

# HOT TOPICS



Volume 11, Issue 2

City of Delray Beach Fire-Rescue Department

August 2011

## *Congratulations!*

### Mission Statement

The Delray Beach Fire-Rescue Department is resolved to provide the highest quality of emergency services to residents and visitors of our community; effectively mitigating all types of incidents threatening life or property; educating the public in specific aspects of health and safety to assure a superior quality of life.



Firefighter Jacobs graduated from Palm Beach State College's Paramedic Program on Monday the 15th. He received an Academic Achievement award for having the highest GPA in his class.

Firefighter Jacobs is pictured here at his graduation ceremony with Division Chief Anderson, (PBSC Instructor) Driver Engineer Bill Briard, and Acting EMS Training Lieutenant Bob Baker.

### Vision Statement

"Our vision is to provide Fire-Rescue, Emergency Medical and Special Operations Services at the highest level of excellence, professionalism, and commitment to the community. Proud of our past and embracing our future, the members of Delray Beach Fire-Rescue will work as an effective and integrated team, dedicated to continuous improvement and maintaining a positive environment. The Department will be a model to others and the pride of the community".



### When Not To Quit: Man Revived After 96 Minutes

Howard Snitzer's heart stopped beating for 96 minutes last January. First responders didn't give up on him, thanks in part to capnography, a technology that let them know Snitzer still had a chance of coming back. *Read more on page 6.*

### What was the costliest hurricane on record?

As most of Florida will remember, the costliest hurricane of all time was [Hurricane Andrew](#). Andrew struck in 1992 and devastated the Homestead and southern Miami-Dade areas with sustained winds of over 156 miles per hour. The estimated cost damage was \$26.5 billion. After predicting for days that the storm was taking a northerly course, most people in Miami and Homestead were unprepared for the change in path that took in through the Homestead Air Force Base and the Country Walk area. Post-Andrew construction had extremely different standards, including storm shutters being required when selling a new home.

***"Preparing for the worst.....Delivering the best"***

## **FIRE SPRINKLER TIP OF THE MONTH**

**By: Lt. Dave Brassard**

### **SCENARIO**

You are dispatched to a general fire alarm due to a water flow activation. On arrival there is nothing showing on four sides of a large two story commercial structure. You do not have means of accessing the structure without using forcible entry.

### **QUESTION**

Is there any way to know from the outside of the structure if water is flowing from the building's fire sprinkler system?

### **ANSWER**

If the fire sprinkler system has a backflow prevention device the answer is yes. As the name implies, backflow preventers prevent the water in the fire sprinkler system from flowing back and possibly contaminating the municipal water supply. These devices have a bypass tube that is connected to a water meter. Ensure any valves in the bypass tube are in the open position. If water is flowing in the fire sprinkler system it will be registering on the water meter.

\* Some of the older fire sprinkler systems in Delray Beach do not have backflow prevention devices. The Department of Environmental Services is in the process of ensuring these systems are retrofitted with backflow preventers.



## Mitochondrial Disorder

*Mark Korson, MD*

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### **BACKGROUND INFORMATION**

Mitochondrial Disorders are a group of diseases that affect the mitochondrial energy metabolism (electron transport chain defect). The human body breaks down foodstuffs to form energy packets (ATP) that are needed to perform all of its bodily functions. ATP is created in the mitochondria, the powerhouse of the cell. Disorders affecting mitochondria result in decreased energy production and impairment of energy consuming body functions. Affected individuals can show a wide range of symptoms, including any combination of developmental delays, seizures, vision and hearing problems, autonomic nervous system dysfunction (apnea, temperature instability, and irregular heart rate), other heart, liver and kidney problems, muscle weakness, and growth difficulties. The presentation and prognosis of a particular mitochondrial disorder can be very variable, even among affected individuals within the same family. However, in general, these diseases are progressive and usually result in significant disabilities and early death for the affected individuals.

