Clinic**

Total Visits Reviewed	Eligible for Hypopituitarism Screening	Received Complete Screening
70	20 (28.5%)	6 (30%)

**Table 1.** A total of 70 TBI clinic visits were randomly selected for detailed review. Of these, 20 visits (28.5%) met criteria for hypopituitarism screening based on published guidelines. Among the eligible patients, only 6 (30%) underwent complete screening, highlighting a gap in adherence to recommended endocrine evaluation protocols.



# Results

## Provider-Reported Barriers to Hypopituitarism Screening in the TBI Clinic

Barrier or Belief Statement	Yes (%)	No (%)
I need more information about the prevalence and criteria for hypopituitarism in TBI patients.	75%	25%
I am unsure of specific tests to order.	25%	75%
I am unsure what to do with the results.	25%	75%
I get busy and miss ordering.	50%	50%
I offer the screening but patients mostly defer it.	0%	100%
I am concerned about costs.	0%	100%
There is no barrier to conducting screening. I do it every time.	0%	100%

**Table 2. Provider-Perceived Barriers to Hypopituitarism Screening in TBI Patients: Results from a REDCap Survey (n = 4)**

An anonymous REDCap survey was administered to five providers in the TBI clinic following a baseline assessment of screening practices. The survey assessed provider knowledge regarding hypopituitarism prevalence, screening criteria, and appropriate diagnostic testing, as well as system-level barriers such as workflow constraints and cost concerns. Four providers completed the survey. Responses are presented as percentages of providers who endorsed each barrier.



# Intervention & Next Steps

- Sent **informational email** summarizing screening guidelines.
- Monitoring post-intervention screening rates.
- **Future steps:**
  - EMR **template changes, order sets, and alerts.**
  - Ongoing **provider education** to improve adherence.





# **Prompt Temperature Assessment in Trauma Patients**

Sara Venier & Emmy Inwards

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# PROMPT TEMPERATURE ASSESSMENT IN TRAUMA PATIENTS

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## AIMS STATEMENT

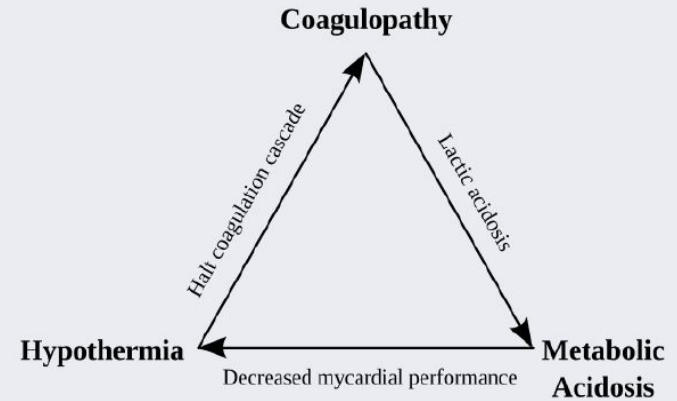
This quality improvement project aims to reduce the number of tier 1 and tier 2 trauma patients with undocumented temperatures at HCMC. Our goal is to have a temperature documented within 30 minutes of arrival to the stabilization room in  $\geq 90\%$  of tier 1 and tier 2 trauma patients by the end of 2025, in line with the American College of Surgeon (ACS) recommendations.

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# BACKGROUND

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- Trauma patients are at high risk for accidental hypothermia
  - Prospective study involving 302 trauma patients revealed that nearly half (49.6%) of studied patients were hypothermic [1].
- There is a clear association between hypothermia and morbidity/mortality in trauma patients.
  - A core temperature less than 32° C is associated with 100% mortality and any decrease in temperature below 35° C is a poor prognostic sign [2].
  - A randomized prospective trial comparing slow vs. rapid rewarming methods during resuscitation demonstrated a significant 7-fold increase in mortality of patients with slow rewarming [3].
- Trauma Triad of Death
  - Clinically relevant levels of hypothermia (< 35° C) can prolong clotting times to the same extent as severe clotting factor deficiencies[2].



