

WESLEY EMERGENCY DEPARTMENT THE QUEAS-E UPDATE

(Quality, Uniformity, Education, Attitude, and Service - in Emergencies)

SPECIAL EDITION ON "LOW RISK CHEST DISCOMFORT CLINICAL
DECISION TOOL - GOOD SCIENCE EQUALS GOOD VALUE"

Issue 116

January 2013

ESPA WEBSITE

ESPA stands for Emergency Services, Professional Association. We are a private ER group who has been partnered with Wesley Medical for over 40 years. We have the only pediatric ER in Kansas. We were recently voted The Best ER in Wichita. Check out our new website at www.espacare.com (old copies of QUEAS-E available to download).

Introduction

As bundled payments, CMS transition of care rules, ACOs, or even transparent patient portals loom on the horizon, it will become imperative that test ordering not only be justified scientifically but that it be conscientious financially. Authentic cost containment will not occur externally by simply shifting costs of payers, but rather must occur internally by those who understand the marginal scientific benefit of some commonly ordered tests. By pairing good science with good value, everyone should win.



Barriers

Some testing is done simply out of habit without thought or knowledge of patient charges. This behavior can be modified when providers are made aware of patient charges.¹ Others intentionally test more with the belief that more data is better to help the provider scientifically and/or legally regardless of what the scientific data may suggest. We believe that "talking instead of testing" is the most efficient and effective means to protect oneself against unexpected outcomes or a perceived legal threat. Protocols may be a double-edged sword in which a "standard approach" is used sweepingly because it is believed that it is what one must do scientifically, legally and/or financially to satisfy the hospital.

The Downside of "Chest Pain Protocols"

While "chest pain protocols" are valuable for quickly and accurately identifying a STEMI in order to efficiently get patients to a cath lab; we must recognize the potential medical harm and economic cost of a protocol developed for its specificity which is often implemented as a type of screening exam. Depending upon how one's "chest pain protocol" is implemented, it can create significant error, unnecessary testing, and increased cost. Even if unintended, it is not unusual in a busy ER to have someone hand you an EKG with bedside labs "cooking" while a patient lies in bed with an IV and oxygen before you have had the opportunity to do an adequate history and physical.

A Low-Risk Proposal

Our emergency department group worked to propose a strategy to meet the following goals:

- 1) Define a subset of low risk chest discomfort patients early which appear to be non-cardiac that can be promptly dismissed from the emergency department with minimal to no testing.
- 2) Define a minimum number of tests needed to admit the low risk chest discomfort patient in the low risk unit ("chest pain unit", "cardiac decision unit", etc.).
- 3) Perform a value analysis of this streamlined "Low Risk Chest Discomfort Clinical Decision Tool". This potential cost savings could conceivably be shared with the patient, the hospital administration, and to the larger scientific community.
- 4) Finally, identify vital historical information before all dismissals with consideration of immediate preventive administration. We identified: a) smoking cessation counseling, b) discontinuing all NSAIDS (including aspirin) in this low risk population, and c) discontinuing clopidogrel on all patients > 1 year post stent placement (unless on clopidogrel for another reason).

No Protocol Low Risk Chest Discomfort (LRCD)

We start with the alert non-elderly patient < 50 years old with a BMI < 40 with no tachycardia, no tachypnea, normal oxygen saturation and normal lung and heart sounds. This is easily and rapidly identified at triage and is already part of a routine triage system.

The only specific additions are remembered by the mnemonic "RUBS":

- **R**eproducible by movement or breathing (LR .2-.3)
- **U**nder a thumb (local) (LR .2-.4)
- **B**rief (few seconds to a few minutes)
- **S**harp (LR .3)

Each independent variable has a very low likelihood ratio of being cardiac.² Added together especially in the normal young individual has such an extremely low likelihood that we perform no EKG or troponin initially. We maintain that the provider does not need to order these in the ED unless unique and unusual features of the history or physical force these tests. (We purport that female gender, family history, and traditional risk factors like diabetes, HTN, smoking and elevated lipids are not predictive in the ER and are not features which would "automatically" warrant an EKG and troponin.)³ This particular subset of chest discomfort patients should not get an IV, oxygen, xray, EKG or lab as a routine.