### **REACTION TO STRESS**

Quite often, symptoms of these disorders can be aggravated by stressors. These would include minor illnesses and/or surgical procedures. At these times, an increased physiologic demand for energy may overwhelm an affected individual's ability to produce ATP. Symptoms at these times may include:

- Increased frequency of seizures
- Marked lethargy
- Pronounced weakness, hypotonia and other neurological signs
- Increased lactic acidemia

### **EMERGENCY-MANAGEMENT**

Stabilization of airway and breathing. Blood glucose should be checked, but regardless of the blood glucose value, it is important that the patient be given 10% dextrose at 150 cc/hr as soon as possible to minimize the risk of further metabolic decompensation. **DO NOT** wait until the patient is in the Emergency Room to start an IV. If acidotic, IV sodium bicarbonate as necessary. Monitoring of the following blood tests—blood gasses, measured CO<sub>2</sub>, lactate, electrolytes, and glucose. **LACTATED RINGERS SOLUTION IS NOT TO BE USED AS AN INTRAVENOUS FLUID** since these disorders are already associated with lactic acidemia.

The EMS Department thanks you again for your involvement either directly or indirectly in the County Wide Inspection process. We ask that you continue to help ensure that the apparatus maintain the current level of readiness to respond. Please follow the procedure listed above when you have an issue with a portable radio assigned to your apparatus. This will help to ensure that we have an accurate account of all radios and that repairs are being completed in a timely manner. Finally, Chief Anderson encourages you to take the time to speak with someone who has run on the patient with Mitochondrial Disorder and to read the attached summary of the signs & Symptoms and treatment modalities.



***Danielle Connor, EFO, RN, Assistant Chief***

Congratulations to Firefighter James Jacobs on his graduation from Paramedic School at Palm Beach State College on Monday August 15<sup>th</sup>. Special accolades to FF Jacobs for receiving the Academic Achievement Award for maintaining the highest GPA of his class. Great work!! Best of luck with the State examination and the department's protocol test and STEP program.

The Labor-Management Committee has been reintroduced and is aiming to address a number of issues affecting both parties. A subcommittee has already been created, a Promotional Task Force, which will address all related issues of our various promotional examinations. All components of these examinations will be looked at, including frequency of tests, study materials, point systems, etc. Anyone interested in participating should contact Lt. Crista Mockenhaupt, if you haven't done so already. This Task Force will be doing serious, important work and the changes that are made will be in a place for a number of years. Your involvement and your voice are important!

We dodged a big bullet this week with Hurricane Irene giving us a pass as she roared up the coast. Everyone is responsible for knowing the reporting requirements for Hurricane Watch vs. Hurricane Warnings and to anticipate reporting due to these storms. Although forecasters all seem to remain on similar tracks, it certainly is not out of the realm of possibility for these storms to deviate greatly and venture off course into an area not expecting it. Each of us needs to have our homes ready during hurricane season, and to have plans in place for children, family, and pets. The Department's Hurricane Plan is available on our web site, and on the "S" drive.

We are gearing up to start another hiring process. The Department was awarded a SAFER grant this year, which will complete the staffing at Station #2. We will be hiring four people via this grant, and have received permission to hire an additional two people. Be sure to pass this along to any of your friends, relatives, or neighbors who are certified and looking to get hired.

Thank you to every member of this Department. Every day, I receive thank you notes and/or phone calls from residents, visitors, and business owners for the professional service you are delivering. Thank you for representing this Department and this City in such a positive way.....

***Far better is it to dare mighty things, to win glorious triumphs, even though checkered by failure... than to rank with those poor spirits who neither enjoy nor suffer much, because they live in a gray twilight that knows not victory nor defeat.***

***Theodore Roosevelt***

## EMS Division News

### Sarah Murphy “D” Shift

This month the EMS Division has been busy with completing the County EMS Vehicle Inspection, implementing the EMS Standards Committee, updating the radio inventory and educating the Department on a patient new to the area with Mitochondrial Disorder.

The EMS Department would like to thank everyone involved in helping the Department receive an outstanding County Inspection. With all the recent protocol, drug, and equipment changes it was a delight to have the inspection completed without a hitch. The Department knows you worked very hard to make this outcome possible.

The EMS Standards Committee met for the first time this month. The meeting went well and many questions and concerns were brought into light. The committee will be working on these issues in the coming months and the dates of the upcoming meetings will be posted. The meetings are open to everyone but the EMS Division asks that any new concerns be funneled through the committee members. Again the committee consists of Randy Bahe, James Bradford, Conor Devery, Chris Hutchinson, Brian Pollack, and Rich Tarantino.

The radio board is up and running in Chief Anderson’s office. The board has the accurate account of the correct radios assigned to all Units. The radios are matched by serial number and all spare radios are now located in this office. If Chief Anderson is unavailable, the on duty Battalion Chief is to replace an inoperable or damaged radio. The board has been installed to keep track of inventory and the ability of Dispatch to accurately locate the correct units.

