

# ***2009 National Wildland Fire Reform, “The Palmer Perspective”***

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by Robert Palmer

## ***Short History***

My world changed on July 25, 2008. I lost faith in the “fire world’s ability to help one of their own.”

I had just returned from a 14-day wildland fire assignment in Northern California, when my Fire Management Officer met me in the parking lot to tell me about my younger brother, also a member of a wildland fire staff; “Rob, Andy was hit by a tree this afternoon and isn’t doing well. I’m going to drive you to the airport and fly you back down to California.” I made it to the airport, 15 minutes away, when I received a call informing me that Andy had died en route to the hospital.

He was 18 years old, a recent high school graduate, enrolled in college for the fall, and lived a vigorous life. After a couple of weeks of training, this was his first fire assignment and first day of real work when he died. Andy’s incident provided me with a very raw and a very distinct perspective considering my experiences. I now understand what it means to lose a loved one tragically. I know what it is like to watch a falling tree kill a fellow crewmember and the frustration of not being able to change anything. I also know how Fire Management operates after serving over 10 seasons in fire and as a crew supervisor with the National Park Service (NPS).

## ***Problem***

I have protected our national lands, I have worked with some of the finest employees in this country, and I have fought for their interests. I now need your support as I fight for my brother’s; we have a National Fire Management Program that cannot provide for the safety of its most important resource, its employees. Several weakness’s and human factors contributed to Andy’s death, but Andy is not alone. One would be naïve to attempt to focus corrective actions on one factor, for we have a much larger problem. We

aggressively engage too many fires. We need to ask the questions, “Why are we doing this? and Why are we here?”

### **Objective: Golden Hour Response**

Determine response and engagement based on the capability to deliver any injured fire personnel to an appropriate medical facility in less than 60 minutes. This will:

- Decrease engagement to SAFELY mitigate risks during response
- Establish Emergency Medical Standards on an Incident
- Dramatically decrease costs associated with wildland fire
- Decrease impacts to the ecosystem

We must decrease our engagement because we do not have the capacity to evacuate injured fire staff safely.

### **Necessary Actions**

Given a lack of rescue and prompt evacuation capacity, we must decrease our engagement until our emergency evacuation capacity complements our engagement. In the short term, we will therefore limit our exposure until we have the capacity to rescue any fire personnel to an appropriate medical facility within 60 minutes, the golden hour. The “golden hour” of trauma defines that if one suffers massive life-threatening injuries reaches an appropriate receiving hospital within 60 minutes, the individual has the greatest survival rate. “Historically, wound data and casualty rates indicate that more than 90% of all casualties die within the first hour of severe wounding without advanced trauma life support”.<sup>14</sup> Instead of reacting and floundering through an emergency within an incident, we will determine future wildland fire response tactics based on the principles of the golden hour, invoking the first radical change in the history of wildland fire.

## *Intended Outcome*

### *Mitigation: Golden Hour Response within an Incident*

Severe life-threatening injuries are probable during any aggressive wildfire operation. Preseason planning would ensure the hospital(s) and local transport agencies are prepared, equipped and staffed to receive and respond to such life threatening burns and injuries. If ground units cannot evacuate any and all injured fire personnel within 60 minutes, then current serious medical plans rely on helicopters. If we rely on helicopters, then they must be prepositioned, capable of flying in limited visibility, and they must have hoist and short-haul capacity. Wildfires by their very nature produce smoke, haze, and decrease visibility for flight operations. The more important management question, “Do the hazards, vulnerabilities, and risks involved with rescue operations match the cost/benefit/risk analysis of the fire assignment?”

Given the fact that fires and inversions create visibility restrictions that can limit aviation to Instrument Flight Rules (IFR), I will argue we cannot rely on medical evacuation helicopters. If we cannot utilize medical evacuation helicopters, then we are limited to ground transportation. Assuming competent providers are associated with every deployed fire resource (Strike Team, Task Force, Module –Engine, Crew, Helicopter, Dozer, etc), then the Golden Hour Response must account for the patient assessment, patient packaging, and time to ground transportation. The question then relies on data from past medical incidents, “On average how long does it usually take to deliver a critically injured person to an appropriate medical facility?” If the answer is more than an hour, then the resources are overextended. Incident Commanders and Incident Management Teams have a duty to provide for safe work environments and to mitigate hazardous situations. Given the hazardous conditions and remote work environments, we will only mitigate the wildland fire risks with the principles of a Golden Hour Response. Every person assigned to a non-initial attack fire shall be provided the ability to reach an appropriate medical facility with 60 minutes of a life threatening injury.

“We must beat the clock. We have only recently explored the advantages of forcing the full impact of American medicine into that first 60 minutes following trauma on the battlefield. It isn’t simply a golden hour; every minute is golden.”<sup>14</sup> Strawder, 2006

## *Preparedness: Implement Emergency Medical Qualifications on an Incident*

In order to facilitate the Golden Hour Response, we must shift our emergency medical approach to wildland fire planning. Medical Unit Leaders (MEDL), those responsible to lead medical care on an incident, currently only have to be qualified as an EMT-B. Aside from the ethical issues caused by placing an unqualified person in charge of incident medical control, the policy imposes significant personal liability. An EMT operates under the license of a physician, therefore can not act independently as Medical Control. When presented with difficult decisions, a MEDL as an EMT may be acting outside their scope of practice. A paramedic is good, a physician assistant is better, but only a competent physician is best. This is not a question of duty, but of standard of care and scope of practice. Prolonged care and minor injuries commonly seen in a medical unit are outside the legal scope of any EMT. An EMT is trained for emergency trauma; not stress/strain injury consultation, not blister treatment, not long-term wound/burn treatment, or providing treatment for “camp crud.” These common injuries must be treated by a qualified and competent medical professional like: an athletic trainer working with a physical therapist, nurses or physicians assistants working with a physician (MD, DO), nurse practitioners, and naturopaths. The weakness and lack of incident medical accountability demand significant reform.

