

Squad Review Mesa County EMS

Jan.-April 2011

High Plains Data for 2010

Background

- I began compiling data out of the High Plains system in January 2009.
- The goal is to look at what we are doing well; and where I need to be targeting more teaching, education, QA, CME, etc.
- I have been forwarding this data to you through the QA committee since May of 2009- I hope you have been receiving and reviewing it.
- All of this data is available on the Mesa County EMS website's Public Library- ems.mesacounty.us

Background

- Please understand, my goal in collecting this data is **never** to be punitive to any individual provider.
- My goal **is** to understand where we are strong, where we are weak, and do all I can to continue to improve the quality of the care our EMS system provides.
- I am **very** dependent on you to accomplish this- I need attention to detail on your PCR:
 - using all appropriate Provider Impressions for EACH case
 - completing the Treatment Checklist every time;
 - using all indicated checkboxes;
 - charting the complications of your procedures;
 - SOAP notes that tell me why you thought and did, **AND** how the patient responded to your therapy.

High Plains Data 2010

CARDIAC ARRESTS

• CARDIAC ARREST DATA:

	<u>Total</u>	<u>Percentage</u>	<u>Comments</u>
Arrests	111	100%	17 Vfib
Return of vital signs	30	27%	11 Vfib; 11 PEA/asys; 8 ?
D/C'd from hospital	12	11%	7 Vfib; 4 PEA; 1 ?
TIH in field	6		
D/C'd if TIH	2		

• ANALYSIS:

1. A fantastic "save" rate- 11% left the hospital neurologically intact (most had Vfib arrest).
2. We have yet to see if implementing Therapeutically Induced Hypothermia in the field improves these numbers.
3. Almost 1/3 (8 Of 30) of those with return of vitals had no rhythm documented by EMS providers.

CARDIAC ARRESTS

WHAT PROVIDERS NEED TO KNOW:

- Arrest Rhythm:

1. I need to know what the various rhythm's you see during a cor-0 are. HP has a data spot for "intial rhythm"- please use it. The rhythm's and the flow of the cor-0 are very important.

- Your Provider Impression:

1. We ask the computer to search for all Provider Impressions of Cardiac Arrest- if this is not the PI you list, we cannot find the case.
2. Several arrests were found this time around with a Provider Impression of "Dead" or "Shortness of Breath".
3. If the patient arrests at any time, **and** you work the Core 0, I want your Provider Impression to be "Cardiac Arrest". "Dead" is for patients you do not work or transport.

CARDIAC ARRESTS

WHAT PROVIDERS NEED TO KNOW:

- Therapeutically Induced Hypothermia:

1. If you begin this in the field please check the TIH checkbox in the Treatments and Assessments section- TIH is listed there as a "new procedure".
2. I suspect more patients than we have captured here are getting TIH begun in the field; but if you do not check the TIH checkbox I have no way to find your patient.

- Be Proud:

This is a great save rate! Greater than 1 in 4 arrested patients you worked in 2010 arrived in the ED with VS; and 1 in 9 left the hospital. Very, very strong work.

High Plains Data 2010

CARDIAC ALERTS

• CARDIAC ALERT DATA:

	<u>Total</u>	<u>Percentage</u>	<u>Comments</u>
Cardiac Alerts charted	34	100%	
# with ST elevations	14	41%	
False alerts	20	59%	see below
"Missed" Alerts	3		1 3rd° AVB; 1 Post. MI; 1 c EKG changed in ED.

• ANALYSIS:

1. The cardiologists and I expect there to be a false alert rate; we would rather over-call these than miss any. But being right only 41% of the time leaves a lot of room for improvement in the EMS arena. In 2009 you were right 46% of the time.
2. Of the 20 False alerts: 7 were Core 0's; 7 did not have ST elevation; 5 were transfers; 1 had their AICD going off.
3. The 3 missed events seem pretty acceptable to me- I wish we had caught that Posterior MI though!!!

