



Bike Medics – First of the First Responders!

by Greg France

Athena GTX

As the country transitions from rural areas towards the cities, traffic and event attendance make reaching and transporting patients a more challenging task. Bike Medics are an answer to fast response to the incident scene, quickly assessing and providing critical care during those critical early moments. The number of EMS departments starting up Bike Medic specialties is growing daily.

While specialized bike equipment has come a long way, for instance, medical bags, lights/sirens, etc., medical equipment has been large, heavy and not really practical to carry on a bike. Bike Medics can carry the essential basics, but not the full complement of tools available in traditional transport vehicles.

Advances in technology will narrow this gap in the future. Batteries, computers, and chips are becoming more efficient, and telemetry has improved substantially. For example, look at the physical dimensions and weight of the Apple iPhone and iPad products. Compare that to the most portable laptop just a few years ago, weighing in at 5-7 pounds, and you can see the progression. Furthermore, developers are busy introducing medical applications for Smart Phones and tablets. Advancements in wireless communication are eliminating the need for multiple wires and tethering to a patient, saving valuable time and greatly reducing the potential for snags and tangling during transport.

Many of these advancements have been made compliments of the U.S. Military. Today's medics are fighters, carrying weapons and ammunition. They don't have room or want the extra weight of the typical medical equipment for vital signs monitoring. Imagine carrying 130 pounds of standard gear in 125 degree heat, then adding the weight of medical gear!

The design of small, lightweight, and quick-to-deploy vital signs monitors has resulted in improved point-of-injury care for our soldiers, allowed the medics to carry equipment farther forward, and made it much easier for a medic under fire to assess and triage appropriately. In many instances, the Medic is trying to obtain vital signs of several wounded friends, some with catastrophic injuries, while under heavy assault. This is obviously not an ideal situation for clear thinking and triage assessment. These situations have led to developments that are now becoming available commercially. Military or civilian, what first responder *couldn't* utilize a very portable automated vital signs monitor, capable of gathering trending and transmitting that information wirelessly to a computer, tablet or Smart Phone?

An example of this benefit is linked to the recent attempt on Congresswoman Gabby Giffords' life in the Tucson shopping mall. She was treated by Dr. Peter Rhee, a former military surgeon who, during deployment in the Middle East, treated many gunshot and head wound traumas. No doubt this experience had a positive effect on the treatment and outcome of Congresswoman Giffords in those critical first days. During his time in the military he also evaluated several different prototypes of small vital signs monitors. Referring back to his experience and relationships, he then obtained a WVSM™, a wireless vital signs monitor from Athena GTX®, to monitor Gifford during transport from Tucson to the Hermann Memorial rehab center in Houston. A video produced by the Office of Naval Research speaks to the development of the WVSM™ device, and how these research products eventually benefit the civilian population. The five minute video was placed on You Tube and includes an interview with Dr. Rhee explaining why he selected the device for her transport. If you would like to watch this video, type in "WVSM" in the search box on YouTube and click on Dr. Rhee's picture.



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The receiving doctor in Houston, John Holcomb, another retired military surgeon, is also very familiar with the WVSM™ device. Because of its capabilities and the fact that it can be put on the patient at the point of injury, Dr. Holcomb has initiated an 18-month study using the WVSM™ device on half of their Life Flight patients. Weighing in at just a pound, and attaching to a blood pressure cuff, it is easily taken right to the patient, and begins working as soon as the blood pressure cuff is placed on the patient. Operation is very intuitive and at start up it begins gathering patient vitals and stores those as well as near real time streaming current vitals wirelessly to the tablet in the helicopter.

These advancements will enable all first responders to more quickly assess their patients and allow monitoring at the point of contact. This should improve patient care and provide valuable trending data once the patient reaches the treatment facility. Incorporating wireless technology allows the device to quickly upload the patient's vital sign trending, as well as their current conditions, to the Emergency Department's wall-mounted monitors in an easy-to-read, color-coded chart format.

As technology continues to advance, size and weight will become more compact and further enable mobility of the responder. Complete elimination of all wires and amazing miniaturization is definitely on the table. Within the next five years, we will see wireless ECG pads, handheld touch screen multi-parameter monitors (the size of a handheld video game) capable of controlling other devices wirelessly, and patient-worn monitors the size of a credit card.

It is great to see that along with advances in bikes, bike gear and training, medical equipment is adapting to the needs of Bike Medics. How gratifying would it be to ride through a crowd, reach a patient quickly, and have the tools with you to better assess their condition and begin treatment by the time transport arrived?

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