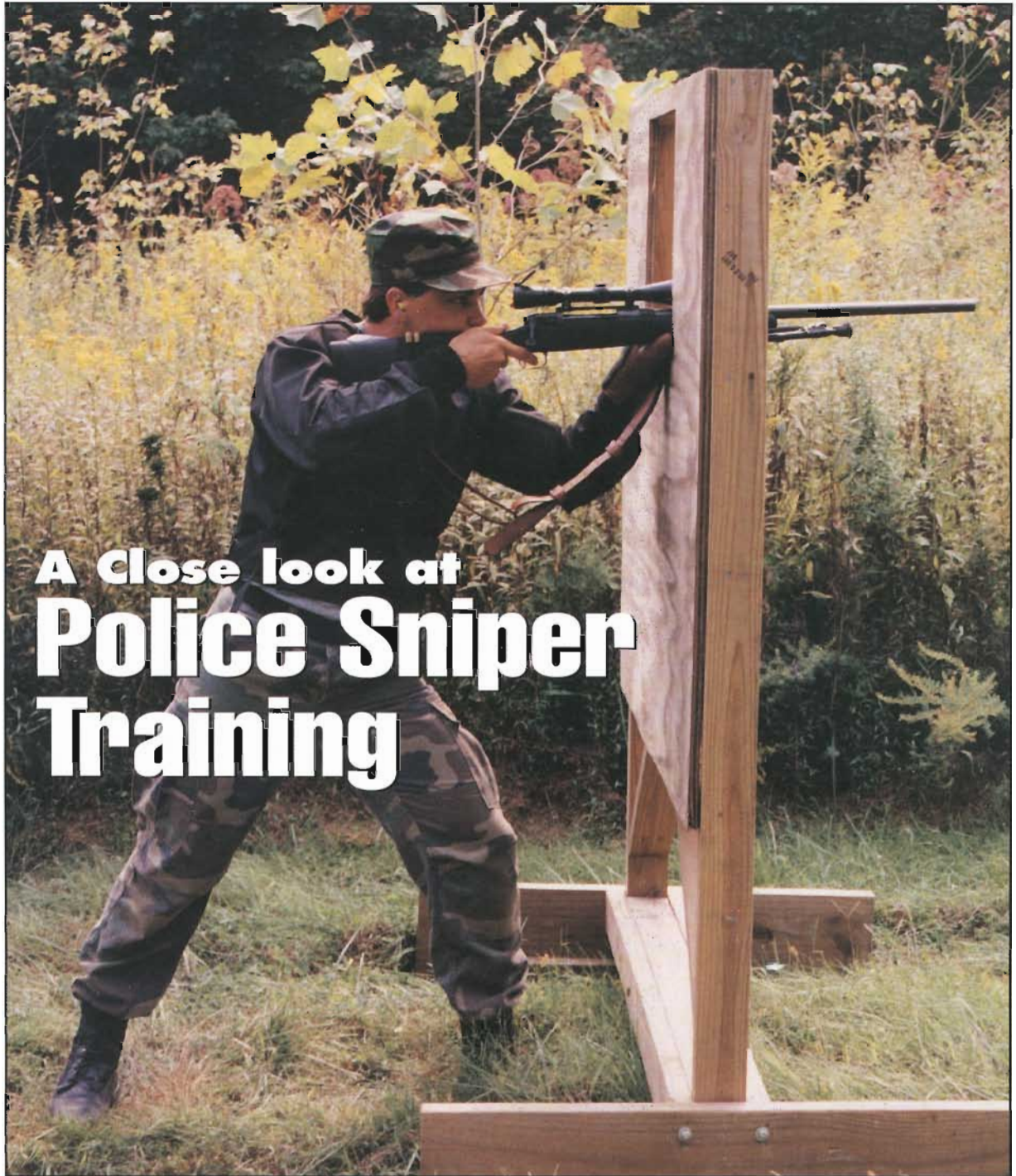


THE

Official Journal of the National Tactical Officers Association

Summer 1996

TACTICAL EDGE



A Close look at
**Police Sniper
Training**

Scoop and Run vs. Stay and Treat

By Lawrence E. Heiskell, M.D., FACEP, FAAFP and Peter A. Carlo, NREMT-P

During tactical operations, a critically injured officer is a SWAT team's worst fear. The goal of an on-scene Emergency Medical Support component is to minimize the time from injury to definitive treatment, while optimizing prehospital care. Does attempting field stabilization increase the probability of the injured tactical officer arriving alive at the trauma center? There are several issues to consider before arriving at a definitive answer — which will still always depend on the specific circumstances surrounding the moment.

