

## TACTICAL COMBAT CASUALTY CARE: TRANSITIONING BATTLEFIELD LESSONS LEARNED TO OTHER AUSTERE ENVIRONMENTS

# Integration of Tactical EMS in the National Park Service



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The National Park Service (NPS) has domestic responsibility for emergency medical services (EMS) in remote and sometimes tactical situations in 417 units covering over 34 million hectares (84 million acres). The crossover between conflicting patient care priorities and complex medical decision making in the tactical, technical, and wilderness/remote environments often has many similarities. Patient care in these diverse locations, when compared with military settings, has slightly different variables but often similar corresponding risks to the patients and providers. The NPS developed a Tactical EMS (TEMS) program that closely integrated many principles from: 1) Tactical Combat Casualty Care (TCCC); 2) Tactical Emergency Casualty Care (TECC); 3) and other established federal and civilian TEMS programs. Combining these best practices into the NPS TEMS Program allowed for standardized training and implementation across not only the NPS, but also paralleled other military/federal/civilian TEMS programs. This synchronization is critical when an injury occurs in a joint tactical operation, either planned (drug interdiction) or unplanned (active shooter response), so that patient care can be uniform and efficient. The components identified for a sustainable TEMS program began with strong medical oversight, protocol development with defined phases of care, identifying specialized equipment, and organized implementation with trained TEMS instructors. Ongoing TEMS program management is continuously improving situationally appropriate training and integrating current best practices as new research, equipment, and tactics are developed. The NPS TEMS Program continues to provide ongoing training to ensure optimal patient care in tactical and other NPS settings.

*Keywords:* Tactical Combat Casualty Care (TCCC), Tactical Emergency Casualty Care (TECC), Tactical EMS (TEMS), tourniquet, wilderness medicine, prolonged field care

### Introduction

The National Park Service (NPS) under the Department of the Interior (DOI), has domestic responsibility for emergency medical services (EMS) in remote and sometimes tactical situations in 417 units covering over 34 million hectares (84 million acres).<sup>1</sup> In 2015 there were 307,247,252 visitors to these NPS units that range from the iconic National Parks (Yellowstone, Yosemite, Grand Canyon) to other NPS units such as the National Mall in Washington DC, as well as national

preserves, seashores, and other areas.<sup>1</sup> The park service had its 100-year anniversary in 2016 with record visitation. The NPS Visitor and Resource Protection Division is responsible for: 1) protecting parks from people; 2) protecting people from the parks; and 3) protecting people from people. Many of these duties require NPS rangers to be cross trained across many areas from law enforcement, to EMS, to search and rescue (SAR), to wildland and structural firefighting.<sup>2</sup> The NPS averages 10,000–15,000 EMS calls per year and many of these have remote and prolonged care settings.<sup>3,4</sup> Based on this combination of unique environments and sometimes tactical settings, many of the issues the warfighter has faced in Iraq and Afghanistan in the recent decades have direct relevance when applied to the NPS mission space.

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Presented at the Tactical Combat Casualty Care: Transitioning Battlefield Lessons Learned to Other Austere Environments Preconference to the Seventh World Congress of Mountain & Wilderness Medicine, Telluride, CO, July 30–31, 2016.



**Figure 1.** National Park Service ranger on patrol at the US / Mexico border, a potentially tactical environment. Photograph credit: Will Smith.

The operational environment of the NPS is unique as it crosses over between tactical, technical, and wilderness/remote situations on a regular frequency. Although a tactical situation can develop anywhere, some environments in the NPS have an elevated likelihood that they could have a tactical situation occur. Examples of some conceivable tactical environments are NPS units on the United States (US) / Mexico border where the DOI (including NPS) manages 1287 km (800 miles) of border (see [Figure 1](#)) or other settings such as the National Mall in Washington, DC. More often the NPS is known for its beauty and with this sometimes comes technical rescue, such as rescuing a big wall climber off El Capitan in Yosemite (see [Figure 2](#)). Other technical environments such as caves, underwater diving, avalanches, and swiftwater settings provide unique specific challenges. Remote/Wilderness settings such as large National Parks in Alaska (see [Figure 3](#)), or even locations in the continental United States can sometimes have delayed patient access and extractions lasting hours or sometimes days before patients can reach definitive medical care. Weather and other factors such as helicopter availability and limited communication can lead to even further prolonged field care and delayed rescue.

Providing patient care in these wide-ranging NPS venues has challenging variables that often make traditional EMS care difficult. The NPS recognized this need for specialized prehospital medical training with its Parkmedic training program in the 1970s.<sup>5</sup> The Parkmedic program allows for an expanded scope of practice (ie, reduction of dislocations, antibiotic use, etc.) with additional focused training for medical decision making requirements in technical and wilderness/remote settings. The first formal NPS EMS course was taught in 1972 and the first Parkmedic training was in 1978.<sup>6</sup> The specialized course continues to be taught every other January by the University of California San Francisco–Fresno



**Figure 2.** Technical rescue in Yosemite National Park. Photograph credit: <http://www.friendsofyosar.org/gallery>.

emergency medicine faculty and residents. This program over the past nearly 40 years has been one example of the NPS adapting EMS response to the unique mission requirements in the NPS.<sup>7,8</sup>

It has been recognized that patient care priorities can vary with the risk of the environment, whether it is tactical, technical, or wilderness/remote. With this recognition, it was clear that a special TEMS program with adapted training, protocols with defined phases of care, and specialized equipment was needed. This complex



**Figure 3.** A National Park Service Wilderness/Remote setting in Wrangell-St. Elias National Park and Preserve in Alaska. This park rises from the ocean to Mt. St. Elias at 5732 meters (18,808 feet) and occupies 5.3 million hectares (13.2 million acres, which is the same size as Yellowstone, Yosemite, and Switzerland combined). Photograph credit: Wrangell-St. Elias National Park and Preserve (public domain). Available at: <https://home.nps.gov/wrst/wilderness.htm>.

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