Slide 1

Acute Coronary Syndromes

NDAFP Big Sky January 2022
Wednesday January 19, 2022 9-9:45a

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Regional Medical Officer Aspire Healthcare
& Main Street Health

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Slide 2

Learning Objectives

1. Articulate the nomenclature for acute coronary syndromes
2. List the standard diagnostic tests and their predictive value for coronary syndromes
3. Use evidence-based criteria in determining safe and effective medications to prescribe at discharge post-ACS
4. Practice secondary prevention of coronary syndromes, including medication and lifestyle modification
5. Deal with anxiety, return to function, and other issues related to acute coronary syndromes.

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Slide 3

What is ASCVD?

- Atherosclerotic Cardiovascular Disease
- Atherosclerosis of:
  - Coronary (ACS)
  - Cerebrovascular (including carotid)
  - Aortic (AAA)
  - Iliofemoral (PAD)
- Arterial different than venous disease
  - Anticoagulants, platelet inhibitor selection different

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Slide 4

ACS Definitions

- Myocardial ischemia
  - Stable angina
  - Unstable angina
  - Myocardial infarctions
    - STEMI (ST segment elevation myocardial infarction)
    - NSTEMI (Non ST-segment elevation myocardial infarction)
- 625,000 discharged from U.S. hospitals each year with ACS
  - 30% of patients with STEMI
  - 70% had a type of NSTE-ACS

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Five Types of Infarction

1. Coronary Atherothrombosis
2. Supply–demand mismatch that is not the result of acute atherothrombosis
3. Sudden death without the opportunity for biomarker or ECG confirmation
4. Related to a percutaneous coronary intervention (PCI)   B. infarction related to thrombosis of a coronary stent
5. Infarction related to coronary-artery bypass grafting (CABG)

Thygesen K, Alpert JS, Jaffe AS, et al. Third universal definition of myocardial infarction. J Am Coll Cardiol 2012;60:1581-1598.
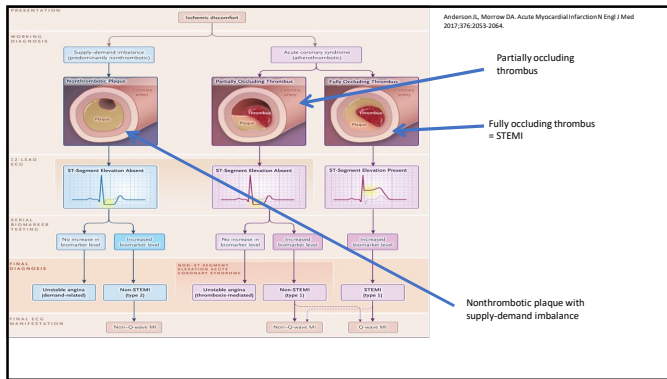
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Slide 6

Coronary Plaque and Rupture

Ruptured thin fibrous plaque with thrombus

Stenotic fibrous plaque causing stable ischemic syndromes

Proteoglycan-rich plaque with superficial erosion and thrombus

Libby P. N Engl J Med 2013;368:2004-2013.

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Anderson JL, Morrow DA. Acute Myocardial Infarction N Engl J Med 2017;376:2053-2064.

Partially occluding thrombus

Fully occluding thrombus = STEMI
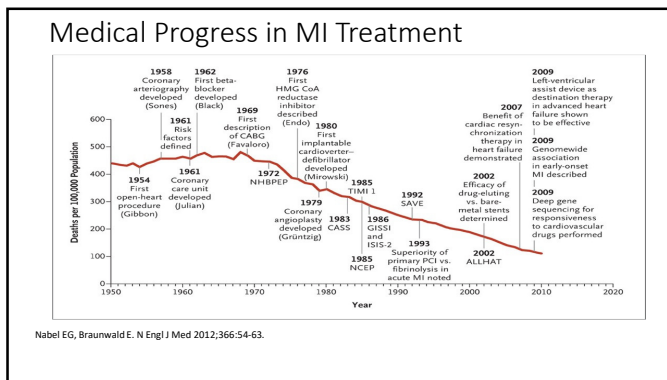
Nonthrombotic plaque with supply-demand imbalance

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ACS Epidemiology

- Every 34 seconds, one American has a coronary event
- CAD often leads to heart failure and stroke and is the single largest killer of men and women in the U.S
- **Heart disease** is the leading cause of mortality in the United States, with ~ **650,000 in 2017** (now tied with Cancer)[1]
- **366,000** specific **CAD deaths** deaths in the United States in 2015[2]
- 550,000 first episode MI and 200,000 Subsequent MI episodes annually[3]
- Hospitalization and Death from MI has **declined by 4-5% per year and is leveling**[3]

[1]Kochanek KD et al. Deaths, final cause for 2017. Natl Vital Stat Rep. 2019; 68(9):1-76
[2]Heron M. Deaths: leading causes for 2014. Natl Vital Stat Rep. 2016; 65(5):1-96
[3]Mozaffarian D Heart disease and Stroke Statistics Circulation 2016;133:e38-e360

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Medical Progress in MI Treatment

Nabel EG, Braunwald E. N Engl J Med 2012;366:54-63.

