OBSERVATION CARE IN THE E.D.

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DISCLOSURES

• No financial disclosures
• No speaker bureau gigs

• Thanks and Attribution
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  • Chief of Observation Medicine, Emory University
GOALS

• Reinforce importance and impact of observation medicine
• Understand how to efficiently run an observation care unit in the E.D.
• Understand which ED patients would be best served by placement in an observation care unit
WHAT IS OBSERVATION MEDICINE?

• CMS: Hospital Manual, 3663

  • “those services furnished on a hospital’s premises, including use of a bed and periodic monitoring by nursing or other staff, which are reasonable and necessary to evaluate an outpatient’s condition or determine the need for a possible admission as an inpatient.....

• Institute of Medicine

  • Obs units are “particularly promising” way to improve patient flow

    • Hospital Based Emergency Care: at the Breaking Point. Washington National Academies Press; 2007
WHAT IS OBSERVATION MEDICINE?

• What does that mean??

• Best defined by TIME and ACUITY
  • Emergency Department average LOS?
    • 2-3 hours?
  • Hospital admission LOS?
    • 3 days (or more)

• What about patients needing services for 6-24 hours??
WHY HAVE AN OBSERVATION UNIT?

• Hospital Benefits
  • Improved efficiency of patient flow
  • Reduced re-admissions and Short Stay admissions
  • Improved CMI
  • Avoid repeat/extraneous testing
  • No political problems with independent admitting docs

• (E.D.) Physician Benefits
  • Improved patient flow from the E.D.
  • Improved reimbursement
  • Decreased incidence of missed diagnosis
WHY HAVE AN OBSERVATION UNIT?

• Patient Benefits
  • Shorter stay at hospital
  • Increased satisfaction
  • Decreased cost
  • Avoid “re-work” by another service
WHY SHOULD WE DO OBSERVATION MEDICINE?

• What do we specialize in?
  • Saving lives from acute life threatening events

• What about the other 90% of our time??
  • Rapid workups/diagnosis
  • Risk Stratification
  • Who is sick and who isn’t?
  • Who needs to be in the hospital and who doesn’t?
WHY SHOULD WE DO OBSERVATION MEDICINE?

• Culture of the E.D. vs. inpatient units
  • Re-assessments
  • Rapid evaluations and decision making
  • No “off” times

• E.D. efficiencies to be gained
  • Quick disposition of patients known to need longer work-up
WHAT DEFINES AN EFFICIENT UNIT?

• Length of stay
  • High performing units average 12-18 hours
  • 24 hr. length of stay often an improvement over Type 4 Obs operation
  • Obs unit has <1 patient/bed/day

• Disposition Ratio
  • Goal is to discharge 80% +/- 10%

• Shorter ED LOS/Boarding times

• Clinical Outcomes
  • Reduced missed diagnoses
  • Decreased E.D. recidivism/re-admission
HOW DO WE CREATE AN EFFICIENT UNIT?

• Komindr, et al International J of Emerg Medicine, 2014
• Compared US and Asian Obs units and identified factors that improve efficiency
  • Presence of treatment protocols
    • Benefit extended to units with only 2 protocol sets
  • Oversight by Emergency Physician
  • APC (or dedicated physician) staffing to maintain constant flow
  • Rapid availability of advanced diagnostics
    • Stress testing, MRI, etc.
  • Availability of specialist consultation
  • Experience (long standing obs units)
### OTHER KEYS TO EFFICIENCY?

**EXHIBIT 1**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Protocol driven, observation unit</td>
<td>Highest level of evidence for favorable outcomes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Care typically directed by ED</td>
</tr>
<tr>
<td>Type 2</td>
<td>Discretionary care, observation unit</td>
<td>Care directed by a variety of specialists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unit typically based in ED</td>
</tr>
<tr>
<td>Type 3</td>
<td>Protocol driven, bed in any location</td>
<td>Often called a “virtual observation unit”</td>
</tr>
<tr>
<td>Type 4</td>
<td>Discretionary care, bed in any location</td>
<td>Most common practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unstructured care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor alignment of resources with patients’ needs</td>
</tr>
</tbody>
</table>
OTHER KEYS TO EFFICIENCY?

