



North Country EMS Program Agency

“Serving Jefferson, Lewis & St. Lawrence Counties”

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Report on 2007 Cardiac Screen

The following information is a summary of the August, 2007 – March, 2008 “Cardiac Screen” conducted throughout the North Country Region. The providers were instructed to complete the screen when “the primary presenting problem is cardiac related (potential).” Because the REMAC focus was to evaluate prehospital care of the patient thought to be experiencing an “acute coronary syndrome,” only the screens suggestive of ACS were utilized. In all a total of 406 screens were entered to generate the following information.

Times:

Comparison to RL&S data

- Regional Averages for calls assumed to be cardiac emergencies:
 - 5.27 minutes from time of dispatch until ambulance was enroute **(RL&S 5.0 min.)**
 - 10.7 minutes from time of dispatch until ambulance arrived at scene **(RL&S 11.3 min.)**
 - 12.69 minutes spent on scene **(RL&S 12.8 min.)**
 - 38.36 minutes from time of dispatch until arrival at hospital **(RL&S 44.0 min.)**

Oxygen Use:

- Regional average time from arrival at scene until Oxygen was administered:
 - Combined BLS & ALS – 3.82 minutes
 - BLS Providers – 2.88 minutes (125 entries)
 - ALS Providers – 4.21 minutes (195 entries)
- BLS providers administered Oxygen at less than 6 LPM 8% of the time
- ALS providers administered Oxygen at less than 6 LPM 24% of the time
- BLS providers administered Oxygen at greater than 11 LPM 34% of the time (NYS Protocol)
- ALS providers administered Oxygen at greater than 11 LPM 31% of the time (NYS Protocol)

Aspirin Use:

- How often did BLS believe it was a cardiac event when ALS did not? **10 times**
Unexpected finding: **Of these 10 calls ALS administered Aspirin 3 times even though they clearly indicated they didn't believe it was a cardiac event.**
- In follow up to this unexpected finding a query asking how often ALS did not believe it was a cardiac event but clearly indicated Aspirin was administered showed 8 instances.
- Of the 406 screens entered BLS providers only administered aspirin 23 times before the arrival of ALS

- Regional average time from arrival at scene until Aspirin was administered:
 Combined BLS & ALS – 9.75 minutes
 BLS Providers – 11.92 minutes (23 entries)
 ALS Providers – 9.61 minutes (210 entries)
- Aspirin was administered “prior to EMS” approximately 15 % of the time.

Nitro Use:

- Of the 406 screens entered BLS providers only “assisted with Nitro” four times before the arrival of ALS
- Regional average time from arrival at scene until Nitro was administered:
 BLS Providers – 3.66 minutes (4 entries)
 ALS Providers – 10.94 minutes (248 entries)
- Nitro was administered “prior to EMS” approximately 11% of the time.
- Nitro was administered “by patient” approximately 3 % of the time.

12 Lead Use:

- A 12 Lead ECG was performed on approximately 31% of the screens selected for this study.
- A 12 lead ECG was “not available” on approximately 27% of the screens selected for this study.

Did we meet the goals described in our abstract?

Did BLS/ALS believe this was a cardiac event? On ten (2.5%) occasions BLS believed it was a cardiac event when ALS did not agree. The screens also show that BLS did not believe it was a cardiac event when ALS thought it was a mere 14 times (3%).

If BLS arrives before ALS, did BLS care start prior to arrival of ALS? The information gathered indicates that BLS care is initiated prior to the arrival of ALS.

Who Administered oxygen BLS/ALS? How soon? Method NC/NRB? BLS providers are administering oxygen to their patients in about half the time ALS providers do. In addition, the information gathered indicates that ALS providers are administering Oxygen at less than 6 LPM approximately 24% of the time (3 times more often than BLS).

Who administered Aspirin BLS/ALS? How soon? As expected ALS providers administered Aspirin far more often than BLS. The actual numbers broke down as follows; of the 406 entries ALS gave Aspirin 210 (52%) times, BLS administered Aspirin before the arrival of ALS 23 (5.5%) times and Aspirin was onboard “prior to EMS” approximately 15% of the time. More interesting and important is the elapsed time from arrival at scene until Aspirin is actually administered. The average time till administration for ALS providers is 9.6 minutes, while BLS providers increased to 11.9 minutes. This finding suggests that BLS providers may be reluctant to proceed with this new responsibility and all levels may need further education to stress the importance of early Aspirin administration.

Who administered 1st Nitro? ALS/BLS assist/patient? How soon? To no surprise ALS providers administered Nitro far more often than BLS. Only 4 of the 406 screens indicated that Nitro was given with BLS assistance. The interesting numbers involve time from arrival at scene until Nitro was administered. BLS assisted Nitro was administered on average 3.6 minutes after arrival, while ALS administration occurred on average 10.9 minutes after arrival. The BLS timeline only involves 4 cases and therefore has a questionable reliability. The greater concern is that it takes on average more than ten minutes before the ALS provider administers Nitro.

Did ALS perform a 12 Lead ECG? The information gathered indicates that a 12 Lead ECG was performed on approximately 31% of the screens used. More interesting to the region is that 27% of the screens indicate that this procedure was “not available.”

Summary- The information received from this screen shows that our BLS providers are doing a great job at administering high concentration O₂ in a timely manner to a patient who is potentially having a cardiac event, which is half the time it takes our ALS providers to administer this basic treatment. Only a very small percent of the time does the impression of the patient condition differ between BLS and ALS providers. One of the great concerns is the 24% of the time O₂ is being delivered at less than 6 liters per minute by ALS providers and will require addition education. The average time till aspirin administration for ALS providers is 9.6 minutes, while BLS providers increased to 11.9 minutes. This finding suggests that BLS providers may be reluctant to proceed with this new responsibility, but at this time the protocol is relatively new and with experience, time, and training these findings should change. The findings on this report show that all levels may need further education to stress the importance of early oxygen and aspirin administration to a patient who is having a potential cardiac event and meet the criteria for administration of these medications. The region is currently completing a survey on how many ambulances have 12-lead capability at this time due to the 27% of the cardiac screens that indicated this procedure was not available.

Dissemination – The screen will be posted on our website at www.canton.edu/ncems and a draft copy has been provided to all REMSCO, REMAC, St. Lawrence and Lewis County Advisory Board members. The final copy will be mailed to every agency within the tri-county region of St. Lawrence, Lewis, and Jefferson County.