

OFFICE OF PREHOSPITAL CARE NEWSLETTER

“Push Hard and Push Fast” the **NEW** AHA Guidelines

Sheri Stollo, BSN, EMT-P

Based on extensive research, the AHA changed their recommendations for CPR in 2005. NYS adopted these changes this past summer. An abbreviated summary of the changes is listed below, the MLREMS website has a complete set of changes. By now all agencies should have updated their providers on the new guidelines, per New York State requirements.

Compressions The emphasis is on compressions at both a good depth and rate and a rhythm that allows equal time

for recoil. The AHA recommends the “compressor” role change every 2-3 cycles to maximize the effectiveness of compressions. In addition, recoil time is needed to allow blood to fill the chambers of the heart in order for the heart to have something to pump back out. Compressions ratios have changed as well:

Adults	30:2 always
Peds	30:2 for 1 rescuer 15:2 for more
Newborn	3:1 always

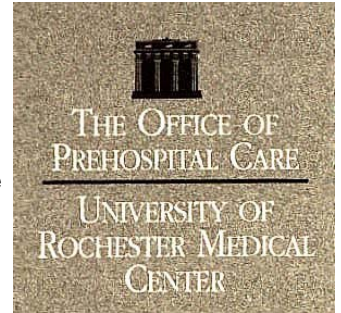
1 second breaths All breaths should be given slowly over 1 second and should just make the patient’s chest rise. Avoid too many or too forceful a breath. Studies have shown that patients require much less oxygen during CPR and each breath increases the pressure with the chest, decreasing the amount of blood that can return to the heart.

Shocking After shocking it is recommended to start

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Spinal Immobilization

Jeremy Cushman, MD, MS

A long-held tenet of emergency medical care has been the immobilization of patients with suspected spine or head injuries. The rationale being that moving the patient without certain protections could exacerbate a cervical fracture to cause a spinal cord injury. Years ago, every patient received x-rays of the cervical spine to exclude a fracture. Over time, two clinical decision rules were developed and are widely used. These rules determine who needs to be imaged based on clinical findings (primarily age, history, and physical exam). An important, but subtle fact is that these rules determine who needs imaging, not who’s cervical spine is “cleared.” In fact, the only way to effectively “clear” a patient of a cervical spine injury is to indeed image it (with x-rays, CT scans, MRI’s etc). When a physician uses either

of these rules to “clinically clear” a patient of a cervical spine injury they are doing so knowing that there is still a 0.02-0.4% chance that a fracture exists.

A highly debated and controversial protocol based on these clinical decision rules will soon be hitting the streets. Approved at the December SEMAC meeting is a state-wide selective spinal immobilization protocol. As its name implies, the protocol will aid the provider in determining who should be placed in a spinal immobilization device and who should not. The protocol DOES NOT determine whether a cervical spine fracture or injury has occurred.

Why controversial? There are a few reasons. First,

nearly all clinical decision rules use the presence of a “distracting injury” as a reason to immobilize someone (for good reason, if my leg is falling off, I’d probably not notice that my neck hurts). But what exactly is a distracting injury – is it a small laceration, powder burns from the airbag, or just the mere fright of being in an accident? Second, why not immobilize them all? We all know that laying on a backboard for 10 minutes, never-mind an hour, causes great discomfort to the back, particularly in our elderly patients where pressure sores can begin to develop in as little as 30 minutes. Third, to what cost do we not immobilize? Unfortunately in our litigious society a missed spinal injury, either in the ED or one not being immobilized by EMS, will

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Wearing seat belts in back of the rig

RJ (Terry) Fairbanks, MD, MS, EMT-P

First, let me say that I know many of you will read the title of this article and be immediately skeptical--- because, yes, I know, who wears a seatbelt in the back of the rig? But give me a chance: read to the end of this, and I bet I'll make you think about it...

Most of you (I hope) wear seat belts at all times in the front of the rig, but how many of you wear seat belts when you're in the back? It may sound radical, but when you consider the facts, you realize that we should all be wearing a seatbelt in the patient compartment whenever possible. Granted, when you're working a code, or a critical case, many patient care tasks are impossible to do with you seatbelt on in the back of the ambulance, so it's not always possible with current restraint design. But how often are you taking care of a critical patient? We know that the vast majority of patients are routine, and except for a vital sign check or two, you can sit back (with your seat belt on) and write your PCR on the way to the hospital.

Let's consider the facts: The fatality rate for EMS workers is twice the na-

tional average, and similar to the fatality rate for law enforcement. 74% of EMS worker fatalities are transportation related (11% are cardiovascular—meaning too many EMS workers smoke). Oh, and only 4% of these fatalities are due to biohazards, yet you always wear gloves, don't you? Furthermore, if you look just at transportation-related occupational deaths, the fatality rate of EMS workers is almost twice that of police and fire (see the accompanying graph, from *Maguire et al, Ann Emerg Med 2002*). And studies have shown that most serious or fatal injuries in EMS occur in the rear of the ambulance. 65% of these involve a serious head injury (probably from being thrown around in the back, unrestrained).