A new patient has moved to our city and has a disorder that many of us may not be familiar with, Mitochondrial Disorder. Mitochondrial Disorder/Disease is described below by the patient’s metabolic doctor and gives a background and emergency medical management suggestions should you run on this patient. Be aware of the signs and symptoms of this disorder and the emergency management procedures to be given. The patient’s individual symptoms include fatigue, muscle pain, paresthesiae, autonomic dysfunction, gut dysmotility, and migraine headaches. Your EMS Lieutenant is aware of this patient and should be contacted with any concerns.

## Training, Health and Safety

### *Joe Falcone, Acting Division Chief of Training and Safety*

Last month we finished the article series of Cancer in the Fire Service written by Keith Tyson, a retired Firefighter from Miami-Dade. If you read the article series or have done any superficial research of diesel exhaust or the effects of breathing in smoke during overhaul or while working on scene at fire, you should know that we are at a severe disadvantage compared to the average American. You may have seen the gentleman measuring the stations and trucks for the Plymo-Vent system which is a 100% source capture system which removes the diesel exhaust right out of the station upon leaving and returning to quarters. We are actively pursuing an AFG grant for the purchase of this system and will follow-up with when the awards are announced. However, in the meantime there are precautions we should absolutely take every day we are work to limit the exposure to the toxic effects of exhaust. Do not allow trucks to idle in the bay while waiting for crew to dress out or get to the truck. Keep your gear stored inside the truck, particles settle on the interior portion of bunker pants which allows chemicals to absorb into the groin area. Keep bay doors open if possible to allow a fresh breeze to come through the bay airing out the exhaust from a returning or leaving vehicle. Take a look at the walls or furniture in the bay and you will realize that there is a layer of soot on everything. Do your part to keep exposure to a minimum. Wearing an air pack is crucial to preventing any harmful chemical present at a fire from entering your system. Some departments have gone as far as requiring the Driver/Engineer to pack out if he is operating and pumping the truck in a heavy smoke environment, something to think about. Probably the most common situation where we would be caught breathing in chemicals without an air pack is overhaul. Typically we take the 4 gas monitor and clear the building of gases and we assume the air is clear for us to breathe, however to be safe and ensure you are not breathing in anything harmful, air packs should be worn anytime you enter a building that has been on fire and is still smoking. Sure the building may be clear of CO, but we do not have a monitor for Cyanide and that is a major killer for firefighters and typically goes undetected. I will follow up next month with how to handle Cyanide or suspected Cyanide poisonings with firefighters who recently fought a fire and are now showing signs and symptoms.

# Operations Division

Assistant Chief Russell Accardi

As we enter the busier time of this hurricane season we have to continue to be prepared both with our family's hurricane preparedness plan, and also our own readiness plan when reporting for work assignments. Please review the 2011 revised Delray Beach Fire-Rescue Hurricane Plan and become familiar with your roles and responsibilities under the various stages of approaching storms.

I want to provide an update with the progress of implementation of the Firehouse Software into the operations division. As we continue to become more familiar with the use of the fire records management components of the software, we will see the benefit from electronically shared information on many aspects such as station, apparatus, and equipment maintenance tracking and follow up. There will also be inventory record keeping, and enhancements to our response capabilities from the integration of hydrant inspections and building pre-plans being available in the field on the apparatus MCT's.

The one component that has created the greatest challenge to incorporate is the Electronic Patient Care Report (EPCR) that was supplied from Firehouse to be used as our EMS report writing software. Because this program has required so much of our time to work through the problems encountered trying to implement it, it has taken away time that could have been spent on the complete implementation of the entire Firehouse Software Program. As the overall project manager Chief Greg Giaccone has worked closely with Lieutenants Ed Beardsley and Joe Falcone to get the entire project off the ground. They have been working tirelessly with the vendor and other city staff to resolve all of the issues that have been encountered to date.

Since we are not satisfied with the current EPCR component of this software functioning to the level we were expecting from it, I want to update everyone on a few things being done. Conference calls have taken place with DBFR staff, Assistant City Manager Doug Smith and Firehouse to clearly communicate our concerns on the outstanding issues that have not been resolved by the vendor to date. Chief Steven Anderson has coordinated conference calls with another municipality who is using the same EPCR and they provided recommendations on how they have resolved some of the issues we are experiencing. Also DBFR staff will be attending a conference in September by the Firehouse Software vendor to see what is being released as the next generation of their EPCR program. Some indications are this possible new release will address many of the issues that have not been resolved by the vendor with our current EPCR program. We automatically get any software updates at no cost if this is the case.