The Perennial Quandry

EMS (emergency medical services) has evolved in this country based on the belief that a well organized system of prehospital care would greatly decrease the mortality of critically injured patients. The on-scene decision of whether to **scoop and run** or **stay and treat** is still a subject of considerable debate among the prehospital care community in emergency medicine today. Each theory has its supporters and detractors. The implications of these theories also influence the approach to emergency medical support of law enforcement tactical operations. Numerous researchers over the years have conducted studies to prove the merit of both theories. In this article we will discuss the pros and cons of each theory to help the tactical medical officer make an informed decision regarding on-scene trauma management.

One must first define which patients might significantly improve with paramedic intervention. Keep in mind that some trauma victims are so severely injured that, regardless of

intervention, there is no hope for their survival. However, there are a large number of paramedic calls to patients that are not critical. It is these patients that require timely transport to the trauma center for a comprehensive evaluation. In theory, if one could eliminate both ends of this spectrum, there remain a group of patients to which the decision for or against Advanced Life Support (ALS) should be applied.

Theory and Practice

Early research on this issue was reported by J. Brill in 1981. Brill and his researchers listed thirteen detrimental conditions in which the patient faces the possibility of death or loss of limb without timely and appropriate medical treatment. The major drawback of this research is its questionable applicability in the field by prehospital care providers whose judgement and experience varied across cases.

Next, several researchers began proposing the use of clinical scoring systems as a way to evaluate patients in the field. These systems included the *Trauma Score*, Triage Index, CRAMS Scale, and the Prehospital Index. Of all of these, the Trauma Score is probably the most widely discussed and used today. Basically, it consists of five data elements collected in the field at the scene of an injury. These are the respiratory rate, respiratory effort, systolic blood pressure, capillary refill, and the Glasgow Coma Scale score. Some members of the medical community believe that the simplicity of the Trauma Score does not provide the necessary information to adequately assess the urgency of the situation. Conversely, the Trauma Score has also been criticized with regard to its complexity as

a tool which can be used simply and reliably by prehospital care providers in the field.

Historically, ALS services are started on-scene as soon as feasible. Supporters of this stay-and-treat school of thought emphasize that early resuscitation is critical to survivability. Proponents maintain that a *limited* number of field interventions are necessary in order to effectively stabilize the patient before transport to the trauma center. These include airway management, c-spine precautions, and controlling massive bleeding. These measures would thus increase the chances of arriving at the hospital alive. Those who oppose this approach (scoop-and-run advocates) claim that the time to definitive surgical or medical management and treatment is the crucial factor influencing outcome. Their main concerns are the use of ineffective prehospital interventions, which may cause delays in transportation to the trauma center, and be detrimental to the patient.

Tactical Perspectives

This debate gives rise to important tactical questions. What procedures, if any, are useful in the tactical prehospital setting, and what is the trade-off between time spent in the field as opposed to the benefit of the procedure? Before we attempt to answer these questions, several issues must be addressed from a tactical law enforcement perspective. Unlike most EMS systems that operate in urban areas which are hospital-heavy, some tactical operations take place in remote or rural areas — often hours to the nearest hospital or even longer to a trauma center.

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Scoop and Run vs. Stay and Treat

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If the law enforcement operations are in an urban environment with a large number of hospitals within a few minutes of the scene by ground, the scoop-and-run approach to managing penetrating trauma in a tactical environment is no doubt the best option. However, some agencies provide law enforcement coverage for extremely large rural areas. For example, the Kern County (CA) Sheriff's Departments serves over 4000 square miles, and the Clark County (NV) Metro Police Department provides law enforcement coverage for over 7000 square miles.

If special operations are being conducted in remote rural areas with air transport time at best one hour, one must consider the advantages of first stabilizing the victim prior to evacuation. The few minutes spent establishing a secure airway, I.V. lines, and

stabilizing the patient for transport might make an important difference in his condition once en route to the trauma center. Accessing the vascular system, however, takes time. The paramedic and medical control must weigh this against the value of rapidly transporting the patient to a critical care facility.

