UA/NSTEMI QUICK REFERENCE GUIDE

Overview: Acute coronary syndrome (ACS) is a term that refers to clinical symptoms due to acute myocardial ischemia. ACS includes unstable angina (UA) and non-ST-segment elevation myocardial infarction (NSTEMI). Both are acute processes of myocardial ischemia in which UA differs by not resulting in myocardial necrosis and in NSTEMI there is necrosis.

Because UA and NSTEMI may be indistinguishable at the time of presentation, the ACC/AHA guideline addresses them together as UA/NSTEMI. Rapid evaluation and action are critical to prevent cardiac damage and mortality. Onset is most often caused by at least one or more these factors:
- nonocclusive thrombus on pre-existing plaque
- dynamic obstruction (coronary spasm or vasoconstriction)
- inflammation and/or infection
- secondary UA

Even though family physicians may not provide acute care for UA/NSTEMI patients, familiarity of this guideline improves continuity of care and can decrease omission of important therapies.

Registration/clerical/clinical staff should be aware of “red flag” symptoms when they are the front line in fielding patient calls/check-in. Awareness of ACS symptoms promotes speedy and appropriate triaging to a facility where a healthcare team and 12-lead ECG can evaluate symptoms quickly and definitively.

The ACC/AHA guideline divides UA/NSTEMI management into four parts:
1. Initial evaluation to confirm a UA/NSTEMI diagnosis and risk assessment:
   a. History
   b. Physical exam
   c. ECG
   d. Cardiac biomarkers
2. Hospital care
   a. Initial triaging of treatment, testing and monitoring in the appropriate setting, e.g., telemetry observation VS an advanced CCU/ICU setting.
   b. Medical treatment that includes:
      - anti-ischemic therapy such as O₂, NTG, beta blocker
      - antiplatelet agents such as aspirin, clopidogrel, platelet glycoprotein IIb/IIIa inhibitor
      - antithrombotic agents such as heparin, low-molecular-weight heparin
3. Coronary revascularization – the goal of angiography is to gather information to determine prognosis and benefit of percutaneous or surgical revascularization based on the location and extent of coronary atherosclerosis.
4. Hospital discharge and post-hospital care – ensure “ABCDE” is addressed:
   A = aspirin and antianginals
   B = beta blockers and blood pressure
   C = cholesterol and cigarettes
   D = diet and diabetes
   E = education and exercise
   Follow-up care within 2-6 weeks for low-risk patients; 1-2 weeks for higher-risk patients.

Table on flip side correlates the likelihood of acute coronary syndrome symptoms and risk of death or nonfatal myocardial infarction.

References:
### Correlating Acute Coronary Syndrome Symptoms and Risk of Death or Nonfatal Myocardial Infarction in UA/NSTEMI Patients

<table>
<thead>
<tr>
<th>Area of assessment</th>
<th>High Likelihood/Risk</th>
<th>Intermediate Likelihood/Risk</th>
<th>Low Likelihood/Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>Any of the following</td>
<td>None of the “High” features, but any of the following</td>
<td>Symptoms with features other than those indicating intermediate or high likelihood</td>
</tr>
<tr>
<td></td>
<td>Chest or left arm pain or discomfort reproducing previously documented angina</td>
<td>Chest or left arm pain or discomfort</td>
<td>New-onset or progressive anginal symptoms, not occurring at rest</td>
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<tr>
<td></td>
<td>Accelerating tempo of ischemic symptoms in preceding 48 hrs.</td>
<td>Previous myocardial infarction, peripheral vascular disease, cerebrovascular disease, coronary artery bypass grafting, or aspirin use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prolonged, ongoing (&gt; 20 min.) angina at rest</td>
<td>Prolonged angina at rest (&gt; 20 minutes), now resolved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None of the “High” features, but any of the following</td>
<td>Angina at rest (&lt; 20 minutes) or relieved with rest or sublingual nitroglycerin</td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>Chest or left arm pain or discomfort</td>
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<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>Previous myocardial infarction, peripheral vascular disease, cerebrovascular disease, coronary artery bypass grafting, or aspirin use</td>
<td>Prolonged angina at rest (&gt; 20 minutes), now resolved</td>
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<td>Symptoms</td>
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<td></td>
</tr>
<tr>
<td>History</td>
<td>Known history of coronary artery disease or myocardial infarction</td>
<td>Patient age &gt; 70 years, male sex, diabetes mellitus</td>
<td>Recent cocaine use</td>
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<tr>
<td>History</td>
<td></td>
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<td></td>
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<tr>
<td>Physical examination or Clinical findings</td>
<td>Transient mitral regurgitation, hypotension, diaphoresis, rales</td>
<td>Extracardiac vascular disease</td>
<td>Chest pain reproduced by palpation</td>
</tr>
<tr>
<td>Physical examination or Clinical findings</td>
<td>Ischemic pulmonary edema, new or worsening mitral regurgitation, S₃ gallop, hypotension, patient age &gt; 75 yrs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECG</td>
<td>New transient ST-segment deviation or T-wave inversion with symptoms</td>
<td>Fixed Q waves; abnormal ST segments or T-wave not documented to be new</td>
<td>Normal or unchanged ECG during pain episode</td>
</tr>
<tr>
<td>ECG</td>
<td>New transient ST-segment deviation; bundle-branch block or sustained ventricular tachycardia</td>
<td></td>
<td>T wave flattening or inversion in leads with dominant R waves</td>
</tr>
<tr>
<td>Cardiac markers</td>
<td>Elevated cardiac-specific troponin levels (TnI, TnT) or elevated MB isoenzyme of creatine kinase level (CK-MB)</td>
<td>Normal levels</td>
<td>Normal levels</td>
</tr>
<tr>
<td>Cardiac markers</td>
<td>Above “necrosis limit”</td>
<td>Troponin levels elevated but below &quot;necrosis limit&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### High-Risk Indicators Supporting Early Invasive Strategy in UA/NSTEMI Patients

- Recurrent angina or ischemia at rest or with low-level activity, despite intensive anti-ischemic therapy
- Elevated cardiac-specific troponin level (troponin I or T)
- New or presumably new ST-segment depression
- Recurrent angina or ischemia with symptoms of congestive heart failure, an S₃ gallop, pulmonary edema, worsening rales, or new or worsening mitral regurgitation
- High-risk findings on noninvasive stress testing
- Depressed left ventricular function (e.g., ejection fraction < 40% on noninvasive study)
- Hemodynamic instability
- Sustained ventricular tachycardia
- Percutaneous coronary intervention within six months
- Previous coronary artery bypass grafting