Identifying Patients at Low-Risk for Badness: Chest Pain Case Studies

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Disclosure

I have no financial interests or relationships to disclose.

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There Is Significant Overlap Between Primary Care and Acute Care

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Master Clinicians Use Their GESTALT (Experience) in Combination with Validated Clinical Decision Tools

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Never Underestimate the Value of GESTALT

Gestalt (experience and mental clarity) has been shown to be as accurate as Clinical Decision Tools for a number of conditions

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This Allows Focused Risk Stratification of Patients So That Appropriate Management Plans Can Be Formed

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When my Gestalt and CDT Agree, Great!
When They Disagree, I Go with the Choice that Is Less Risky.

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Learning Objectives

We will review an evidence-based process that will allow us to risk-stratify patients presenting with chest pain

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Why ACS Is a Can't Miss Dx

ACS Is a Killer

- Millions of patients present to us with acute chest pain annually
- STEMI, STEMI Equivalents, and Unstable Angina are all potentially life-threatening
- In-hospital mortality from ACS is less than 5%
- ACS patients misdiagnosed have increased mortality
- The majority of acute care clinicians want a miss rate of <1%

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My Short List of CAN'T MISS Chest Discomfort Diagnoses

- ❑ Acute Coronary Syndrome
- ❑ Pulmonary Embolus
- ❑ Thoracic Aortic Dissection
- ❑ Pneumothorax
- ❑ Myo-pericarditis/Tamponade

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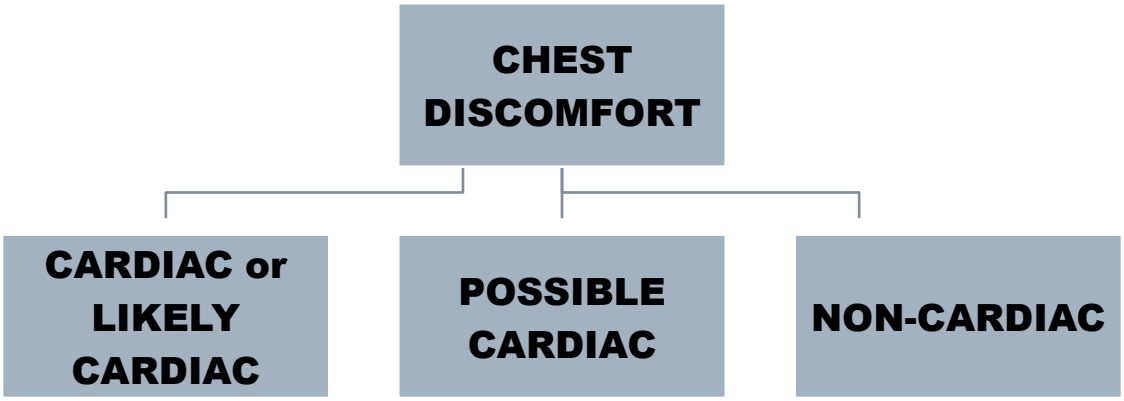
A Crucial ACS Task



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Why Not Just Fully Evaluate All Patients Presenting with Chest Pain?

More testing, e.g. troponins, stress tests → **More "False Positives"**

More "False Positives" → **More downstream testing, e.g. PCI, coronary CTA**

More downstream testing → **More potential for harm (e.g. stenting, CABG) and cost, but no significant improvement in patient outcomes**

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The Majority of Our Patients Presenting with Acute Chest Discomfort Do Not Have ACS

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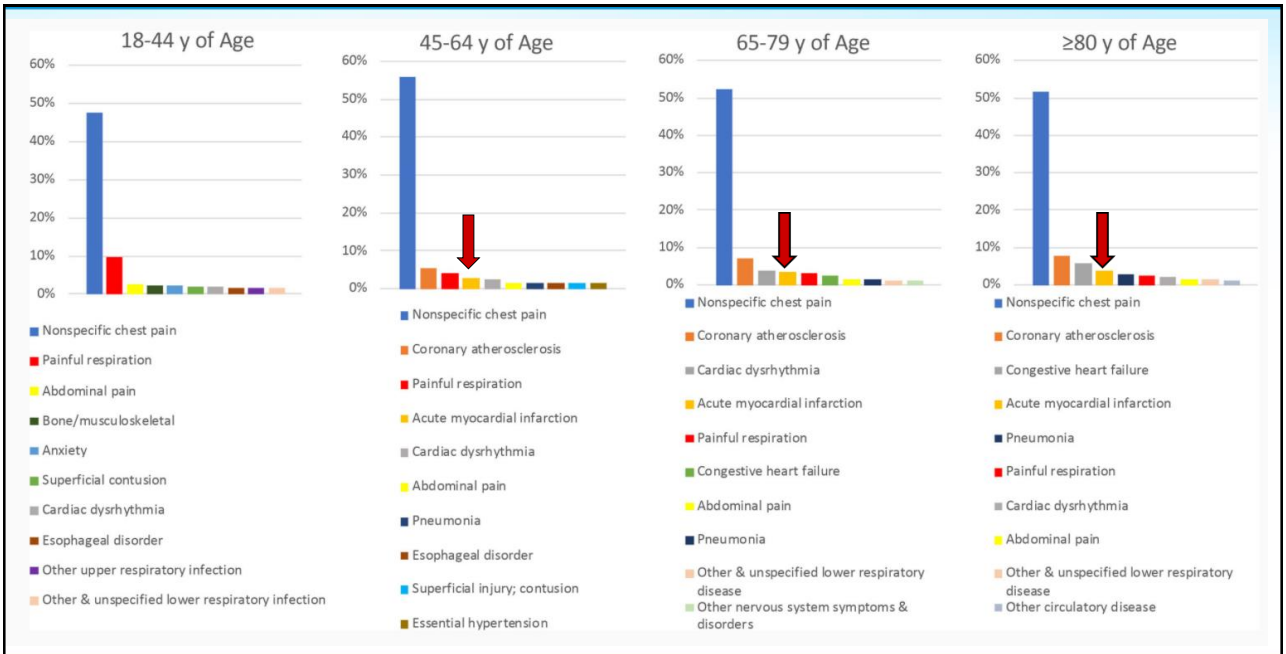

Gulati M et al: Circulation 2021

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And Many Patients that Concern Us Do Quite Well

Reassuring Study

- **#7,266 patients presenting to three ED's with chest discomfort**
  - ***"pain", "tightness", "burning", "pressure"***
- **All admitted or observed**

- **All had:**
  - **Non-concerning vital signs and ECGs**
  - **Normal serial biomarkers**
- **Only two patients experienced a major cardiac event: 0.03%**

Weinstock: JAMA 2015

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Can H&P Help Dx ACS?

