



Jimmy Holt was raised on the little island of Key West 90 miles North of Cuba. He left Key West in 1987 to enlist in the US Army and served for 2 years as an Armored Crewman. During that time he occupied positions as a loader, driver and eventually became a gunner in the M1 Tank. He was honorably discharged from the military in 1998 and moved back to Key West. In 1991 he was hired as a firefighter at NAS Boca Chica and during that time became an EMT. He loved the medical side of EMS so much he left his job in 1993 to work full-time for Key West Rescue as one of only 2 full-time EMT's on a 911 service. At the time in the 1990's there were no paramedic programs in the Keys. Jimmy decided to further his career by going to nursing school in order to challenge the Florida Paramedic Certification. Jimmy Enrolled at Florida Keys Communi-

ty College in 1994 and graduated in 1997. In December of 1997 passed his NCLEX and then challenged and passed the Florida EMT-P exam. He then worked full-time as a paramedic and eventually started working per-diem in the ER at Lower Florida Keys Medical Center. After working many hours a week at both jobs, Jimmy went full-time at the hospital and worked part-time as a shift Supervisor for Key West Rescue. After the birth of his first child (Janelle), Jimmy realized that it would be necessary to move from his place of birth to support his family and give them the best opportunities possible. In late 2001 he had a phone interview with TGH ED Director, Lou Anne Morris and was hired over the phone to work in the ED. By the beginning of 2003 he had worked as a TRN, relief charge RN and been named as a clinician on the 3-11p shift. In March 2003 his second child Jaden was born. In May of 2004 Jimmy was hired on to Aeromed as a pool Flight Nurse and then transitioned to a full time employee at Aeromed III. Jimmy continued to work in the ER for many years after joining Aeromed and was a SOCM preceptor for years helping with initial orientation, teaching the

skills labs and mentoring medics on the floor in the trauma room. In 2013 Jimmy transferred down to Aeromed V in Punta Gorda. Over the last 3 years Jimmy completed his BSN through Western Governors University. In February 2018 he became the Chief Flight RN of Aeromed V Punta Gorda. He enjoys being involved with the community he supports and serves. Jimmy's motto is "The patient always comes first!!!" Jimmy recognizes that if he is working towards that goal of great patient care, everything else will work itself out.

Jimmy is an avid fisherman and also loves camping with his family. He lives in the Spring Hill area and says that is the farthest north he will ever live!



- **Stop The Bleed Class offered at TGH July-October. Contact Jennifer Mefford at [jmefford@tgh.org](mailto:jmefford@tgh.org) for additional information**

## Treatment of Cardiac Arrest: Epinephrine doing more harm than good?

Advanced Cardiovascular Life Support (ACLS) is one of the cornerstone algorithms of emergency medical systems in the United States, as well as abroad. Epinephrine has been incorporated and utilized during CPR for several decades, as it has been shown to increase probability of obtaining return of spontaneous circulation (ROSC) and improve short-term survival. A new study was recently published highlighting the results of the PARAMEDIC2 trial<sup>1</sup>. This paper calls into question the use of epinephrine in cardiac arrest as it pertains to neurologic outcomes.

The current algorithm for cardiac arrest involves administering epinephrine 1mg IO/IV every 3-5 minutes. The effects of epinephrine on the sympathetic nervous system are twofold. It acts as an alpha-1 agonist causing increased peripheral vasoconstriction, allowing for increased aortic diastolic pressure, increased coronary artery blood flow and ultimately increased perfusion of the heart. It also acts on beta receptors in the heart, causing increased inotropy and chronotropy to make the heart beat stronger and faster.

Several animal studies performed in the 1980s have suggested that epinephrine increases both coronary and cerebral perfusion<sup>2</sup>. However, more recent animal research suggests that the alpha-1, vasoconstrictive properties of epinephrine may decrease cerebral perfusion during CPR<sup>3</sup>. Additionally, alpha-1 activation causes platelet activation and subsequent thrombosis, which can lead to cerebral ischemia

The goal of the PARAMEDIC2 trial was to determine whether epinephrine is beneficial or harmful to administer during cardiac arrest. It was a randomized, double-blind, placebo-controlled trial. So, what does that mean? Basically, if a person went into cardiac arrest the trial-trained medics were to perform initial attempts at resuscitation, such as CPR and defibrillation. If these initial attempts were unsuccessful the patient was randomly assigned to receive either parenteral epinephrine or saline placebo. The medic would reach for a pre-filled 10cc syringe that contained either agent but he/she would be blinded to what the syringe contained. The ethics of this type of study would require a whole separate discussion. They controlled for variables such as age, sex, time between the emergency call and arrival of the ambulance, time between

arrival the ambulance and administration of agent, cause of cardiac arrest, initial rhythm, whether it was witnessed and whether bystander CPR was performed.

Here's what they found: administration of epinephrine was associated with higher survival rates at 30 days and higher rate of ROSC compared to placebo, as had been shown before. The more controversial finding was that severe neurologic impairment occurred in more of the survivors of the epinephrine group than the placebo group. This was the finding that set the emergency medicine community buzzing into a debate about whether epinephrine should remain part of the ACLS algorithm. Some argue it should be removed completely, while others argue it should be used more on a case-by-case basis.

This trial also brings up the issue of quantity of life (use epi) versus quality of life (don't use epi), a topic that is difficult to address in the fast paced environment we work in. The future use of epinephrine in cardiac arrest is unclear at this point. This study highlights the need for further discussion among clinicians, but more importantly the need for input from society and patients as to what outcomes they value.

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2. Koehler RC, Michael JR, Guerci AD *et al*: Beneficial effect of epinephrine infusion on cerebral and myocardial blood flows during CPR. *Ann. Emerg. Med.* 14(8), 744-749 (1985).

Ristagno G, Tang W, Huang L *et al*: Epinephrine reduces cerebral perfusion during cardiopulmonary resuscitation. *Crit. Care Med.* 37(4), 1408-1415 (2009)