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Standard-Setting Guidelines

- ACC AHA evidence/expert guideline panels
  - ACS
    - NSTEMI 2014
    - STEMI 2012
  - HTN 2017
  - PCI 2015
  - Dual antiplatelet therapy (DAPT) update 2016
  - Blood cholesterol to reduce CV risk
  - Secondary prevention for patients with ASCVD 2011
  - ASCVD prevention in women 2011

http://www.acc.org/guidelines#doctype=Guidelines accessed 4_26_18

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Primary Prevention

- Passive primary prevention
  - US diet regulation, food inspection
    - Trans-fatty acids, labeling, calorie restriction
- Active primary prevention
  - Promotion of healthy lifestyle
  - Identification of CAD precursors
    - HTN
    - HLP
    - T2DM
    - Smoking status

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Smoking

- Passive primary prevention: Tobacco tax, age restriction, labeling, public smoking prohibition
- Secondary prevention:
  - Smoking cessation counseling—Family Physicians are good at this!

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James
Calculating ASCVD Risk

56-yo AA with tot chol 250, LDL 134, HDL 36, SBP 152. Smoking, no DM, no HTN treatment or ASA.

http://professional.heart.org/professional/GuidelinesStatements/PreventionGuidelines/UCM_457698_ASCVD-Risk-Calculator.jsp accessed April 12, 2018

ASCVD Risk Calculator

	Baseline Risk	Updated Risk
Gender		● Male ☐ Female
Age (years)		56
Race		Other / Mixed
Total Cholesterol	250	250
LDL Cholesterol	134	134
HDL Cholesterol	35	35
Treatment With Statin	No Statin	
Systolic Blood Pressure	144/85	144
Treatment For Hypertension		
History Of Diabetes		
Current Smoker	Smoking	
Aspirin Therapy		

Calculate Baseline Risk

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18.4%
Baseline 10 years ASCVD Risk

Review Inputs

Therapy Choices	ER
Start statin (moderate intensity) or intensify statin from moderate to high intensity dose now	13.8%
Adverse Events	
Start (or add) BP-lowering drug now	13.5%
Adverse Events	
Stop smoking for 2 years	13.5%

American Heart Association. AMERICAN COLLEGE of CARDIOLOGY

2013 Prevention Guidelines Tools
CV RISK CALCULATOR

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5 As

- **A**sk ("Do you smoke"?)
- **A**dvise ("Smoking will reduce your quality and length of life")
- **A**ssess (readiness to change)
- **A**ssist (offer prescription assistance)
  - Nicotine replacement, bupropion, varenicline
- **A**rrange (follow up)

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AES Question

?

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Slide 17

Question 1 NSTEMI:

NSTEMI definition: Chest Pain with........

- Elevation of ST Segment
- Elevation of Troponin
- Q Wave
- Urgent CAGB

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2. List the standard diagnostic tests and their predictive value for coronary syndromes

- **Chest discomfort: characteristics**
- High sensitivity and tissue-specificity, cardiac **troponins** I [cTnI] and T [cTnT])
- Serial **EKG**
- **Angiography**
- **Non-Invasive Testing**

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Early Identification of ACS

- Symptoms:
  - Typical angina
    - Central crushing pain radiating to back, neck, or arm with diaphoresis
  - Atypical angina
    - Left precordial pain with or without exertion and
  - Non-cardiac chest pain
    - Costochondral pain reproduced with palpation
  - Anginal equivalent pain
    - Exertional dyspnea or even fatigue (women, CRF, geriatric, diabetes)

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Approaching Chest Pain

Medicine is a science of uncertainty and an art of probability.

—William Osler

Silverman ME, Murray TJ, Bryan CS. The Quotable Osler. American College of Physicians, 2007

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Pretest probability of obstructive CAD
Pooled data from ~16,000 patients

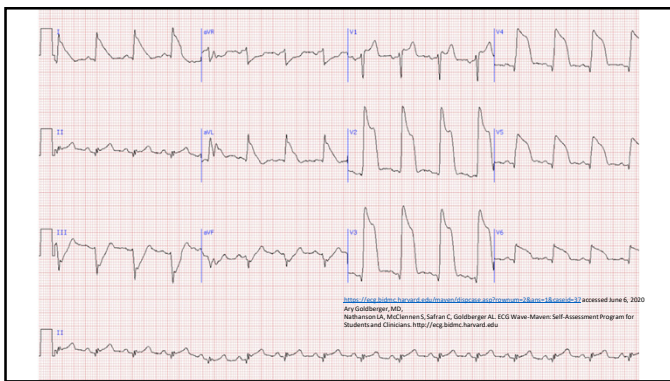| Age	Typical		Atypical		Non-anginal			Dyspnea	
	Men	Women	Men	Women	Men	Women		Men	Women
30-39	3%	5%	4%	3%	1%	1%		0%	3%
40-49	22%	10%	10%	6%	3%	2%		12%	3%
50-59	32%	13%	17%	6%	11%	3%		20%	9%
60-69	44%	16%	26%	11%	22%	6%		27%	14%
70+	52%	27%	34%	19%	24%	10%		32%	12%