Although individual elements of the H&P are rarely diagnostic of ACS, all elements taken together produce a pattern that may indeed be concerning.

Let your brain process this when you leave the bedside. Trust your gestalt when this happens.

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Can History Help Dx ACS?

	Likelihood Ratio
Pain Radiation to Both Arms	7.1
Pain Similar to Prior Ischemia	2.2
Pain Radiation to Right Arm/Shoulder	4.7
Chest Pain with Exertion	2.4
History of MI	1.5

Remember:
Influential LR+: 5 to 10+
Influential LR-: 0.2 to 0.1-

Hollander: Circulation 2016

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Can History Help Dx ACS?

	Likelihood Ratio
Pleuritic Chest Pain	0.2
Described as Sharp	0.3
Positional Chest Pain	0.3
Not Associated with Exertion	0.8
Inframammary Location	0.8

Remember:
Influential LR+: 5 to 10+
Influential LR-: 0.2 to 0.1-

Hollander: Circulation 2016

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Can Physical Help Dx ACS?

	Likelihood Ratio
Diaphoresis	2.0
Hypotension (SBP <80mm Hg)	3.1
Third Heart Sound	3.2
Pulmonary Rales	2.1
Reproduced by Palpation	0.3

Remember:
Influential LR+ (5 to 10+)
Influential LR (0.2 to 0.1-)

Hollander: Circulation 2016

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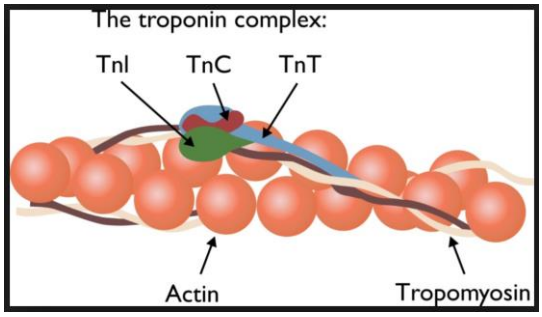
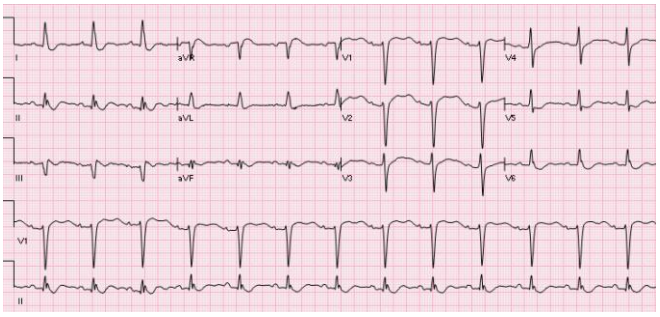
The Other Two Major Players





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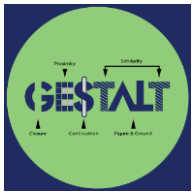
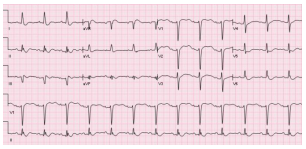
Your Point-of-Care Tool Box



Your H&P

+



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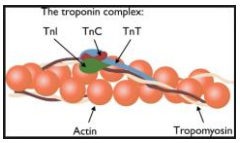

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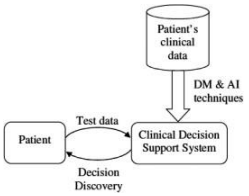

A validated Clinical Decision Tool, combined with thoughtful gestalt, skillful ECG interpretation, and possibly a troponin is the final step in risk stratifying the patient with chest pain

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The Ideal Clinical Decision Tool for Risk Stratifying Undifferentiated Chest Pain

- ❑ Validated in real life situations
- ❑ Easy to apply at the bedside
- ❑ Clinically relevant
- ❑ Reliable

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EDACS-ADP

Score		Components		Criteria for Low Risk
EDACS-ADP	Age, yrs	18–45	2 points	EDACS <16 • No new ischemia on ECG • Nonelevated serial 0-h and 2-h cardiac troponin concentrations
		46–50	4 points	
		51–55	6 points	
		56–60	8 points	
		61–65	10 points	
		66–70	12 points	
		71–75	14 points	
		76–80	16 points	
		81–85	18 points	
		86+	20 points	
	Male			
	Age 18–50+ yrs	(i) Known CAD (ii) ≥3 risk factors	4 points	
	Symptoms	Diaphoresis	3 points	
		Radiates to arm or shoulder	5 points	
		Pain occurred or worse on inspiration	−4 points	
		Pain on palpation	−6 points	

Suspected ACS

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T-MACS

Troponin-only Manchester Acute Coronary Syndromes (T-MACS) Decision Aid ☆

Rules out acute coronary syndrome

EKG ischemia As determined by treating clinician	**No 0**	Yes +1
Worsening or crescendo angina	**No 0**	Yes +1
Pain radiating to right arm or shoulder	**No 0**	Yes +1
Pain associated with vomiting	**No 0**	Yes +1
Sweating observed As observed by treating clinician	**No 0**	Yes +1
Hypotension sBP <100 mmHg on arrival to ED	**No 0**	Yes +1
hs-cTnT concentration on arrival	Norm: 0 - 0.014	µg/L ⇆

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HEART/HEAR Pathway

What is the HEART Score?

H = History

E = ECG

A = Age

R = Risk Factors

T = Troponin

HEART

HEART score for chest pain patients		
History	Highly suspicious	2
	Moderately suspicious	1
	Slightly suspicious	0
ECG	Significant ST-deviation	2
	Non specific repolarisation disturbance / LBTB / PM	1
	Normal	0
Age	≥ 65 years	2
	> 45 and < 65 years	1
	≤ 45 years	0
Risk factors	≥ 3 risk factors or history of atherosclerotic disease*	2
	1 or 2 risk factors	1
	No risk factors known	0
Troponin	≥ 3x normal limit	2
	> 1 and < 3x normal limit	1
	≤ 1x normal limit	0
		Total

*Risk factors for atherosclerotic disease:

Hypercholesterolemia, Hypertension, Diabetes Mellitus, Cigarette smoking, Positive family history, Obesity

This is my preferred CDT in patients with undifferentiated chest pain

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My HEART Art

History + Exam + Observation + Experience = Gestalt

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My HEART Art

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*Risk factors for atherosclerotic disease:

Hypercholesterolemia
Hypertension
Diabetes Mellitus
Cigarette smoking
Positive family history
Obesity

