

# TABLE 16

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**A Review of Hospital-to-Hospital  
Transfers of Pediatric Patients  
from Regions Hospital Emergency  
Department**

Anna Rauzi

# A Review of Hospital-to-Hospital Transfers of Pediatric Patients from Regions Hospital Emergency Department



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# Introduction

- Regions Hospital Emergency Department (Level 1 Pediatric/Adult Trauma Center)
- Gillette Hospital (Complex Care Patients and Traumatic Pediatric Patient Care)

AIM: Quantify/Characterize the pediatric patient population that presented to Regions Hospital Emergency Department and required transfer to an outside hospital for inpatient admission

GOAL: Determine feasibility of admitting a wider spectrum of pediatric patients to Gillette Hospital

# Methods

Retrospective chart review: Pediatric (<18) patients transferring out of Regions Hospital ED from 1/2022-12/2023

Data Abstracted: Demographics, Diagnosis, Mode of Transport, Destination of Admission

Behavioral Health transfers were excluded

# Results

## Medical Pediatric Transfers from Regions ED

2022: 105 transfers

2023: 96

Ethnicity: Majority Black followed by White, Hispanic, Asian

Mode of Transport: Ambulance (60%)

Transfer Destination: St. Paul Children's followed by Minneapolis Children's Hospital

# Take Home Points & Impact

Increase cost, risk, and delay of care with transport of patients to another hospital

Use of limited community resources

Data presented to Executive Committee & Medical Leadership of Gillette Hospital

Gillette began accepting a range of non-traumatic medical diagnoses from Regions Hospital Emergency Department



**Feasibility and Safety of a  
Paramedic-Directed Prehospital  
Buprenorphine Initiation Protocol for  
Acute Opioid Withdrawal**

Alex Schin, Michael Perlmutter

# Feasibility and Safety of a Paramedic-Directed Prehospital Buprenorphine Initiation Protocol for Acute Opioid Withdrawal

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## INTRODUCTION

- Hennepin EMS is an urban/suburban Emergency Medical Services (EMS) system that covers a service area of 266 square miles. The EMS system is affiliated with Hennepin County Medical Center, a Level I Trauma Center & county safety net hospital in downtown Minneapolis.
- This agency serves a resident and visitor population of nearly 1.5 million people
- Hennepin EMS includes ~180 paramedics making >70K transports annually



FIGURE 1; Hennepin EMS Ambulances, physician response and paramedic supervisor vehicles

## BACKGROUND

- Acute opioid withdrawal is a common problem encountered by EMS.
- There were 947 opioid-related deaths in Minnesota in 2023
- There is limited evidence to guide treatment of opioid withdrawal in the prehospital setting.
- Hennepin EMS implemented buprenorphine pre-hospital education in 2023
- Addition of paramedic-driven buprenorphine administration program
- Patient has to meet definition of acute opioid withdrawal based on a validated scoring tool, a COWS score, and without opioid use in >24 hours

## OBJECTIVES

- Assess the feasibility and safety of treating acute opioid withdrawal with buprenorphine in the prehospital setting of an urban/suburban EMS service.
- Track adverse events and complications

## METHODS

- QA analysis from first year of initiation of program
- The primary outcome was to determine feasibility measured as patients accepting Suboxone and resulting change of COWS score
- Exploratory outcomes measures were Adverse Events and complications

## RESULTS

Encounters w/ "Opioid Related Disorders" **with** naloxone administration

n = 2,169

Encounters w/ "Opioid Related Disorders" **without** naloxone administration

n = 373

EMS administered buprenorphine

n = 82

EMS administered buprenorphine

n = 39

Total buprenorphine  
n = 121

Median COWS score of **18**

**70%** (85/121) reported improved symptoms

**30%** (36/121) without change to symptoms

**0%** (0/121) reported worsening symptoms

**0%** (0/121) cases of new-onset withdrawal symptoms or worsening of opioid withdrawal

**2.5%** (3/121) cases of nausea & vomiting

**0%** (0/121) cases of new-onset complications

FIGURE 2: Patients included in review and patients receiving buprenorphine with change in symptoms during pre-hospital course