So as an EMS worker you are more than twice as likely to die at work than is the average Joe (or Josette), and if it happens it's overwhelmingly likely it'll be in an MVC. In fact, although MVCs are the most common cause of death at work in the US, EMS has twice the national

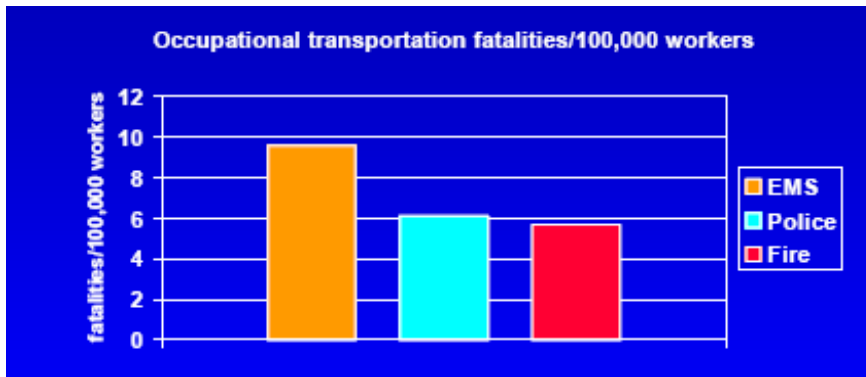
rate.

Now let's consider the injury rate. According to statistics from the Department of Labor, EMS workers have a higher injury rate than workers in *any other* private industry. The EMS rate is almost 6 times that of other health services personnel, and 50% higher than firefighters.

As EMS providers you often witness the effect of unrestrained vehicle occupants in a crash. Considering the fact that EMS vehicles are more likely to be involved in a crash than any other vehicle on the road, why are we almost always unrestrained in the back of the ambulance?

Our region is on the cutting edge of many safety initiatives, but we most often focus on patient safety. Let's be on the cutting edge of this crew safety issue. There is increasing momentum on a national level to encourage EMS providers to wear seatbelts in the back of the rig. National regulators and the ambulance manufacturing industry needs to do their part and make ambulance patient compartments more safe. In the meantime, I encourage you to be a role model in this movement. Please buckle up, whether you're in the front or in the back.

For further information, visit the website www.objectivesafety.net. And, if you like drama, check out the footage on this video which was found on the www.EMSclosecalls.com website: <http://www.firefighterclosecalls.com/downloads/SeatbeltNOBS.mpg>



ePCR Update

Sheri Strollo, BSN, EMT-P

A few months ago the ePCR TAG group met and set up 2 subcommittees. One subcommittee was charged with reviewing the different vendors' products and one was charged with looking at the operational side of implementing products as agencies choose their vendors. Both committees will be presenting progress reports in a meeting that will be held in

late February, the date for this meeting has not yet been finalized.

In the Monroe-Livingston Region we currently have one agency using a web-based PCR system, with 4 more agencies in the process of setting their systems up. There are a few more agencies that are actively looking at different products. All agencies will need to either be live with an electronic PCR system or be able to supply OPC with electronic data before 12/31/07.

Once an agency goes live with a

system, it will become unnecessary to fax, copy and/or mail PCR's to OPC.

All agencies are encouraged to send a rep to the ePCR meetings that are being held. Once an agency has decided who they will use, there is a checklist that OPC will have available that will help the process be smooth and efficient and will cover all the needs for the agency and the region. If you have any questions, please contact Sheri Strollo at OPC.

To Screen or Not to Screen.....the answer to the question

Sheri Stollo, BSN, EMT-P

The Center for Disease Control has warned that TB is on the rise and although the overall risk to EMS community is low, there have been documented cases of transmission of TB to EMS personnel.

The CDC has made changes in their guidelines on screening for TB based on risk level. Each agency determines their risk level based on how many confirmed TB patients the agency transported the previous year. A low risk agency, transported less than 3 TB patients, whereas a medium risk agency transported 3 or more persons with TB.

The CDC recommends baseline screening for everyone using either the two-step Tuberculin Skin Test (TST) or a single Blood Assay for M. Tuberculosis (BAMT) test. For low risk agencies, if the baseline screening is negative, additional TB screening is unnecessary unless an exposure occurs. If the baseline screening is positive, if a provider converts to positive, or if a provider has documented treatment for Latent Tubercu-

losis Infection (LTBI) or for TB disease, they should have a chest x-ray to exclude active TB disease. The screen should be accomplished by educating personnel on the symptoms of TB disease (cough, bloody sputum (hemoptysis), nausea, fatigue, weakness, fever, rapid weight loss or chest pain) and instructing personnel to report any symptoms immediately to the occupation health officer.