Abbreviated Protocol Low Risk Chest Discomfort (LRCD)

For the alert, non-elderly patient < 50 years, BMI < 40 with normal exam and vitals who does not fit "RUBS" whose symptoms are currently gone, vague or atypical (eg continuous for 24 hours) one can consider an abbreviated protocol such as a single EKG and point of care troponin.

We do not believe other labs should be "automatic" including a second EKG, but rather could be ordered a la carte such as a chest x-ray if dyspnea is a prominent feature or a point of care basic (with a Hgb) if the patient feels weak and one is looking for a screen for anemia, renal function or potassium. This patient should not receive oxygen unless hypoxic.

These patients, if admitted and essentially discomfort free, can be placed in a low risk cardiac observation unit with only a single EKG and troponin as a routine.



Good Science Equals Good Value

The primary reason we would do "no protocol" for the very low risk patient and no "abbreviated protocol" for the low risk patient is because that is what we believe the current best scientific evidence supports.

We do not use "traditional risk factors" used epidemiologic over a long time to determine point of care risk in the ED. This is consistent with the majority of scientific evidence. Neither do we use tools like TIMI scores which were developed retrospectively and are problematic to apply prospectively.⁴

Ideas and rules focused upon value and reimbursement will apply pressure upon providers to do medicine cheaper. With the low risk chest discomfort patient we believe better science will result in better value.

Work-up Without Regard to Cost

Taking 2012 charges for the patient without insurance, here is an itemized list of tests which are frequently ordered "automatically" as part of a "chest pain protocol".

EKG	\$546
Troponin	\$357
CXR	\$575
EKG #2	\$546
CBC	\$158
Basic	\$352
Oxygen	\$125
IV Start	\$38
CK-MB	\$147
BNP	\$278
PT/INR	\$101
PTT	\$153
Hepatic Panel	\$346
Lipase	\$153
Myoglobin	\$383

GRAND TOTAL \$4258

The Value of "No Protocol"

For every patient who meets "no protocol" criteria, the patient will not be charged \$4258 (not counting additional charges, interpretation charges, etc). For 100 very low risk "no protocol" chest discomfort patients, there is a savings of \$425,800. In a busy ER, these savings would become substantial in a very short period of time. This approach would also be a patient satisfier if they were made aware of what you saved them for following good science (much like at Dillons where you are told how much you were saved today by choosing our ER).

The Value of an Abbreviated Protocol

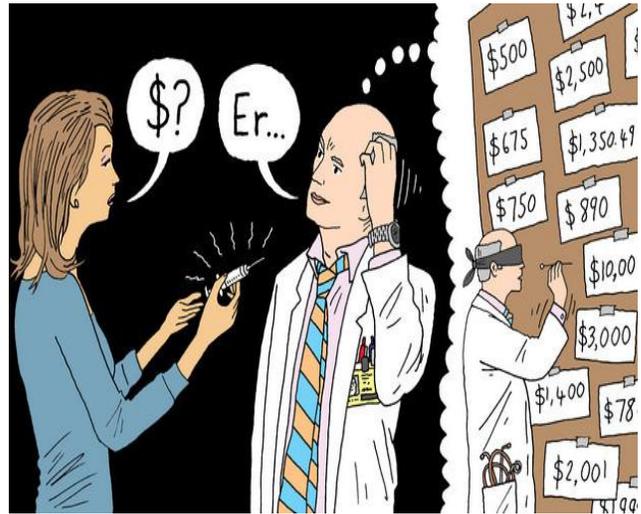
For the low risk "abbreviated protocol" there would still be substantial savings comparing a \$900 battery of tests (EKG + troponin) to the "full chest pain protocol" could save up to \$3355 per patient. For 100 patients admitted to the "chest pain unit", there would be a savings of over \$335,000.

Value Medicine

While charges will vary region to region, hospital to hospital, and insurance carrier to insurance carrier; the important point is the difference in charges using a "no protocol" approach and an "abbreviated" chest discomfort approach instead of a comprehensive "chest pain protocol" among a variety of chest discomfort patients. It is time for ED providers to stop using a large and expensive hammer for almost every patient who presents at triage with discomfort between their stomach and their chin. Instead we propose a sharper tool made of finer science which has much greater value.

