



Chief's Corner

CPR - Going Old School (Not Really)

Hello everyone! Welcome to the Christmas edition of the Chief's Corner. I hope you are ready for the holiday season and some great times with your family and friends. The weather already feels like winter is here and the merchants have been having big sales since before Thanksgiving. Here's wishing everyone a Merry Christmas and Happy New Year!

This month I want to discuss some of the new things that are on the horizon for cardio-pulmonary resuscitation. I recently attended a lecture by Doctor Joseph Ornato, M.D., at the Virginia EMS Symposium and was struck by the fact that some of the "new" thinking about CPR is very similar to what we used to do when the Fire Department first began providing emergency medical services in the 1970s. (Yes, before you ask, I was working here then.) The latest research shows that good, basic CPR is the key to a successful resuscitation. All of the advanced skills and drugs certainly help, but without high quality CPR the chances of the patient's survival are almost zero.

In the first several years of providing emergency medical services, the Fire Department was a basic life support agency and all we could do for a patient in cardiac arrest was provide oxygen and CPR while we transported to the emergency room. The survival rate for these patients was very low. In 1978, the first group of Cardiac-EMTs started to provide advanced life support care and the survival rate began to increase. Through the years as equipment and training improved, so did the patient survival rate. Currently, the Fire Department has a Return of Spontaneous Circulation (ROSC) rate that rivals the best in the country. One of the keys to this ROSC rate is the high quality of CPR being provided by our personnel. The recent change to "Pit Crew" CPR has proven to help and the use of the Lucas device has made a significant difference.

Research has shown that high quality compressions are the key for successful ROSC and long term patient survival. Compressions must be hard and fast with as few pauses as possible. This was almost impossible years ago, but with the Lucas device it can be done. The rate for compressions should be at least 100 per minute and to a depth of at least two inches. (Research shows that the optimum rate is between 100 and 120 compressions per minutes to a depth of 52mm.) Further study has also shown that the upstroke is equally important. You must release the pressure on the chest to allow for complete refilling of the heart before the next compression, thereby improving circulation. The Lucas device does this much better than a firefighter providing manual CPR and it does not get tired. Also, with a mechanical compression device, you do not have to stop CPR to move the patient. Not interrupting compressions is very important.

Additional studies have shown that the interval between stopping compressions and delivering the shock should be very short. Less than five seconds is optimal and improves the patient's chance of converting to a circulating rhythm. It has also been shown that delivering several cycles of CPR before attempting to shock the patient is very helpful.

During his lecture, Dr. Ornato suggested that the American Heart Association's next release of the Advanced Life Support guidelines will stress that advanced airway maneuvers are not as important as high quality chest compressions and can wait for a few minutes. (There is a study being conducted now in Arizona where the only thing being done for ventilations for the first several minutes is a mask with high flow oxygen. The preliminary results show the patient's survival rate is unchanged.) The key here is not to interrupt compressions in order to perform advanced airway procedures.

So, what does all of this mean when we respond to a patient who is in cardiac arrest? What should we do to give that patient the best chance of surviving the event?

- Respond in a rapid but safe manner
- Assess the patient quickly and began compressions ASAP if indicated
- Place the Lucas device on the patient and start mechanical compressions
- Apply supplemental oxygen to the patient
- Attach the defibrillation pads and check the rhythm
- Shock after several cycles of chest compressions when indicated
- Establish Intraosseous (IO) access in the humerus and deliver medications according to protocol
- Continue to treat the patient according to protocol until ROSC

All of these steps are important, but we must remember that early, high quality CPR and early defibrillation are the keys to a successful resuscitation.

I hope everyone has a great holiday season and enjoys this festive time of the year. Remember the "spirit of the season" and treat all of our citizens with warmth and respect. Take care and keep up the great work. Be careful out there and never forget the most important rule: "Everyone goes home safe at the end of the shift."

Chief

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LFD Years of Service

19 Years

Wayne Casto

Congratulations

Births

- Congratulations to Colby & Tameka Felton on the birth of their third child, Soren Elijah Felton. He was born October 2, 2014, and weighed 7 lbs., 5 oz.
- Congratulations to Jason & Katie Marston on the birth of their son, Asher Garnett Marston. He was born November 22, 2014, and weighed 7 lbs., 11oz.

