Acute Coronary Syndromes Symptoms suggestive of ischemia or infarction 2 EMS assessment and care and hospital preparation: Monitor, support ABCs. Be prepared to provide CPR and defibrillation · Administer aspirin and consider oxygen, nitroglycerin, and morphine if needed Obtain 12-lead ECG; if ST elevation: Notify receiving hospital with transmission or interpretation; note time of onset and first medical contact · Notified hospital should mobilize hospital resources to respond to STEMI If considering prehospital fibrinolysis, use fibrinolytic checklist Concurrent ED assessment (<10 minutes) Immediate ED general treatment Check vital signs; evaluate oxygen saturation If O_s sat <94%, start oxygen at 4 L/min, titrate Establish IV access Aspirin 160 to 325 mg (if not given by EMS) · Perform brief, targeted history, physical exam Nitroglycerin sublingual or spray · Review/complete fibrinolytic checklist; Morphine IV if discomfort not relieved by check contraindications nitroglycerin · Obtain initial cardiac marker levels, initial electrolyte and coagulation studies Obtain portable chest x-ray (<30 minutes) 4 **ECG** interpretation 5 9 13 ST elevation or new or ST depression or dynamic Normal or nondiagnostic changes presumably new LBBB; T-wave inversion; strongly in ST segment or T wave strongly suspicious for injury suspicious for ischemia Low-/intermediate-risk ACS ST-elevation MI (STEMI) High-risk unstable angina/ non-ST-elevation MI (UA/NSTEMI) 14 Consider admission 10 · Start adjunctive therapies to ED chest pain unit or as indicated Troponin elevated or high-risk patient to appropriate bed and · Do not delay reperfusion Consider early invasive strategy if: follow: · Refractory ischemic chest discomfort Serial cardiac markers · Recurrent/persistent ST deviation (including troponin) 7 >12 Repeat ECG/continuous Ventricular tachycardia hours Time from onset of Hemodynamic instability ST-segment monitoring symptoms ≤12 hours? Consider noninvasive Signs of heart failure diagnostic test 11 15 <12 hours Start adjunctive treatments as indicated Nitroglycerin Develops 1 or more: Yes Heparin (UFH or LMWH) · Clinical high-risk features Consider: PO β-blockers Dynamic ECG changes · Consider: Clopidogrel consistent with ischemia · Consider: Glycoprotein IIb/IIIa inhibitor Troponin elevated 8 12 16 Reperfusion goals: Admit to monitored bed Abnormal diagnostic Yes Therapy defined by patient and Assess risk status noninvasive imaging or center criteria physiologic testing? Continue ASA, heparin, and other Door-to-balloon inflation (PCI) therapies as indicated goal of 90 minutes ACE inhibitor/ARB No 17 · Door-to-needle (fibrinolysis) · HMG CoA reductase inhibitor goal of 30 minutes (statin therapy) If no evidence of ischemia Not at high risk: cardiology to risk stratify or infarction by testing, can discharge with follow-up © 2010 American Heart Association

Figure 30. The Acute Coronary Syndromes Algorithm.