CARDIAC ALERTS

WHAT PROVIDERS NEED TO KNOW:

1. PLEASE use the Cardiac Alert checkbox if you call a cardiac alert- this is the only way I have to go back and track these cases. THIS IS IMPORTANT.
2. DO NOT call Cardiac Alerts for Cor-0's you are actively working, ongoing CPR, pulseless etc.- they cannot go immediately to the cath lab.
3. DO call Alerts for STEMI patients with brief VF/VT which responds to shocks/drugs- i.e. has pulses.
4. RECALL: the criteria for you to call a Cardiac Alert are:
 - i) ST elevation of 1mm or more in at least two contiguous leads; AND
 - ii) A syndrome consistent with cardiac ischemia.
5. RECALL: you must state "this is a cardiac alert" to the ED for them to activate the cath lab team.

High Plains Data 2010

CATH LAB DATA

• STEMI BALLOON TIMES COMPARISON:

	<u>Average</u>	<u>Range</u>	<u>N</u>
ED Door to Balloon via EMS	57.9 min	39-79 min	16
ED Door to Balloon via triage	98 min	51-235 min	14
EMS on-scene to balloon time	85.8 min	66-147 min	16

• ANALYSIS:

1. You should feel so proud of these data- an amazing job!
2. The national standard for ED door to balloon is 90 minutes. We are beating that even by starting the clock from when you arrive on scene.
3. The only fly in the ointment with our STEMI data is the false alert rate of 59% discussed previously.

High Plains Data 2010

ADVANCED AIRWAYS

• ETT/NTT/KING/CPAP/CRIC DATA:

	<u>Total</u>	<u>%</u>	<u>Comments</u>
Total ETT pts (oral)	106	100%	
ETT Attempts	143		1.35 attempts/pt; 57% success
Overall ETT Success	81	76%	67% in 2009
Unrecognized Comps.	2	2%	1 R main stem; 1 dislodged
Total NTT pts	10	100%	
Total c NTT Successful	7	70%	
NTT Complications		??	none listed for the 3 misses!!!
Total King Tube pts	14	100%	
Total c King Successful	12	86%	
CPAP pts	38		no problems or complications
Cricothyrotomies	1		successfully done, patient died

ADVANCED AIRWAYS

- MISSED INTUBATION ATTEMPTS:

	<u>Total</u>	<u>%</u>	<u>Comments</u>
Total missed attempts	62	100%	
<u>Reason Charted:</u>			
Poor visualization	29	48%	70 complications listed for 62 attempts because some patients had multiple reasons charted for same attempt.
Emesis/blood/fluids	23	38%	
????????????????	12	20%	
Pt. not relaxed	6	10%	

- ANALYSIS:

1. Our overall oral intubation success rate of 76% is decent- about average nationally. Not good enough for me. So we need to figure out how to lower this missed rate.
2. Is the poor visualization poor patient positioning?; c-collar in the way?; eroded skills because we do not do much of this?
3. Emesis- do you have suction up, running, and right at hand??

ADVANCED AIRWAYS

- ANALYSIS:

1. CPAP:

Use seems very well done. I am not seeing a lot of complications from use (pneumothorax, etc.) and very few patients are failing CPAP and needing ED intubation- keep up the great work!

2. ETT/NTT:

Much more complete data entry this year than last, and 76% is a good place to begin from:

- i) I need you to really be looking at why you miss when you do.

- ii) 20% of the time I still do not know why you missed as there was no charting done- I need this to change.

- iii) Remember: EVERY attempt gets charted individually. Every attempt.

3. King Tubes: Very limited data, but reassuring. A better success rate than ETT or NTT! Use them, practice, their use is going to grow.

ADVANCED AIRWAYS

WHAT PROVIDERS NEED TO KNOW:

- **Missed Airway Attempts:**

1. I need to know why you could not intubate the patient.
2. **There is a pull-down menu of complications during intubation- I NEED YOU TO USE THIS.**
3. Each time you insert the laryngoscope or tube into the mouth or nares with the intent to intubate counts as an attempt; I need your PCR to list EVERY attempt, and to tell me why you could not intubate the patient for EVERY attempt.
4. Please understand: I am NOT chasing this data because I am going to go after providers who miss intubations.
5. What I AM going to do is continue to try to see if there are themes as to why we are missing intubations, and do my best to construct teaching and education around those themes.

ADVANCED AIRWAYS

WHAT PROVIDERS NEED TO KNOW:

- King Tubes:

1. Please check the King Tube checkbox on the Treatment Checklist if this is how you are able to intubate the patient.
2. All BLS providers should be trained in the insertion and monitoring of the King Tube, as this is an act allowed for EMT-B for a patient in cardiac arrest.

