RUTGERS
New Jersey Medical School

OBSERVATION MEDICINE: EVIDENCE & PRACTICE

Anthony Rosania, MD, MHA, FACEP
Vice-Chair for Clinical Operations
Rutgers – New Jersey Medical School
Medical Director, ED Observation Services
University Hospital, Newark

Disclosures…

Begin With The End In Mind…

- First Half
  - Discuss how observation is done or should be done
  - Review evidence behind different types of units
  - Who does it best?
  - How to get started
  - What to measure
- Changing face of observation
  - Future of chest pain and syncope
  - Progressive protocols

- When you get signed out a previously combative, elderly, intoxicated patient from the night before that no one has seen walk or even woke up to eat yet, as ‘discharged’.

- It’s called a…

Wishcharge

- When you get signed out a previously combative, elderly, intoxicated patient from the night before that no one has seen walk or even woke up to eat yet, as ‘discharged’.

CMS Definition of Observation (Part B Policy Manual)

Observation care is a well-defined set of specific, clinically appropriate services, which include ongoing short-term treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital. Observation services are commonly ordered for patients who present to the emergency department and who then require a significant period of treatment or monitoring in order to make a decision concerning their admission or discharge.

In the majority of cases, the decision whether to discharge a patient from the hospital following resolution of the reason for the observation care or to admit the patient as an inpatient can be made in less than 48 hours, usually in less than 24 hours. In only rare and exceptional cases do reasonable and necessary outpatient observation services span more than 48 hours.

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Observation Medicine Is Emergency Medicine!

Observation Is Emergency Medicine

- So, we should be talking about it more…

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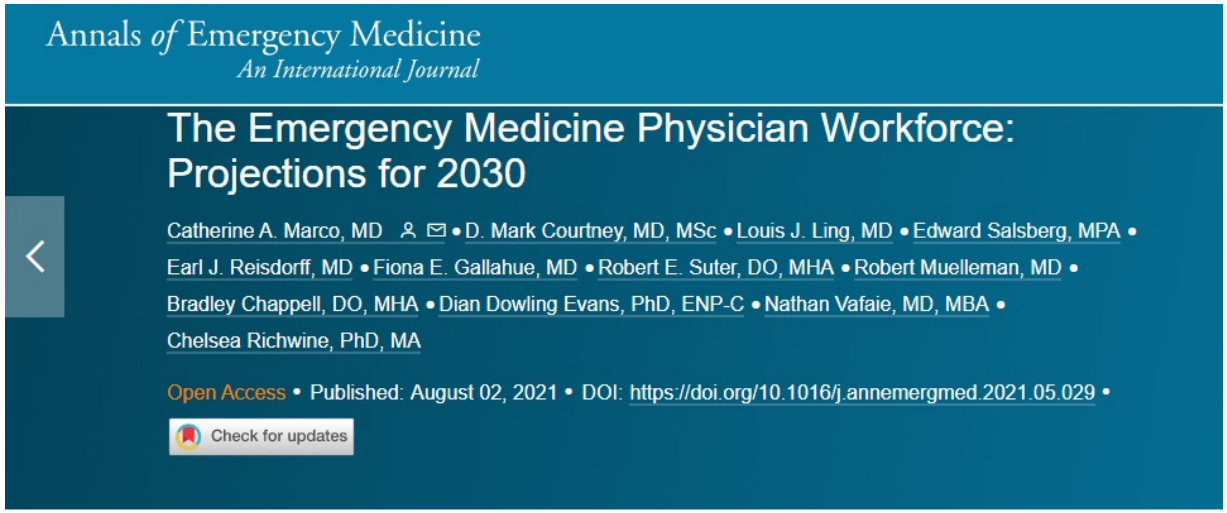

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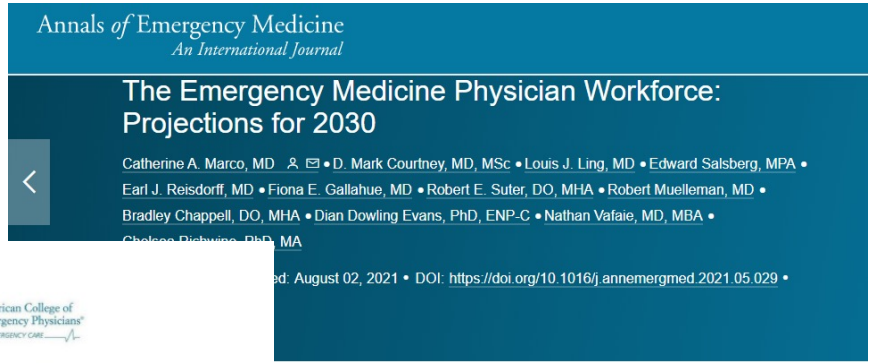

STATEMENT ON THE EMERGENCY MEDICINE 2023 MATCH RESULTS

Each year the emergency medicine (EM) community celebrates Match week, as we welcome another group of talented EM residents to our specialty.

The 2022 EM Match saw an unprecedented initial 219 unmatched positions affecting one in four residency programs. The 2023 Match will see 555 initially unmatched positions, affecting a larger number of residency programs. Although these are challenging results, EM remains a vibrant and appealing specialty for many with almost 2500 new trainees already joining the EM family.

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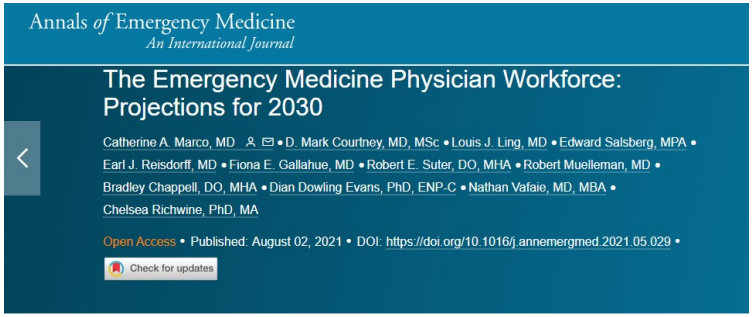

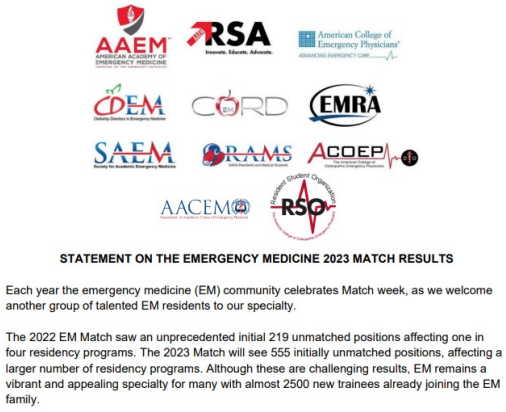

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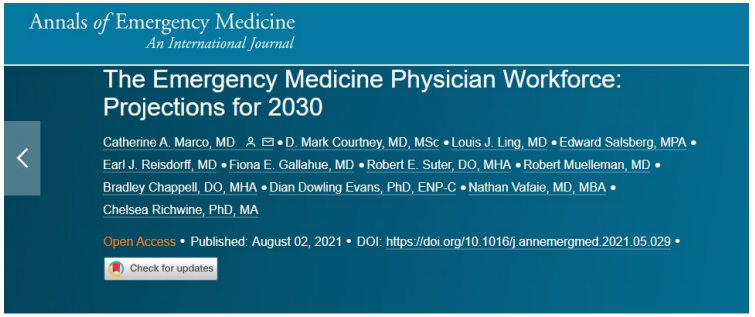

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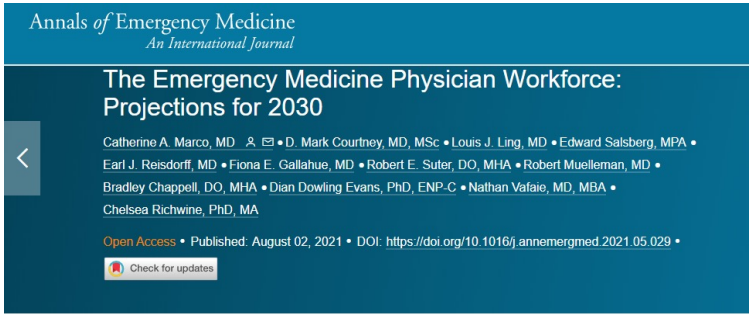

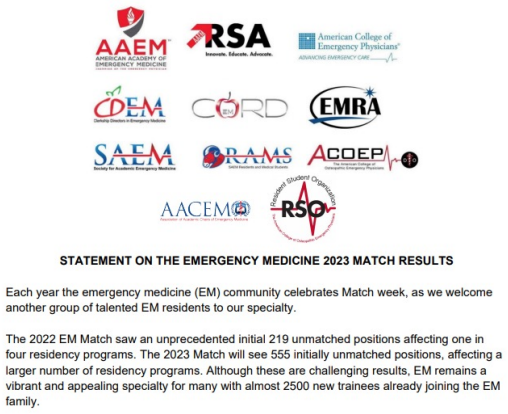

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  - We should be educating and developing our faculty.
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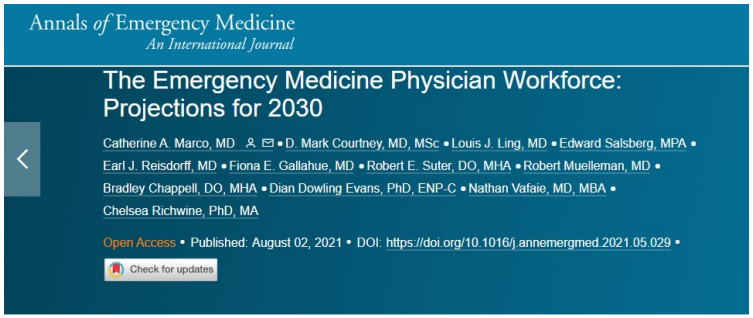
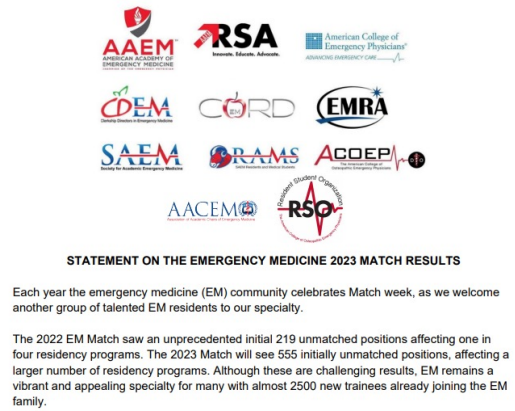
  - We should be performing research in the space.
  - We should be talking about “Observationalists” as a subspeciality.
  - We should be creating and growing fellowships.
  - And should it even be a boarded speciality?