• Type of Unit
  • Type 1 unit is most efficient
    • Limits involvement of multiple physician groups
    • E.D. culture of flow
    • Standard work up of clinical conditions

• Appropriate staffing
  • APC staffing during peak hours of operation
  • 4-5:1 Nurse staffing
    • May combine outpatient procedures or boarding patients with Obs patients

• Good Geography
  • Adjacency to E.D. is ideal
  • Adequate number of beds

• Patient selection
Patients that can be admitted to OBS

Medical Patients who have an illness or condition in which diagnostic evaluation or SHORT TERM intensive treatment is expected to take < 48 hours:

- Monitoring of all vital signs including I&O
- Monitoring of Neuro-vascular signs
- Pulse oximetry
- Cardiac Monitoring
- Comprehensive lab and radiology service
- Stress testing availability
- Supplemental Oxygen
- Oral and Parental medications
- Intravenous fluids
- Respiratory therapy
- Urethral catheterization
- Nourishment
- Routine nursing care
- Specialty consultations
- Social Service Intervention

Patients that cannot be admitted to OBS

Patients who meet Observation status, but whose length of stay is historically > 48 hours and the treating physician does not believe discharge will occur in < 48 hours:

- Reason for visit: Psychiatric diagnosis
- Total care patients
- Bed-bound patients
- Bariatric patients unable to care for self
- Expected LOS > 24 hours
- Reason for visit: awaiting custodial care/placement
- Patients with disruptive behavior

Make sure your patients are not inappropriately admitted to OBS.
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Make sure your patients are not inappropriately admitted to OBS.
WHO IS AN IDEAL OBSERVATION PATIENT?

• General Unit Criteria
  • Patient does not meet inpatient criteria for admission
    • (unless a discharge in <24 hours is anticipated)
  • Patient can perform ADLs
  • Patient has does not WANT to be in the hospital
  • Patient does not require specialist consultation
WHO IS AN IDEAL OBSERVATION PATIENT?

• Zdradzinski, Phelan, Mace, Amer J of Medical Quality 2016

• Prospectively gathered data on patients and compared ultimate disposition
  • Socioeconomic information
    • Age, education, place of residence, etc.
  • Social support
  • Limited clinical data
  • Frailty (as measured by Katz index)
IMPACT OF FRAILTY AND
SOCIODEMOGRAPHIC FACTORS ON
HOSPITAL ADMISSION FROM OBS UNIT

Table 1. Katz Index of Independence in Activities of Daily Living.

Are you able to bathe yourself without help?
Are you able to dress yourself without help? (not including tying shoes)
Are you able to use the toilet, get on and off the toilet, and clean yourself without help?
Are you able to get into and out of your bed or a chair without help from another person?
Do you have complete control over your bladder and bowel function?
Are you able to eat without assistance?
WHO IS AN IDEAL OBSERVATION PATIENT?

• Zdradzinski, Phelan, Mace, Amer J of Medical Quality 2016

• Factors that increased likelihood of admission:
  • Frailty OR 3.38
  • WBC > 11k OR 3.26
  • Drug use in the past 30 days OR 2.71
  • Hypercalcemia OR 6.69

• Factors that decreased the likelihood of admission:
  • College graduate OR 0.24
  • Current employment OR 0.52
WHO IS AN IDEAL OBSERVATION PATIENT?

• The “Good Partner” Criteria
  • Is this a patient that I can feel comfortable with rounding on tomorrow?
  • Is this a patient that the inpatient service didn’t want to deal with?
  • Is this patient’s only problem an acute narcotic deficiency syndrome?
WHO IS AN IDEAL OBSERVATION PATIENT?

- Clinical Criteria
- Single Acute Problem
  - Asthma, dehydration, hyperglycemia, etc.
  - Can we create a well defined plan of care?
    - If/Then type disposition algorithm
  - Is their problems something that is expected to respond to therapy in <18hrs?
WHAT CLINICAL CONDITIONS ARE IDEAL FOR OBS?

• Conditions that we KNOW and can manage with minimal specialist intervention:
  • Allergic Reactions  
  • Asthma/COPD exacerbation  
  • Atrial Fibrillation  
  • Abdominal Pain  
  • Chest Pain  
  • Cellulitis  
  • Congestive Heart Failure  
  • Dehydration  
  • Upper GI bleed  
  • Hyperemesis  
  • Hyper/hypoglycemia  
  • Pyelonephritis  
  • Renal Colic  
  • Seizure  
  • Snake Bite  
  • Syncope  
  • Toxic Ingestion
SHORT TERM THERAPY:
RATE OF SPONTANEOUS CONVERSION OF ACUTE ONSET ATRIAL FIBRILLATION

Conversion to Sinus (%) vs. Hours

- Conversion to Sinus increases over time.
- The rate of conversion is higher at the beginning and slows down later.
EXAMPLE OF CLINICAL PROTOCOL

DEHYDRATION

I. Exclusion Criteria:
   A. Severe dehydration
   B. Concomitant acute severe medical condition (i.e., acute renal failure, sepsis)
   C. 130 < Na > 155 mEq or hemodynamic instability
   D. Probability of discharge within 24 hours < 80%