# PROBLEM

- Trauma patients assessed in HCMC's Emergency Department Stabilization room routinely do not have their temperature promptly documented.
  - We hypothesize this is due to historical inconsistency on rectal temperature in peds patients, lack of real-time documentation, and lack of awareness of the importance of normothermia in trauma patients
- According to the 2025 National Trauma Data standard, the first recorded temperature must be obtained and documented in the ED/hospital within 30 minutes of arrival for 90% of all trauma patients [4].
- 2025 is HCMC's reporting year for evaluation of adult and pediatric quality measure for trauma.
- Inconsistent temperature documentation not only increases patient risk for hypothermia but also flags HCMC's data as low quality and garners extra scrutiny from the ACS National Trauma Data standard.

<b>Facility Name:</b> Hennepin County Medical Center		
<b>TQP Facility ID:</b> 27001		
<b>Date Range:</b> 10/1/2021 - 9/30/2023		
<b>Data Submission Deadline:</b> December 14, 2023		
Data Quality Filter	Your Data	Outside Threshold
More than 10% of patients with an unknown <b>Sex</b>	0.00%	No
Atypical percentage of records meeting the TQP Patient Inclusion Criteria (Mean +/-2 STD (95%))	67.89%	No
Atypical percentage of records reported with Major Hospital Events (Adults <1% or >15%; Pediatrics >4%; Level III >7%)	3.59%	No
More than 10% of patients with an unknown Initial ED/hospital Temperature	20.96%	Yes
More than 10% of patients with an unknown Length of Stay (LOS)	0.00%	No
More than 10% of patients with an unknown Initial ED/hospital Systolic Blood Pressure (SBP)	11.18%	Yes
More than 10% of patients with an unknown Initial ED/hospital Pulse	5.79%	No
More than 10% of patients with an unknown Initial ED/hospital GCS Motor	3.39%	No
More than 10% of patients with unknown Pre-Existing Conditions	1.05%	No
More than 1% of patients with unknown Hospital Events	0.00%	No

PEDS DATA QUALITY	S 2021	F 2021	S 2022	F 2022	S 2023	F 2023	S 2024	F 2024
Unknown First Temperature >10%	27.95	24.31	23.68	25.41	24.05	23.51	20.96	18.95

ADULT DATA QUALITY	S 2021	F 2021	S 2022	F 2022	S 2023	F 2023	S 2024	F 2024
Unknown First Temperature >10%	23.46	19.8	18.52	22.85	21.92	18.6	16.11	29.09

# INTERVENTIONS

January  
2025

- Introduction of temporal thermometer probes to the HCMC ED Stabilization Room.
- ED providers and nursing notified via email with instructions for and purpose of temporal probes.

Goal: Increase ease of obtaining temperature in trauma patients.

February  
2025

- QI team develops guidelines for temperature documentation in trauma patients and recommendations for how to intervene on hypothermic trauma patients.

Goal: Create a concise document with clear recommendations.

March 2025

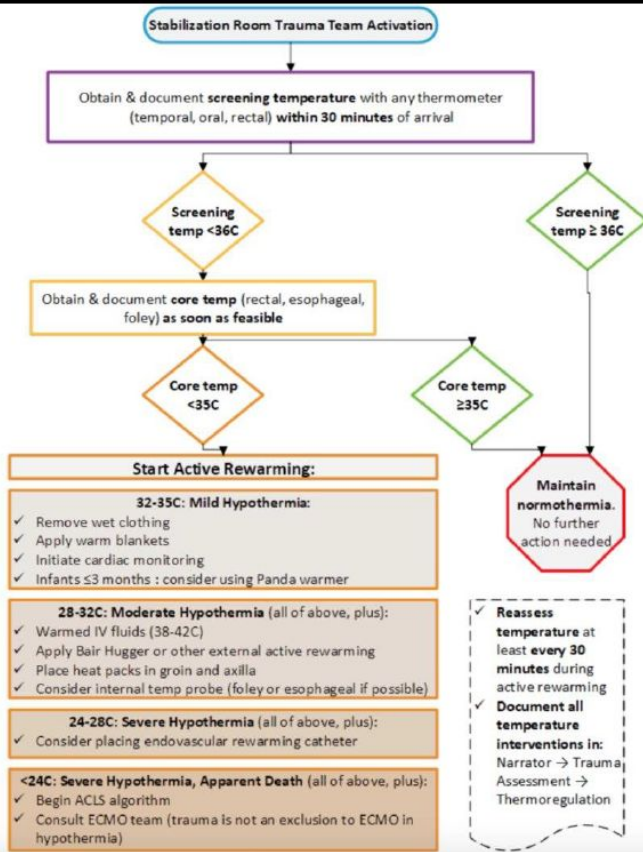
- Guidelines presented to ED providers at Stabilization Conference.
- Guidelines and infographic with ED nursing staff via email.
- Infographic displayed in each Stabilization Bay.