**3%** (2/64) received repeat dose of naloxone  
**16%** (15/91) received ED peer navigator consultation  
**47%** (43/91) received buprenorphine prescription at ED discharge  
**12%** (11/91) retained in treatment at 30 days  
**0%** (0/91) reported deaths within 30 days

FIGURE 3; Next steps after administration of buprenorphine pre-hospital

## CONCLUSION

- SL buprenorphine administration in the prehospital setting appears to be safe and feasible.
- No worsening of symptoms
- No deaths reported within 30 days

## LIMITATIONS

- Selection Bias.
- Chart review and clinical data limited to prehospital charts.

## FUTURE DIRECTIONS

- Expansion of harm reduction in the pre-hospital setting
  - Every ambulance carries free Naloxone leave behind kits
  - Increased utilization of paramedic-driven buprenorphine pre-hospital
- Partnership with Peer Recovery Services (currently mostly occurring in the HCMC ED)

## REFERENCES

- ACEP 2014; Care of the Psychiatric Patient in the Emergency Department – A Review of the Literature
- Holloman GH Jr, Zeiler SL. Overview of Project BETA: Best practices in Evaluation and Treatment of Agitation. West J Emerg Med. 2012;February

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# **Meal Boxes' Impact on Health Outcomes**

Maddie Anderson, Wyatt Windhorst

# Meal-Boxes' Impact on Health Outcomes

Maddie Anderson & Wyatt Windhorst



# Problem

Low-income families' knowledge of & access to nutrition-related community resources in Duluth, Minnesota



# Relevance to Healthcare Improvement

- Nutrition impact on overall health outcomes.
- Effects and outcomes of providing patients with nutrition-related resources.
- Understand the impacts of supporting patient health goals & utilizing community programs to facilitate education and increase accessibility.



# Intervention

- **Food Forward** organization led by Duluth Center for Women and Children
  - Providing home-delivered healthy meal kits to low-income families
    - Locally sourced food with healthy snacks.
    - Meal kits are portioned properly for each household.
    - Includes cooking instructions, cooking videos, and nutrition education.



# Methods

- Providing home-delivered meal boxes to low-income Duluth residents.
- Health assessment surveys spread over 3 time periods: start, middle, & end.
  - Patient health goals
  - Programmatic support



# Data Collection

- Client surveys
  - Administered by staff
  - Dietary habits and personal health goals
- Results pending - currently in data collection phase




# Efficiency and Long-term Impact

- Community-based Programs and Community Leaders
  - Share information and provide resources
- Physician Partnership
  - Education from programs and providers
- **Food Forward Mission:** enable clients to understand the relationship between diet and overall health



**Thank you!**





# **Opportunities to Increase Nonselective Beta-Blocker Use in Compensated Advanced Chronic Liver Disease**

Jameel Alp



# Opportunities to Increase Nonselective Beta-blocker Use in Compensated Advanced Chronic Liver Disease

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## INTRODUCTION

- Esophagogastroduodenoscopy (EGD) has been the standard for variceal screening in compensated cirrhosis (CC) and compensated advanced chronic liver disease (cACLD).
- New AASLD and Baveno VII guidelines recommend nonselective beta-blockers (NSBBs) for clinically significant portal hypertension (CSPH), diagnosed by transient elastography (TE) and platelet count, instead of routine EGD.
- This shift reduces unnecessary procedures, costs, and risks (e.g., sedation, bleeding, discomfort).