Adapted from 2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes. European Heart Journal 2020 41, 407-477

21
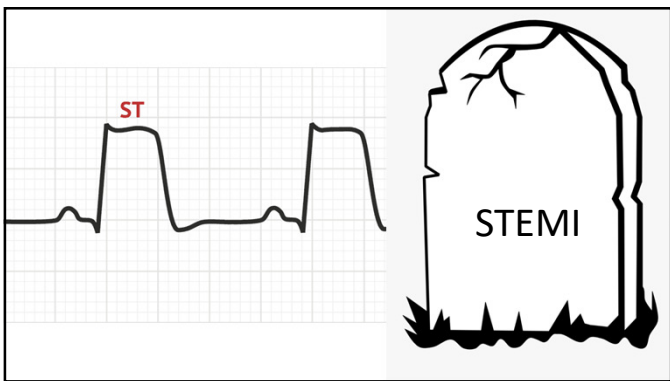
Troponin

- Rising or falling pattern and at least one value above 99%ile
- Highly sensitive Troponin within 1-2 hours but many "false positives"
  - Myocarditis, CRF, Respiratory Failure, Intracranial Hemorrhage, Stroke, septic shock, structural heart disease. , and respiratory failure; stroke or intracranial hemorrhage; septic shock; and chronic structural heart
- CKMB and Myoglobin no longer recommended by ACC
  - American College of Pathology recommend against these in "Choosing Wisely"

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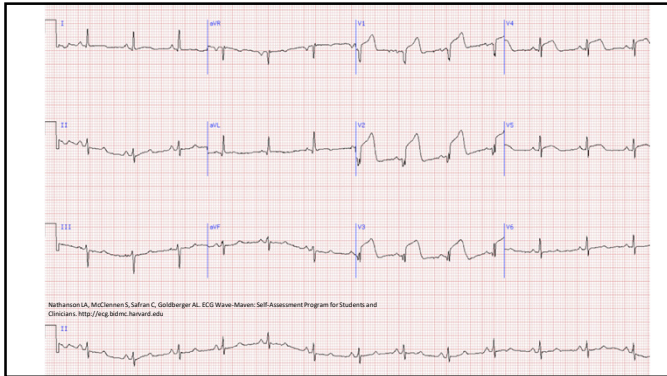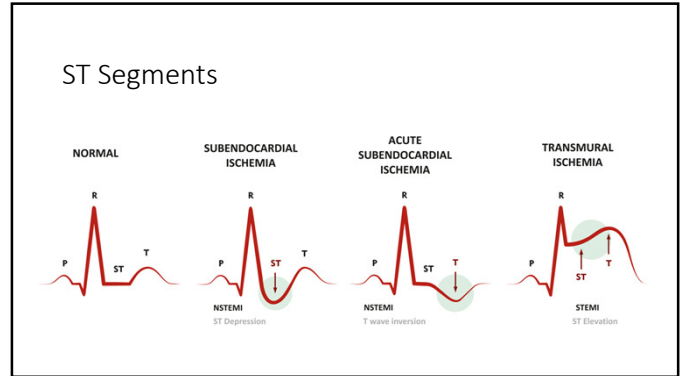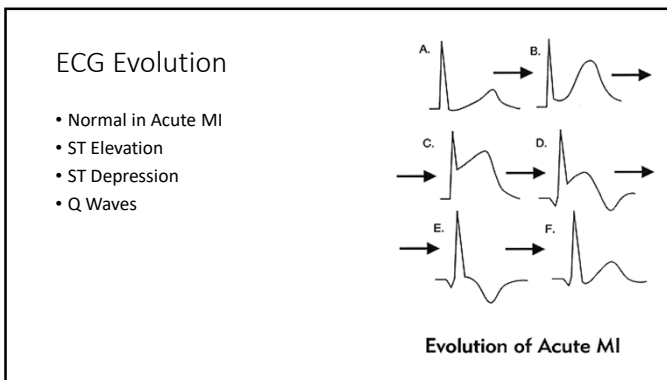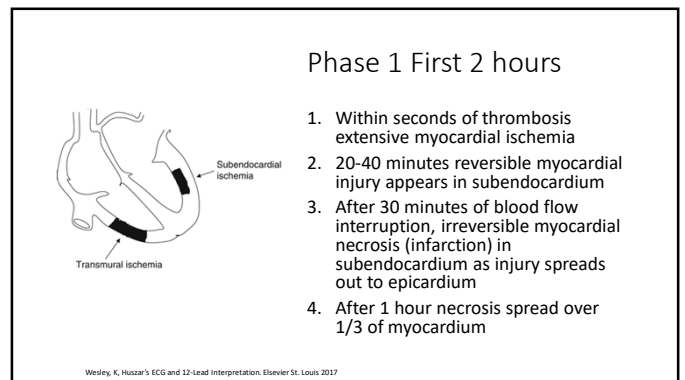https://ecg.bidmc.harvard.edu/maven/dispcase.asp?rownum=2&ano=1&caseid=37 accessed June 6, 2020
Ary Goldberger, MD;
Nathanson LA, McClennen S, Safran C, Goldberger AL. ECG Wave-Maven: Self-Assessment Program for Students and Clinicians. http://ecg.bidmc.harvard.edu