References

1. J Trauma 1995; 39: 1041-44
Crit Care Med 1996; 24: 501-06
2. JAMA November 23/30, 2005; 294(20): 2623
Am J Med 2004; 117: 334-43
3. Ann Intern Med 2009; 151(12): 878-83
Ann Emerg Med 2007; 49: 145-52
New Engl J Med December 21, 2006; 355(25): 2615-17
JAMA 2003; 290: 898-904
JACC 2000; 36: 970-1062
J Clin Epidemiol June 1992; 45(6): 621-66
4. Emergency Medicine News March 2010; 32(3): 3 & 5
JACC 2005; 96: 773-77



Opinions expressed are not necessarily those of Wesley or ESPA. Mention of products or services does not constitute endorsement. This publication is intended as a general guide and is intended to supplement, rather than substitute, professional judgment. It covers a highly technical and complex subject and should not be used for making specific medical decisions. The materials contained herein are not intended to establish policy, procedure, or standard of care.

**QUEAS-E
CME
January 2013**

Name _____

*Wesley Medical Center is accredited by the Kansas Medical Society to sponsor continuing education for physicians.

Date Completed _____

Wesley designates this educational activity for a maximum 0.5 AMA PRA Category 1 Credit(s)[™]. Physicians should claim credit commensurate with the extent of their participation in the activities.

1. What is "RUBS"?
 - a. right bundle branch, u waves, brief, short
 - b. reproducible, no u waves, brief, stabbing
 - c. reproducible, under a thumb, brief, sharp
 - d. reactionary, under a thumb, brief, short of air
2. A person with hypertension and a strong family history of cardiac disease can not be a low risk chest discomfort patient. T or F
3. Ordering a PT/INR and a PTT is an unnecessary charge of \$250 for almost every chest discomfort patient. T or F
4. A single EKG charge for a patient without insurance is:
 - a. \$79
 - b. \$253
 - c. \$357
 - d. \$546
5. Foregoing a big protocol work-up on a very low risk chest discomfort patient that meets "RUBS" criteria could save the patient:
 - a. \$546
 - b. \$3355 per patient
 - c. \$4258 per patient
6. Immediate prevention in the ED includes all of the following except:
 - a. screening for the addition of a statin
 - b. smoking cessation counseling
 - c. discontinuation of all NSAIDS
 - d. consideration of stopping Plavix

Circle the one correct answer.

To complete this educational activity, please check your test for accuracy. The correct answers can be found on the evaluation.

(Evaluation following)

Continuing Medical Education QUEAS-E Update Evaluation

Please circle a response to the following:

1. Having read this CME activity, the participant should be better able to: demonstrate an increased awareness of current practices, new therapies and new technologies appropriate for patients in the Emergency Department?

Agree 5 4 3 2 1 Disagree

2. The educational content in this CME article will be:

Very useful 5 4 3 2 1 Not at all useful

3. In this article I learned:

A great deal 5 4 3 2 1 Little

4. As a result of this CME article do you anticipate making a change in your practice?

Yes [] No []

5. Additional comments:

6. What topics would you suggest for future articles?

(Answers to post test: 1. c 2. F 3. T 4. d 5. c 6. a)

For CME credit, please mail this sheet to: Wesley CME Dept., 550 N. Hillside, Wichita, KS 67214

Please note: This publication is designed for physicians and documentation of CME will be provided to physicians on an annual basis. For a transcript of credit for a specific timeframe, please contact the Wesley CME Department, Tiffany Stepien, MHCL, CME Coordinator @ 316-962-3304 or Tiffany.Stepien@wesleymc.com

Credit Statement

KMS Accreditation Statement

The Wesley Medical Center is accredited by the Kansas Medical Society to provide continuing medical education for physicians. The Wesley Medical Center designates this live activity for a maximum of 1 *AMA PRA Category 1 Credit™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Wesley Medical Center CME Committee has disclosed that it **does not** have a significant financial interest or other relationship with manufacturers of any of the products or any services.

Dr. Mark Mosley has disclosed that he **does not** have a significant financial interest or other relationship with manufacturers of any of the products or any services.