## AIMS

- Evaluate opportunities to increase NSBB use and reduce unnecessary EGDs in variceal screening
- Enhance patient safety, reduce costs, and improve adherence to evidence-based care in line with new guidelines

## METHOD

- Retrospective review of the Minneapolis VA Medical Center endoscopy database
- Included CC and cACLD patients who underwent EGD for variceal screening (Oct 2023 - Sept 2024)
- CSPH determination: Based on TE, platelet count, or imaging/EGD evidence of portal hypertension
- Assessed patient characteristics, NSBB eligibility, variceal presence/grade, and NSBB use trends before and after the new AASLD guidance (May 2024)

- Comparison of individuals who underwent EGD for variceal screening before and after the publication of the AASLD guidance in May 2024:

	Before May 2024 (N = 39)	After May 2024 (N = 32)	P value
%TE done	35.8	28.1	0.6
Esophageal Varices	17.9	31.1	0.3
%Intervention to Varices	0	0	
%NSBB candidate	53.8	75	0.1
%NSBB Contraindicated	20.5	9.3	0.3

**$2/3$  of EGDs for variceal screening represent an opportunity to optimize NSBB use.**

**Implementing TE and platelet count monitoring can reduce risks, improve care, and lower costs.**

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## RESULTS

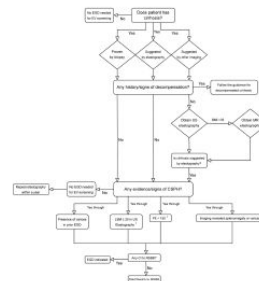
- 71 patients with CC or cACLD underwent EGD for variceal screening.
  - 78.7% had CSPH, but only 12.6% were diagnosed using TE and platelet count.
  - 21.3% had no CSPH, suggesting TE and platelet count monitoring could have replaced EGD.
- 64.7% were eligible for NSBB therapy based on TE, platelet count, or imaging findings.
- Only 14% had contraindications to NSBB, requiring EGD.
- No patients undergoing EGD had varices requiring intervention.
- No significant change was detected in NSBB use before and after the May 2024 guidance.


## CONCLUSION

- Approximately two-thirds of EGDs for variceal screening could have been avoided with NSBB initiation based on TE and platelet count.
- Optimizing NSBB use in patients with CC or cACLD and CSPH is essential.
- Integrating TE into routine practice can improve adherence to evidence-based care and enhance patient outcomes.

## FUTURE DIRECTIONS

- Collaborate with the hepatology team to implement a standardized decision-making process
- Develop flowcharts to streamline CSPH diagnosis and NSBB use
- Re-assess outcomes after interventions to evaluate effectiveness





# **Optimizing Reflex Extractable Nuclear Antigen (ENA) Testing with Correlation to Diagnostic Yield for Rheumatologic Disease: A QI Project**

Mikako Harata

# Optimizing reflex extractable nuclear antigen (ENA) testing, with correlation to diagnostic yield for rheumatologic disease: A QI Project

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### BACKGROUND

At the Minneapolis VA, an anti-nuclear antibody (ANA) test can be ordered with reflex to anti-extractable nuclear antigen (ENA) panel, in cases of suspicion for rheumatologic disease. Reflex ENA is performed at our site if ANA is positive at a titer of 1:80 or above, and costs approximately \$70 per test. Sequential ordering of ANA followed by the more specific ENA is a favored cost-effective strategy that is not thought to compromise clinical care (Ethington et al). Higher ANA titers are associated with increased probability of positive anti-ENA.

### AIM

Our study aims to assess the incidence of rheumatologic diseases in patients with low titer positive ANA tests, in order to guide improvement to reflex ENA testing protocol.

### METHODS

A single-center, retrospective, manual chart review was performed via electronic medical record by two physicians (CMC, MH) in the Minneapolis VA system. Between 7/2023 - 7/2024, 1553 ANA tests and 689 ENA tests (236 [34%] ordered as reflex to ANA) were performed. A sample of the first 224 patients in alphabetical order by last name were manually reviewed from ANA titer result of 1:80, and first 192 patients from ANA titer of 1:160 (412 patients total). Results of ANA and ENA serologies, presence or absence of rheumatologic disease diagnosis, and presence of rheumatology referral/consult were evaluated. Data were analyzed using Chi-square test in Microsoft Excel.

### CONCLUSIONS

In patients with low titer positive antinuclear antibody tests, rheumatologic diagnoses occur with similar frequency in patients with titer 1:160 and 1:80. Positive ENA result was not associated with higher likelihood of a rheumatologic diagnosis at ANA titers 1:80 and 1:160 in this sample. Many diagnoses associated with positive ANA were observed in this sample, supporting guidance that ANA and ENA testing should only be sent in cases of high clinical suspicion (Yazdany et al), in order to reduce rheumatology referrals and healthcare costs. Further analysis of higher titers (1:320 and above) is needed to determine and implement a higher ANA titer threshold for automatic ENA reflex testing.