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Nathanson LA, McClennen S, Safran C, Goldberger AL. ECG Wave-Maven: Self-Assessment Program for Students and Clinicians. http://ecg.bidmc.harvard.edu

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ST Segments

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ECG Evolution

- Normal in Acute MI
- ST Elevation
- ST Depression
- Q Waves

Evolution of Acute MI

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Phase 1 First 2 hours

1. Within seconds of thrombosis extensive myocardial ischemia
2. 20-40 minutes reversible myocardial injury appears in subendocardium
3. After 30 minutes of blood flow interruption, irreversible myocardial necrosis (infarction) in subendocardium as injury spreads out to epicardium
4. After 1 hour necrosis spread over 1/3 of myocardium

Wesley, K, Huszar's ECG and 12-Lead Interpretation. Elsevier St. Louis 2017

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Phase 2:   2 to 24 hours

- 3 hours 2/3 of myocardium necrotic
- 6 hours only a small percentage of cells viable (transmural)
- By 24 hours progress to epicardium is usually complete

Phase 3:   24-72 hours

- All cells either died or recovered
- Acute inflammation and edema

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Phase 4: Second week

- Inflammation
- Proliferation of connective tissue
- Replacement of necrotic tissue with fibrous connective tissue complete by seventh week.
- Q wave in 50%

https://clinicalgate.com/6-acquired-heart-disease/ accessed 5_21_2021

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ECG Changes & Infarct Location

Location	ST elevation	Reciprocal ST depression	Coronary artery
Anterior MI	V1-6	none	LAD
Septal MI	V1-4, disappearance of septum Q in Leads V5-6	none	LAD-septal branches
Lateral MI	I, aVL, V5, V6	II, III, aVF	LCX or MO
Inferior MI	II, III, aVF	1, AVL	RCA (80%) or RCX (20%)
Posterior MI	V7, V8, V9	High R in V2-V3 with ST depression V1-V3 > 2mm (mirror view)	RCX
Right Ventricle MI	V1, V4R	I, aVL	RCA
Atrial MI	Pta in I, V5, V6	Pta in I, II, or III	RCA

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Diagnostic Tests for C/P

- Exercise ECG, "stress test": 70% sens/spec
  - But 95% negative predictive value
- Nuclear stress test: Slightly improved sensitivity
  - Quantify ischemic area
  - For those with physical limitations, LBBB
- CCTA: Improved sensitivity and specificity
  - Reduced MACE? Radiation exposure
- Stress echocardiography: Availability
- Coronary angiography: Invasive

Taylor AJ, Improving the Odds in the Evaluation of Chest Pain. JACC 60(21) 2012

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Testing

- Serial ECGs (e.g., 15- to 30-minute intervals during the first hour) (C)
- Serial cardiac troponin I or T levels at presentation and 3-6 h (A) and beyond 6 h if timing or symptoms unclear (C)
- Risk scores should be used to stratify patients
- Echocardiogram

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Hospital Care

- M   Morphine (pain control, reduce anxiety and CO and preload reduction)
- O   Oxygen (may not be of that much value and could be harmful)
- N   Nitrate (vasodilation and preload reduction)
- A   Aspirin
- Clopidogrel, prasugrel, ticagrelor held if going to cath lab
- B-blocker held if going for nuclear stress test
- IV access in case of cardiac arrest
- Cardiac monitoring for dysrhythmia

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In-Hospital Anticoagulation

- Unfractionated heparin
- Low-molecular-weight heparin
- Bivalirudin
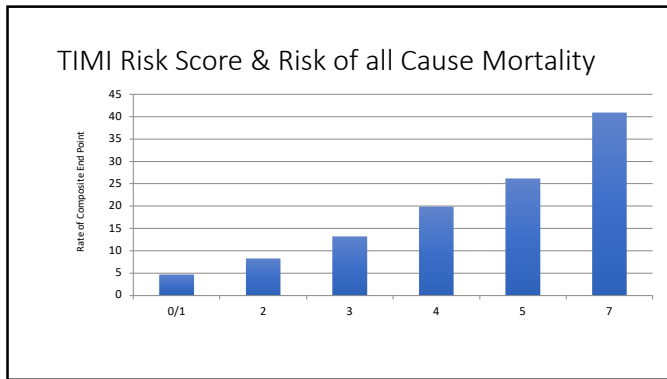- GPI: (Glycoprotein Inhibitor) IIB/IIIA inhibitors