Specific Studies

The Seattle (WA) EMS system has demonstrated that with cardiac arrest patients (those patients who have no circulation and no respiration) it made no sense to scoop and run, and in fact led to a worse outcome. They found that prehospital care services, particularly intubation along with cardiac massage, effectively improved survival. In trauma patients, on the other hand, you have a victim who may be progressively bleeding until

he arrives to definitive care. It has been argued that there is basically nothing the paramedics can do that will effectively reverse the process.

Contrast this with a study done by Aprahamian et al. in 1983, which looked at 122 patients with major penetrating vascular abdominal injuries (stab and gunshot wounds) over a twelve-year period. The patients were divided into those treated over the recent four years by paramedics with field interventions (stay and treat) versus those treated in the initial eight years by trained ambulance drivers (scoop and run). An analysis of the data revealed that patient survival improved with paramedic intervention, most specifically when the blood pressure was below 60mm Hg.

Another study, which was conducted with the Dallas (TX) EMS system,

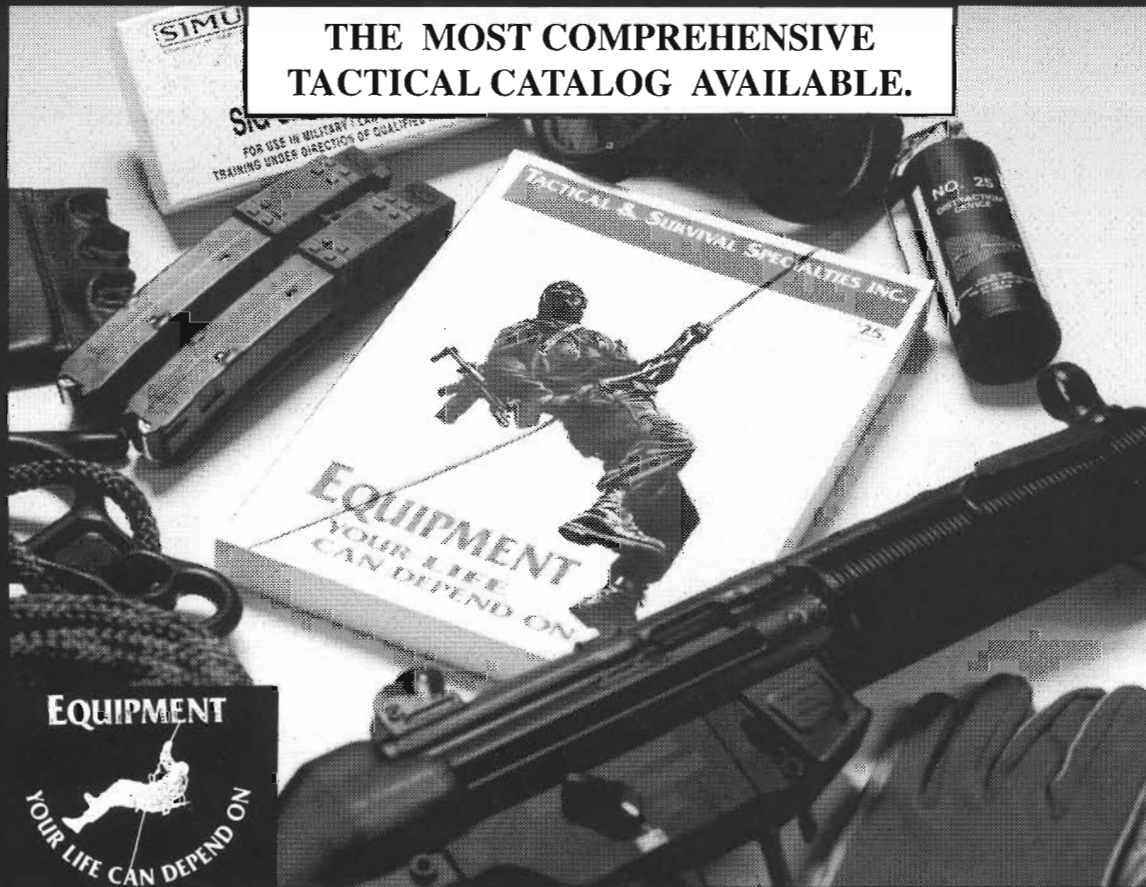
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looked at 176 trauma patients that had I.V.s started in the field. All of the patients had a systolic blood pressure less than 80mm Hg at the time the paramedics arrived. Two-thirds of the patients had an increase in blood pressure by the time they arrived at the hospital, with 40 percent having pressures greater than 100mm Hg. The study concluded that a definite benefit was gained by the appropriate administration of basic resuscitative efforts. During the study, the paramedics had strict on-scene time constraints, and were allowed only two attempts at starting an I.V.