### REFERENCES

Kang I, Siperstein R, Quan T, Breitenstein ML. Utility of age, gender, ANA titer and pattern as predictors of anti-ENA and -dsDNA antibodies. *Clinical Rheumatology*. May 2004.  
Ethington F, Melrose E, Stratman E. The Relative Timing, Outcomes, and Economic Impact of Anti-Nuclear Antibody (ANA) and Extractable Nuclear Antigen (ENA) Laboratory Ordering. *CMR*. 2024.  
Yazdany J et al. 2013. *Arthritis Care Res*.

### RESULTS

- There were more rheumatology referrals made in the 1:160 ANA titer group (43.2%) compared to the 1:80 group (39.3%) (Chi square = 8.25>3.841, df1, p=0.05)
- No difference in the total number of rheumatologic diagnoses between the 1:80 and 1:160 groups (14.3%, 17.7%; Chi square 0.967)
- In the ANA 1:80 group, presence of a rheumatologic diagnosis did not differ based on ENA positive or negative result (23.5% vs 13.5%; chi square 1.285). Similarly there was no difference based on ENA result in the ANA 1:160 group (30% vs 16.3%; chi square 2.29).
- Among ENA positive patients, presence of rheumatologic diagnosis did not differ based on ANA titer 1:80 vs 1:160 (23.5% vs 30%; Chi square 0.193). The same held true for the ENA negative group (13.5%, 16.3%; Chi square 0.579).
- In both the 224 patients from the 1:80 group and all 192 patients from the 1:160 groups, the most common rheumatologic diagnoses included RA, PMR, UCTD (Table 1).
- A myriad of diseases associated with ANA elevation were observed in patients without rheumatologic diagnoses, including MAFLD (12), malignancy (10), ILD (8), liver disease (7), hypothyroidism (5), and PPI use (5) in the 1:80 ANA titer group. In the 1:160 ANA titer group, similar causes were noted, with additional autoimmune diseases such as Type 1 diabetes mellitus, PSC, and myasthenia gravis (Table 2).

Table 1: Distribution of ENA-associated conditions by titer

Condition	ANA Positive (n=88)	ANA Positive (n=160)	ANA Negative (n=88)	ANA Negative (n=160)
RA	0	2	1	7
PMR	0	1	1	7
MCTD	0	1	1	3
Scl	0	0	0	1
PsA	0	0	0	0
Hypertension	1	1	0	1
Negatives	0	1	1	0
SLE	0	1	1	0
Idiopathic arthritis	1	0	1	0
Gouty arthritis	0	0	0	1
Rheum. disease	0	0	1	0
IGRP	0	0	1	0
Sarcoidosis	0	0	1	0
ILD	0	0	0	0
Schistosomiasis	0	0	0	0
Lupus	0	0	0	0
Total	4	7	10	34

Table 2: Distribution of conditions by ENA status at 1:80 and 1:160 ANA titers

Condition	ANA Positive (n=88)	ANA Negative (n=88)	ANA Positive (n=160)	ANA Negative (n=160)
MAFLD	0	0	12	0
Malignancy	1	1	10	0
Liver disease	0	7	6	10
IBD	0	0	1	7
ILD	0	1	4	0
Hypothyroidism	0	4	0	0
PPI	0	1	0	0
PPI use	0	0	0	0
Infection	0	0	0	0
Autoimmune induced liver disease	0	1	0	1
Autoimmune induced liver disease	0	0	0	1
Alcohol de-toxication	0	0	0	1
TDM	0	0	0	1
PSC	0	0	0	1
IBD	0	0	0	1
Drug induced ILD	0	1	0	0
Total	0	11	3	44



1:80 ENA negative; Other causes of ANA elevation



1:160 ENA negative; Other causes of ANA elevation

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