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Thrombolysis in MI (TIMI) UA/NSTEMI

- Initial medical evaluation of patients with UA/NSTEMI can be used to construct a simple classification system that is predictive of risk for death and cardiac ischemic events.

Risk Factor	Weight
Age >65	+1
>3 RF: DM, HTN, Angina, smoke	+1
Known CAD (stenosis >50%)	+1
ASA use in the past 7 days	+1
Severe angina (>2 episodes in 24 h)	
EKG ST changes > 0./5mm	+1
Positive Cardiac Marker	+1

https://www.mdcalc.com/timi-risk-score-stemi accessed 5/15/19

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TIMI Risk Score & Risk of all Cause Mortality

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Grace Score

- Cardiac arrest at admission?
- Abnormal cardiac enzymes
- ST segment deviation on EKG
- Abnormal cardiac enzymes
- Killip Class
  - No CHF
  - Rales and or JVD
  - Pulmonary Edema
  - Cardiogenic Shock
  - 10% probability of death within 6m

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Case 1
NSTEMI: Ralph

- 68-yo WM past MI with former PCI 1 year ago; smoking, diabetes, HTN, HLP; not taking his aspirin; has central crushing chest pain with radiation to shoulder and diaphoresis; positive troponin and unchanged ECG .

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AES Question

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Question 2
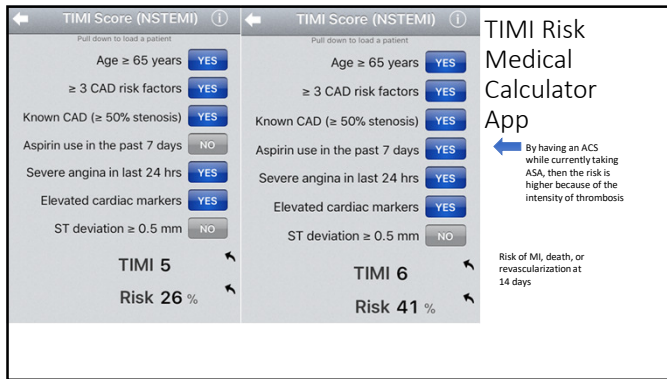## What is Jerry's risk of death, MI, or revascularization within 14 days?

A. 15%
B. 25%
C. 35%
D. 45%
E. 55%

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Unchanged ECG: Therefore NSTEMI

- High-risk patient
- High-risk approach
- This is why we proceed to **angiogram** rather than Non-invasive testing (exercise stress testing or myocardial imaging)
- Interventional
- "Aggressive"

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		TIMI Risk Medical Calculator App
TIMI Score (NSTEMI)	**TIMI Score (NSTEMI)**	
Pull down to load a patient	Pull down to load a patient	
Age ≥ 65 years — YES	Age ≥ 65 years — YES	
≥ 3 CAD risk factors — YES	≥ 3 CAD risk factors — YES	
Known CAD (≥ 50% stenosis) — YES	Known CAD (≥ 50% stenosis) — YES	
Aspirin use in the past 7 days — NO	Aspirin use in the past 7 days — YES	← By having an ACS while currently taking ASA, then the risk is higher because of the intensity of thrombosis
Severe angina in last 24 hrs — YES	Severe angina in last 24 hrs — YES	
Elevated cardiac markers — YES	Elevated cardiac markers — YES	
ST deviation ≥ 0.5 mm — NO	ST deviation ≥ 0.5 mm — NO	
TIMI 5	**TIMI 6**	Risk of MI, death, or revascularization at 14 days
Risk 26 %	**Risk 41 %**	

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Hospital Care Revascularization

- 1970s Peripheral thrombolysis
- 1980s Coronary thrombolysis
- 1990s Bare metal stent
- 2000s Drug-eluting stent
- 2010s Second-generation DES
- Balance between
  - Post-stent stenosis (fibroblast)
  - Post-stent thrombosis (platelet aggregation)

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Standards of ACS Care

- Prehospital care including defibrillator
  - AED
  - ICD
- 90-min door to balloon time
- Thrombolysis and transport if not near a coronary cath lab
- Angiogram/PCI within 24 hours at another center
- Treatment of coronary thrombosis after 72 hrs or stable CAD, less clear

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Standards of ACS Care NSTEMI