Goal: Provide multi-media info and on-site visual cues to remind staff of prompt documentation.

April 2025

- Targeted reminders sent to nursing staff when temperature documentation is missed in pediatric trauma patients.

Goal: Maintain accountability over time and provide feedback to enhance patient care.



# MEASUREMENT OF IMPROVEMENT

- Prospectively collecting data for tier 1 and tier 2 trauma activations to determine whether interventions have reduced rates of missed temperature documentation.
- Plan to expand upon targeted feedback and continue data collection. Will reassess need for ongoing global interventions in July 2025 or earlier if data trends indicate need.
- Limitations: Data collected thus far is not during trauma season. We anticipate need for ongoing education and adjustments as trauma activations rise.

January 2025		February 2025		March 2025	
PEDS ED Temp Y	22	PEDS ED Temp Y	13	PEDS ED Temp Y	18
PEDS ED Temp N	3	PEDS ED Temp N	0	PEDS ED Temp N	4
PEDS % without ED temp	12%	PEDS % without ED temp	0%	PEDS % without ED temp	18%
ADULT ED Temp Y	78	ADULT ED Temp Y	63	ADULT ED Temp Y	74
ADULT ED Temp N	28	ADULT ED Temp N	14	ADULT ED Temp N	19
ADULT % without ED temp	26%	ADULT % without ED temp	18%	ADULT % without ED temp	20%

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# **Response-Oriented Assessment of Recall (ROAR): Evaluation of Ictal-Postictal Seizure States During Video EEG Monitoring**

Amerta Bai

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## INTRODUCTION

- Behavioral assessments during video EEG (vEEG) are essential for seizure localization and semiology<sup>1</sup>.
- Despite their importance, a standardized behavioral testing tool is not widely used.
- At the University of Minnesota, we've used the ROAR<sup>®</sup> protocol since 2012.
- Our multidisciplinary team reports its ease, efficiency, and clinical relevance.

## OBJECTIVE

- This study aims to assess the feasibility of the ROAR<sup>®</sup> protocol for structured behavioral testing during vEEG.

### ICTAL ROAR

### POST-ICTAL ROAR

"R" Remember a word

"R" Recall the word and object

"O" Remember an Object

"O" Ask Orientation questions

"A" Perform an Action

"A" Ask about Aura/typical spell

"R" Read a sentence

"R" Read a sentence

## METHODS

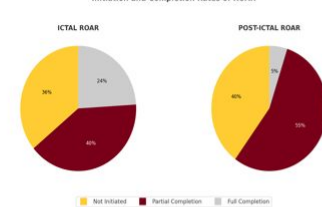
- Study Design:** Retrospective review
- Data Source:** 292 CPU events (2018–2023)
- Data Entry:** REDCap database
- Analysis Tool:** MATLAB (R2023b, MathWorks, Natick, MA)

## RESULTS

Table 1: Demographic and Clinical Characteristics of Epileptic and Non-Epileptic Patients