Medical Control Issues

Supporters of paramedics operating in a strong, medically controlled system have expressed concern that the data demonstrating poor results with prehospital stabilization may have been generated by the failure of medical supervision, rather than poor field management. This was exemplified by a study from the Mobile (AL) EMS system. The study revealed that 30 percent of severe trauma occurred within five minutes of transport time from a fully staffed emergency department. However, in 66 percent of the cases, more than twenty minutes were spent at the scene of the injury. This obvious failure in the system was due to a lack of adequate medical control to assure that skills at the scene were appropriate and did not cause delays in transport.

Responsibility for prehospital care ultimately lies not with the paramedic but with the physician in charge, whom our current EMS system has conveniently placed in front of a radio in a nearby busy emergency department. With this arrangement, the base station physician must be readily available and knowledgeable enough to blindly evaluate each new case that the paramedic presents and provide medical direction. Although this may seem simple, it is not. The paramedic is placed in the situation of being where the physician is not, and must be the eyes, ears, and

hands of the base station doctors. The on-scene paramedic must follow orders from an on-line physician who can neither touch, see, nor hear the patient, and who may be preoccupied with his own urgent emergency department's business.

In an equally stressful situation, the base station physician must be able to appreciate the difficulties involved in field assessment and treatment. The medical control physician must have faith in the abilities (and trust the judgement) of a paramedic whom he may or may not know, or with whom he may never have before worked. Prehospital care providers must report their initial findings, receive instructions, initiate treatment, reassess the victim, report changes, receive new orders, and more. This ritualistic system of communication can create costly delays. To further complicate matters, one school of thought favors the concept that paramedics can be trained well enough to handle most trauma cases without the direction of a base station physician. A second school disapproves of independent paramedic action, but rather favors a tightening of medical control over prehospital trauma management. What's the solution? The best response may lie in the widespread adoption of the TEMS concept.

TEMS On Scene

Tactical Emergency Medical Support (TEMS) involves the on-scene medical control by physicians assigned to the tactical team. The availability of a tactically knowledgeable or trained physician on the scene eliminates the need for base station contact and provides immediate on-scene medical control by a physician who is familiar with the capabilities of the paramedics assigned to the team. This on-scene combination can save precious time. Theoretically, on-scene time could be cut in half due to the initiation of ALS treatment by the tactical physician/ tactical paramedic team. In addition, the on-scene tactical physician can assist the tactical para-

medic with difficult airway management or I.V. access.

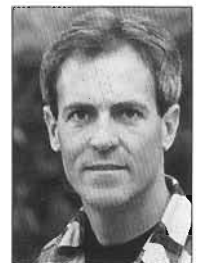
Outside of protecting the cervical spine by immobilization, many other ALS treatment modalities can be accomplished en route to the receiving facility by the TEMS personnel. These include (but are not limited to) oxygen therapy by means of mask or bag-valve mask, I.V. access, and/or intubation.

The Ultimate Goal

The controversy of providing field stabilization (stay and treat) versus the scoop-and-run approach to the management of trauma in law enforcement injuries unfortunately has no clear-cut answers. However, with officers critically injured during a tactical operation, the goal should be to reduce the time from injury to definitive care, yet provide adequate airway management and resuscitation which will increase the likelihood of the officer arriving alive at the hospital. These objectives must be balanced between the maintenance of skills and continuous evaluations of those prehospital procedures that make a difference in the outcome. As always, the ultimate aim is to minimize injury, maximize survivability, and stay safe. ■

About the Authors

Lawrence E. Heiskell is an emergency physician and SWAT team physician for the Palm Springs (CA) Police Department. He is residency trained and board certified in emergency medicine and family practice. Dr. Heiskell is an adjunct instructor for the International Training Division of Heckler & Koch, Inc., and the medical director for the HK Tactical Emergency Medicine Course. A reserve police officer in California, Dr. Heiskell is a regular contributor to *The Tactical Edge*.



Peter Carlo is a former Navy Corpsman, now working as a paramedic and EMS instructor in the Las Vegas (NV) metropolitan area. Mr. Carlo is also a graduate of the HK Tactical Emergency Medicine Course.