Variable	Invasive Intervention			Ischemia-Guided
	Immediate	Early	Delayed	
Timing	Within 2 hours	Within 24 hours	25-72 hours	Spontaneous or provoked ischemia
Indications	Refractory Angina New-onset HF New MR	GRACE >140 Rising troponin New ST depression	GRACE 109-140 TIMI >=2 EF < 40 Post infarct angina DM, Renal, prev CABG PCI within 6 m	TIMI 0 Low-risk and troponin-neg women Patient preference

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Revascularization: CABG

- **Triple-vessel disease**
- Severe l**eft main stem** artery stenosis
- **Left main equivalent disease** (ie, 70 percent or greater stenosis of left anterior descending and proximal left circumflex artery)—particularly if left ventricular function is impaired
- DMII selected cases

RIMA LIMA CX LAD

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3. Use evidence-based criteria in determining safe and effective medications to prescribe at discharge post-ACS

a) B Blockers

b) ACE Inhibitors / ARB

c) Vaccination for Influenza and Pneumococcal disease

d) Antiplatelets

e) Statin Therapy

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3a Beta Blockers

- Begin and continue for **3 years** in AMI pts with normal LVF (IB)
  - Use in all pts with reduced EF. (IA)
- Also, be aware CMS Quality Measures Post MI: (6 months minimum)
- Cardioselective
  - Bisoprolol, Metoprolol, Acebutolol, Atenolol, Betaxolol, Nebivolol
- Non-cardioselective
  - Carvedilol, Labetalol, Nadolol, Pindolol
- Quality Measure Exclusions
  - Asthma, COPD, Hypotension, Sinus Bradycardia, beta-blocker allergy
  - Frailty Codes
- CCB alternative if Beta-blockers not successful, contraindicated.or have unacceptable side effects
  - Nondihydropyridine: verapamil and diltiazem

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3b RAAS Blocade

- Renin Angiotensin Aldosterone System (**RAAS**) Blocker
- ACEI in all patients with HTN, DM, EF < 40 and CKD (1A)
- If intolerant to ACE use ARB (not both) (1A)
  - Captopril: 6.25 to 12.5 mg three times per day, titrate up to 25 to 50 mg as tolerated
  - Lisinopril: 2.5 to 5 mg per day, titrate up to 10 mg as tolerated
  - Valsartan: 20 mg twice daily, titrate up to 160 mg twice daily as tolerated

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3c Vaccination against Influenza, Pneumococcal Disease and …..

- Excess Mortality from AMI during influenza syndrome and those with current infections
- Inflammatory and other factors
- Pneumococcal Pneumonia
- COPD Exacerbations early recognition and treatment
- SARS CoV-2 vaccine

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3c. Statin Therapy

- High Intensity Statin (1A)
- Hyperlipidemia **identified** and treated in the **initial hospital stay**
- **High Intensity Statin** Therapy:
  - Atorvastatin (40–80 mg) or Rosuvastatin (20–40 mg).
  - Moderate-intensity statin Atorvastatin (10–20 mg), rosuvastatin (5–10 mg), simvastatin (20–40 mg), pravastatin (40–80 mg)
  - Indefinitely (over age 80?)
- CMS Quality Measures for Initiation of proper dose and adherence
- CMS
  - Prev-13 Statin Therapy for the Prevention and Treatment of Cardiovascular Disease
  - Statin Adherence Measures

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Statin Therapy

- Because post-MI patients fall into a high-risk group, they should receive high-intensity statin regardless of lipid level
- This should be started in hospital
- This must be reinforced as an important medication
- Lots of misinformation about statins
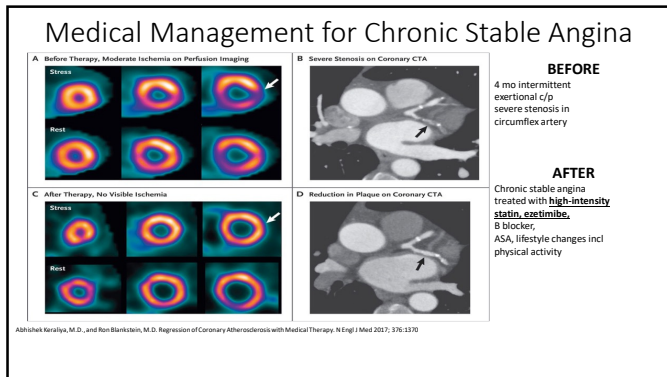- Adherence to statin is a quality measure by CMS

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ICD-10 Coding for Statin Exception

- G72.0 Drug-induced myopathy
- G72.2 Myopathy due to other toxic agents
- G72.9 Myopathy, unspecified
- M60.9 Myositis, unspecified
- M62.82 Rhabdomyolysis
- M79.1 Myalgia
- M79.10 Myalgia, unspecified site
- M79.18 Myalgia, other site

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Medical Management for Chronic Stable Angina