Lastly, Chief Steven Anderson has been tasked with starting to evaluate other EMS report writing programs on the market, which may have been developed after we had committed to the Firehouse EPCR program. This measure will allow us to evaluate all of our options if in fact Firehouse cannot satisfactorily resolve our concerns with the latest EPCR program they have available. The senior staff of our department is aware of the operational impact the current EPCR program is causing in the field and we want all personnel to realize we remain focused on addressing these concerns until we are satisfied with the end product. Thank you for your patience during this implementation period.

Again we have included a NIOSH investigation, this time involving an unfortunate fatality of a firefighter operating on the fire-ground. This firefighter was killed outside while performing a task done by members of our department several times a day. He was the back-up person signaling the engine where to back up so it didn't hit anything. Please read the summary of this report and discuss with your crew so we avoid this from happening in our department. *Continued on page 7.*

Death in the line of duty...

NIOSH

*Fire Fighter Fatality Investigation  
and Prevention Program*

Fatality Assessment and Control Evaluation Investigation Report # F2009-10

**November 3, 2009**

***Career Fire Fighter Dies When Backed Over While Spotting an Apparatus—NJ***

**SUMMARY**

On January 2, 2009, a 57-year-old male career fire fighter (the victim) was fatally injured when he was backed over while spotting an apparatus on the fire scene. The victim was the acting captain the night of the incident and responded in an engine with a crew of three to a reported working structure fire. While en route, the engine had received a radio message to forward lay and supply water for an elevated master stream. Due to the location of the fire structure and hydrant the crew had to lay the supply line beneath a highway overpass. Upon arrival, the engine chauffeur had to drive around a police cruiser and tow truck in order to position the engine to an available hydrant. The engine then dropped off a fire fighter at the hydrant to prepare a forward lay when the incident commander advised them to do a reverse lay. The victim then exited the engine to guide the chauffeur while he backed the engine around the police cruiser and tow truck. The victim walked down the officer's side of the engine and positioned himself at the rear on the officer's side. The fire fighter positioned himself at the driver's side front bumper. The chauffeur was able to negotiate the engine around the police cruiser and tow truck without incident before straightening up to position a feeder line into the scene. The victim walked backwards keeping eye contact with the chauffeur via the officer's side mirror. While backing, the chauffeur noticed the tow truck drive past him toward the scene. He focused his attention on the tow truck momentarily when he felt the truck run over something. A police officer yelled to the chauffeur to stop the engine because something or someone was just run over. The victim was found underneath the engine just in front of the officer's side rear wheels. He was transported to a local metropolitan hospital where he was pronounced dead. The chauffeur was not cited in the fatal incident. Key contributing factors identified in this investigation include loss of direct communications between driver and spotter, driver distractions, possible loss of footing by the victim, and possible failure of the automatic reverse braking system. NIOSH investigators concluded that, to minimize the risk of similar occurrences, fire departments should

- ***Ensure that standard operating procedures (SOPs) are developed, implemented, and enforced on safe backing of fire apparatus (e.g., visual and audio communication, use and position of spotter(s)) and include adequate training and testing methods (e.g. written and practical tests) to ensure fire fighter comprehension.***
- ***Consider evaluating current safety equipment used on fire apparatus to assist drivers during backing operations and consider supplementary safety equipment (e.g., additional mirrors, automatic sensing devices, and/or video cameras) for further assistance.***
- ***Implement proper procedures for inspection, use, and maintenance of safety equipment used to assist in the backing of fire apparatus to ensure the equipment functions prop***



## When Not To Quit: Man Revived After 96 Minutes by Gretchen Cuda-Kroen

Last January, a Minnesota man's heart stopped beating for an amazing 96 minutes. Emergency room doctors thought he was dead. But first responders who gave CPR on the scene decided not to give up, in part because of technology that allowed them to see their efforts were working.

It's called capnography, and it measures how much carbon dioxide is being expelled with each breath. This information helps doctors and emergency medical personnel determine whether a patient is hyperventilating or having a heart attack. It helps them decide how to treat an asthma attack, or determine whether CPR is working.

### **How It Works**

At a fire station in Brook Park, Ohio, medical officers put a tube in my nose and hook me up to the machine to show me how it works.