	Epileptic	Non-epileptic	Full Cohort
<b>Patients</b>	78%	22%	n=80
<b>Observations</b>	63%	37%	n=292
<b>Age</b>	Mean 42	38	41
	Range 18 - 77	19-85	18-85
<b>Sex</b>	Female 57%	83%	63%
	Male 44%	11%	36%
	Intersex -	6%	1%
<b>Race</b>	White 84%	94%	86%
	Black or African American 8%	-	6%
	Hispanic or Latino 5%	-	4%
	Asian 2%	-	1%
	Unknown / Not Reported 2%	6%	3%
<b>Diagnosis</b>	Non epileptic spells 24%	24%	
	Epilepsy, Focal 65%	65%	
	Epilepsy, Generalized 10%	10%	
	Myoclonic 1%	1%	
Median number of events per patient	3	2.5	3

Initiation and Completion Rates of ROAR



Median Time to Initiate ROAR

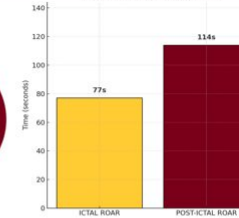


Table 2: Initiation, Partial, and Full Completion Rates of Ictal and Post-ictal ROAR

	Initiation rate	Partial completion rate	Full completion rate
<b>Ictal ROAR (during event)</b>			
Epileptic event	60%	37%	23%
Non-epileptic event	72%	47%	25%
Full cohort	64%	40%	24%
<b>Postictal ROAR (after event)</b>			
Epileptic event	52%	48%	4%
Non-epileptic event	73%	67%	6%
Full cohort	60%	55.1%	4.5%

Table 2: Initiation, partial completion and full completion rates of ROAR: Epileptic events were defined as clinical behavioral events with EEG seizure correlation. Non-epileptic events were defined as clinical behavioral events without an EEG seizure correlate.

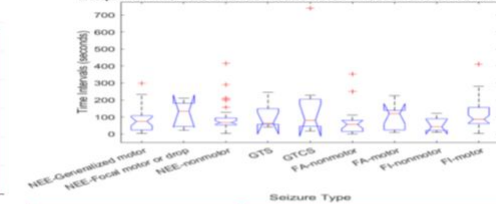
## RESULTS

Table 3: Average Completion Rate of Individual ROAR Components Based on Behavioral Event

Behavioral events	Average completion rate	
	Ictal	Postictal
Overall (n=292)	46%	31%
NEE (n=109)	52%	36%
GTS (n=10)	33%	23%
GTCS (n= 25)	18%	17%
FA - nonmotor (n=24)	54%	25%
FA - motor (n= 20)	44%	28%
FI - nonmotor (n=9)	44%	28%
FI - motor (n=85)	44%	26%
FTB - TC (n=10)	63%	33%

Table 3: Average completion rates of ROAR testing across different behavioral event types: The completion rate was calculated by first getting the completion rate of each ROAR component for each seizure type, then averaging the component completion rates.  
Abbreviations: NEE: non-epileptic event, GTS: generalized tonic seizure, GTCS: generalized tonic-clonic seizure, FA - nonmotor: for focal aware without motor component, FA - motor: focal aware with motor component, FI - nonmotor: focal impaired without motor component, FI - motor: focal impaired with motor component, and FTB-TC: focal to bilateral tonic-clonic seizure.

Boxplot of Intervals Between Behavioral Onset and ictal ROAR testing



## CONCLUSIONS

- ROAR protocol was initiated ~65% of the time, with full completion rate of ~24% and 5% for ictal & post-ictal ROAR respectively in the setting of 20mins training only.
- Feasible across varied seizure types with reasonable completion rates.
- Ongoing staff training may improve ROAR initiation and completion as studies show that more training is helpful.<sup>2</sup>

## REFERENCES

<sup>1</sup> Lado FA, Ahrens SM, Rivier E, et al. Guidelines for Specialized Epilepsy Centers: Executive Summary of the Report of the National Association of Epilepsy Centers Guideline Panel. Neurology. 2024;102(4):e208087. doi:10.1212/WNL.00000000000029087  
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