For medium risk agencies, if the baseline screening is negative, TB screening should be done annually through the use of symptom screens and testing. If the baseline was positive, if the provider was newly positive or if they had documentation of treatment for LTBI or TB disease the provider should have a chest x-ray to exclude active TB and they should have an annual symptom screening. No further testing is necessary since once positive they will continue to test positive.

TB is an airborne transmitted disease so when transporting patients with suspected or confirmed TB, the

patient should wear a surgical or procedure mask and crew should consider wearing an N95 respirator. Good hand washing is a must. The ambulance ventilation system should facilitate air flow from cab to rear.

There are certain populations that are at high risk for exposure to TB. They include: foreign-born persons from areas with high incidence of TB: Africa, Asia, Europe, Latin American and Russia or those who travel frequently to those areas, residents and employees of congregate settings that are high risk: correctional facilities, long term facilities and homeless shelters populations that are medically underserved and who have a low income.

If you have any questions, the CDC website is a great resource for everyone: www.cdc.gov.

Spinal Immobilization

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likely retain a verdict for the plaintiff at a tremendous cost. Thus with any protocol, and any medical care, there is risk and benefit. The important thing is to use the protocol appropriately, and whenever in doubt – immobilize!

So where are we now? Until you participate in the specific state-wide educational course approved by SEMAC that will be rolling out with the new protocol this spring – you must continue to immobilize anyone with a suspected head or spinal injury whether from an MVC, fall, assault, or other concerning mechanism. Of note, if you have been taught selec-

tive spinal immobilization in a recertification or CME course, that is NOT acceptable, and you MUST attend the educational program sponsored by the state. In the meantime let's continue to use those backboards and KED's, and immobilize everyone with a mechanism that suggests the potential for spinal cord injury.

AHA Guidelines

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immediate compressions for one full cycle. At the end of the first cycle, the rhythm and pulse should be checked. By analyzing the rhythm after each shock there was a delay of up to 35 seconds before chest compressions were restarted, but blood flow needs to start well before then. Second, stacked shocks were found to not have any better outcomes than a single shock. Usually, the first shock converts v-fib to a perfusing rhythm or

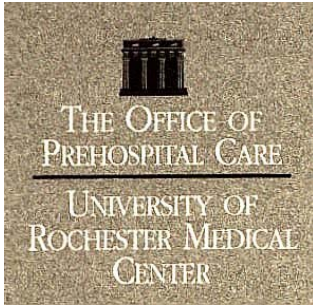
to asystole. Lastly, it can take several minutes for a perfusing rhythm to return, so CPR in the meantime is beneficial.

CPR First The guidelines emphasize CPR before the AED in patients that are down for more than 4 minutes. Good CPR **BEFORE** shocking helps increase the blood return to the heart, provide additional oxygen to the myocardium and showed a better conversion rate overall than the AED first. The heart needs to be primed with volume or there won't be anything to pump out.

Pediatric A "child" is now considered 1 year to the onset of puberty. For pediatric pads on AED's, the age remains 8 years old.

If a child has symptomatic bradycardia, despite good ventilation and oxygenation, CPR should be started. Most children are bradycardic due to hypoxia. Bradycardia without hypoxia is usually terminal.

Aspirin A big change in the protocols is the addition of Aspirin at the Basic EMT level. Administering aspirin sooner is beneficial to patient outcomes.



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PCR Distribution Centers

If your Department/Agency need PCRs either:

- Contact OPC at 273-3961

• OR

- Contact the distribution agency in your area:

Greece Vol. Ambulance · 867 Long Pond Road 227-2073

Henrietta Vol. Ambulance · 280 Calkins Road 334-4190

Irondequoit Vol. Ambulance · 2330 Norton Street 544-5112

Penfield Vol. Emergency Ambulance · 1585 Jackson Rd 872-6060

Specific Hospital Issues—Contact Information

OPC receives numerous phone calls for specific hospital issues. We encourage agencies to contact the hospital directly. Below is the contact information, which is also listed on the MLREMS website.

Highland—Dr. Hilmi or Dr. Cunningham

John_Hilmi@urmc.rochester.edu
Michael_Cunningham@urmc.rochester.edu

Lakeside Hospital—Dr. Kasaraneni

395-6095 ext 4205 OR
Manmadharao.kasaraneni@lakesidehealth.com

Unity Hospital— Dr. Biernabum

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922-3846 OR
Stephanie.elsen@viahealth.org

Strong Hospital—Lisa Brophy

273-1948 OR
Lisa_Brophy@urmc.rochester.edu

Upcoming Events

Meetings

MLREMS 4th Tuesday 4:30 PSTC

REMAC 3rd Monday 5:30 PSTC

Training Opportunities

Pediatric EMS Mon Jan 29th, 7pm Pittsford Amb

Acute Stroke Tues Feb 27th, 7pm Brockport Amb

The MLREMS website is updated weekly as new opportunities for training are set up. Visit www.MLREMS.org for more information.