Currently, the Interim NWCG Minimum Standards for Incident Emergency Medical Services NWCG#010-2008<sup>9</sup>, approved June 30, 2008 epitomize the wildland Fire Management attitudes. The minimum requirement of one (1) Emergency Management Technician Basic (EMT-B) to 499 incident personnel or two (2) EMT-B’s for 1000 incident personnel only facilitates system failures. A quick glance at similar industries like: structural fire, military units, or high school football games, indicates that wildland fire, arguably the highest risk second to some military operations, also has the most room for improvement.

- **Wildland Fire—1 EMT per 499 Employees or 0.2%:** The lowest medical ratio in the industry combined with inadequate physical fitness standards demonstrates room for improvement. Current 310-1 Wildland Fire Qualification System Guide<sup>16</sup> does not classify an EMT as a fireline position and therefore EMT’s do not have physical requirements like that of other fire personnel. MEDL do not have a physical fitness requirement.

- **Structure Fire—1 EMT per Employee or 100%:** The basic requirement for entry level (paid) structural fire personnel includes an EMT-B. This means that an engine with five fire personnel will have five EMT-B's.<sup>8</sup> Fitness standards vary by department, but the standard Candidate Physical Ability Test involves multiple stations and a time limit.<sup>5</sup>
- **Military—1 Medic per 8-16 Employee, 6-13%:** Military references are limited, but they use Health Care Specialists (68W/91W<sup>8</sup>) who are qualified in the civilian world between an EMT-B and EMT-P.<sup>11</sup> Requirements vary but minimum staffing levels identify at least one 68W per squad<sup>1</sup> (8-16 military personnel)<sup>12</sup> and the 68W works for a local Physicians Assistant or Physician, providing accountability. Different branches and units have different physical standards all of which exceed those of wildland fire.
- **High School Football— 2 to 4 EMS per 22 Players, 13%:** During high school football games, the standard includes: one paramedic unit (an EMT-P and EMT-B or two EMT-P's), Certified Athletic Trainer(s), and generally one physician.<sup>4</sup> The medical team increases in staffing and qualifications through college and professional football.<sup>6,10</sup>
- Finally, rodeo medical teams may provide insight for another model involving an advanced incident medical unit.<sup>13</sup> Research into rodeo and recent military operations would provide ample support for portable Emergency Rooms. The concept of a portable Emergency or Operating Room adequately staffed would complement the Golden Hour Response. Issues of training, pay, and recruitment may provide opportunities for an “Incident Team Residency” sponsored by a medical school. This mitigation would allow for extended activities distant from a local hospital but still abiding by the Golden Hour Response.

Most incident personnel involved with wildland fire management do not have the knowledge, skills, or abilities to safely mitigate acute emergency medical responses, I propose the following:

- Require arduous duty fitness requirements for the EMT-B position.
- Require all EMT to also be qualified at the FFT2 level with at least 2 assignments prior to functioning as a field EMT.
- Mandate a minimum of one field EMT per 10 line personnel, a 10% ratio. For example,
  - A 12-person strike team of Type 6 engines must have at least two EMT's.
  - Type 2 Initial Attack or Type 1 crews must have one EMT per Initial Attack module:  
1 EMT per 5-7 fire personnel, 14-20% ratio.
  - Type 2 crews must have 2 EMT's: 1 EMT per 10 fire personnel, 10% ratio.
- Falling modules must have a single resource boss (FELB, CRWB, ENGB, etc) and should have an EMT attached to the module, but must have an EMT within 5 minutes. This allows an EMT to safely work with multiple falling modules.
- Implement incident medical control with competent and qualified licensed providers for non-initial attack incidents.
- Utilize the military, football, and rodeo medical models at remote Incident Command Posts:
  - Advanced trauma management provided by physicians and physician assistants similar to that of the Combat Health System Level I/II (the lowest levels).<sup>14</sup>
  - Remote Type 1 incidents, those more than an hour away from an operating room, need to provide a surgical unit probably positioned at the Incident Command Post.
- If fire personnel are in hazardous conditions to warrant Hazard Pay, then Advanced Life Support must be readily available.

I understand we cannot mitigate nor save all injured fire personnel, but we can at least raise our medical capacity to the standard of care defined by our peers. If anybody questions or states the cost that such *Emergency Medical Qualifications* are too high, then the cost of engagement is therefore too high. No fire is worth killing or permanently disfiguring an employee.

“In instances during Iraqi Freedom where units were thinking far-forward and joint, the successes were monumental and were responsible for a died-of-wounds rate of about 1 percent...Far-forward surgery enjoyed unprecedented success. Forward Resuscitative Surgical Squads supporting the Marine Corps lost none of the casualties they received. For the first time ever, the Army attached a forward surgical team with every brigade [2000-5000 personnel] committed.”<sup>14</sup> Strawder, 2006

### **Human Effect**

It has taken me 10 years working as an EMT-B, 10 years working with Fire Management, and losing my youngest brother to understand the issues currently facing wildland Fire Management. We cannot continue as we have done in the past, for our actions have devastated too many families, paved too many bricks in Boise, and buried too many “boots with Honor.” I know we cannot bring our fallen home, but we can aggressively change our strategies such that more can walk home. If you tolerate wildland fire’s current engagement strategies and accept the casualty rate, then maybe I do not understand “Objective 1: Provide for Safety First”.<sup>7</sup> I know we are charged with protecting resources but our most important resource, our employees are dying. We must learn from our weaknesses to challenge our historical practices and apply the appropriate management response.

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