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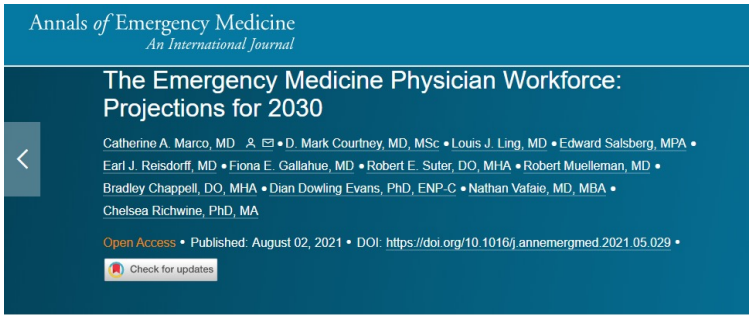

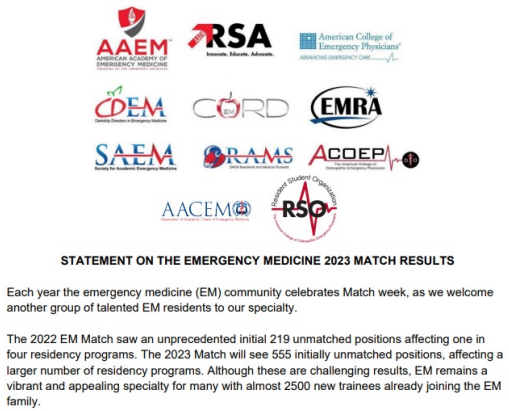

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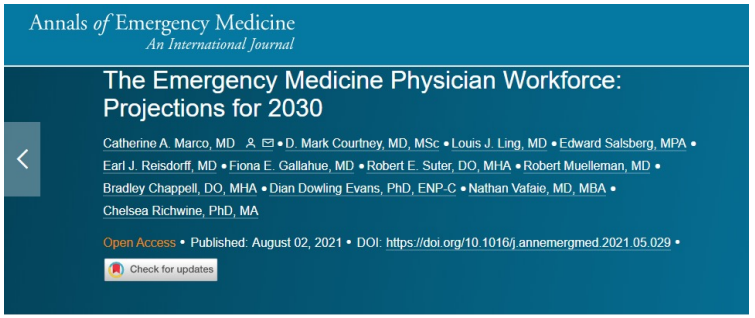

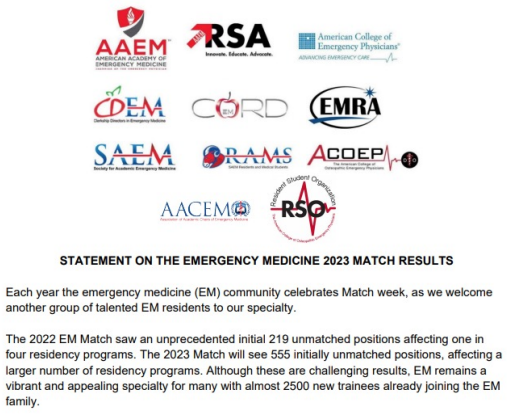

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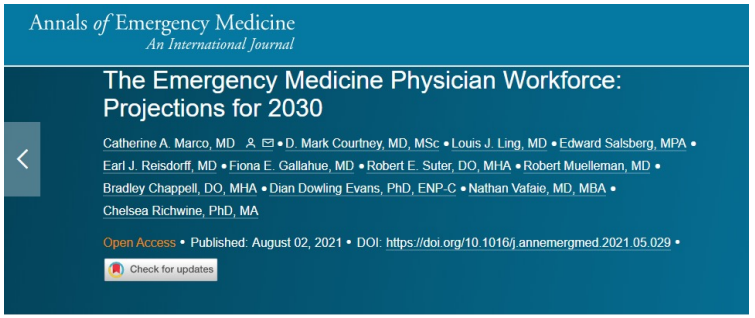

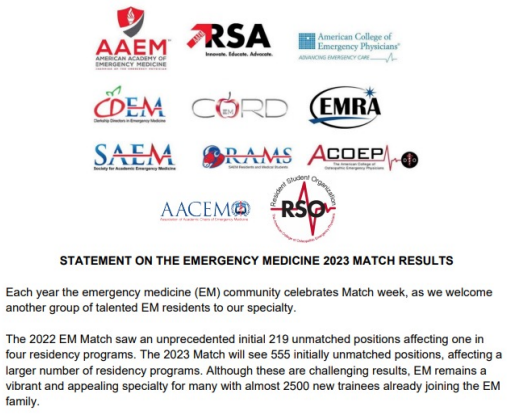

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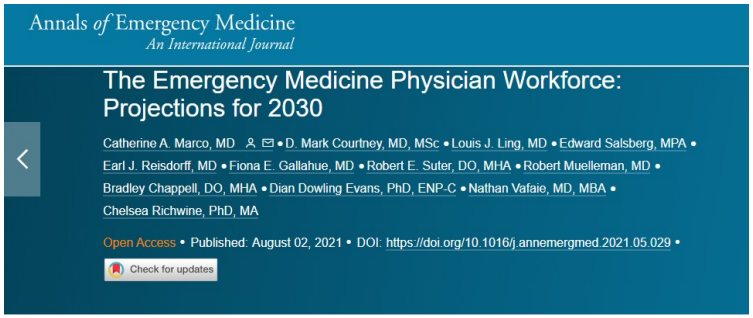

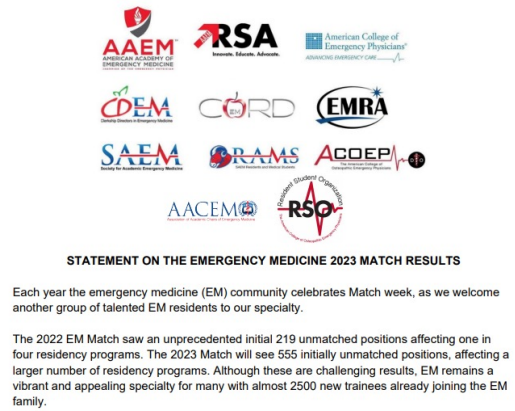

- When you get signed out a previously combative, elderly, intoxicated patient from the night before that no one has seen walk or even woke up to eat yet, as ‘discharged’.
- You’ve now determined that patient can’t walk very well but are relieved to find out he has some chest pain, necessitating a brief stay on the observation unit… you assure the observation provider he should be much better in 8-12 hours (at which point you will, conveniently, be home).
- You are now demonstrating…

Obstimism

- When you get signed out a previously combative, elderly, intoxicated patient from the night before that no one has seen walk or even woke up to eat yet, as ‘discharged’.
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Observation Is A Status – Not A Location

- Often said…
  - And it's true!
- Observation can be done anywhere:
  - In the ED
  - In a dedicated Observation Unit
  - In a med-surg bed
  - In the ICU even…
- But is it all equivalent?

Location, Location, Location…

- Observation care is a **well-defined set of specific, clinically appropriate services**, which include ongoing short-term treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital. Observation services are commonly ordered for patients who present to the emergency department and who then require a significant period of treatment or monitoring in order to make a decision concerning their admission or discharge.

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Reducing variability is critical!

Updated August 2011

Observation

MEDICINE

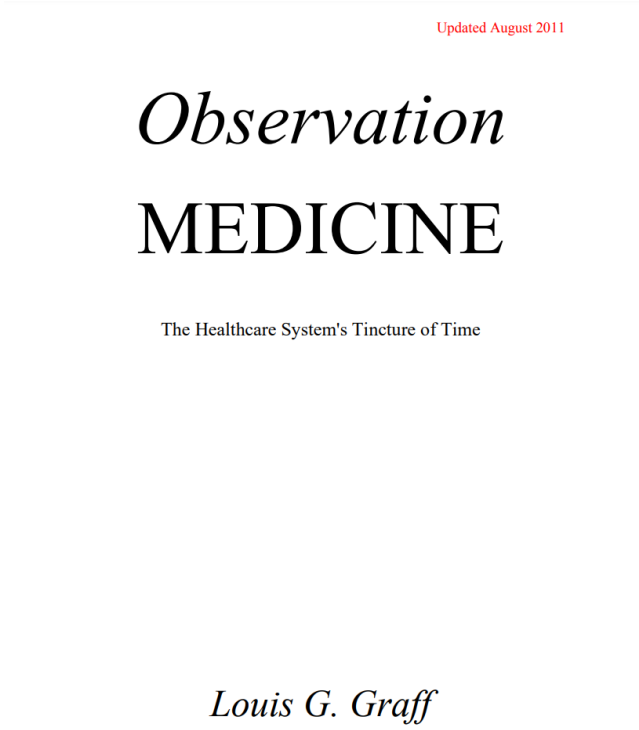
The Healthcare System's Tincture of Time

Louis G. Graff

https://www.acep.org/globalassets/uploads/uploaded-files/acep/membership/sections-of-membership/obs2/obs_med_bk_v3.pdf of Observation Units

Type of Observation Units

- Includes a History…
  - 1970's – Observation Beds in ED's
  - 1980's – Dedicated Units
- Includes a discussion of the types of units…
  - Emphasis on reducing utilization, LOS, variability



But why do we care?

WEB FIRST

HEALTH AFFAIRS > VOL. 31, NO. 10: CURRENT CHALLENGES IN COMPARATIVE EFFECTIVENESS RESEARCH

Making Greater Use Of Dedicated Hospital Observation Units For Many Short-Stay Patients Could Save $3.1 Billion A Year

Christopher W. Baugh, Arjun K. Venkatesh, Joshua A. Hilton, Peter A. Samuel, Jeremiah D. Schuur, and J. Stephen Bohan

AFFILIATIONS

PUBLISHED: OCTOBER 2012 Full Access https://doi.org/10.1377/hlthaff.2011.0926

SECTIONS VIEW ARTICLE PERMISSIONS SHARE TOOLS

But why do we care?

- Simulation Model
  - Estimated that observation care could save:
    - $1,672 per patient
    - $4.6m annually
  - Saving to US healthcare system:
    - $3.1b
- Reduction in LOS, unnecessary testing…

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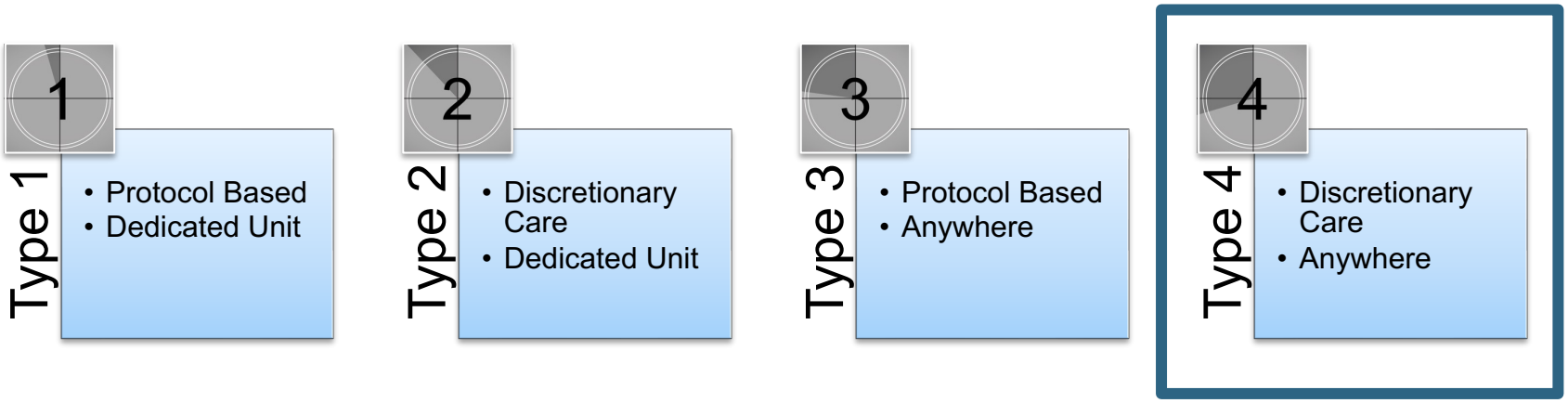
Types of Observation Units