A highly suspicious History = High Risk

Almost never an isolated finding

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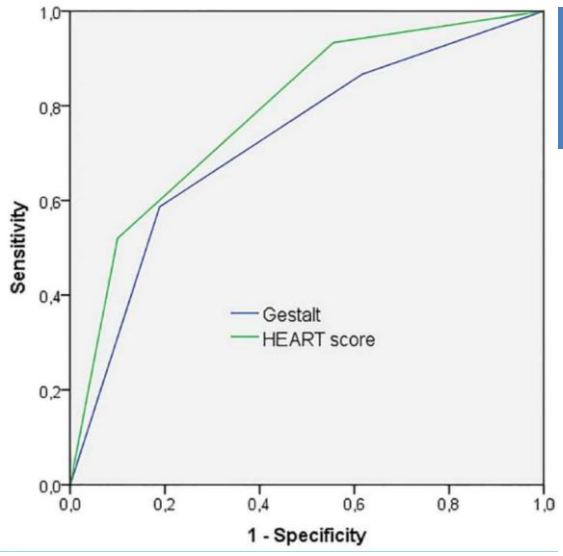

Visser: Emerg Med J 2015

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HEART

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Cigarette smoking
Positive family history
Obesity

My HEART Art

Significant ST-deviation= High Risk

Almost never an isolated finding

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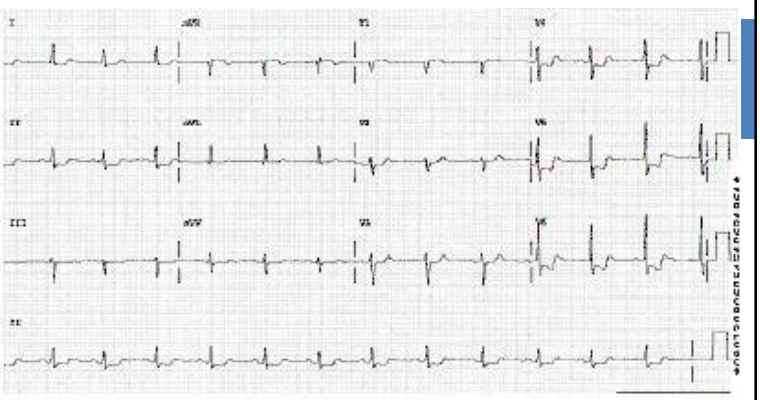
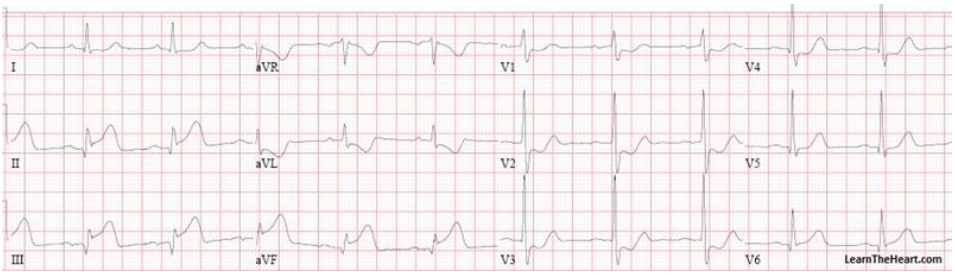
Significant ST-Deviation: UP & DOWN Both Count





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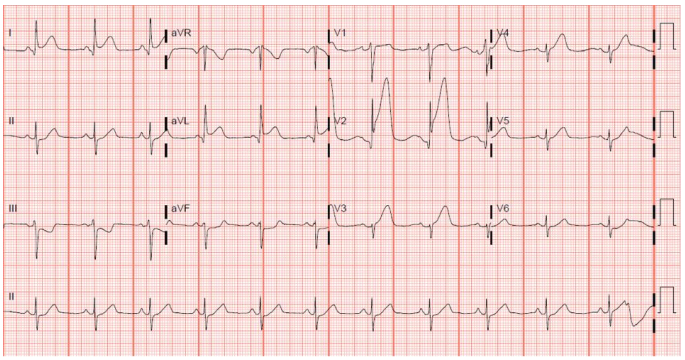
And There Are Several STEMI-Equivalent ECG Patterns That Are Just as Important to Recognize



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HEART

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		Total	

*Risk factors for atherosclerotic disease:

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Cigarette smoking
Positive family history
Obesity

My HEART Art

Any positive troponin = High Risk

Almost never an isolated finding

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My HEART Art

The original HEART development used a single standard troponin

It became common to repeat the troponin 1-hour after an initial negative result

How does the emerging availability of high-sensitivity troponin impact current testing practices?

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HEART

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My HEART Art

High-sensitivity Troponin

Low risk HEART score
+
Negative hs-Troponin at time 0 and 1 hour
=
MACE <<1%
Fewer admissions
Less cost

Ljung: Annals of Emergency Medicine 2019

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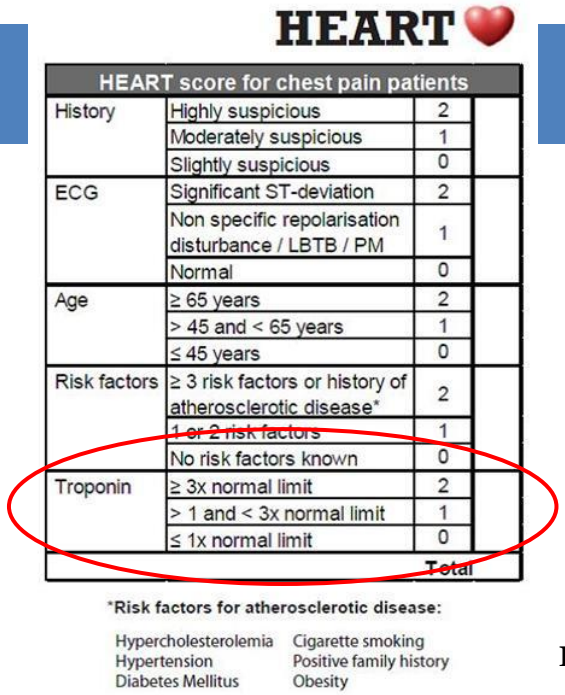

My HEART Art

High-sensitivity Troponin

Low risk HEART score
+
Negative single hs-Troponin

AMI at 1 year:
Negative Predictive Value 99.8%

Fewer admissions
Less cost

Khand: Annals of Emergency Medicine 2023

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HEART Score Performance

	Likelihood Ratio for MACE
Score 0 to 3 Low Risk	0.2 [95%CI 0.13 to 0.3]
Score 4 Indeterminate	0.79 [95%CI 0.53 to 1.2]
Score 5 to 6 Intermediate	2.4 [95%CI 1.6 to 3.6
Score 7 to 10 High	13 [95%CI 7.0 to 24]