Farewell

- Farewell to Phillip Meeks who resigned effective December 2nd. We thank Phillip for his service and wish him well in his future endeavors.
- Farewell to Les Powell who has resigned and accepted a position at a fire department closer to his home. His last day will be December 18th. We wish Les well and thank him for his service.

Retirements

- Congratulations to Captain Dennis Dodson who retires effective January 1, 2015, with 30 years, 9 months of service.
- Congratulations to Battalion Chief Ninette Heath who retires effective January 1, 2015, with 29 years, 5 months of service.

Thanks to both of them for their many years of service to the department and the citizens and best wishes!

Certifications

EMT-Enhanced

Jason Marston

Vehicle Rescue Level I

John Thompson

Trench Rescue Level I

Zach Foster

Legacy Book

The department's first Legacy Book is progressing nicely and is in its final stages. Every effort has been made to have the book published by Christmas; however, we anticipate the books will not be ready until January. These books will be a great keepsake to share with your family for years to come!

Fire Department to Increase Operational Efficiency, Save Money

By: Battalion Chief Jason Campbell

For nearly 14 years, the department has utilized Windows-based devices in fire department apparatus, providing critical response information to responding apparatus. When Microsoft announced plans to discontinue its security updates for Windows XP beyond April 2014, the Department utilized the opportunity to explore other options for its mobile devices. There were 32 laptop computers in apparatus with the Windows XP operating system. With nearly 75 percent of the devices having expired warranties by the end of 2014, the lack of a computer replacement schedule for the laptops, and the soaring cost of the Panasonic Toughbooks, the Department sought out other alternatives. An estimate to upgrade the existing devices and improve the reliability of the Wi-Fi and GPS performance topped \$117,000.

The Department looked at multiple alternatives, but found that the current computer-aided dispatch vendor, Sunguard, offered an application for iOS, or Apple, devices. Although designed for police departments, the "Freedom" application or "app" was determined to be appropriate for use by the Department. And with an enclosed Wi-Fi device and GPS functionality, the Apple iPad was also attractive for use to assist in improving operational efficiency.

With Wi-Fi service, provided through Verizon LTE to increase the reliability of a connection, and an internal GPS, the iPad will provide an updated location of each piece of apparatus to Lyn-Comm every 10 seconds. When a call for service is received, CAD will have the ability to identify the units that are closest to the incident location and will recommend those units for dispatch to the telecommunicator. As a result, the citizens should experience better response times and the responding units will have clarity in which unit is actually the closest to the incident location.

In total, the project cost total is just under \$54,000. The project will also reduce on-going annual service agreement costs. The iPads provide for an ease of use by the end-user, removes the devices from direct connection to the City's network preventing viruses and new malware from entering the network, and aims to reduce IT support requirements.



Reminders...

Christmas Parade

December 7, 2014 at 5 p.m. (Downtown Lynchburg)
Sponsored by Retail Merchants Association

City Employee Holiday Gathering

Friday, December 12, 2014 from 11:30 a.m. - 1:00 p.m. at the Information Technology Building (Large Meeting Room). There will be music, fun and food (funded by City-wide vending machine proceeds). There will be a new twist to this year's contest...The City's Got Talent. Showcase your talents: singing, dancing, musical instruments, dramatic readings, comedy, or your choice. A panel of "Celebrity" Judges will determine the winners! To participate, complete and fax (845-4304) your registration form to Human Resources no later than December 9.

Upcoming Holiday Observances

City offices will be closed on the following dates:
December 24-25, 2014 (Christmas)
January 1, 2015 (New Year's Day)

Communications Meeting

January 8, 2015 at 8:30 a.m. (Fire Admin. Training Room)

2015 Pocket Shift Calendars

The 2015 pocket shift calendars have been distributed to all fire stations. These two-sided cards contain the 2015 shift calendar on one side, while the other side has a listing of addresses and phone numbers of the fire stations. Each employee received two pocket calendars; however, contact Tammy Sage (ext. 6341) for additional, if needed (while supplies last).



*Happy
Holidays!*