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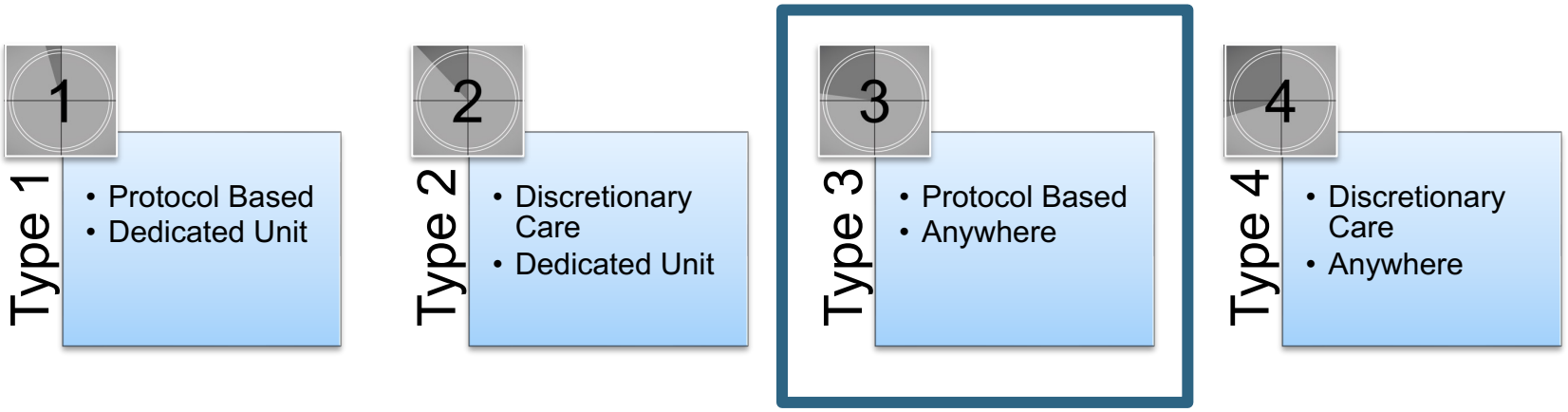

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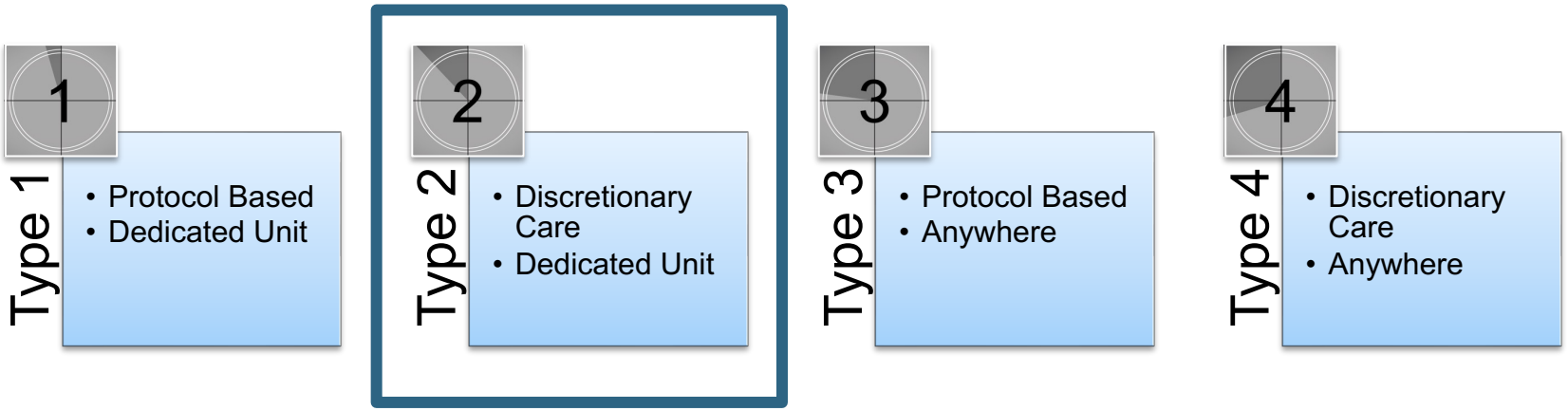

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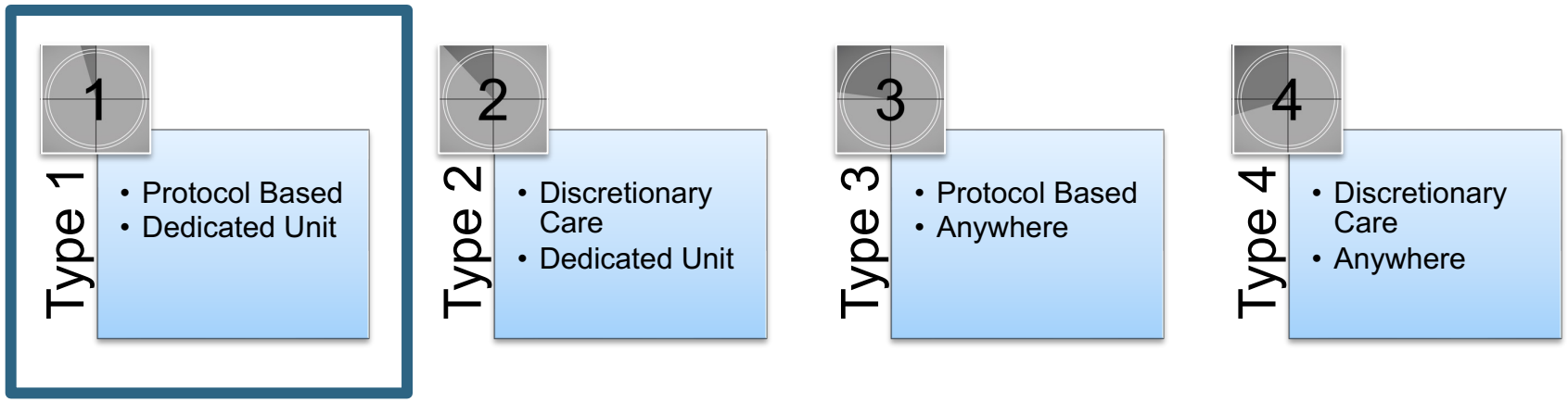

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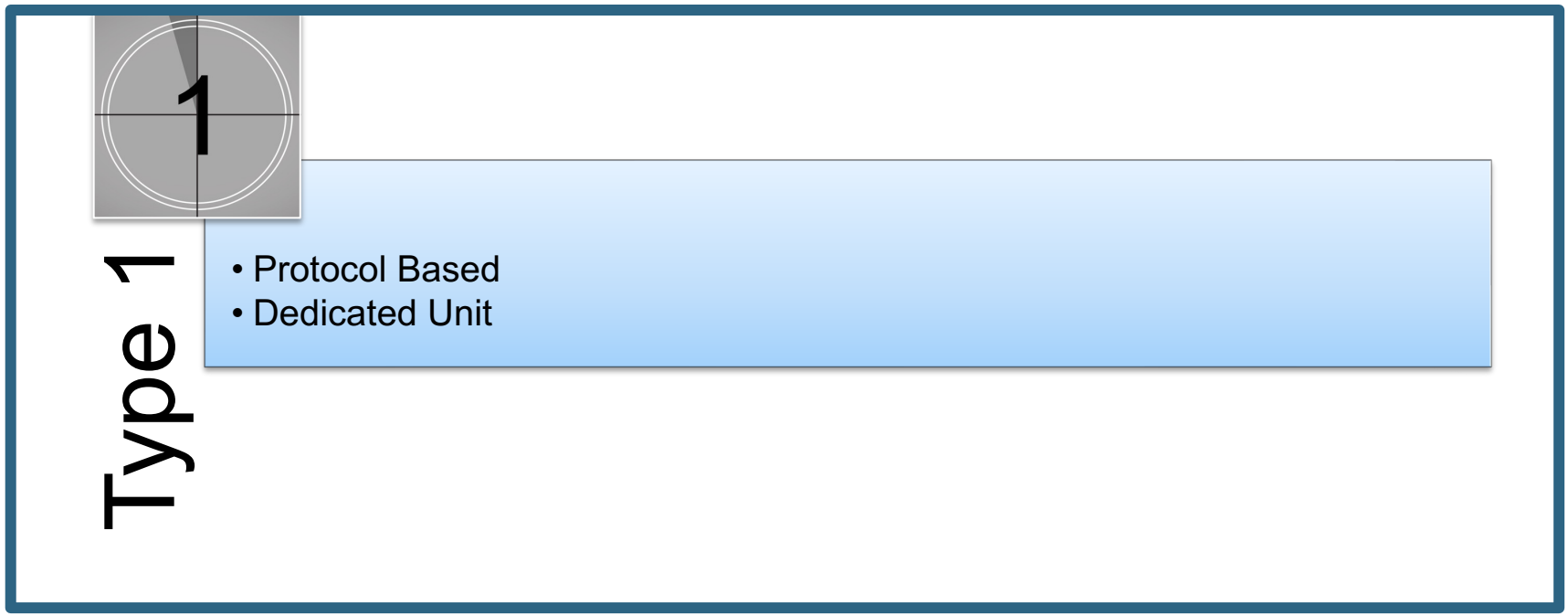

The Where & How…

RESEARCH ARTICLE

HEALTH AFFAIRS > VOL. 32, NO. 12: THE FUTURE OF EMERGENCY MEDICINE: CHALLENGES & OPPORTUNITIES

Protocol-Driven Emergency Department Observation Units Offer Savings, Shorter Stays, And Reduced Admissions

Michael A. Ross, Jason M. Hockenberry, Ryan Mutter, Marguerite Barrett, Matthew Wheatley, and Stephen R. Pitts

AFFILIATIONS

PUBLISHED: DECEMBER 2013 Full Access https://doi.org/10.1377/hlthaff.2013.0662

The Where & How…

- Compared Type 1 to others…
  - 100k or so in Type 1
    - Georgia
      - Mix of 1-4
    - All of US
  - LOS 17 Hours In Type 1
  - Rest had LOS 22-27 hours
- Most care (2/3) delivered in a Type 4 Setting

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SECTIONS VIEW ARTICLE PERMISSIONS SHARE TOOLS

So who is running these things?

Free Access

National Study of Emergency Department Observation Services

Jennifer L. Wiler MD, MBA, Michael A. Ross MD, Adit A. Ginde MD, MPH

First published: 30 August 2011 | https://doi.org/10.1111/j.1553-2712.2011.01151.x | Citations: 90

So who is running these things?

- 36% of ED's had OU's
  - Only 56% managed by the ED's
    - Mostly urban with high boarding
  - "Admit" rate much higher with OU's
  - 82% of OU patients discharged home
- Does it matter who manages?