Remember:
Influential LR+: 5 to 10+
Influential LR-: 0.2 to 0.1-

Fanaroff: JAMA 2015

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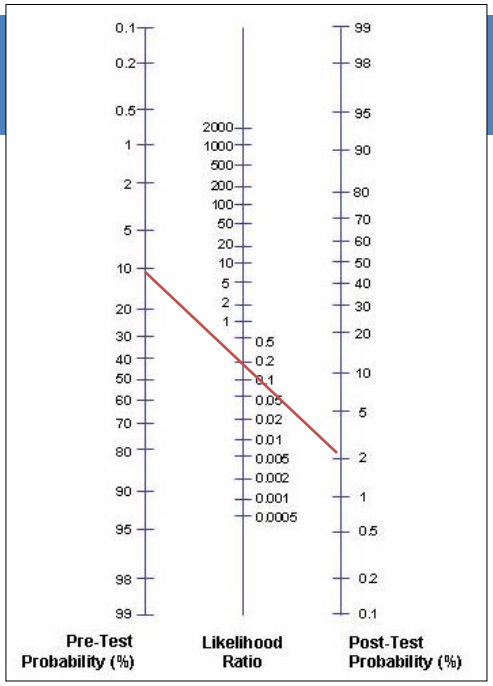
61-yo woman w/o risk factors
Negative for:
Significant ST deviation on ECG
Concerning history
Elevated troponin

HEART Score 1
LR = 0.2

Pre-test Probability of ACS = 10%

Post-test Probability 2%

Discharge with timely f/u or Observation



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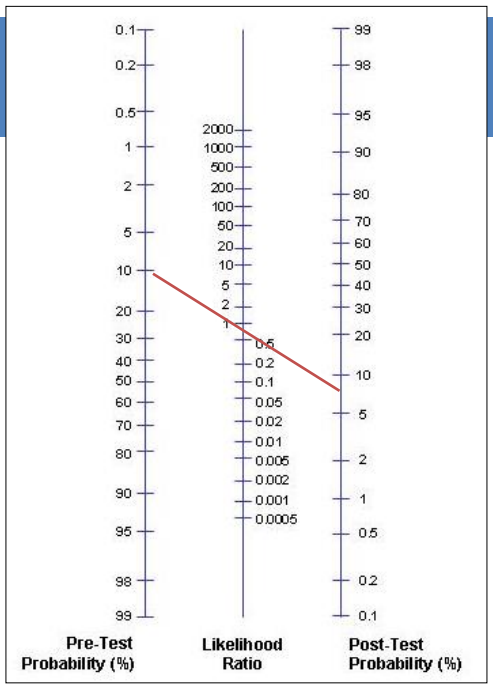
61-yo woman: 3 risk factors and moderately suspicious history
Negative for:
Significant ST deviation on ECG
Highly suspicious history
Elevated troponin

HEART Score 4
LR = 0.8

Pre-test Probability of ACS = 10%

Post-test Probability 8%

Observation or Admit



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61-yo woman: 3 risk factors and highly suspicious history

Negative for:

Significant ST deviation on ECG

Elevated troponin

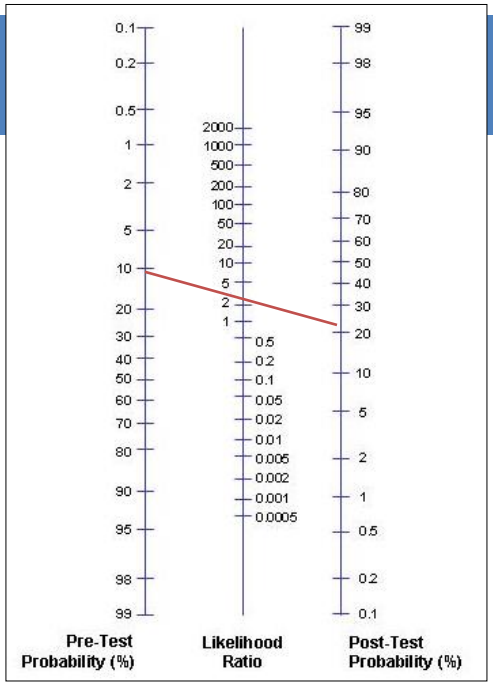
HEART Score 5

LR = 2.4

Pre-test Probability of ACS = 10%

Post-test Probability 22%

Admit



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Recent Support for HEART

Methods:

- Randomized study
- #282 patients presenting to an ED with chest pain
- HEART vs. usual care
- MACE events over 1 year

Results:

- For #66 low-risk HEART enrolled patients (score 0 to 3):
- MACE rate of 0%
- NPV 100%
  - 95%CI 93% to 100%

Stopyra: Academic Emergency Medicine 2018

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Recent Support for HEART

Methods:

- Prospective interrupted time series study
- Chest pain patients presenting to ED
  - #30,522 before HEART implementation
  - #34,871 after HEART implementation

Results:

- Implementation of HEART resulted in....
  - Less in-patient care
  - Less noninvasive cardiac testing
  - No increase in adverse events

Sharp: Annals of Emergency Medicine 2019

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Recent Support for HEART

Methods:

- Systematic review
- #25 studies
  - International
  - Conventional vs. high-sensitivity troponins
- #25,266 study subjects
  - #9,919 low-risk (score 0-3)

Results:

- MACE at 30 days to 6 weeks for low-risk:
  - 2.1% overall
  - 0.7% North America
  - 0.8% high-sensitivity troponin
  - Sensitivity 0.96
  - NPV 0.99
  - Negative Likelihood Ratio 0.09
- MACE non-low-risk 21.9%

Laureano-Phillips: Annals of Emergency Medicine 2019

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Recent Support for HEART

Methods:

- **Systematic review**
- **#30 studies**
- **#44,202 study subjects**

Results:

- ***"The HEART score has excellent performance for the prediction of mortality and MI in chest pain patients and should be the primary CDT used for the risk stratification of this patient population."***

Fernando: Academic Emergency Medicine 2018

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HEAR SCORE

HEART

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Troponin	≥ 3x n[illegible]	2	
	> 1 an[illegible]mal limit	1	
	≤ 1x no[illegible]	0	
		Total	

*Risk factors for atherosclerotic disease:

Hypercholesterolemia, Hypertension, Diabetes Mellitus, Cigarette smoking, Positive family history, Obesity

What if your practice does not provide point-of-care troponin testing?