BEFORE
4 mo intermittent exertional c/p severe stenosis in circumflex artery

AFTER
Chronic stable angina treated with **high-intensity statin, ezetimibe,** B blocker, ASA, lifestyle changes incl physical activity

A Before Therapy, Moderate Ischemia on Perfusion Imaging
B Severe Stenosis on Coronary CTA
C After Therapy, No Visible Ischemia
D Reduction in Plaque on Coronary CTA

Abhishek Keraliya, M.D., and Ron Blankstein, M.D. Regression of Coronary Atherosclerosis with Medical Therapy. N Engl J Med 2017; 376:1370

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3 d. Platelet Inhibitors

- Invasive strategy--PCI with stent (BMS or DES): at least 12 months; (1A)
- Ischemia-guided (initial non-invasive) strategy: up to 12 months (clopidogrel or ticagrelor) (1B)
- Prasugrel versus ticagrelor

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Post-hospital Care

- Cardiac rehab
- Depression screening
- Statin
- BP control
- Exercise prescription
- Diet
- Sexuality

Switaj, TL et al Acute Coronary Syndrome: Current Treatment. Am Fam Physician. 2017 Feb 15;95(4):232-240.

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Case 2—Cardiac Rehab: Brenda

- 72-yo woman with recent inferior MI
- PCI × 2
- Discharged on high-dose statin, ACE, beta blocker
- Advised to stop smoking. Had been inactive prior to admission and has moderate OA knees and BMI 32.

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AES Question

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Question 3
What is the best way to provide support for behavior change, medication adherence, and graduated exercise?

A. Fear-based advice. "*Take the meds or you may have another MI!*"

B. Autonomy. "*Take these meds and get some exercise—it's up to you!*"

C. Fatalism. "*In my experience, people don't change.*"

D. Cardiac rehabilitation. "*Your insurance covers a program of supervised exercise and coaching.*"

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Cardiac Rehabilitation

- Curiously, cardiologists often forget to refer
- We should ensure that patients are enrolled for this covered service
- Reinforcement of disease education and medication adherence
- Supervised exercise builds confidence and creates new habits
- Coaching on diet/smoking cessation, etc.

AdobeStock license # 16494493

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Exercise

- Adults should engage in aerobic physical activity to reduce LDL-C and non-HDL-C and to lower blood pressure
- 3-4 sessions per week lasting an average of 40 minutes per session
- Moderate-to-vigorous intensity physical activity
- Monitoring /motivational systems
  - Step counter
  - Fitbit
- Ask every patient about activity

https://www.aafp.org/patient-care/browse/all-recommendations-topic.html - Accessed April 12, 2018

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AES Question

?

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Question 4
How many psychiatrists does it take to change a light bulb?

A. 0
B. 1
C. 2
D. 5
E. 10

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Answer: B (One)

- People don't change until they are ready
- You are able to help them choose to change
  - By reviewing this major life event
  - By presenting the potential for longer, healthier life
  - By providing them with programs and support
  - By co-opting family

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Diet

- Low fat diet?
- Low CHO diet?
- Reduction in total calories?
- Special considerations for DM, CRF, uric acid, gluten……….. it gets complicated
- Goal: Weight reduction, lipid lowering
- DASH diet shown to lower BP 2-5 mm Hg
- Eliminate one dietary problem per month

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Case 3—DAPT: Duong

- 71-yo Asian M with recent MI (1 month ago) and **PCI**
- No atrial fibrillation
- Hyperlipidemia
- Hypertension
- CKD III (GFR = 50)
- Smoking 1 ppd

AdobeStock license # 9732770

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AES Question

?

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Question 5
The safest regimen to prevent MACE (major adverse cardiac events) is:

A. Triple therapy: ASA, warfarin, and P2Y12 platelet inhibitor
B. Double therapy: ASA and platelet inhibitor for 6-12 m
C. Single therapy: Platelet inhibitor for 1 year
D. Single therapy: ASA 81 mg indefinitely
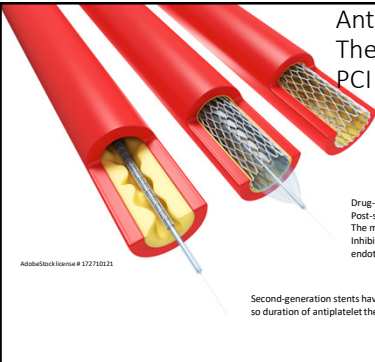
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ACC/AHA FOCUSED UPDATE

2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease

- ANSWER "B"
- P2Y12 inhibitors: Clopidogrel, prasugrel, ticagrelor
- Risk/benefit of increased bleeding and decreased thrombosis
- 6-12 m of DAPT (1)
- Beyond 12 m (II b)
- ASA 81 vs higher doses (I)
- Ticagrelor over clopidogrel (II b)
- Prasugrel reasonable choice unless hx of stroke (III harm)

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Antiplatelet Therapy after PCI

Bare metal stents risk:
Post-stent fibrosis

Drug-eluting stents (DES) risk:
Post-stent thrombosis
The metal frame elutes a fibroblast
Inhibitor that also prevents
endothelialization.

