



The Role of the Flight Paramedic in Air Medical Safety and Crew Resource Management

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The National Flight Paramedics Association (NFPA) was formed as a non-profit organization in 1986 and dedicated itself to promoting the global growth and development of the paramedic profession. During the time of NFPA's formation, the air medical community was plagued by an alarming accident rate that approached nearly 8 accidents per year. With attention drawn to the rising accident rate and public opinion turning, the air medical community began an internal process to attempt to minimize the danger. The NFPA and other air medical associations issued position papers defining the minimal protective equipment for those working in the rotor-wing air medical environment. Through the support of a variety of professional associations including the NFPA, the Commission on Accreditation of Air Medical Services (now called the Commission on Accreditation of Medical Transport Systems) was formed with the intent of improving air medical safety through the creation of voluntary industry standards. Issues such as minimum weather requirements; aircraft safety equipment and crew safety training were areas of focus both in industry standards and voluntarily by the aviation operators. These efforts toward improved safety yielded an initial drop in the air medical accident rate to nearly 5 crashes per year during the late 1980's to mid-1990's. Unfortunately, the downward accident trend did not continue and subsequently reached a rate of nearly 11 crashes per year in the period of 1998-2001. Sadly, adding to this statistic was a crash that claimed the life of flight paramedic Tim Hynes, a founding member and past-president of the NFPA. Since that crash in 1998, nearly 60 persons have been killed and over 40 injured in air medical crashes.

The growing air medical crash rate has created an immense burden on the air medical carrier insurance underwriters. This burden has naturally manifested itself in rising insurance premiums. The rise in insurance rates coupled with the resource scarce managed healthcare environment has resulted in the closing of or downsizing of many air medical operators. With no end in sight to the current trend in accidents, the safety issue must not only be viewed as one that directly threatens the lives of the air medical provider, but also threatens to self destruct the air medical community through financial burden and possible loss of public favor.

In November of 2002, a comprehensive air medical safety document was released as a supplement to the Air Medical Physician's Handbook. This document entitled, "A Safety Review and Risk Assessment in Air Medical Transport" represents the most comprehensive review of air medical crash and safety data available to the air medical community. The document was compiled by the University of Chicago Aeromedical Network (UCAN) safety committee and was made available for mass reproduction and distribution through the financial support of many organizations including the NFPA. This document should be considered mandatory reading for all flight paramedics and represents a valued adjunct to this position paper. One of the greatest factors to control air medical risk identified by the UCAN safety document was the concept of crew resource management (CRM). The CRM concept requires pilots to

involve other team members in making safety related decisions regarding the flight. The NFPA fully supports the concept of CRM and this model is a cornerstone of the following position paper.

Below is the position of the National Flight Paramedics Association regarding the role and responsibilities of the flight paramedic regarding Air Medical Safety and Crew Resource Management:

- 1) The NFPA believes that the flight paramedic should place the safety of the air medical environment above all other scene and transport priorities. Despite patient condition or personal needs of the flight team, transport into unsafe flight conditions must not commence or continue.
- 2) The NFPA believes that the flight paramedic should not participate in any behavior that might coerce a pilot into accepting or continuing a flight into weather that the pilot deems may be unsafe for flight.
- 3) The NFPA believes that the flight paramedic should maintain situational awareness regarding safety at all times and specifically focus on the safety of the flight environment during all critical phases of flight (departures, landings, or as requested by the pilot) regardless of patient condition or other medical related duties.
- 4) The NFPA believes that the flight paramedic should practice "sterile cockpit" procedures (limiting communication) during critical phases of flight to include departures, landings or at any time as requested by the pilot to enhance the safety of the flight environment.
- 5) The NFPA believes that air medical programs and aviation operators should have policies in place that do not permit a pilot to "isolate" in-flight communications with the flight paramedic without first notifying the flight paramedic and without having a method in place for the flight paramedic to contact the pilot in the event of an emergency.
- 6) The NFPA believes that per FAA regulations, the pilot-in-command will remain the final authority on the decision to accept, decline or abort a flight request. However, the NFPA believes that all air medical programs should have policies in place that require the pilot to honor the request of the flight paramedic to decline or abort a flight request.
- 7) The NFPA believes that if a flight paramedic requests that a flight be declined or aborted due to a safety concern, they should be able to do so without fear of reprisal or retribution.
- 8) The NFPA believes that the flight paramedic should be familiar with the published weather minimums utilized by their air transport service or operator.
- 9) The NFPA believes that the flight paramedic should obtain and maintain skills that allow the flight paramedic to estimate weather conditions that are below their transport service's weather minimums.
- 10) The NFPA believes that the flight paramedic should immediately communicate any concerns to the pilot regarding in-flight practices or conditions that the flight paramedic feels may be unsafe or do not comply with the policies of their air medical program or their aviation operator. If at any time the flight paramedic feels the safety of the flight is jeopardized, the flight paramedic should request that the flight be aborted.
- 11) The NFPA believes that the flight paramedic should immediately report to the appropriate supervisory staff any practices committed by any air medical team member that do not comply with the safety philosophies, directives, or policies established by their program or aviation operator.

