There are quite a few things going on with EMS across the state right now. The protocol approval process is coming to an end, the EMS Administrators Summer Conference in Asheville just took place, and several counties have now been approved to allow EMT-Bs and medical first responders to give epi for anaphylaxis without an auto-injector. We are also continuing to send out de-identified data to all counties on the RSI programs.

Almost all of the counties now have their new protocols approved. Now the training divisions of the agencies across the state are going to start the fun process of training everyone on the new protocols. The amount of time and work put into this process by prehospital professionals from across the state has been truly amazing. Many thanks to the work put in by everyone. There are a few specific areas to take note of on the protocol. I have allowed local medical directors discretion on the dosing of Zofran (ondansetron), but please be aware of possible QT prolongation issues and the possible risk of cardiac arrhythmias. I have discussed this with medical toxicologists and they believe it’s safe but I still feel that this is something all systems should keep in mind. This is a local issue, but please pay attention to your dosing for this drug and the risk of QT prolongation. The FDA has more information on this at the website below:

http://www.fda.gov/Drugs/DrugSafety/ucm271913.htm

I have also gotten a follow up question about tactical EMS. Some medical directors have asked if law enforcement officers can carry tourniquets and the answer is yes, they can. Also, please remember that every EMS agency is required to have a peer review meeting at least every quarter. This also included specialty care Transport and Flight Programs.

This is a light month for articles since it’s the summer. We have a brief review of a new synthetic opioid. I have reviewed 2 new research articles and I have also included the newest de-identified RSI data. Please submit any articles you would like to have published. Please remember that this publication does not represent the official position of the NC Office of EMS.
There was a recent review of EKGs of patients with ST-segment MIs at a tertiary care adult teaching hospital. The center where the study took place sees 150 ST-segment MIs annually. The researchers reviewed EKGs from the hospital EKG database where the patient had an ST-segment MI. There were 308 EKGs reviewed. Inferior MI was the most common infarction pattern and the 2nd most common was anterior infarction. Isolated lateral and posterior infarctions were the least common. The study broke the EKGs down into patients who walked in versus patients who came in via EMS. Inferior infarctions accounted for 55% of EMS patients with ST-segment Elevation MI and 52% of patients who walked-in. Anterior MI accounted for 41% of EMS ST-segment Elevation MI and 42% of walk-in patients. Lateral MIs accounted for 2% of EMS patients and 4% of walk-ins. Posterior MIs made up 2% of EMS patients and 1% of walk-ins.

The discussion section of the paper was very interesting. It noted that in past studies EMS correctly detected an inferior MI 96% of the time. The researchers also commented that historically EMS correctly identifies anterior MIs only 78% of the time and EMT-P’s ability to detect lateral MI is only around 51%. Lastly the researchers made the comment that EMS often has difficulty interpreting EKGs when with a left bundle branch block or those that are paced which sometimes results in false activation. I was also surprised to learn that the computer algorithms on the 12-lead machines are only about 58% sensitive according to the authors of the paper.

I think the main takeaway point from this article is that increased prehospital education should be spent on how to interpret anterior and lateral MIs. In addition additional training could be done looking at lateral and posterior MIS. Of course this study was done in only one hospital and not in NC so our patient population could be different. As previously shown in multiple studies EMT-Ps do a great job detecting patients who have ST-segment elevation MI, but we need to use data to find areas where we can further improve training.

This study was published at Prehosp Emerg Care. 2013 Jul-Sep;17(3):299-303.
A study was done looking at the difference between door to balloon times for patients with ST segment Elevation MI. Three different groups were reviewed: patient with EMS activations of the cardiac catheter lab, patients with ST segment Elevation MI where EMS did not activate the cath lab, and patients who walked-in to the emergency department with an ST segment Elevation MI. The study was a prospective observational study done at a single tertiary care center. In the study, 113 cases were analyzed. There were 38 cases where EMS activated the cath lab. There were 47 cases where, for various reasons, EMS did not activate the cath lab, and there were 28 walk-ins. In the study, the goal was to have a door to balloon time of less than 90 minutes.

The door to balloon times were significantly shorter for patients with EMS activation. In the EMS activation group, the mean door to balloon time was 37 minutes plus or minus 17 minutes (1 standard deviation). In the group where EMS did not activate the cath lab the mean door to balloon time was 87 minutes plus or minus 40 minutes. For the walk-in group, the mean door to balloon time was 80 minutes plus or minus 23 minutes. Also of note the mean first medical contact time which is also the same as the time of the first EMS unit arrival was 71 minutes plus or minus 21, for the EMS activation group, and 122 minutes plus or minus 41 for the EMS non activation group.

This study was only done at one center but it does lend further evidence to the recommendation that EMS be allowed to activate the cardiac cath lab.

This study was just published in Prehospital Emergency Care. 2013 Jul-Sep;17(3):293-8.
PEER REVIEW
Below are the rules for EMS Peer Review. There is one section for EMS Systems and one section for Specialty Care Transport Programs. Specialty Care Transport Programs must have their own peer review meetings, unless they operate under the direct supervision of the EMS System. This is required in N.C. Administrative Code. The requirement must be met to function either as an EMS System or Specialty Care Transport Program.