You can use the HEAR SCORE to identify patients at very low risk for ASC

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HEAR Performance for Identifying Very Low Risk Patients

- #4979 patients presenting with chest pain
- If the HEAR SCORE = 0
  - 30-day MACE: 4 patients out of 447 (0.9%)
  - Sensitivity 98% (95% CI 98% to 100%)
  - NPV 99% (95% CI 98% to 100%)

Smith: Emergency Journal 2020

45

HEAR Performance for Identifying Very Low Risk Patients

- #1,402 patients presenting with chest pain
- If the HEAR SCORE = 0-1
  - 45-day MACE 0.4% (95% CI 0.01% to 1.98%)

Moumneh T: European J Emergency Medicine 2021

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HEAR Performance for Identifying Very Low Risk Patients

- **Secondary analysis of #1,150 patients presenting with chest pain**
- **If the HEAR SCORE = 0-1**
  - **Sensitivity for MACE 99% (95% CI 96% to 100%)**

O'Rielly: Canadian J Emergency Medicine 2022

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HEAR Performance for Identifying Very Low Risk Patients

- **#629 patients presenting with chest pain**
- **If the HEAR SCORE = 0-1**
  - **30-day MACE: 1 patient out of 181 (0.005%)**
  - **Sensitivity 98% (95% CI 98% to 100%)**

Todd F: Emergency Journal 2022

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HEAR Performance for Identifying Very Low Risk Patients

- **Meta-analysis, #33,843 patients presenting with chest pain**
- **If the HEAR SCORE = 0-1**
  - **Sensitivity 99% (95% CI 98% to 100%)**
  - **NPV 100% (95% CI 99% to 100%)**

Rad MK: European Journal of Emergency Medicine 2022

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HEAR SCORE

HEART

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Positive family history
Obesity

Just make sure your HEAR Score of 0-1 doesn't include any concerning flags in your mind

And an accurately interpreted ECG is required

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Let's Meet These Concerned Patients




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Your Walk-In Clinic

- It's just you
- Basic labs, but +/- troponin
- Point-of-Care ECG tracings available

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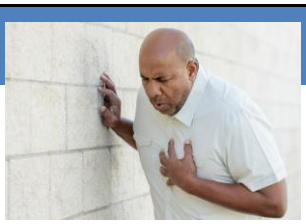
Mr. Smith



- 65 yo man
- Developed acute central chest discomfort while at work 1 hour before presenting
- Describes discomfort as "heavy"
- Discomfort radiates to both shoulders
- Hx of HT and Obesity

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Mr. Smith

BP 164/85 HR 75 O2 Sat RA 95%

Patient clearly experiencing pain with associated diaphoresis

Cardiopulmonary exam normal

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Illness Script Chest Pain

Possible Diagnoses

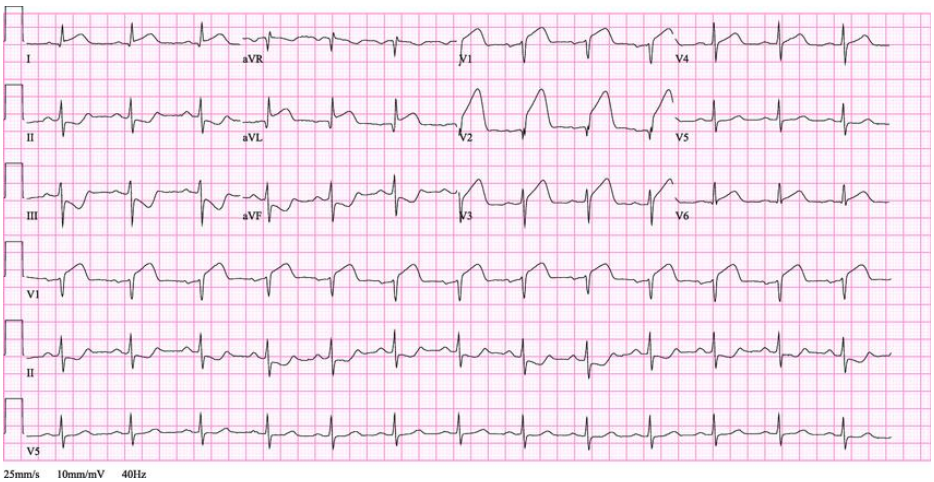
Cues & Clues

	ACS	PE	TAD	PTX	M/P-itis
Sudden Onset Central Chest Discomfort	2+	2+	2+	2+	2-
Radiation to Both Shoulders	2+	1-	1+	1-	0
Hypertensive and Diaphoretic	2+	0	1+	2-	1+

55

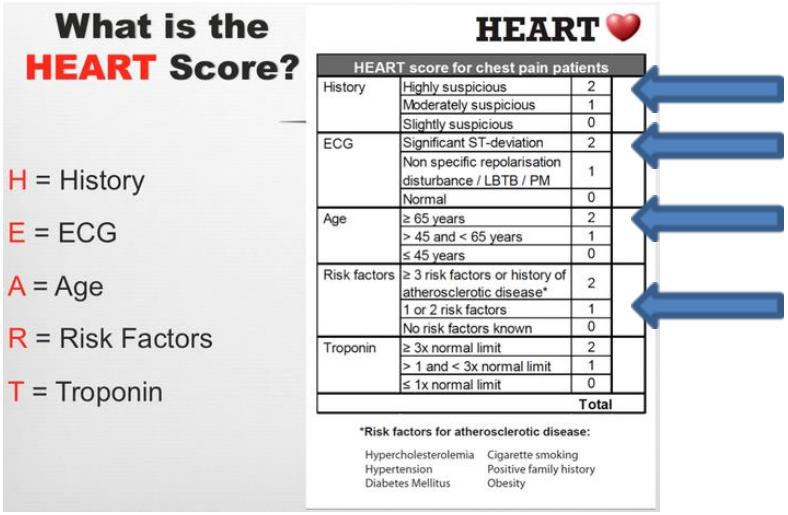
Mr. Smith: His ECG

- ❑ Timely ECG reveals STEMI



56

HEAR Pathway

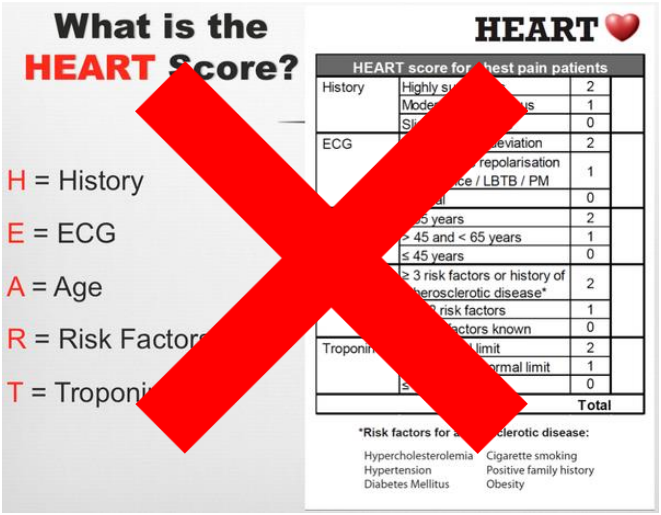


HEAR SCORE

7

57

HEART Pathway



58

Mr. Smith

CHEST DISCOMFORT

CARDIAC or LIKELY CARDIAC

POSSIBLE CARDIAC

NON-CARDIAC

59

Mr. Smith

❑TIME FOR ACTION!