- 12) The NFPA believes that the flight paramedic should receive annual safety specific practical and didactic training from their program or aviation operator which includes, but is not limited to, the following:
 - a. Physiologic aspects of flight
 - b. Patient loading and unloading
 - c. Safety in and around the aircraft
 - d. Passenger briefing (when appropriate)
 - e. Appropriate in-flight emergency procedures
 - f. Emergency landing procedures
 - g. Emergency evacuation procedures
 - h. Familiarity with survival equipment and procedures

- 13) The NFPA believes that the pilot should involve the flight paramedic in additional duties to enhance the safety of the aircraft which may include, but are not limited to, the following:
 - a. Identifying and relaying information to avoid other aircraft or ground obstacles
 - b. Evaluation of landing sites and airports for safety related issues
 - c. Performing coordination with ground personnel at a landing site via radio communications
 - d. Emergency shutdown of aircraft systems in the event of a crash
 - e. Assistance in obtaining information from aviation sectionals, other related maps, aircraft approach plates, and/or airport and landing zone guides
 - f. Assistance with completion of pre-flight, post-flight and emergency aircraft checklists

- 14) The NFPA believes that the flight paramedic should complete an aircraft “walk-around” (external inspection of the airframe for potential safety threats) prior to every take-off of the aircraft. This inspection should include, but not be limited to, the following:
 - a. Disconnection of all external power sources, aircraft tie-downs and covers
 - b. Appropriate closure and securing of all aircraft doors
 - c. Ensuring that no straps or seatbelts are left hanging outside of the aircraft
 - d. Securing of the patient litter(s)
 - e. Securing of fuel caps
 - f. Securing of engine cowlings
 - g. Leakage of fluids from the aircraft

- 15) The NFPA believes that the flight paramedic should participate in providing initial and recurrent landing site safety and selection training for personnel who will be performing landing site duties within the service area of the flight paramedic’s air medical program.

- 16) The NFPA believes that the flight paramedic should participate in multi-disciplinary shift and/or pre-flight briefings; as well as post-flight debriefings to discuss issues related to safety of the flight environment.

- 17) The NFPA believes that the flight paramedic should wear personal protective gear to include, but not be limited to, the following:
 - a. Helmets of appropriate size that are designed for use in EMS helicopter operations
 - b. Helmets that are equipped with appropriate face visors to provide a greater measure of protection during day and night missions
 - c. Long sleeved Nomex uniforms of appropriate size and construction
 - d. Cotton, wool or Nomex undergarments
 - e. Gloves constructed of a flame retardant material
 - f. Natural leather high top boots with appropriate leather shields in place (if applicable) between the zipper and inner side of the boot

- 18) The NFPA believes that the flight paramedic should perform continual self-evaluations to assess their own behaviors for evidence of safety complacency and take the necessary steps to immediately correct unsafe behaviors or attitudes as they are identified.

- 19) The NFPA believes that the flight paramedic should participate in self-assessments to identify personal and professional stressors that may lead to eroded judgment. The flight paramedic should seek constructive outlets to alleviate stress as required. Further, the flight paramedic should remain watchful for signs of stress in co-workers that may lead to unsafe practices and bring constructive attention to these behaviors as necessary to maintain the safety of the transport program.
- 20) The NFPA believes that the flight paramedic should be included as a member of a multi-disciplinary safety committee sponsored by their air medical program or aviation operator. This safety committee should complete tasks to include, but not be limited to, the following:
 - a. Proactive review for possible safety threats to the air medical program
 - b. Investigate, review and recommend action regarding reported or known safety issues
 - c. Ensure follow through on correcting safety related issues
 - d. Recommend changes in training to improve the safety of the flight environment

References:

Accreditation Standards of the Commission on Accreditation of Medical Transport Systems. (January, 2002). Anderson, South Carolina: Commission on Accreditation of Medical Transport Systems

Aeronautical Decision Making. (September, 1994). Provo, UT: Rocky Mountain Helicopters, Inc.

Air Medical Systems Overview: Operations & Procedures. Provo, UT: Rocky Mountain Helicopters, Inc.

Blumen et al. (2002). *A Safety Review and Risk Assessment in Air Medical Transport.* Supplement to the Air Medical Physician Handbook. Salt Lake City, Utah: Air Medical Physicians Association

Chapter 5. Air Ambulance Operations. Section 4. Air Ambulance Operations Training Programs. (March 13, 1997). Washington, DC: Federal Aviation Administration. Retrieved March 26, 2003, from the World Wide Web: http://www2.faa.gov/avr/afs/faa/8400/8400_vol4/4_005_04.pdf

Personal Protective Gear for Airmedical Providers. National Flight Paramedics Association Position Statement, 1995, Salt Lake City, Utah.

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