10A NCAC 13P .0408 EMS PEER REVIEW COMMITTEE FOR EMS SYSTEMS
The EMS Peer Review Committee for an EMS System shall:
(1) be composed of membership as defined in G.S. 131E-155(6b).
(2) appoint a physician as chairperson;
(3) meet at least quarterly;
(4) use information gained from the analysis of system data submitted to the OEMS to evaluate the ongoing quality of patient care and medical direction within the system;
(5) use information gained from the analysis of system data submitted to the OEMS to make recommendations regarding the content of continuing education programs for all EMS personnel functioning within the EMS system;
(6) review adult and pediatric treatment protocols of the EMS System and make recommendations to the medical director for changes;
(7) establish and implement a written procedure to guarantee due process reviews for EMS personnel temporarily suspended by the medical director;
(8) record and maintain minutes of committee meetings throughout the approval period of the EMS System;
(9) establish and implement EMS system performance improvement guidelines that meet or exceed the statewide standard as defined by the “North Carolina College of Emergency Physicians: Standards for Medical Oversight and Data Collection,” incorporated by reference in accordance with G.S. 150B-21.6, including subsequent amendments and editions. This document is available from the OEMS, 2707 Mail Service Center, Raleigh, North Carolina 27699-2707, at no cost; and
(10) adopt written guidelines that address:
(a) structure of committee membership;
(b) appointment of committee officers;
(c) appointment of committee members;
(d) length of terms of committee members;
(e) frequency of attendance of committee members;
(f) establishment of a quorum for conducting business; and
(g) confidentiality of medical records and personnel issues.

History Note: Authority G.S. 143 508(b); 143-509(12);
Temporary Adoption Eff. January 1, 2002;
Eff. April 1, 2003;

10A NCAC 13P .0409 EMS PEER REVIEW COMMITTEE FOR SPECIALTY CARE TRANSPORT PROGRAMS
The EMS Peer Review Committee for a Specialty Care Transport Program shall:
(1) be composed of membership as defined in G.S. 131E-155(6b);
(2) appoint a physician as chairperson;
(3) meet at least quarterly;
(4) analyze program data to evaluate the ongoing quality of patient care and medical direction within the program;
(5) use information gained from program data analysis to make recommendations regarding the content of continuing education programs for medical crew members;
(6) review adult and pediatric treatment protocols of the Specialty Care Transport Programs and make recommendations to the medical director for changes;
(7) establish and implement a written procedure to guarantee due process reviews for medical crew members temporarily suspended by the medical director;
(8) record and maintain minutes of committee meetings throughout the approval period of the Specialty Care Transport Program;
(9) establish and implement EMS system performance improvement guidelines that meet or exceed the statewide standard as defined by the “North Carolina College of Emergency Physicians: Standards for Medical Oversight and Data Collection,” incorporated by reference in accordance with G.S. 150B-21.6, including subsequent amendments and editions. This document is available from the OEMS, 2707 Mail Service Center, Raleigh, North Carolina 27699-2707, at no cost; and
(10) adopt written guidelines that address:
(a) structure of committee membership;
(b) appointment of committee officers;
(c) appointment of committee members;
(d) length of terms of committee members;
(e) frequency of attendance of committee members;
(f) establishment of a quorum for conducting business; and
(g) confidentiality of medical records and personnel issues.

History Note: Authority G.S. 143 508(b); 143-509(12);
Temporary Adoption Eff. January 1, 2002;
Eff. April 1, 2003;
Amended Eff. January 1, 2004;
Pursuant to G.S. 150B-21.3(c), a bill was not ratified by the General Assembly to disapprove this rule.
The Center for Disease Control recently issued a public health alert for health care providers to be on the lookout for individuals who overdose on a new non-prescription injected synthetic opioid, acetyl fentanyl. Acetyl fentanyl is a fentanyl analog that has recently been implicated in several deaths in Rhode Island. This drug is up to five times more potent than heroin. Since March 6, 2013, there were fourteen overdose deaths reported in Rhode Island suspected to be secondary to acetyl fentanyl. There is concern that this drug has spread beyond Rhode Island and cases may be misdiagnosed.

The CDC requests increased vigilance by emergency departments and emergency medical services. These patients should present as an opioid-poisoned patient with decreased level of consciousness and respiratory depression. Naloxone should have the same reversal effect as it does for fentanyl and other synthetic opioids. Larger doses of naloxone may be required because of the higher potency of acetyl fentanyl compared to heroin. The CDC advises that emergency departments and emergency medical services ensure that they have adequate naloxone available, as some agencies have run out in the face of increased numbers of overdoses and administering higher doses of naloxone in a short period of time. Also keep in mind that fentanyl and acetyl fentanyl are synthetic opioids and are structurally different from codeine derivatives. Thus, these agents are unlikely to show up on routine urine drug screens. The CDC is asking providers to consider sending out for confirmatory testing in cases of suspected acetyl fentanyl poisoning.

The CDC Health Advisory can be found at this link:
http://emergency.cdc.gov/HAN/han00350.asp