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Second-generation stents have less risk of thrombosis
so duration of antiplatelet therapy potentially shorter.

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What If Patients Have PCI and Atrial Fibrillation?

- ¼ of older patients with AFib receive triple therapy
- Risk of fatal and nonfatal bleeding is 4x as high as warfarin alone
- Risk of intracranial hemorrhage is 2x the risk of DAPT
- So what agents can we use and how many?

Piccine JP Jones WS, Triple Therapy for Atrial Fibrillation after PCI N Engl J Med 2017 377:16

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RE-DUAL: Triple Therapy in Patients with AFib & PCI Dabigatran and P2Y12 Instead of Warfarin

- 2275 patients: Warfarin, P2Y12 inhibitor (clopidogrel or ticagrelor) and aspirin vs dabigatran plus P2Y12
  - Follow-up 14 m for major bleeding event or composite MI, stroke or VTE, death or unplanned revascularization
  - Less bleeding events, and no increase in thrombosis (p 0.03)
- Supports WOEST (2013) and PIONEER (2016)
- Option: Stop ASA when drug-eluting stent, DOAC, and P2Y12

Cannnon CP et al. Dual Antithrombotic Therapy with Dabigatran after PCI in Atrial Fibrillation. N Engl J Med 2017;377:1513-24

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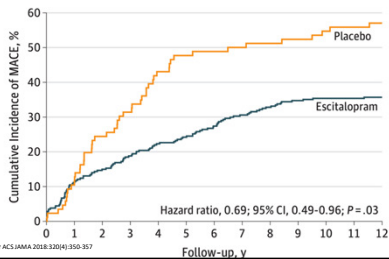## 2019 AAFP Guideline on Treatment of Post MI Depression

Up to 65% of patients with acute MI report experiencing symptoms of depression

1. A Standardized tool should be used in patients post MI to evaluate for MDD
2. Patients with a positive screening test should have a diagnostic evaluation
3. Antidepressant therapy preferably **SSRI/SNRI** +/- CBT (TCA should be avoided)

https://www.aafp.org/news/health-of-the-public/20190625depressacigtln.html accessed 6_5_2020

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RCT of Escitalopram for ACS: Cumulative Incidence of MACE

Kim J. et al Escitalopram RCT for ACS JAMA 2018;320(4):350-357

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Depression Screening

- PHQ 2
- PHQ 9
- 65% of post-MI patients with depression
- CBT, activity, rehab program
- Antidepressants: ~~TCA~~, SSRI, SNRI
- AAFP guideline forthcoming on post-MI depression

AAFP Commission of Health of Public and Science, subcommittee on Clinical Practice Guidelines

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AES Question

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AES Question #6
How much effort does sexual intercourse take (in metabolic equivalents)?

A. 2 METS
B. 4 METS
C. 12 METS
D. 16 METS

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Answer: Four Mets

- Four Mets =
  - Walking up one flight of stairs
  - Walking one block on the level
- Most people are discharged able to return to sexual intercourse
- Most patients and their spouses are anxious

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Sexuality

- Partners worry and sexual dysfunction can be related to perceived vulnerability/fragility.
- PDE 4 medications can cause hypotension when co-administered with nitrates.
- Sexuality does not have to include intercourse.

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In Hospital Practice Recommendations

- **Reperfusion therapy**, preferably primary PCI, should be administered to eligible patients with **STEMI** and symptom onset within the previous 12 hours (A)
- In the absence of contraindications, **fibrinolytic therapy should be administered to patients with STEMI at non–PCI-capable hospitals** when the anticipated first medical contact to device time at a PCI-capable hospital exceeds 120 minutes. (A)
- Patients with STEMI should be transferred to a PCI-capable hospital for **angiography after successful fibrinolysis** (B)
- Fibrinolysis is **not recommended** for treatment in patients with **NSTE-ACS**. (B)
- **Parenteral anticoagulation**, in addition to antiplatelet therapy, is recommended for all patients with NSTE-ACS regardless of initial treatment strategy. (A)

From Switaj T. Acute Coronary Syndrome Current Treatment AAFP 2017

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Post Hospital Practice Recommendations

- **High-intensity statin** therapy is recommended for all patients younger than 75 years with stable CAD, unless contraindicated (A)
- **Daily low-dose aspirin** is recommended for all patients with stable CAD, unless contraindicated (A)
- **Beta blockers should be continued for up to three years** after myocardial infarction in patients with abnormal left ventricular function (B)
- Select patients with uncontrolled symptoms of stable CAD despite optimal medical management may benefit from coronary revascularization with **percutaneous coronary intervention or coronary artery bypass grafting** (B)

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