"OK, that last data stream there is the capnography. Now just breathe normal," Lt. Mark Lynch says, pointing at a graph on the screen that moves up and down when I breathe.

I watch the monitor as I inhale and exhale. "Every time I breathe out, it goes up," I remark.

"Yes. That's the exhalation. Right," Lynch confirms.

There is also a number on the screen that corresponds to the carbon dioxide I exhale — an estimate of carbon dioxide levels in my blood. As I change my breathing, the number changes, too. By breathing rapidly, I blow out carbon dioxide, and the number on the screen goes down. If I hold my breath, it goes up. Lynch explains that if I were unconscious and receiving CPR, the carbon dioxide levels would tell them how efficiently their chest compressions were pumping blood through my lungs and to my organs. Breathing normally, my number is 35.

"Now, during good CPR, this is probably going to be around 25 — if you keep this up in that 25 range, then there's circulation still going on. ... That's where you're going to get a positive outcome," Lynch says.

Capnography is not a new technology. In fact, it's been around for years, used by anesthesiologists to monitor a patient's breathing during surgery.

But these days, the technology is making its way out of hospital operating rooms and into portable devices that are helping first responders make critical — sometimes life-saving — decisions.

### **Knowing When Not To Quit**

That was certainly the case for Howard Snitzer when he collapsed in front of a Minnesota grocery store one cold night last January. After he woke up days later, some of the emergency medical personnel who helped that night told him what had happened.

"They said, 'We were wondering what you remember about your heart attack.' And I said, 'Nothing.' And they said, 'Well, here's what we remember.' And they started telling this story, and I was just blown away," Snitzer recalls.

*Continued on page 7*

For more than an hour and a half, Snitzer had no pulse. Emergency room doctors said there was nothing more they could do. But one of the flight nurses who had come with the emergency helicopter had been trained in capnography. Snitzer's carbon dioxide levels suggested that blood was flowing to vital organs like the heart and brain, and the nurse thought Snitzer still had a chance.

The nurse "called the emergency room doctor, who told him that I was dead and that they should walk away," says Snitzer. "And he hung up and he said to the rest of the people in the room, 'Is anyone else here uncomfortable with walking away from this?' And they all said yes. And it was at that point that he called Dr. White."

That's Dr. Roger White, an anesthesiologist at Mayo Clinic. He's the one who finally came up with the solution to get Snitzer's heart beating normally again.

"We just continued believing that the measurement of carbon dioxide pressure said that if we can stop that fatal rhythm, Howard will be OK," White explains.

After shocking Snitzer's heart 12 times and administering intravenous drugs, they finally did manage to stop that fatal heart rhythm. When a pulse and a regular heartbeat had been restored, Snitzer was airlifted to the Mayo Clinic.

White says that before the use of capnography, the only way of assessing blood flow to vital organs was by feeling for a pulse or by looking for dilated pupils. He says those methods are very crude and can fail. Snitzer never had a pulse despite good carbon dioxide readings. Without the information from capnography, he says, it would have been reasonable to stop CPR — and Snitzer likely would have died.

"The lesson that I certainly learn from this is you don't quit — you keep trying to stop that rhythm as long as you have objective, measurable evidence that the patient's brain is being protected by adequate blood flow as determined by the capnographic data," says White.

Capnography is slowly becoming standard equipment for emergency responders. Next year, the fire department in Brook Park will have five new capnography machines — as opposed to the one they have now.

The American Heart Association added capnography to its 2010 guidelines for treating cardiac arrest patients — a sign, says White, that it's a technology that emergency medical teams can no longer do without.



# August

## Anniversary

August 28th

Jan Holmsted  
22yrs.

August 15th

Adam Granath  
Spencer Langley  
Matthew Pearce  
17 yrs.

August 6th

David James  
4yrs

## Birthdays

1st

Stephanie Craney

2nd

Randy Bahe

3rd

Geoffrey Cooper  
Joseph Liguori

10th

Travis Franco

18th

Cecelia Shade  
Mark Szrejter

20th

Gregory Tabek

24th

Gregory Giaccone

29th

Michael Twigger  
Shakeema Gaskin

The distribution of our next newsletter is September 15, 2011. All news articles should be turned in to Debra Nastasi, Administrative Assistant in Fire Safety on or before September 12, 2011. Thank you once again for your contributions and we look forward to the next issue of "Hot Topics."