LOW RISK CHEST PAIN GUIDELINES

PURPOSE: To take advantage of improved technology (high sensitivity troponin and cardiac calcium scoring) along with improved system resources (universal cardiology follow up and increased stress testing capability) to identify which low risk chest pain patients can safely be discharged from the ED with close follow up.

ADVANTAGES: Many of the patients presenting with low risk chest pain will be safely discharged directly from the ED with only a slight increase in their length of stay. This benefits the patient (no admission, improved follow up), the hospital (decrease in denials, frees up a limited resource), and the ED (greater availability of telemetry beds).

DISADVANTAGES: Some of these low risk chest pain patients (generally those with nl workup but a positive calcium score) will spend extended time in the ED while awaiting further testing (mainly Stress EKG). They also may not experience the same level of patient comfort (bedding, privacy, quietness) that in-patients receive.

TARGET POPULATION: Low risk chest pain patients who are believed to require more than routine testing (EKG, CXR, lab work) to be safely discharged. This population includes:
- TIMI 0-3 patients with a normal EKG, and a troponin below the reference point of 99th percentile who do not have any high-risk factors.

LOW RISK CHEST PAIN PATHWAY:
- Admit for further evaluation those with suspected ischemic chest pain AND:
  - Abnormal EKG changes
  - High Sensitivity Troponin that is elevated
  - TIMI 4 and above.
  - Those with High-Risk Factors (See below)
  - Those for whom cardiology recommends admission
  - Those with a positive stress test
- Discharge with close cardiology follow up:
  - Those who are triple normal (EKG, Troponin and Calcium Score)
  - Those who have a normal exercise stress test (despite positive calcium score)
  - Those you feel can have their cardiology evaluation deferred for 1-2 days
- Chest pain within 24 hours suggestive of ischemia
- NLI Nondiagnostic EKG
- Negative 1st Troponin
- TIMI Risk 0-2 (A)
  - No high risk factors (B)
  - TIMI 3 = (+) Calcium Score

**ADMIT IF**
- Elevated Troponin
- Ischemic changes to EKG
- TIMI 4 or greater
- High Risk Factors

- Order CT Heart (Cardiac Calcium Scoring)
- Target HR < 70
- Lower rate to achieve target (lopresor PO|IV as first line)
- A 2nd Trop may be helpful

**Discharge IF**
- Calcium score zero
- No ongoing ischemic symptoms

**(+) Calcium Score**
- Consult Cardiology
- Further workup options:
  - Admission
  - ED ordered Stress test
  - Next day follow up with cardiologist
- Repeat EKG and Trop if discharge contemplated

**ED SPECT**
- (+) = Admit
- (-) = Close Cardiol. F/U
- Repeat EKG and Trop
(A) TIMI SCORE:

- Age ≥ 65
- 3 or more risk factors for CAD
  - Family history of CAD
  - Hypertension (BP > 140/90 BP, or taking antihypertensive medication)
  - Cigarette smoking
  - HDL < 40
  - Diabetes
- Known CAD (stenosis ≥ 50%)
- ASA use in past 7 days
- Angina (≥ 2 episodes in last 24 hours)
- ST deviation ≥ 0.5 mm
- Positive troponin (in our model this would be an automatic admission)

(B) HIGH RISK FACTORS:

- Hemodynamically unstable
- Typical Cresendo Angina
- Rest pain > 20 minutes identical to past ACS
- Ongoing chest pain in ED
- History of CAD based on previous coronary angiography or prior coronary revascularization (Stents or CABG)