Who and Where…

OBSERVATION MEDICINE SECTION

Resources Meetings Newsroom About Us

< Observation Medicine Newsroom

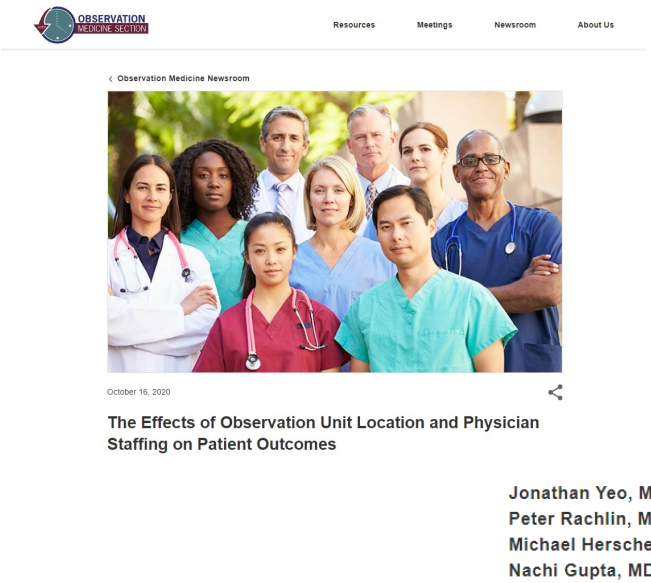
October 16, 2020

The Effects of Observation Unit Location and Physician Staffing on Patient Outcomes

Jonathan Yeo, MD,
Peter Rachlin, MD,
Michael Herscher, MD, and
Nachi Gupta, MD

Who and Where…

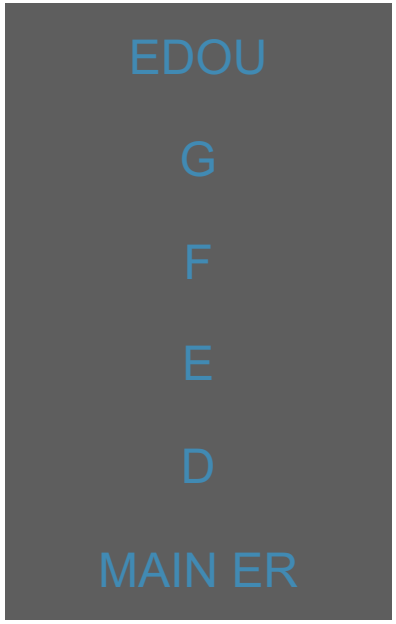
- 4,000 patients
  - LOS Longest and Highest Conversion
    - Inpatient Ward
    - Inpatient Docs
  - LOS Shortest
    - Near ED
    - ED Docs
- Did not look at inpatient ward with ED Docs…



Don’t Be Afraid of Heights

MAIN ER

Don’t Be Afraid of Heights



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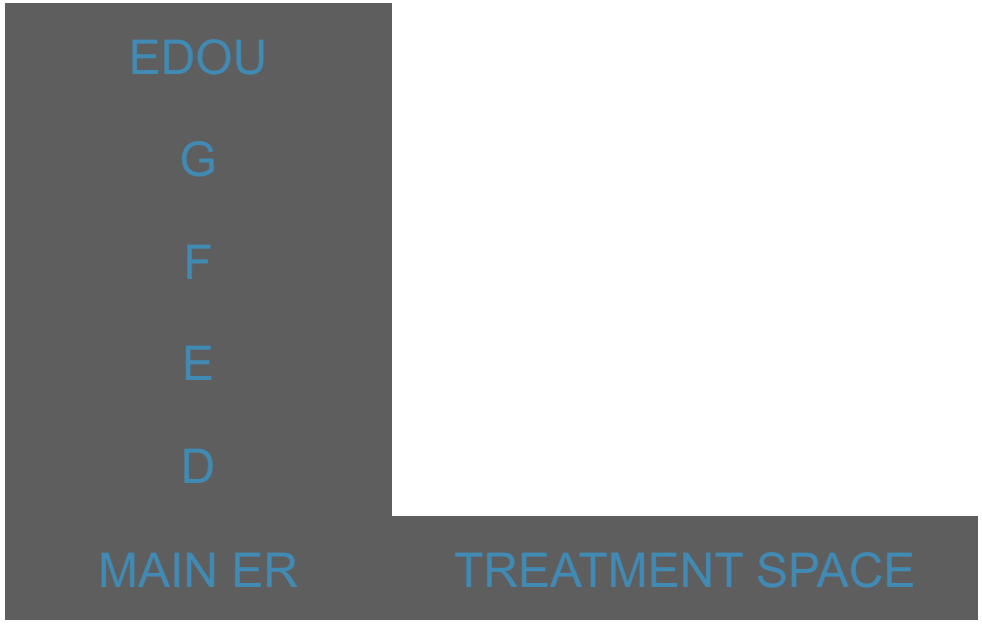

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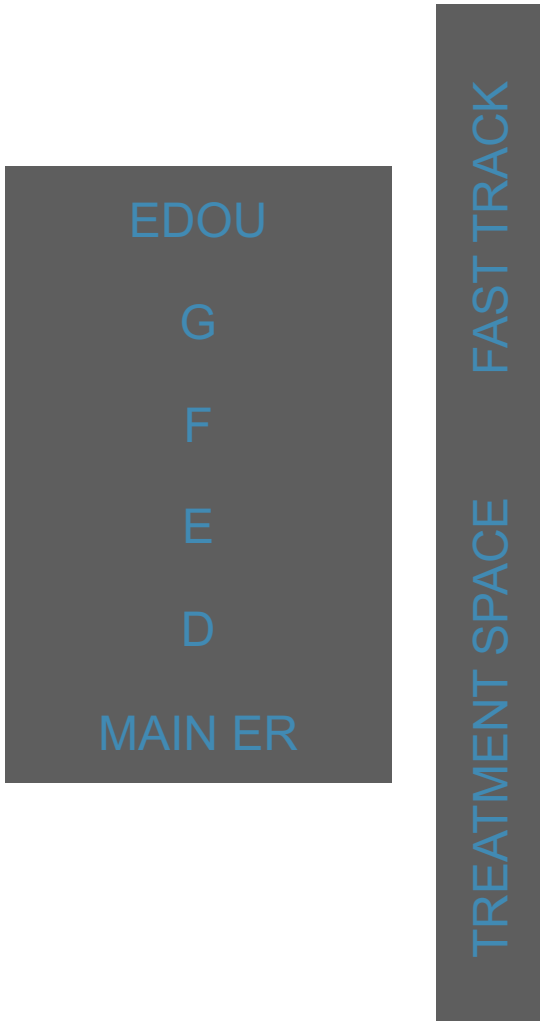


Annals of Emergency Medicine
An International Journal

RESEARCH FORUM ABSTRACT | VOLUME 56, ISSUE 3, SUPPLEMENT , S128, SEPTEMBER 01, 2010

398: Are Emergency Physicians More Efficient In Running a Large Observation Unit?

Pena M.E. • Takla R.B. • Dunne R.B. • Szpunar S.M. • Kler S.

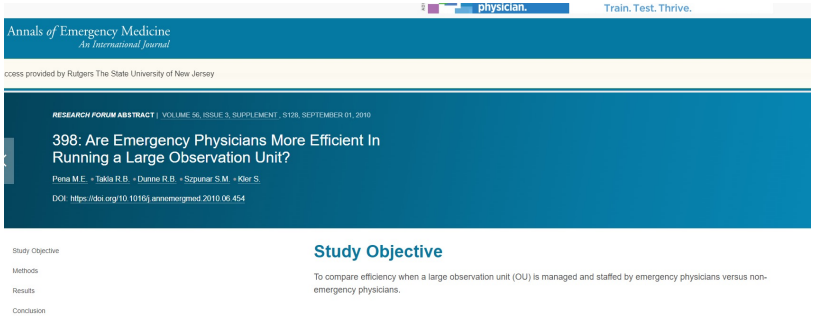
DOI: https://doi.org/10.1016/j.annemergmed.2010.06.454

Study Objective

To compare efficiency when a large observation unit (OU) is managed and staffed by emergency physicians versus non-emergency physicians.

Who and Where…

- Same observation unit…
  - Internal Medicine 1st Year
    - LOS 27 Hours
  - Emergency Medicine 2nd Year
    - LOS 17 Hours
- Increase in ED visits but no change in OU volume...



Journal of Hospital Medicine® Presented by shm®

Effect of Internal Medicine Versus Emergency Medicine Staffing of an Observation Unit on Patient Outcomes

Michael Herscher, MD, MA* and Peter Rachlin, MD, Icahn School of Medicine at Mount Sinai, New York, NY

Meeting: Hospital Medicine 2016, March 6-9, San Diego, Calif.
Abstract Number: 219
Category: Research
Sub-Category: Quality Improvement

Who and Where…

- Same observation unit…
  - ~2k Patients Each
  - Emergency Medicine
    - LOS 20 Hours
  - Internal Medicine
    - LOS 24 Hours
- No significant difference in admission rates or “bounceback” rates.

Journal of Hospital Medicine® Presented by shm®

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TIA

ELSEVIER

Annals of Emergency Medicine

Volume 50, Issue 2, August 2007, Pages 109-119

Neurology/original research

An Emergency Department Diagnostic Protocol for Patients With Transient Ischemic Attack: A Randomized Controlled Trial

This study was presented at the Society of Academic Emergency Medicine meeting, San Francisco, CA, May 2006

Michael A. Ross MD [a, b], Scott Compton PhD [b], Patrick Medado BS [a], Maureen Fitzgerald MBA [a], Philip Kilanowski MD, MS [a], Brian J. O'Neil MD [a, b]

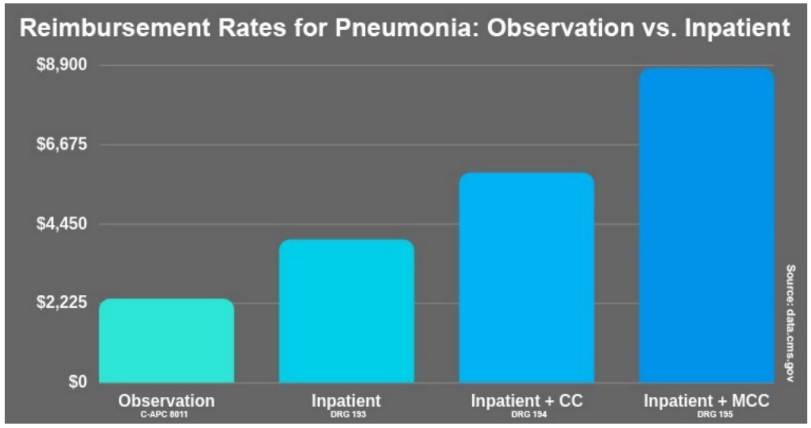
TIA

- 150 patients
  - Half Admitted
  - Half EDOU
- Protocol Written Along with Neurologists…
  - EDOU
    - Cheaper
      - $844 vs. $1529
    - Shorter LOS
      - 21 vs 61 hours
    - More likely to have protocol done.
      - 97% vs 91%

So why not “obs” everyone…

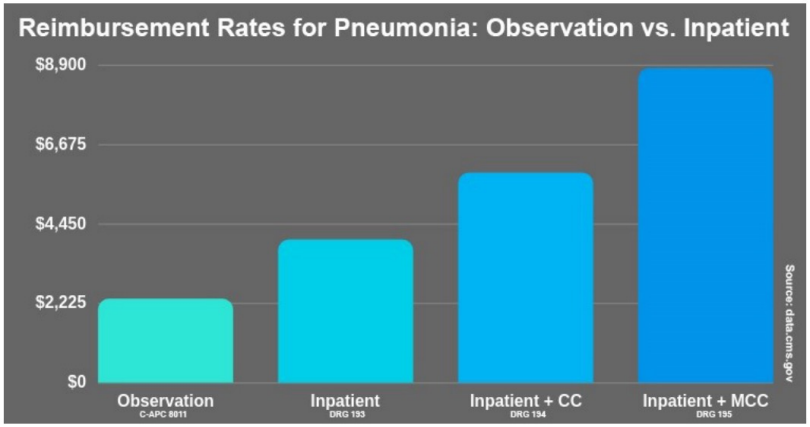
- DRG Payments vs Observation (APC-C 8011)
  - Diagnosis Related Groups
    - Vary greatly depending on comorbid conditions
  - Comprehensive Ambulatory Payment Classification
    - Fixed

- Pneumonia
  - APC-C 8011: $2,275
  - DRG 195: $3,926
  - DRG 194: $5,740 w/CC
  - DRG 193: $8,697 w/MCC



So why not “obs” everyone…

- This means you could be denied at 50% and still get reimbursed higher for admissions!
  - Lower reimbursement…
  - Means you **must** lower cost.
  - Reduce unnecessary work, shorten length of stay.



