ED Hospital Medicine Observation Project: A Quality Improvement Initiative

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**Background**

- Problem: Inefficiency in triage, labeling as observation vs. inpatient admission, and timely communication between providers.
- Equating to countless work hours spent and increased cost for the network.
- Opportunity to better manage observation patients and decrease their overall length of stay.
- The new CMS “2 midnight rule” has increased the need for observation patients to be closely monitored to ensure cases that exceed 48 hours are due to medical necessity.
- The Observation Project is a quality improvement initiative and collaboration of the Department of Emergency Medicine, the Department of Hospital Medicine and ancillary services.
- The focus of this initiative is on expansion of the observation cohort, establishment of unified observation protocols, provider education and length of stay management.
- The Observation project has been adopted by LVHN as one of the network’s main objectives of fiscal year 2015.

**Methods**

- Evidence Based Medicine (EBM) research and national database review for national clinical practice guidelines and exclusion criteria.
- Development of clinical practice guidelines for LVHN which EM physicians and HM hospitalists agree upon for at least two out of six presenting patient symptoms: chest pain and syncope.
- Future education sessions with physicians, residents and ancillary services to present the new standardized clinical practice guidelines.
- Future implementation and feedback sessions.

**Results**

**Example Clinical Practice Guidelines for Chest Pain**

<table>
<thead>
<tr>
<th>Differential Diagnosis</th>
<th>Pain in the thorax region.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Causes</td>
<td>(15-16%) Unstable angina, MI, pericarditis and myocarditis, acute dissection</td>
</tr>
<tr>
<td>Pulmonary Causes</td>
<td>(5-20%) Pneumonia, pleuritis, tension pneumonitis, PE, PPH</td>
</tr>
<tr>
<td>GI Causes</td>
<td>(3-9%) Esophageal reflux, esophageal spasm, Mallory-Weiss, Boerhaave, peptic ulcer disease, biliary disease, pancreatitis</td>
</tr>
<tr>
<td>Musculoskeletal and Miscellaneous Causes</td>
<td>(6-20%) Chostochondritis, muscular strain, thoracic outlet syndrome</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>(0-11%) Anxiety</td>
</tr>
</tbody>
</table>

**Definition**

- Define if your patient is at high risk by completing a thorough history and physical exam as well as 3 preliminary tests.

**History**

- Obtain from patient and witness if available.
- Include:
  - HPI = Quality, severity, location, radiation, provoking and palliating factors, duration, frequency, and pattern in which it occurred, associated symptoms
  - PMH = Prior episodes of chest pain
  - Medications = List of all taken including recent changes
  - Family History = Specifically cardiac (MI etc)

**Physical Exam**

- Vital signs (BP in both arms)
- Inspection, palpation (see if reproduces pain), auscultation, percussion
- Fully cardiac evaluation (ascertain for murmurs, rubs, gallops)
- Signs of vascular disease (bruits)
- Signs of heart failure (peripheral/palmp edema, JVD etc)

**Other Initial Studies**

- 12 Lead EKG, Cardiac troponin, CRP
- Stratified your patient’s risk and manage accordingly. High Risk patients should be admitted. Intermediate Risk patients should be observed. Low Risk patients should be discharged with outpatient follow-up. See below.

**Is your patient at high risk?**

<table>
<thead>
<tr>
<th>Intermediate Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain with exertion, dyspnea at rest, PVD symptoms, clinical suspicion of MI</td>
<td></td>
</tr>
<tr>
<td>No prior myocardial infarction, no new ischemia on EKG, no new ECG changes</td>
<td></td>
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</tr>
</tbody>
</table>

**Diagnostic Considerations**

- At least one of the following features must be present: Persistent, ongoing (>20min) pain at rest, Pulmonary edema, Hypotension, Arrhythmia with dynamic ST segment changes (>1mm), Arrhythmia or new or worsening mitral regurgitation murmur, Angina with 3 or more risk features, Advanced age, Any of the above with hypotension.

**Conclusions**

Formation of EBM guidelines can be accomplished relatively expediently; however, changing the daily practice of well-seasoned clinicians can be difficult and takes time.

1. Know your audience and how they need to receive new information.
2. Gain buy-in from key stakeholders (best way of creating influence).
3. Improvement is a continual process that is never ending and takes time.

**Future Applications**

- Enhance standardization among providers.
- Provide safer, most current, evidence based care.
- Limit unnecessary admissions and diagnostic studies to save on the bottom line.
- Create dialogue among providers who share different approaches to syncope and chest pain workup.

**References**