Arrange for immediate transfer to your referral center's ED

60

Ms. Green

- 42 yo woman
- Persistent non-radiating pain over upper sternal area for two days
- No associated SOB, cough, pleurisy, diaphoresis, light-headedness
- Cardiac risk factors: father with CAD at age 60

61

Ms. Green

BP 142/85 HR 75 O2 Sat RA 98%

Cardiopulmonary exam normal

Reproducible chest wall tenderness to palpation over the upper sternal area that duplicates the patient's discomfort

62

Illness Script Chest Pain

Possible Diagnoses

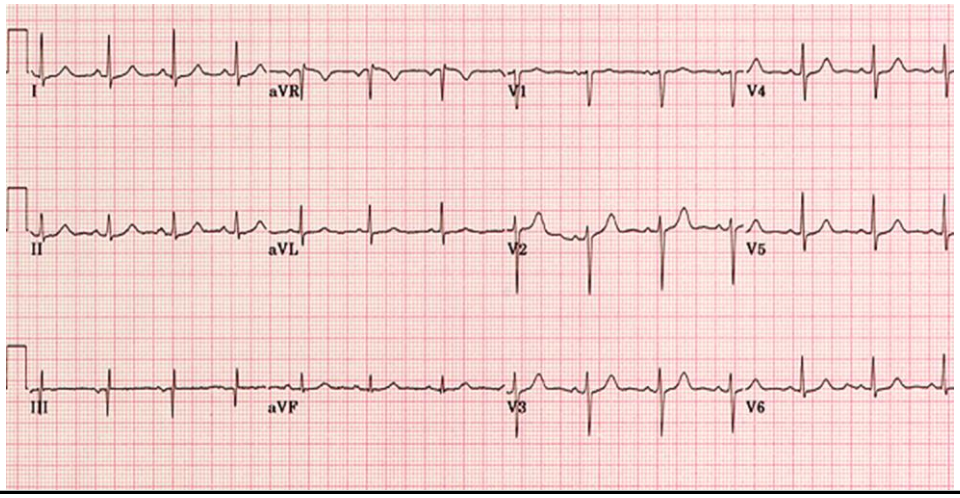
Cues & Clues

	ACS	PE	TAD	PTX	M/P-itis
2 Days of Persistent Pain	2-	1+	1+	1+	2+
Reproducible Upper Sternal Discomfort	2-	2-	2-	2-	2-
No Respiratory Symptoms	0	2-	0	2-	0
Normal Exam	0	0	0	0	2-

63

Ms. Green

You decide to order an ECG just to look for myopericarditis



64

Ms. Green

You quickly eliminate PE by calculating PERC. It's negative.

Pulmonary Embolism Rule-Out Criteria
Variable
Age <50 years
Pulse <100 beats per minute
SaO_2 ≥95% on room air
No hemoptysis
No exogenous estrogen use
No prior venous thromboembolism
No surgery or trauma requiring hospitalization within the past 4 weeks
No unilateral leg swelling

Journal WATCH

65

HEAR Pathway

What is the HEART Score?

H = History

E = ECG

A = Age

R = Risk Factors

T = Troponin

HEART

HEART score for chest pain patients		
History	Highly suspicious	2
	Moderately suspicious	1
	Slightly suspicious	0
ECG	Significant ST-deviation	2
	Non specific repolarisation disturbance / LBTB / PM	1
	Normal	0
Age	≥ 65 years	2
	> 45 and < 65 years	1
	≤ 45 years	0
Risk factors	≥ 3 risk factors or history of atherosclerotic disease*	2
	1 or 2 risk factors	1
	No risk factors known	0
Troponin	≥ 3x normal limit	2
	> 1 and < normal limit	1
	≤ 1x normal limit	0
		Total

*Risk factors for atherosclerotic disease:

Hypercholesterolemia, Hypertension, Diabetes Mellitus, Cigarette smoking, Positive family history, Obesity

Risk Factors: Father with CAD at age 60

HEAR Score 1

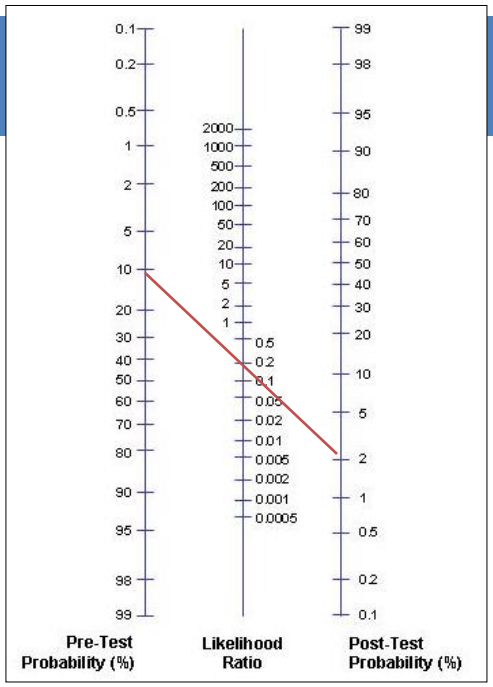
66

Ms. Green

HEAR Score 1
LR = 0.2

Your Pre-test Probability of ACS 10%

Post-test Probability 2%



67

Ms. Green

CHEST DISCOMFORT

CARDIAC or LIKELY CARDIAC

POSSIBLE CARDIAC

NON-CARDIAC

68

Ms. Green

You discharge her with Chest Wall Pain Syndrome and recommend timely follow-up with her PCP

69

Ms. Green

You fully document your medical decision making, including something like….

"Given this patient's symptoms and physical exam findings described above, my pre-test probability for ACS was 10%. Given her HEAR Score of 1 with a likelihood ration of 0.2, the post-test probability is 2%. She also demonstrates features of a much more likely alternative diagnosis, Chest Wall Pain Syndrome. Her normal ECG also makes myopericarditis unlikely. Therefore, ….."