Opportunity Cost

What Is Opportunity Cost?

Opportunity costs represent the potential benefits that an individual, investor, or business misses out on when choosing one alternative over another. Because opportunity costs are unseen by definition, they can be easily overlooked. Understanding the potential missed opportunities when a business or individual chooses one investment over another allows for better decision making.

KEY TAKEAWAYS

- Opportunity cost is the forgone benefit that would have been derived from an option not chosen.
- To properly evaluate opportunity costs, the costs and benefits of every option available must be considered and weighed against the others.
- Considering the value of opportunity costs can guide individuals and organizations to more profitable decision-making.
- Opportunity cost is a strictly internal cost used for strategic contemplation; it is not included in accounting profit and is excluded from external financial reporting.
- Examples of opportunity cost include investing in a new manufacturing plant in Los Angeles as opposed to Mexico City, deciding not to upgrade company equipment, or opting for the most expensive product packaging option over cheaper options.

Investopedia

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- If you have boarders and…

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Investopedia

Opportunity Cost

- If you have boarders and…
  - Those boarders are sicker than the patients in and observation unit.

    AND

  - You have people walking out of the ED (LWBS) because of those boarders.

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  - Those boarders are sicker than the patients in the observation unit.

    AND

  - You have people walking out of the ED (LWBS) because of those boarders.

    AND

  - My observation unit is full and I never board observation patients…

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  - Those boarders are sicker than the patients in the observation unit.

    AND

  - You have people walking out of the ED (LWBS) because of those boarders.

    AND

  - My observation unit is full and I never board observation patients…
- Well then, you should leave me alone…

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Investopedia

- When your colleague in the ED turns over a patient to the EDOU and tells you it's for "cellulitis" and "dehydration" but somehow forgets to mention the patient has severe weeping edema, difficulty ambulating, and heart failure with an ejection fraction of 10%.

Obsfuscating

- When your colleague in the ED turns over a patient to the EDOU and tells you it's for "cellulitis" and "dehydration" but somehow forgets to mention the patient has severe edema, difficulty ambulating, and heart failure with an ejection fraction of 10%.

How to Begin – Back to the Status!

- Observation is not a place!
- It's a status and you can do it anywhere
  - So start in your Emergency Department with your long LOS patients.

How to Begin – Back to the Status!

- Observation is not a place!
- It's a status and you can do it anywhere
  - So start in your Emergency Department with your long LOS patients.

Identify your longer stays…

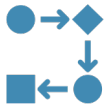
Repeat Labs

Pain Control

Neurovascular Checks

Cannot be "waiting for MRI"…

Cannot be for the convenience of a doctor or patient…



Be Realistic

Don't "wish" patients left sooner… just observe them!

Make The Case

You will need institutional buy-in…

•It's a status change.

Mental Models… Problem Levels.

Level 1 – Require monitoring only, repeat labs, minimal therapy.
(Seizure, “pseudo-rhabdo”, low-risk chest pain)

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Level 4 – Require treatment for more serious illness, higher risk for admission.
(CHF, pneumonia)

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(Pyelonephritis, cellulitis)

Level 4 – Require treatment for more serious illness, higher risk for admission.
(CHF, pneumonia)

Level 5 - Require more extensive testing and consultation.
(Papilledema, Social Disposition, Trauma)

Protocols

- Current Protocols At University Hospital

- Chest Pain
- CHF
- Seizure
- Atrial Fibrillation
- Abdominal Pain
- TIA
- Syncope
- Asthma/COPD
- AKI
- ETOH Withdrawal
- Opioid Withdrawal
- Allergic Rxn
- Anemia
- Cellulitis
- DVT/PE
- Violence Intervention
- Flank Pain
- GI Bleed
- Headache
- MSK Pain
- Hyperglycemia
- Hypoglycemia
- Hypokalemia
- Hyperemesis
- Mild DKA
- Pancreatitis
- Vertigo
- PNA
- Pyelo
- Rhabdomyolysis
- TBI
- Social Needs

Protocols

- Initial protocols at UH

- Abdominal Pain
- Allergic Reaction
- Asthma/COPD
- Chest Pain
- Cellulitis
- DVT/PE
- Pneumonia
- Seizures
- Syncope
- TIA

http://www.obsprotocols.org/tiki-index.php

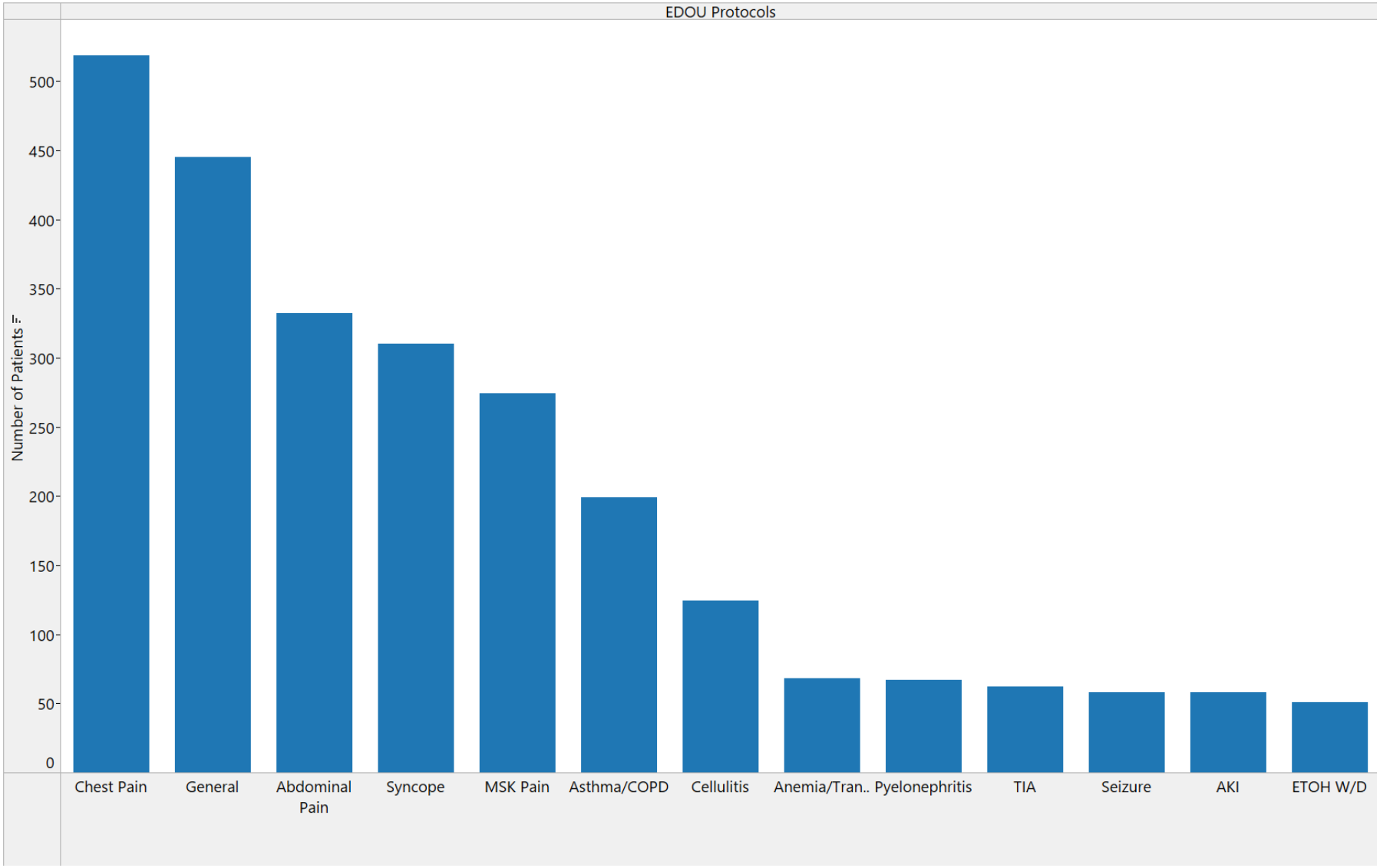
Protocols

- Initial protocols at UH

- Abdominal Pain
- Allergic Reaction
- Asthma/COPD
- Chest Pain
- Cellulitis
- DVT/PE
- Pneumonia
- Seizures
- Syncope
- TIA
- General

http://www.obsprotocols.org/tiki-index.php

Most Common Conditions…



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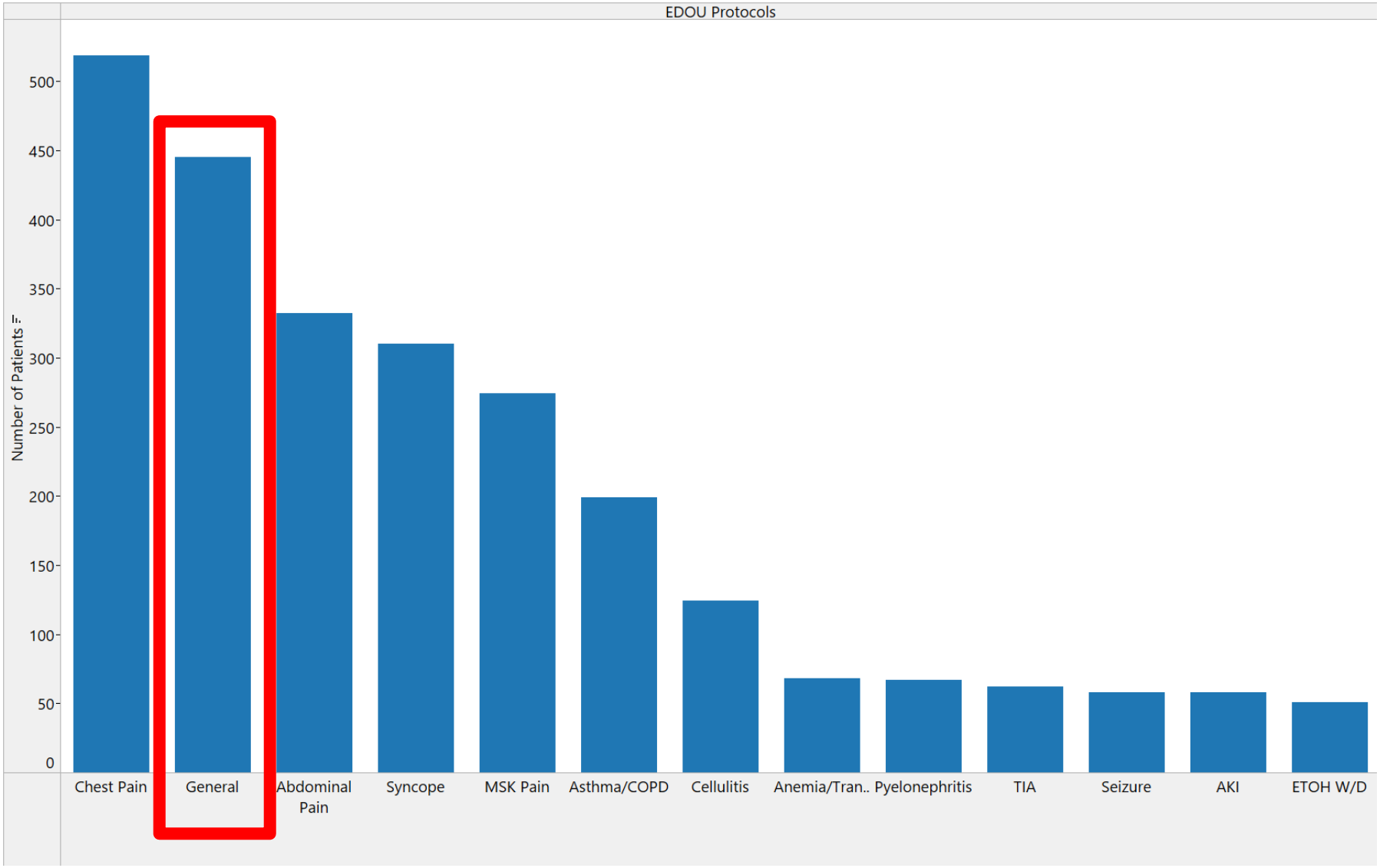

