



OCTOBER 2017 QA

CHEST PAIN AND RESPIRATORY DISTRESS IN ADULTS OVER 50 YEARS OLD.

RAW DATA: 12 LEADS IN CHEST PAIN VS. RESPIRATORY DISTRESS

CHEST PAIN:

All departments, 04/01/2016-04/01/2017,

Greater than 50 years old: 838 patients

12 Lead EKG: 736 patients

Aspirin: 384 patients

Fentanyl: 18 patients

Between 50-59 years old: 242 patients

12 Lead EKG: 215 patients

Aspirin: 118 patients

Fentanyl: 5 patients

Between 60-69 years old: 194 patients

12 Lead EKG: 178 patients

Aspirin: 102 patients

Fentanyl: 8 patients

Between 70-79 years old: 217 patients

12 Lead EKG: 195 patients

Aspirin: 96 patients

Fentanyl: 5 patients

Between 80-89 years old: 150 patients

12 Lead EKG: 122 patients

Aspirin: 56 patients

Fentanyl: 0 patients

Between 90-99 years old: 34 patients

12 Lead EKG: 25 patients

Aspirin: 11 patients

Fentanyl: 0 patients

Between 100-109 years old: 1 patient

12 Lead EKG: 1 patient

Aspirin: 1 patient

Fentanyl: 0 patients

RESPIRATORY DISTRESS (SHORTNESS OF BREATH):

All departments, 04/01/2016-04/01/2017

Greater than 50 years old: 1162 patients

12 Lead EKG- Obtain: 524 patients (45%)

Between 50-59 years old: 157 patients

12 Lead EKG- Obtain: 65 patients (41%)

Between 60-69: 277 patients

12 Lead EKG- Obtain: 107 patients (39%)

Between 70-79: 334 patients

12 Lead EKG- Obtain: 136 patients (41%)

Between 80-89: 273 patients

12 Lead EKG- Obtain: 151 patients (55%)

Between 90-99: 119 patients

12 Lead EKG- Obtain: 64 patients (54%)

Between 100-109: 2 patients

12 Lead EKG- Obtain: 1 patient (50%)

12-Lead use in Chest Pain vs. Respiratory Distress Comparison data 4/1/16 – 4/1/17

<u>Chest pain:</u>					
	<u>Total # of patients</u>	<u>12 Lead EKG</u>	<u>%</u>	<u>Asprin</u>	<u>Fentanyl</u>
between 50-59 yrs old	242	215	88.84%	118	5
between 60-69 yrs old	194	178	91.75%	102	8
between 70-79 yrs old	217	195	89.86%	96	5
between 80-89 yrs old	150	122	81.33%	56	0
between 90-99 yrs old	34	25	73.53%	11	0
between 100-109 yrs old	1	1	100.00%	1	0
≥ 50 yrs old	838	736	87.83%	384	18
<u>Respiratory distress:</u>					
	<u>Total # of patients</u>	<u>12 Lead EKG</u>	<u>%</u>		
between 50-59 yrs old	157	65	41.40%		
between 60-69 yrs old	277	107	38.63%		
between 70-79 yrs old	334	136	40.72%		
between 80-89 yrs old	273	151	55.31%		
between 90-99 yrs old	119	64	53.78%		
between 100-109 yrs old	2	1	50.00%		
≥ 50 yrs old	1162	524	45.09%		

NARRATIVE:

TOPIC: 12- lead use

MATRIS Search Parameters used for chest pain data

- MATRIS 12-month query- 04/01/2016-04/01/2017
- Patients > 50 years old
- Primary clinical impression of chest pain
- Received a 12-lead EKG

In the age group greater than 50 years old, there were 838 patients with primary impression of chest pain from 04/01/2016-04/01/2017 for all departments. 88% (736 patients) were treated with a 12 Lead ECG.

An analysis of the MATRIS reports, with the primary impression of chest pain, showed EKG's being done 88% of the time for patients in their 50's, 92% of the time for patients in their 60's, 90% of the time for patients in their 70's, 81% of the time of patient's in their 80's, 74% of the time of patient's in their 90's and 100's of the time in patient 100-109. On average, 88% of the cases with the primary impression of chest pain were treated with a 12 Lead ECG.

TOPIC: 12-Lead use

MATRIS Search Parameters used for respiratory distress data

- MATRIS 12-month query- 04/01/2016-04/01/2017
- Patients > 50 years old
- Primary clinical impression of respiratory distress
- Received a 12-lead EKG

In the age group greater than 50 years old, there were 1162 patients with respiratory distress from 04/01/2016-04/01/2017 for all departments. 45% (524 patients) were treated with a 12 Lead EKG.