70

Mr. Jones

- 66 yo man
- Known CAD with stable anginal pattern
- Now with significantly increased frequency and duration of chest discomfort with even minor physical exertion

71

Mr. Jones

BP 158/90 HR 75 O2 Sat RA 95%

Pain free and in no distress

Cardiopulmonary exam normal

72

Illness Script Chest Pain

Possible Diagnoses

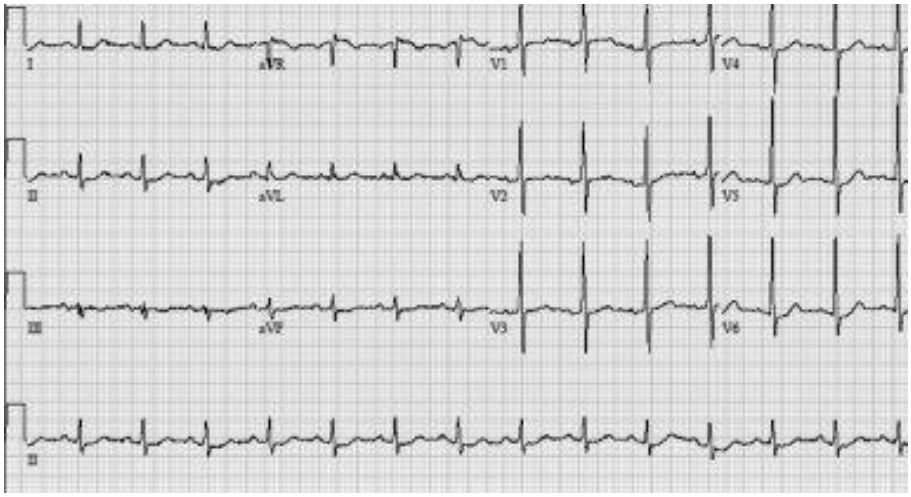
Cues & Clues

	ACS	PE	TAD	PTX	M/P-itis
Known Cardiac Disease	2+	2-	0	2-	2-
Crescendo Anginal Pattern	2+	2-	2-	2-	1+
Normal Exam	0	1-	1-	2-	2-

73

Mr. Jones

- ❑ Timely ECG reveals "Nonspecific" changes



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HEAR Pathway

What is the HEART Score?

H = History

E = ECG

A = Age

R = Risk Factors

T = Troponin

HEART

HEART score for chest pain patients		
History	Highly suspicious	2
	Moderately suspicious	1
	Slightly suspicious	0
ECG	Significant ST-deviation	2
	Non specific repolarisation disturbance / LBTB / PM	1
	Normal	0
Age	≥ 65 years	2
	> 45 and < 65 years	1
	≤ 45 years	0
Risk factors	≥ 3 risk factors or history of atherosclerotic disease*	2
	1 or 2 risk factors	1
	No risk factors known	0
Troponin	≥ 3x norm	2
	> 1 and [illegible] limit	1
	≤ 1x norm[illegible]	0
		Total

*Risk factors for atherosclerotic disease:

Hypercholesterolemia, Hypertension, Diabetes Mellitus, Cigarette smoking, Positive family history, Obesity

Risk Factors:

- **Hx of CAD**
- **Hypertension**
- **Elevated cholesterol**

HEAR Score 7

75

Mr. Jones

CHEST DISCOMFORT

CARDIAC or LIKELY CARDIAC

POSSIBLE CARDIAC

NON-CARDIAC

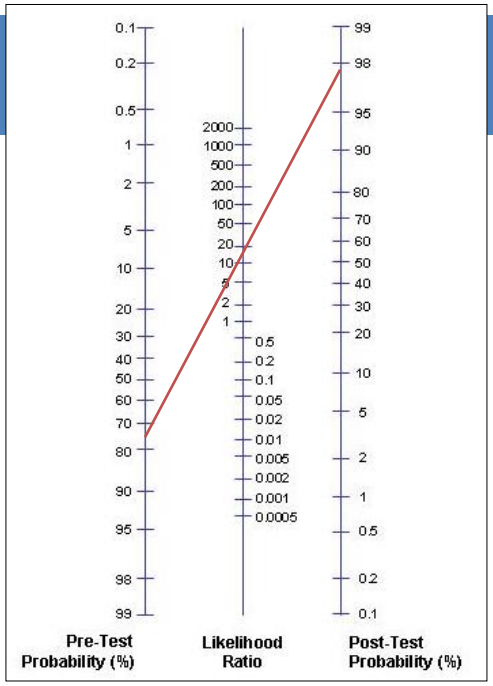
76

Mr. Jones

HEAR Score 7
LR = 13

Your Pre-test Probability of ACS 75%

Post-test Probability 98%



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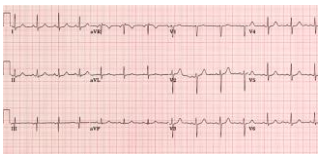
Your Point-of-Care Tool Box

You've got all you need to activate your management plan:
LIKELY CARDIAC

Your H&P

+



+

HEAR

78

Mr. Jones

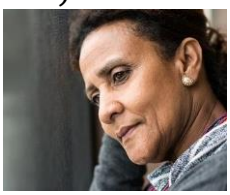
You diagnose Unstable Angina and consult with Cardiology for timely transfer to your referral center

You fully document your medical decision making, including your HEAR Score & LR analysis, in the patient's medical record

79

Ms. Baker

- **67 yo woman**
- **She has experienced three episodes of *"a funny feeling in my chest"* over the past week, most recently earlier today, all while at rest**
- **She describes the sensation as "fullness", "jumpy", at times "prickly"**
- **Episodes last about 5 minutes**



80

Ms. Baker

- ❑ 67 yo woman
- ❑ No associated SOB, light-headedness or palpitations
- ❑ No radiation of the discomfort to shoulders or back

81

Ms. Baker

- ❑ She has a relationship with a local Cardiologist
- ❑ *"My aortic valve was too tight, making my heart muscle big, so he had to rotaroot it. He says its now doing OK. So, I don't think what's been happening this week has anything to do with that. That's why I came here. I didn't want to bother him."*

82

Ms. Baker

BP 135/80 HR 75 O2 Sat RA 95%

Pain free and in no distress

Holosystolic murmur on exam

83

Illness Script Chest Pain

Possible Diagnoses

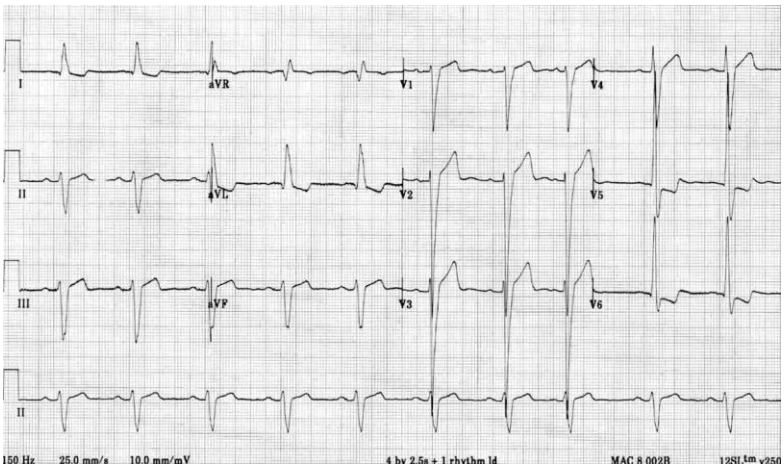
Cues & Clues

	ACS	PE	TAD	PTX	M/P-itis
Brief Episodes of Atypical Central Chest Discomfort	1+	1+	2-	2-	1+
Aortic Stenosis	0	0	1+	0	0
No SOB	0	2-	0	2-	0

84

Ms. Baker

❑ **ECG demonstrates Left Ventricular Hypertrophy**



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HEAR Pathway

What is the HEART Score?