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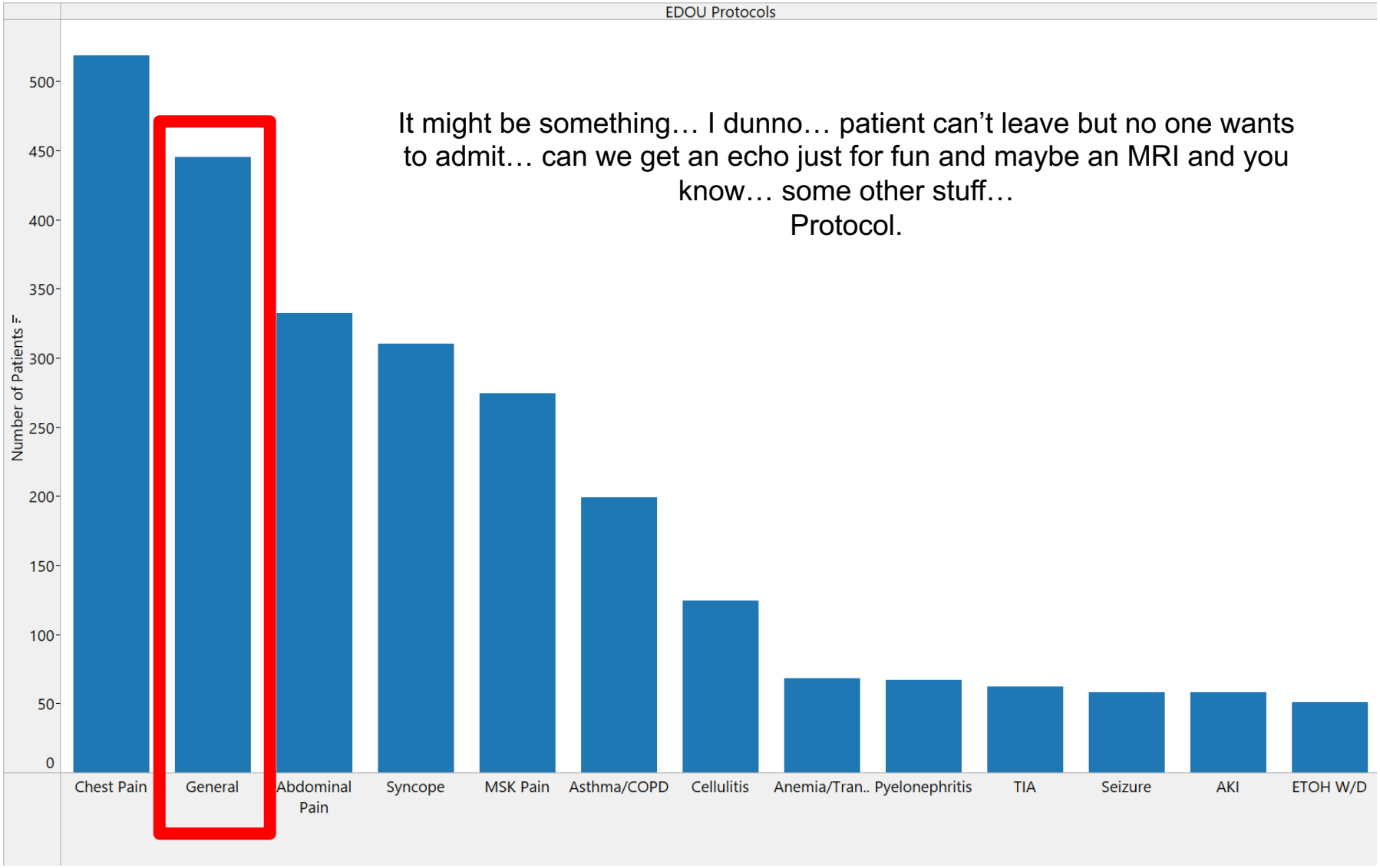

It might be something… I dunno… patient can't leave but no one wants to admit… can we get an echo just for fun and maybe an MRI and you know… some other stuff…
Protocol.

Where from here?

- You have your unit….
  - It's a type 1 dedicated unit
  - Protocol driven
  - Managed by EM
  - Now you need to monitoring key metrics…

Key Observation Metrics

Total Volume	• And percent of total hospitalizations.
Length of Stay	• In Hours for Observation Discharges
Conversion Rate	• Number of Admission/Total Observations

- Now that you know all about observation, your department or hospital leadership come to you offering you the chance to provide medical direction on their new, Type 1, EM managed observation unit. Instead of running away and hiding you should view this as a…

OBSportunity

- Now that you know all about observation, your department or hospital leadership come to you offering you the chance to provide medical direction on their new, Type 1, EM managed observation unit. Instead of running away and hiding you should view this as a…

ED Observation Basics

- Observation is Emergency Medicine
- Type 1 Units Perform Best
- Management by the ED is associated with increased efficiency
- Protocols help insure quality care
- Start small with your long ED LOS patients
- Grow from there guided by data

The Changing Face of Observation

Chest Pain

Academic Emergency Medicine
A GLOBAL JOURNAL OF EMERGENCY CARE

Free Access

Actual Financial Comparison of Four Strategies to Evaluate Patients with Potential Acute Coronary Syndromes

Anna Marie Chang MD, Frances S. Shofer PhD, Mark G. Weiner MD, Marie B. Synnestvedt PhD, Harold I. Litt MD, PhD, William G. Baxt MD, Judd E. Hollander MD

First published: 10 July 2008 | https://doi.org/10.1111/j.1553-2712.2008.00159.x | Citations: 33

Chest Pain

Table 2. Cost and Safety Outcomes for the Four Evaluation Strategies

	Immediate CTA	CDU/CTA	CDU Stress	Usual Care
Total Facility Cost, $ (IQR)	1,240 (723–1,943)	2,318 (2,000–3,041)	4,024 (3,322–4,751)	2,913 (1,713–5,592)
LOS, hr (IQR)	8.1 (5.9–13.7)	20.9 (15.1–26.5)	26.2 (21.3–32.1)	30.2 (24.0–73.1)
% CAD (95% CI)	5.1 (1.7%, 11.5%)	5.9 (2.2%, 12.4%)	5.8 (2.7%, 10.8%)	6.6 (4.0%, 10.1%)
% Death/MI (95% CI)	0 (0.0, 3.7%)	0 (0.0, 3.6%)	0.7 (0.1, 3.6%)	3.1 (1.4, 5.8%)
% Rehospitalization <30 days	0	3.2	2.3	12.2

CAD = coronary artery disease; CDU = clinical decision unit (observation unit); CI = confidence interval; CTA = computerized tomography coronary angiography; IQR = interquartile range; MI = myocardial infarction; RVU = relative value unit; Stress = stress test.

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Circulation

High-Sensitivity Cardiac Troponin and the 2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guidelines for the Evaluation and Diagnosis of Acute Chest Pain

Yader Sandoval, Fred S. Apple, Simon A. Mahler, Richard Body, Paul O. Collinson, Allan S. Jaffe and on behalf of the International Federation of Clinical Chemistry and Laboratory Medicine Committee on the Clinical Application of Cardiac Biomarkers

Originally published 1 Jul 2022 | https://doi.org/10.1161/CIRCULATIONAHA.122.059678 | Circulation. 2022;146:569–581

Other version(s) of this article

Chest Pain

Table 2. ACEP and SAEM Recommendations

ACEP clinical policy (2018)	SAEM GRACE-1 guidelines (2021)
In adult patients without evidence of ST-elevation ACS, the HEART score can be used as a clinical prediction instrument for risk stratification. A low score (<3) predicts 30-day MACE miss rate within a range of 0% to 2%.	In adult patients with recurrent, low-risk chest pain for >3 hours duration, we suggest a single, high-sensitivity troponin below a validated threshold to reasonably exclude ACS within 30 days.
In adult patients without evidence of ST-elevation ACS, other risk-stratification tools, such as TIMI, can be used to predict rate of 30-day MACE.	In patients with recurrent, low-risk chest pain and a normal stress test within the previous 12 months, we do not recommend repeat routine stress testing as a means to decrease rates of MACE at 30 days.
In adult patients with suspected acute NSTE-ACS, convention troponin testing at 0 and 3 hours with low-risk ACS (defined by HEART score 0 to 3) can predict an acceptable low rate of 30-day MACE.	In adult patients with recurrent, low-risk chest pain, there is insufficient evidence to recommend hospitalization (either standard inpatient admission or observation stay) versus discharge as a strategy to mitigate MACE within 30 days.
A single high-sensitivity troponin result below the level of detection on arrival to the ED or negative serial high-sensitivity troponin result at 0 and 2 hours is predictive of a low rate of MACE.	In adult patients with recurrent, low-risk chest pain and nonobstructive (<50% stenosis) CAD on previous angiography within 5 years, we suggest referral for expedited outpatient testing as warranted rather than admission for inpatient evaluation.
In adult patients with suspected acute NSTE-ACS, determination of low risk on the basis of validated ADPs that include a nonischemic ECG result and negative serial high-sensitivity troponin testing results both at presentation and at 2 hours can predict a low rate of 30-day MACE, allowing for an accelerated discharge pathway from the ED.	In adult patients with recurrent, low-risk chest pain and no occlusive CAD (0% stenosis) on previous angiography within 5 years, we recommend referral for expedited outpatient testing as warranted rather than admission for inpatient evaluation.
Do not routinely use further diagnostic testing (coronary CT angiography, stress testing, myocardial perfusion imaging) before discharge in low-risk patients in whom acute MI has been ruled out to reduce 30-day MACE.	In adult patients with recurrent, low-risk chest pain and previous CCTA within the past 2 years with no coronary stenoses, we suggest no further diagnostic testing other than a single, high-sensitivity troponin below a validated threshold to exclude ACS within that 2-year timeframe.
Arrange follow-up in 1 to 2 weeks for low-risk patients in whom MI has been ruled out. If no follow-up is available, consider further testing or observation before discharge.	In adult patients with recurrent, low-risk chest pain, we suggest the use of depression and anxiety screening tools as these might have an effect on health care use and return ED visits.
P2Y12 inhibitors and glycoprotein IIb/IIIa inhibitors may be given in the ED or delayed until cardiac catheterization.	In adult patients with recurrent, low-risk chest pain, we suggest referral for anxiety or depression management, as this might have an effect on health care use and return ED visits.

