



Lifeguard Newsletter

July 2012

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When contacting Lifeguard through your local dispatch or by calling (800)223-6627, please be ready to provide the following:

- Your general location & type of Emergency
- Identify frequency that Lifeguard will be using to speak with ground units
- Identify who Lifeguard will be speaking with

*Lifeguard Air
Ambulance
1026 A Ave N.E.
Cedar Rapids, IA
52406-3026*

Going the Distance to Save Lives

Motorcycle Trauma

We have all noticed that there have been numerous motorcycle collisions this year with many resulting in death. The increase in number of motorcycles on the roadways have increased the chances of there being collisions between cars and motorcycles and also deer and other objects. To better understand why so many of these incidents result in death, we must look at Newton's Laws and the science of kinematics.

The first Law of Motion is: an object in motion will remain in motion unless acted upon by an external and unbalanced force. An object at rest will remain at rest unless acted upon by another force. Law 2 states that $\text{Force} = \text{Mass}(\text{Acceleration})$ and $\text{Force} = \text{Mass}(\text{Change in velocity})$. Law 3 states that for every action there is an equal and opposite reaction. The Law of Conservation of Energy states that there will be no energy created or destroyed, it only changes forms. The energy changes to heat, noise, vehicle deformation or patient injury. Kinematics is the branch of mechanics dealing with the study of motion of a body or system of bodies without consideration given to its mass or the forces acting on it. It is generally thought of as the geometry of motion or study of trajectory. (We will cover kinematics at a later date.)

So, a simple word problem now. A vehicle is traveling at 60 mph and comes to a sudden stop (0 mph). The mass of the vehicle is 2000 pounds (909kg). A few calculations that we won't go into here shows that the force expelled when stopping abruptly is 48117 Newtons, whereas the force expelled when braking is 3472 Newtons (Law 2). This is over 13 times the force! This energy is transferred to the vehicle and the passengers, because, remember, energy is not destroyed, only changed.

During a motor vehicle collision, there are 3 impacts. The first is when the vehicle impacts the environment (wall, pole, other vehicle). The second is when the body impacts the vehicle compartment and the third is when the internal organs impact the body structure. Again, remembering Newton's Laws, the energy is being transferred to the body in the form of injuries. So the change in energy has caused significant damage to the vehicle, then to the outside of the body and finally to the internal organs. During a fall, there are only 2 impacts. The first being when the body strikes the ground and the second is when the internal organs strike the body structure.

So, when a rider is on the motorcycle and strikes an object at 60 mph, the stop is abrupt. Remember, more force here than with a braked stop. The first impact has occurred with the second being the rider striking the object, the roadway, a fence or pole, etc., and the third is the internal organs strike the body compartment. When a rider is in an enclosed vehicle, most likely the second impact will be within the confines of the vehicle. When an impact occurs, we can now better understand why the cyclist has the injuries they do and possibly we can be thinking ahead on what to expect when responding to a call. We can also be anticipating the severity of the injuries and how we can quickly get them to where they can get the care they need. So, always be thinking.

References

1. Wikipedia; Newton's Axioms or Laws of Motion; Volume 1, pg 19;
2. Wikipedia; Machines of Leonardo Da Vince;
3. National Highway Traffic Safety Administration; October 2009;
4. USA Today; John Yaukey, Robert Benencasi; 3/28

Requesting Lifeguard:

Remember if you are unsure whether you'll need Lifeguard, you may tell dispatch that you would like to place Lifeguard on "stand-by". The crew will prepare for lift-off while awaiting the "go-mission" call. This saves minutes on lift-off time because the crew is already at the helicopter, and ready for lift-off.

To contact Lifeguard for a Safety Training or PR event, call (319) 369-8995 and ask to speak to a member of the flight crew.

It's Time To Call To Schedule Your Safety Training

Safety training is recommended every two years, more frequently if you have many new members on your crew that have never had the training. CEH's are available and the classes last approximately 2 hours. Call to schedule: 319-369-8995.

Welcome to one of our newest flight paramedic!

We would like you to meet one of our newest members of Lifeguard. Meet Jake Briley!! Jake comes to us via Medic in the Quad Cities. Jake has worked there for over 3 years after obtaining his certification and Associates degree in Paramedicine. While going to school for that, Jake worked in the Emergency Department at St Luke's as a valued patient care tech. Jake has always wanted to return to the area and managed to when hired here. Jake also volunteers (in his spare time!) with Mt Vernon Ambulance Service and has been doing so for 2 years. Jake has been married to his lovely (his words) wife, Rachel, for 3 years. In his time away from work, we do know that he plays a mean game of paintball. So if you end up with fluorescent paint on you somewhere, you'll know where it came from.



Jake is looking forward to working with the staff at the hospitals and the crews of all the outlying services that call on Lifeguard. Jake is also looking forward to working with the members of Lifeguard. He welcomes the challenge of living up to your and our expectations of being a member of Lifeguard.

Please welcome Jake to Lifeguard and your team when you see him on a call or assisting with your safety training class.

Upcoming Educational Opportunities

7/1	EMS Continuing Education Bundles	Kirkwood
7/11	ACLS Renewal	UIHC
8/8	ACLS Renewal	UIHC
8/20-8/29	CCP	UIHC
8/28-8/29	PALS	UIHC
9/15	Grain Bin Rescue	NICC
9/17-9/18	GEMS	UIHC

SAVE THE DATE

October 30, 6-8 pm. STL Heart Center
Linda Kalin, Director of Iowa Poison Control
Will be speaking on K2, Bath Salts, and Synthetic Drug Use
Watch for more information soon

Updates and Reminders

We are still scheduling Safety Training classes through September 30. (These dates are due to weather conditions and temperatures). We want you to be safe around the helicopter at all times and to be part of our crew. So call now to schedule your time!!

The Air Medical Safety Committee is asking that all services use law/mutual aid without tone codes for all communication with an incoming helicopter.

Did You Know:

July is National Blueberry, National Ice Cream, & National Cell Phone Courtesy Month

July 15 is Cow Appreciation Day (Hug a cow!!)

July 20 is Ugly Truck Day

July 24 is Amelia Earhart Day

July 27 is the beginning of Summer Olympics

July 31 is Mutt's Day

August is National Golf Month, National Peach Month, & National Picnic Month

1st week of August is Simplify your Life week, 2nd week is National Smile Week, 4th week is Be Kind to Humankind Week

August 3 is Watermelon Day

August 10 is S'More's Day

August 14 is V-J Day

September is Baby Safety Month, Honey Month, & Better Breakfast Month

September 2 is National Beheading Day (WOW!)

September 9 is National Pet Memorial Day