H = History

E = ECG

A = Age

R = Risk Factors

T = Troponin

HEART

HEART score for chest pain patients			
History	Highly suspicious	2	
	Moderately suspicious	1	
	Slightly suspicious	0	←
ECG	Significant ST-deviation	2	
	Non specific repolarisation disturbance / LBTB / PM	1	←
	Normal	0	
Age	≥ 65 years	2	←
	> 45 and < 65 years	1	
	≤ 45 years	0	
Risk factors	≥ 3 risk factors or history of atherosclerotic disease*	2	
	1 or 2 risk factors	1	←
	No risk factors known	0	
Troponin	≥ 3x norm[illegible]	2	
	> 1 and [illegible] limit	1	
	≤ 1x no[illegible]	0	
		Total	

*Risk factors for atherosclerotic disease:

Hypercholesterolemia
Hypertension
Diabetes Mellitus
Cigarette smoking
Positive family history
Obesity

Risk Factors: Type II Diabetes

HEAR Score 4

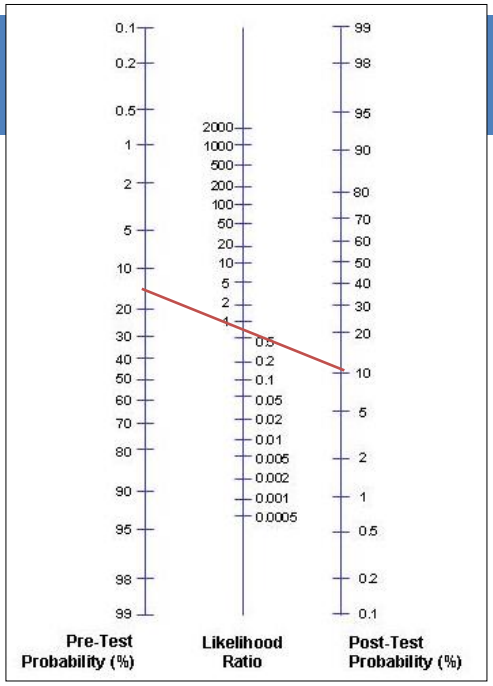
86

Ms. Baker

HEAR Score 4
LR = 0.8

Your Pre-test Probability of ACS 15%

Post-test Probability 10%



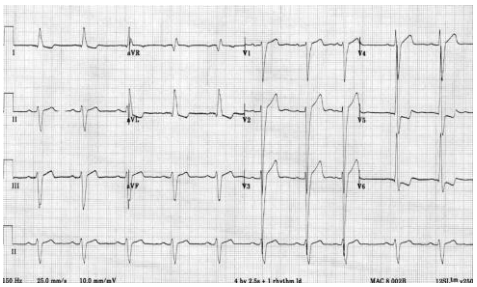
87

Your Point-of-Care Tool Box

You've got all you need to activate your management plan:

Your H&P

+



HEAR

88

Ms. Baker

CHEST DISCOMFORT

CARDIAC or LIKELY CARDIAC

POSSIBLE CARDIAC

NON-CARDIAC

89

HEART Pathway

What is the HEART Score?

H = History

E = ECG

A = Age

R = Risk Factors

T = Troponin

HEART

HEART score for chest pain patients		
History	Highly suspicious	2
	Moderately suspicious	1
	Slightly suspicious	0
ECG	Significant ST-deviation	2
	Non specific repolarisation disturbance / LBTB / PM	1
	Normal	0
Age	≥ 65 years	2
	> 45 and < 65 years	1
	≤ 45 years	0
Risk factors	≥ 3 risk factors or history of atherosclerotic disease*	2
	1 or 2 risk factors	1
	No risk factors known	0
Troponin	≥ 3x normal limit	2
	> 1 and < 3x normal limit	1
	≤ 1x normal limit	0
		Total

*Risk factors for atherosclerotic disease:

Hypercholesterolemia, Hypertension, Diabetes Mellitus, Cigarette smoking, Positive family history, Obesity

Assume hs-Troponin is mildly elevated

HEAR Score 5

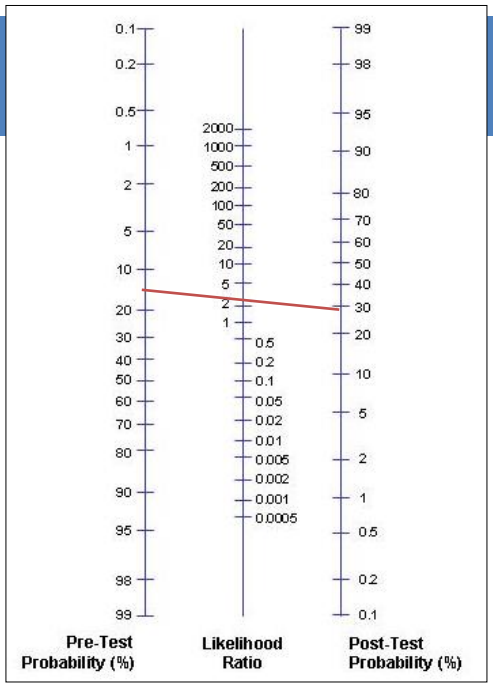
90

Ms. Baker

HEAR Score 5
LR = 2.4

Your Pre-test Probability of ACS 15%

Post-test Probability 30%



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Ms. Baker

Although your gestalt and HEAR both suggest she is at low risk, your post-test probability of 10% for ACS exceeds your risk tolerance

You arrange timely transfer to your referral center and appropriately inform her Cardiologist

92

Key Take-to-Work Points

Appreciate the diagnostic power of experiential clinical judgement (gestalt)

Incorporate a validated, reliable and easy to use CDT into your decision making

HEART and HEAR for chest pain are good choices

93

Key Take-to-Work Points

When your gestalt and the CDT you use are concordant, great!

When they are discordant, I recommend going with the one that predicts more risk for your patient

94

Key Take-to-Work Points

It is essential to clearly and fully document your medical decision making in the medical record when managing chest pain patients

Your medical record should provide details of the exceptional analysis and decision making you performed

95

Yes, We Can Stratify Patients with Acute Chest Pain as Low Risk

CONTINUING EDUCATION COMPANY

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