II. Typical OBS Interventions:
    A. IV Hydration
    B. Serial exams and vital signs
    C. Antimetic
    D. Repeat labs

III. Disposition Criteria:
    A. HOME
       1. Resolution of symptoms
       2. Stable vital signs
    B. HOSPITAL
       1. Inability to correct symptoms after 24 hours of observation

IV. Time Frame:
    A. 8-24 hour observation
EXAMPLE OF CLINICAL PROTOCOL

I. Exclusion Criteria:
   A. RR > 40
   B. Impending respiratory failure/failure
   C. Inability to perform spirometry
   D. Pulse oximeter < 90% on room air
   E. Need for continuous nebulizer treatments, BiPAP, or heliox

II. Typical OBS Interventions:
   A. Serial exams including vital signs every 4 hours
   B. Pulse oximeter monitoring
   C. Supplemental oxygen
   D. Serial peak-flow measurements
   E. Bronchodilator treatments every 1-4 hours
   F. Steroids
   G. Asthma/MDI teaching

III. Disposition Criteria:
   A. HOME
      1. Major resolution of SOB / wheezing
      2. Ambulating comfortably without significant O₂ desaturation
   B. HOSPITAL
      1. Deterioration of condition
      2. Peak flow deterioration to < 20% expected
      3. RR > 35
      4. Pulse oximeter < 90% on room air for 30 minutes

IV. Time Frame:
   A. 8-24 hour observation
<table>
<thead>
<tr>
<th>Condition</th>
<th>Year</th>
<th>Author</th>
<th>N</th>
<th>Primary Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syncope</td>
<td>14</td>
<td>Sun *</td>
<td>124</td>
<td>↓ admissions and LOS</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>10</td>
<td>Miller *</td>
<td>110</td>
<td>↓ Cost (stress MRI)</td>
</tr>
<tr>
<td>Atrial Fib</td>
<td>08</td>
<td>Decker</td>
<td>153</td>
<td>↑ conversion to sinus</td>
</tr>
<tr>
<td>TIA</td>
<td>07</td>
<td>Ross</td>
<td>149</td>
<td>↓ LOS and cost</td>
</tr>
<tr>
<td>Syncope</td>
<td>04</td>
<td>Shen</td>
<td>103</td>
<td>↑ established diagnosis, ↓ admissions</td>
</tr>
<tr>
<td>Asthma</td>
<td>97</td>
<td>McDermot</td>
<td>222</td>
<td>↓ admissions, no relapse ↑</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>98</td>
<td>Farkouh</td>
<td>424</td>
<td>No difference cardiac events</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>97</td>
<td>Roberts</td>
<td>165</td>
<td>↓ LOS and cost</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>96</td>
<td>Gomez</td>
<td>100</td>
<td>↓ LOS and cost</td>
</tr>
</tbody>
</table>

*Added since published after this review*
Observation Medicine Resources

- Android App
- iBook
- Website

Download from the Google Play Store
Download from the iTunes Bookstore

www.obsprotocols.org

all resources are free/CDU manual is for ipad or ipad mini only/ iphone app is coming soon/ feel free to email or ask any of your obs friends (Mike Ross, Matthew Wheatley, Anwar Osborne)
Observation Services Toolkit

This toolkit was developed and compiled by members of the ACEP Observation Medicine Section and the Emergency Medicine Practice Committee to provide members with resources on how to start emergency department (ED) observation services, billing and reimbursement information and quality improvement tools.

ABC’s of Starting an ED Observation Service

The Healthcare System’s Tincture of Time (Must be an ACEP Observation Section member to access)

This textbook was created for the clinician providing observation services. Louis Graff, MD, FACEP is editor and authored some chapters within the text. It delineates the resources needed to manage an observation program, reviews specific patient conditions that can be evaluated and treated in observation beds and reviews how observation services are provided around the world.

Policy: Emergency Department Observation Services
PREP: State of the Art: Observation Units in the Emergency Department
ACEP Policy and Policy Resource and Education Paper (PREP) with observation
OTHER OPPORTUNITIES

• Dietary Education

• What About Patient's that don't fit these criteria?
SECONDARY OBSERVATION UNITS

• Osborne, et al, Critical Pathways in Cardiology; March 2016
  • Larger hospitals capturing the improved efficiency of Type 3 units over Type 4
    • More remote from E.D.
    • Staffed by IM physicians
    • More likely to take:
      • HD patients
      • Frail/non-ambulatory patients
      • Patients needing NH placement
• Observation Medicine is good for you, your patients, and hospital

• Efficient Units require:
  • Good location
  • Good Staffing
  • Good patient selection
  • Good clinical protocols

• Good Clinical Protocols
  • Improve efficiency of unit
  • Improve patient outcomes
QUESTIONS?