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Critical Pathways in Cardiology
A Journal of Evidence-Based Medicine

ORIGINAL STUDY

The Changing Role of Chest Pain in the Emergency Department Observation Unit

Terry, Nataisia MD, MBA; Franks, Nicole MD; Moran, Tim PhD; Pitts, Steve; Osborne, Anwar MD, MPM; Ross, Michael A. MD

Author Information

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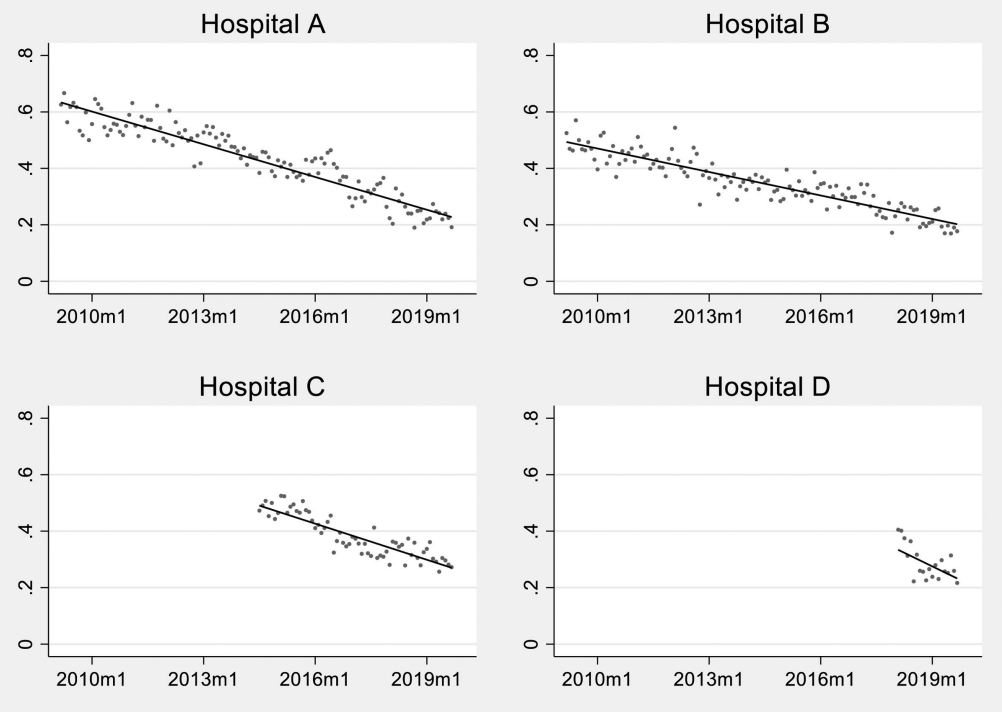
doi: 10.1097/HPC.0000000000000253

Chest Pain



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Syncope

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Published online 2019 Dec 15.
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Role of echocardiography in diagnostic evaluation of patients admitted to observation unit

Muhammad Arslan Cheema,[1] Hafez Mohammad Ammar Abdullah,[3] Waqas Ullah,[1] Yasar Sattar,[4] Shujaul Haq,[1] Khadija Cheema,[1] Asrar Ahmad,[1] Zain Ali,[1] and Asoka Balaratna[2]

▸ Author information ▸ Article notes ▸ Copyright and License information Disclaimer

Syncope

- 120 Patients With Syncope & Echo
  - Normal Physical Exam
    - 7% with echo findings
  - Abnormal Physical
    - 24% with echo findings
- ACEP Guidelines
  - EKG (5% but cheap)
  - No need for other tests unless abnormal physical exam or high risk

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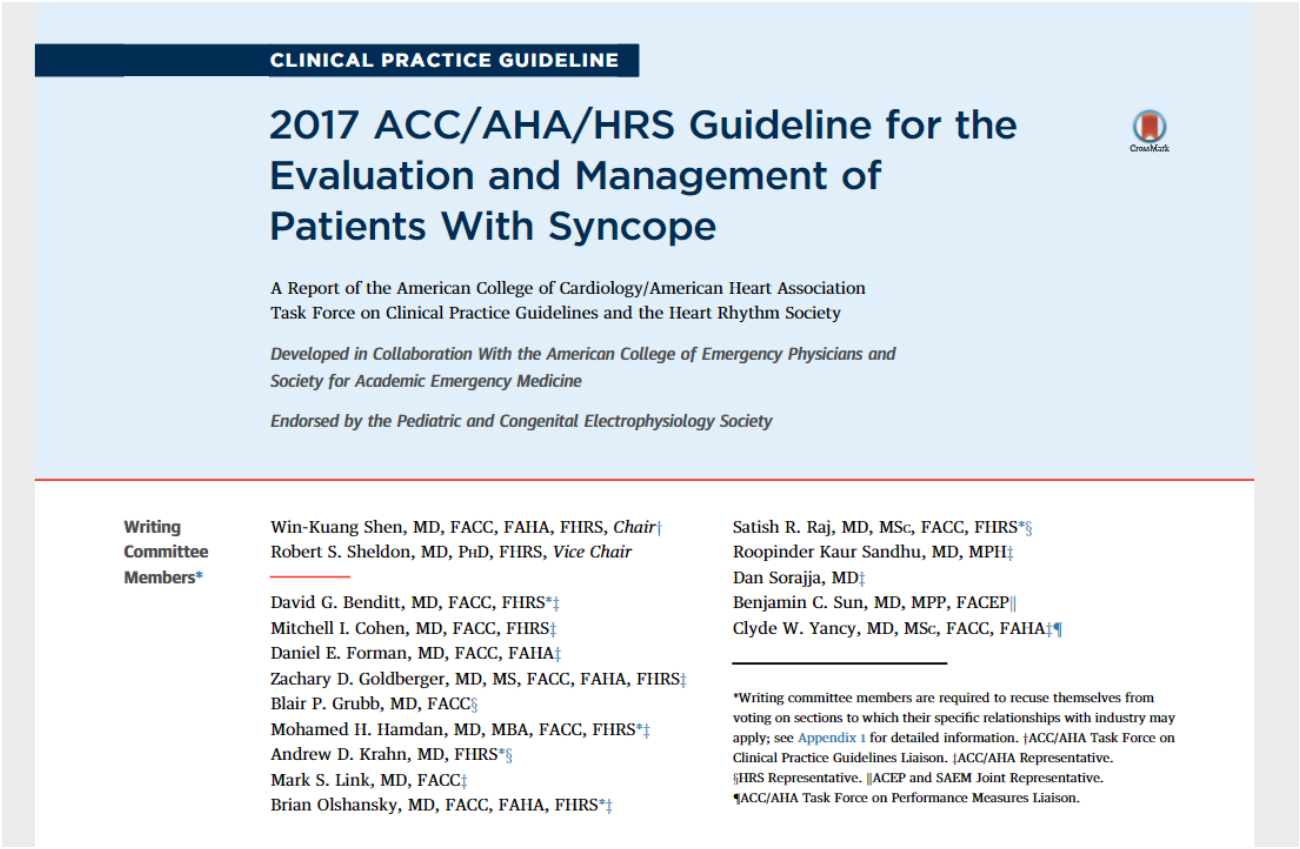
Syncope



CLINICAL PRACTICE GUIDELINE

2017 ACC/AHA/HRS Guideline for the Evaluation and Management of Patients With Syncope

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society

Developed in Collaboration With the American College of Emergency Physicians and Society for Academic Emergency Medicine

Endorsed by the Pediatric and Congenital Electrophysiology Society

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*Writing committee members are required to recuse themselves from voting on sections to which their specific relationships with industry may apply; see Appendix 1 for detailed information. †ACC/AHA Task Force on Clinical Practice Guidelines Liaison. ‡ACC/AHA Representative. §HRS Representative. ‖ACEP and SAEM Joint Representative. ¶ACC/AHA Task Force on Performance Measures Liaison.

III: No Benefit	B-NR

See Online Data Supplement 9.

Routine cardiac imaging is not useful in the evaluation of patients with syncope unless cardiac etiology is suspected on the basis of an initial evaluation, including history, physical examination, or ECG (77,99).

Although some investigators have advocated for cardiac imaging—particularly transthoracic echocardiography—as

Syncope

Clinical Policy: Critical Issues in the Evaluation and Management of Adult Patients Presenting to the Emergency Department with Syncope

J. Stephen Huff, MD • Wyatt W. Decker, MD • James V. Quinn, MD, MS • ... Anthony M. Napoli, MD • Suzanne Peeters, MD • Andy S. Jagoda, MD • Show all authors

DOI: https://doi.org/10.1016/j.annemergmed.2007.02.001

Critical Questions

1. What history and physical examination data help to risk-stratify patients with syncope?

Level A recommendations

Use history or physical examination findings consistent with heart failure to help identify patients at higher risk of an adverse outcome.

Level B recommendations

1 Consider older age, structural heart disease, or a history of coronary artery disease as risk factors for adverse outcome.

2 Consider younger patients with syncope that is nonexertional, without history or signs of cardiovascular disease, a family history of sudden death, and without comorbidities to be at low risk of adverse events.

So, what patients are you putting on your observation unit?

DKA

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Medicine (Baltimore). 2022 Aug 5; 101(31): e29665.
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PMCID: PMC9351868
PMID: 35945801

Management of hospitalized patients with mild to moderate diabetic ketoacidosis using a continuous insulin infusion protocol on a medical surgical ward and observation level of care: A retrospective cohort study

Michael S. Yoo, MD,[a, *] Abraham Daniels, MHSA, HCD, LSSMBB,[b] Rene A. Maslow, MSN, RN,[c] John A. Gomez, LSSMBB, BS,[d] Nannette L. Meyers, MD,[a] Pamela S. Bohrer, MD,[e] Siamack Nemazie, MD,[f] Christina E. Sanford, DNP, RN, NEA-BC,[g] Emily A. Peterson, PharmD,[h] Kendal L. Hamann, MD,[i] Darcy E. Walsh, MSN, RN, CNL,[j] Alison M. O'Herlihy, MSN, RN, CNL,[g] and Vivek Kumra, MD[a]

DKA

- 227 Patients
  - 107 Observation
  - 120 ICU
- Only significant difference
  - Hypoglycemia during stay
    - (less in obs cohort)
- LOS not significant but…
  - 0.71 lower (p value of 0.06)

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Published online 2022 Aug 5. doi: 10.1097/MD.0000000000029665 PMID: 35945801

Management of hospitalized patients with mild to moderate diabetic ketoacidosis using a continuous insulin infusion protocol on a medical surgical ward and observation level of care: A retrospective cohort study

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DKA

ELSEVIER

The American Journal of Emergency Medicine

Volume 36, Issue 11, November 2018, Pages 1975-1979

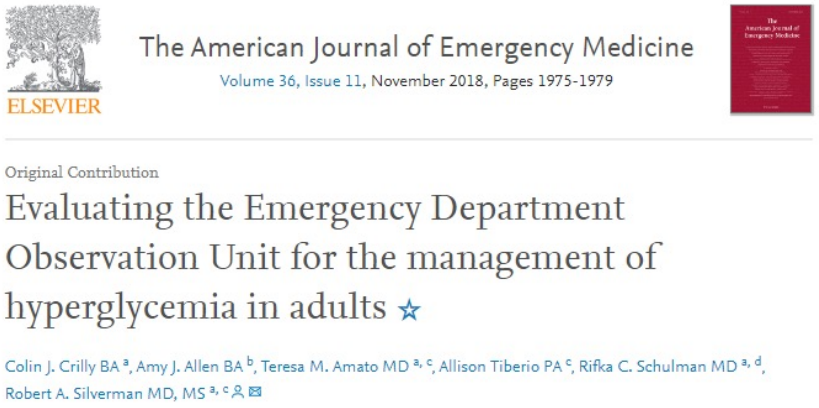
Original Contribution

Evaluating the Emergency Department Observation Unit for the management of hyperglycemia in adults ☆

Colin J. Crilly BA [a], Amy J. Allen BA [b], Teresa M. Amato MD [a, c], Allison Tiberio PA [c], Rifka C. Schulman MD [a, d], Robert A. Silverman MD, MS [a, c]

DKA

- 124 patients with glucose greater than 300
  - 31% pH < 7.34
  - 23% Acetone or BHB Positive
  - 34% Anion Gap > 17
- 106 Discharged
- 18 Admitted (14.5%)
- Only significant difference…. Ketones
  - The discharge group had more.