- CPAP:

Keep up the good work.

High Plains Data 2010

MEDICAL CP > AGE 34

- EKG and ASA DATA:

	<u>Total</u>	<u>%</u>	<u>Comments</u>
Total # pts	649	100%	
Received EKG	288	44%	
Received ASA	438	67%	

- ANALYSIS:

1. We should feel ashamed here, this is really unacceptable.
2. Some of this may be a charting issue- if you do not properly use procedure and treatment checklist we have NO WAY to know if you did this or not. But these data are what the system tells me.
3. 23% of these patients worried you enough to give an ASA, but not enough to do an EKG? Some of that may be the EMT was a B, and could not perform an EKG...but not most.

MEDICAL CP > AGE 34

WHAT PROVIDERS NEED TO KNOW:

1. Please correctly use the procedure and treatment checklist so we can tell if you gave ASA and/or performed an EKG.
2. By protocol, non-traumatic CP in patients >34 years get a full ASA, and an EKG.
3. If they have taken their own ASA there is a way to checkbox that in HP's- ask your QA Director.
4. These are simple, safe, highly effective EMS interventions. They are the national standard of care.
5. This needs to improve- I ask all providers to take this issue to heart.

High Plains Data 2010

SEIZURES

- SEIZURE AND BG DATA:

	<u>Total</u>	<u>%</u>	<u>Comments</u>
Total # pts	468	100%	
BG charted	415	89%	
Benzo's given	34	7%	

- ANALYSIS:

1. Charting a BG only 89% of the time is not good enough.
2. Some of this may be a charting issue- if you do not properly use procedure and treatment checklist we have NO WAY to know if you did this or not. But these data are what the system tells me.
3. We improved from 88% in 1st Qtr. to 93% in 4th., so the trend is hopeful, but this should be 100%.

SEIZURES AND BG

WHAT PROVIDERS NEED TO KNOW:

1. Please correctly use the procedure and treatment checklist so we can tell if you checked your seizure patients BG.
2. By protocol all seizure patients should have their BG checked.
3. ALL providers should be trained on the glucometer and be able to measure serum BG- even EMT-B.
4. These are simple, safe, highly effective EMS interventions. They are the national standard of care.
5. This needs to improve- I ask all providers to take this issue to heart.

High Plains Data 2010

AMS

- AMS AND BG DATA:

	<u>Total</u>	<u>%</u>	<u>Comments</u>
Total # pts	729	100%	
BG charted	618	85%	

- ANALYSIS:

1. Charting a BG only 85% of the time is not good enough.
2. Some of this may be a charting issue- if you do not properly use procedure and treatment checklist we have NO WAY to know if you did this or not. But these data are what the system tells me.
3. We improved from 81% in 1st Qtr. to 87% in 4th., so the trend is hopeful, but this should be 100%.

AMS AND BG

WHAT PROVIDERS NEED TO KNOW:

1. Please correctly use the procedure and treatment checklist so we can tell if you checked your seizure patients BG.
2. By protocol all AMS patients should have their BG checked.
3. Please use your Provider Impressions completely. For example: you may choose to give the "ETOH or drug overdose" PI to your apparent drunk patient, but if you also check his BG because he is so goofy, you should give him the Altered LOC PI also.
4. ALL providers should be trained on the glucometer and be able to measure serum BG- even EMT-B.
5. These are simple, safe, highly effective EMS interventions. They are the national standard of care.
6. This needs to improve- I ask all providers to take this issue to heart.

High Plains Data 2010

CVA DATA

- CVA DATA (for Jan- Sept only):

	<u>Total</u>	<u>Percentage</u>	<u>Comments</u>
Code 3 Stroke Alerts	38	100%	
CVA was ED diagnosis	28	74%	
Inappropriate Code 3's	1	3%	
Alert charted in SOAP	37	97%	Alert checkbox used only 64% of cases!!!
Timeline well charted	37	97%	

- ANALYSIS:

1. Pretty reassuring data, and much improved over 2009. 74% of the time your EMS diagnosis is correct. That's good. Interesting that only 41% of the time was your STEMI diagnosis right. I would expect the other way- stroke is harder to pinpoint?
2. We need to start using the Stroke Alert checkbox- only 64% of the time did you do this. Please find and use it.