Acute coronary syndromes algorithm

Syndromes suggestive of ischemia or infarction

EMS assessment and care and hospital preparation*


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** ECG interpretation**

ST-elevation MI (STEMI)

- Start adjunctive therapies as indicated
- Do not delay reperfusion

Time from onset of symptoms ≤12 hours?

≤12 hours

- Reperfusion goals:
  - First medical contact-to-balloon inflation (PCI)** goal of 90 minutes
  - Door-to-needle (fibrinolysis) goal of 30 minutes

>12 hours

- Troponin elevated or high-risk patient
  - Consider early invasive strategy if:
    - Refractory ischemic chest discomfort
    - Recurrent/persistent ST deviation
    - Ventricular tachycardia
    - Hemodynamic instability
    - Signs of heart failure

Start adjunctive treatments as indicated

- Nitroglycerin
- Heparin (UFH or LMWH)
- Angiotensin-converting enzyme inhibitors
- HMG-CoA reductase inhibitors
- Consider: PO β-blockers
- Consider: P2Y12 inhibitors
- Consider: Glycoprotein IIb/IIIa inhibitor

Admit to monitored bed. Assess risk status. Continue ASA, heparin, and other therapies as indicated.

ACE inhibitor/ARB; HMG-CoA reductase inhibitor (statin therapy)

Not at high risk: cardiology to risk stratify

Develops 1 or more:
- Clinical high-risk features
- Dynamic ECG changes consistent with ischemia
- Troponin elevated

Abnormal diagnostic noninvasive imaging or physiologic testing?

N

Y

If no evidence of ischemia or infarction by testing, can discharge with follow-up

Low-/intermediate-risk ACS

Consider admission to ED chest pain unit or to appropriate bed and follow:

- Serial cardiac markers (including troponin)
- Repeat ECG/continuous ST-segment monitoring
- Consider noninvasive diagnostic test

Immediate ED general/cath lab treatment

Oxygen

If 0₂ Sat <90%

OR if short of breath

Oxygen

If 0₂ Sat <90%

OR if short of breath

MORPHINE

MORPHINE

Oxygen

If 0₂ Sat <90%

OR if short of breath

Consider nitroglycerin sublingual or spray if indicated

Consider P2Y12 inhibitors

Concurrent ED/cath lab assessment (<10 minutes)

Activate cardiac cath lab

Cardiac markers complete blood coagulation studies

Chest X-ray (<30 mins)

12-lead ECG

Physical Exam

IV Access

Check Vital Signs

Activate cardiac cath lab

Concurrent ED/cath lab assessment (<10 minutes)

Immediate ED general/cath lab treatment

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