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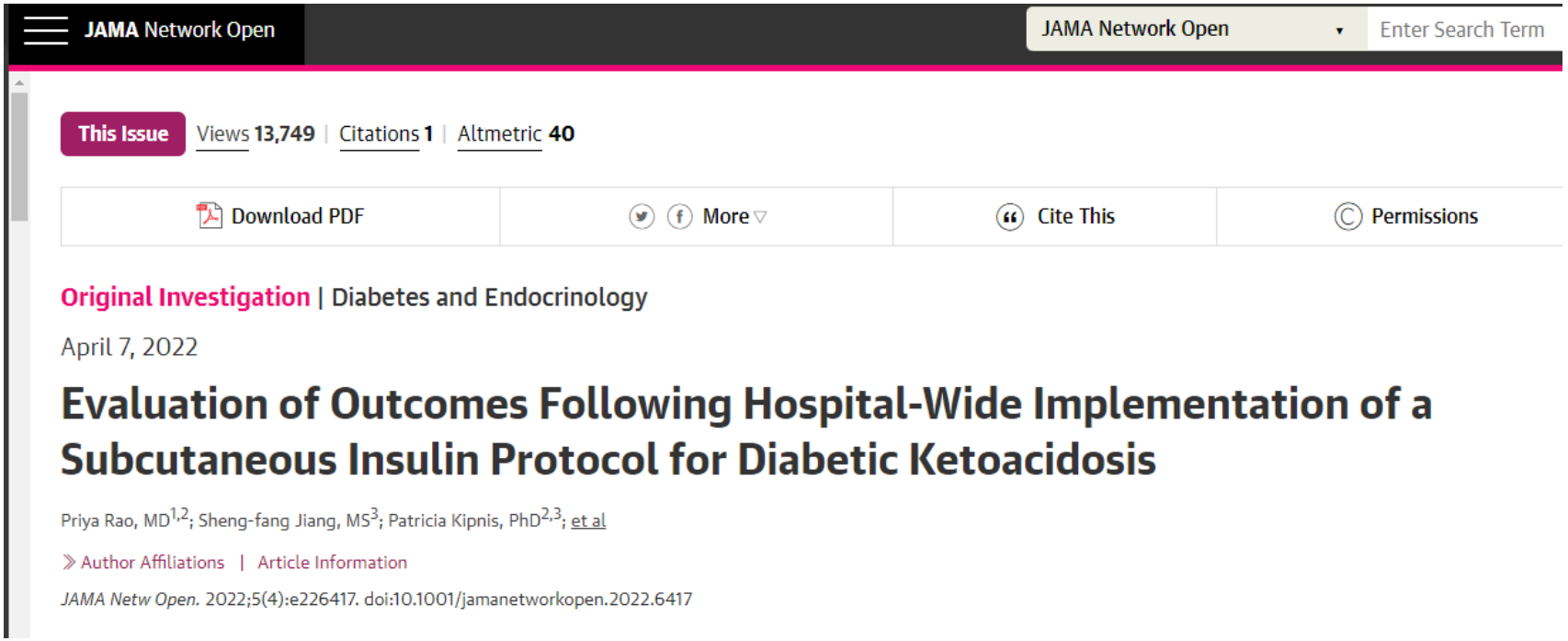

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Original Investigation | Diabetes and Endocrinology

April 7, 2022

Evaluation of Outcomes Following Hospital-Wide Implementation of a Subcutaneous Insulin Protocol for Diabetic Ketoacidosis

Priya Rao, MD[1,2]; Sheng-fang Jiang, MS[3]; Patricia Kipnis, PhD[2,3]; et al

» Author Affiliations | Article Information

JAMA Netw Open. 2022;5(4):e226417. doi:10.1001/jamanetworkopen.2022.6417

DKA

- Implementation of SQ Insulin Protocol
  - Increased Use of SQ Insulin
  - 57% Reduction in ICU Admission
  - 50% Reduction in Readmission
  - No changes in LOS

DKA

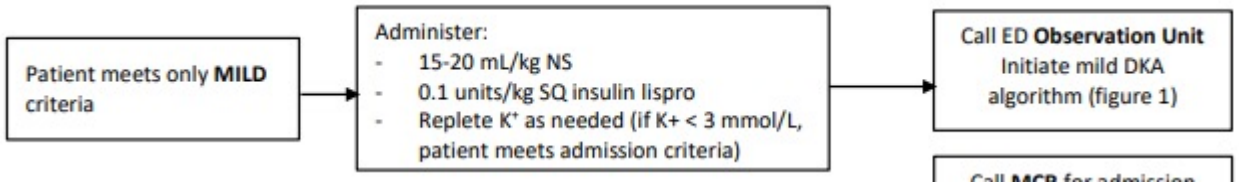
University HOSPITAL
Newark, NJ

Mild DKA

Observation Criteria: Patient with mild diabetic ketoacidosis (as per University Hospital Clinical Practice guideline), who is not appropriate for discharge after initial ED evaluation and management (e.g., ongoing hyperglycemia, mild acidosis, small anion gap) and for whom there is a clear diagnostic and/or therapeutic plan.

Protocol-Specific Exclusion Criteria (in addition to global criteria):

1. Patient meeting any criteria for moderate or severe DKA (as per University Hospital DKA Clinical Practice Guidelines) (e.g., pH <7.25, bicarbonate <15)
2. Patient requiring insulin drip
3. K < 3
4. Prior history of DKA requiring ICU admission
5. Altered mental status
6. Signs of infection requiring inpatient admission for further care



DKA

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4. Prior history of DKA requiring ICU admission
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6. Signs of infection requiring inpatient admission for further care

Observation Median LOS - Hours
DKA Protocol

ED Destination Department	Month of Admission Date							
	January 2022	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022	**Grand Total**
H BLUE	32.77	19.39	17.96	34.91	66.63	24.45	38.43	**32.54**

Alcohol Withdrawal

ELSEVIER

Mayo Clinic Proceedings: Innovations, Quality & Outcomes

Volume 3, Issue 3, September 2019, Pages 344-349

Original article

Assessment of a Hospital-Wide CIWA-Ar Protocol for Management of Alcohol Withdrawal Syndrome

Arineh Melkonian MD [b], Reenal Patel MD [a], Albert Magh MD [c], Sampson Ferm MD [d], Calvin Hwang MD, MPH [e]

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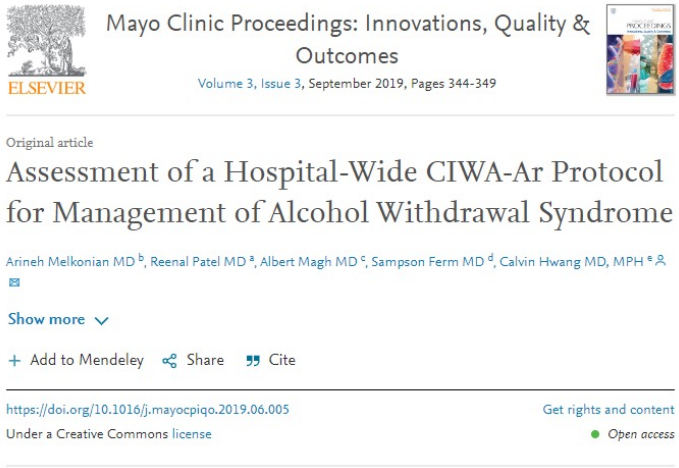
https://doi.org/10.1016/j.mayocpiqo.2019.06.005

Alcohol Withdrawal

- Implementation of ETOH Withdrawal Protocol
  - CIWA
  - 276 Pre-protocol
  - 145 Post-protocol
  - LOS dropped from 7 to 5 days



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Alcohol Withdrawal

University HOSPITAL
Newark, NJ

Mild/Moderate Alcohol Withdrawal

Observation Criteria: Patient with history of alcohol use disorder presenting to the ED in the setting of acute mild to moderate alcohol withdrawal who is not appropriate for discharge after initial ED evaluation and management, and for whom there is a clear diagnostic and/or therapeutic plan.

Protocol-Specific Exclusion Criteria (in addition to global criteria):

1. Psychiatric diagnoses or complaints requiring further management (e.g., suicidal ideations, hallucinations)
2. Disruptive behavior (e.g., extreme agitation, delirium, combative)
3. Severe alcohol withdrawal (RASS ≥ 3) on presentation
4. RASS of 2 on presentation which does not improve after initial management
5. History of alcohol withdrawal seizures, delirium tremens, severe agitation
6. Serum alcohol concentration > 100 mg/dL

Observation Management Guidelines:

1. Medication management as per the UH ED Alcohol Withdrawal Treatment guideline
   a. Continue care with oral agents for alcohol withdrawal
   b. Supplement care with parental agents as clinically indicated per treatment guideline
   c. Continue dosing as per clinical findings with goal to maintain RASS score of 0 to -1

Mild-Moderate Agitation (RASS 1-2) and
Able to take PO

Oral Agents (CHOOSE ONE)
See Characteristics of Benzodiazepines box - Page 2

Chlordiazepoxide PO (preferred)
- 25-100 mg q1h PRN (based on severity).
  The preferred agent due to long duration.

Lorazepam PO
- 1-4 mg q1h PRN.
  Consider in patients with significantly impaired liver function (not hepatitis/transaminitis). Consider during times of chlordiazepoxide shortage

Diazepam PO
- 10-20 mg q1h PRN. Consider during times of chlordiazepoxide shortage.

ETOH W/D

University HOSPITAL
Newark, NJ

Mild/Moderate Alcohol Withdrawal

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Observation Median LOS - Hours
Alcohol Withdrawal Protocol

ED Destination Department	Month of Admission Date							
	January 2022	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022	**Grand Total**
H BLUE	28.34	37.64	23.13	27.51	26.29	26.84	19.81	**25.68**

Social Observation Medicine

- Social Observation Medicine
  - Limited Resources
    - Social Work
    - Disease Navigators
    - Population Health Navigators
    - Hospitalists
  - Observation “Slows the Roll”
  - Value:
    - Prevent repeat visits
    - Improving follow-up care
    - Helping patients get appropriate rehab
    - Utilizing those limited resources better
  - By no means your typical observation cases… but the moral of the story:
    - Find where there is a need & provide value.

Conclusions

- Chest pain is changing… HST and CCTA are eliminating the needs for many observations.
- We over use echo in our syncope patients… expect this to decrease.
- We have to find new ways to provide value on our EDOU's…
  - Anything amenable to protocol drive care:
    - DKA
    - ETOH w/d
- Where a high social determinant burden exists, observation can help alleviate pressure on ED and provide value.

Questions?

THANK YOU

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