An analysis of the MATRIS reports with the primary impression respiratory distress showed EKG's being done 41% of the time for patient's in their 50's, 39% of the time for patient's in their 60's, 41% of the time for patient's 70's, 55% of the time for patient's in their 80's, 54% of the time for patient's in their 90's and 50% of the time for patient's 100-109. On average, a little under half (45%) of the cases with the primary impression of respiratory distress were treated with a 12 Lead ECG.

Comparatively, elderly patients with the primary impression of chest pain receive 12-lead EKGs 88% of the time and with a primary impression of respiratory distress, only 45% of the time. As we all know the differential diagnosis work-up for elderly respiratory distress varies from pneumonia, COPD, CHF, sepsis, etc. Without the imaging and blood analysis done at the hospital we cannot be certain of a diagnosis in the field. I think all of us would agree that we should be doing 12-lead ekgs on elderly patients who are short of breath more than 45% of the time. We must maintain a high clinical suspicion for silent MIs.

Here's an example of a patient with respiratory distress who probably could've benefited from an EKG...

Narrative

took call for a male party with sob. responded without incident. u/o/a find above 84 y/o m pt caox4 sitting on a chair breathing at a normal rate.c pt skin pink/warm/dry. pupils perl. pt states that he feels fine in short sentences. pt wife reports he was discharged from BH last friday after he had chf. pt c/o sob that hasnt changed since friday. pt requesting transport to bh. assisted pt 2 steps to stretcher. pt is unsteady on his feet. pt normally walks with a walker. extricated to street and loaded stretcher without incident. v/s as above. applied cardiac monitor afib 70-80. applied pulse ox and capnography. lung sounds clear. established 20ga iv lock l ac. applied o2 4lpm via nrb. transport. monitored pt enroute with no changes. notified cmed 4-6. transport without incident. pt care and report to rn in rm 13

MEDICAL DIRECTORS COMMENTS:

Overall we seem to be aware of the need for EKGs in adults with chest pain. Virtually anyone with non traumatic chest pain and over the age of 50 needs an EKG. In fact it can be argued that ALL chest pains from 20 years old and above need an EKG as part of their initial work up. Traumatic chest pain may not be traumatic at all. Did the person who had a car accident and hit the pole develop chest pain from the bruising and seatbelt or did a heart attack cause the accident? REPRODUCIBLE CHEST PAIN always needs an EKG. True reproducible chest pain does not conclusively exclude a STEMI and other Acute Vascular Events. As well, atypical presentations increase as a person gets older and has co-morbid conditions. Studies show as well that women have just as many heart attacks but their presentation may be atypical.

In JEMS, an article on this topic noted:

“A study published in JAMA in 2008 summarizes this and several other chest pain fallacies.(1) The study reports a systematic review of the medical literature looking at evidence surrounding certain characteristics of chest pain presentation in acute coronary syndromes. It concluded that the presence of stabbing, positional or reproducible chest pain characteristics are of marginal value in predicting non-cardiac origin”. <http://www.jems.com/articles/print/volume-34/issue-3/administration-and-leadership/dont-be-minimizer-avoiding-tra.html>

RESPIRATORY COMPLAINTS almost always carry a potential cardiac overtone. CHF, COPD, Pulmonary Edema can all have evolving MI's with and without chest pain. Why? Because people with one or more of these illnesses all have bad hearts! Obviously, you need to stabilize a person in respiratory distress by addressing the present complaint and condition. However, do not overlook the possibly that the shortness of breath is actually a cardiac event or causing a cardiac event. If at all possible, get an EKG.

SUMMARY:

1. Not all chest pain is cardiac and not all respiratory complaints are pulmonary. EKG's help immensely in assisting in the clinical management of a patient.
2. When time allows after getting a patient stabilized, obtain an EKG in ALL chest pain and respiratory issues in patients over the age of 50. You can never be faulted for doing it in younger adults as well.
3. *WOMEN HAVE HEART ATTACKS, NITROGLYCERIN DOES NOT RULE IN OR RULE OUT HEART DISEASE, RIGHT SIDED PAIN CAN BE CARDIAC, REPRODUCEABLE PAIN DOES NOT EXCLUDE HEART DISEASE AND HEART ATTACKS, AND DIABETICS AND THE ELDERLY WILL PRESENT WITH ATYPICAL SYMPTOMS FOR ACUTE CORONARY EVENTS.*
4. **EKG's are quick and provide enormous amounts of information.....So please get them!**

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