

POSITION PAPER

NATIONAL ASSOCIATION OF EMS PHYSICIANS

SPECIAL RESUSCITATION ISSUES ENCOUNTERED DURING AIR MEDICAL TRANSPORT

Daniel G. Hankins, MD, David P. Thomson, MS, MD, for the Air Medical Services Committee of the National Association of EMS Physicians

There are several situations encountered by fixed-wing and/or rotor-wing air medical crews that can create logistic and medicolegal problems. Some of the most difficult situations are related to the transport of patients with do-not-resuscitate (DNR) status, patients who die in flight, and patients who suffer cardiopulmonary arrest far from their destinations.

Air medical crews are frequently placed in situations where time, distance, and isolation from on-line medical control make resuscitation decisions difficult. Additionally, the pronouncement of death or cessation of resuscitation efforts can create medicolegal problems when the flight continues to a destination that may be located in a different county, state, or country from that in which the patient actually died. Specifically, the issues addressed here are:

1. Intercept of a basic life support (BLS) ambulance with a patient in cardiopulmonary arrest.
2. Cardiopulmonary arrest in a patient being transported by aircraft when the patient has DNR status.
3. Onset of cardiopulmonary arrest in a patient with "full-code" status.
4. Disposition of the patient should resuscitation not be attempted or be unsuccessful.

These situations can pose problems for both air medical providers and the ground EMS systems with which they interact. The National Association of EMS Physicians believes the following principles apply:

PRINCIPLES

1. Air medical services must function as an integral part of the EMS system. Simultaneous dispatch of aircraft to the patient deemed to have a survivable illness or injury should be considered where appropriate, since early advanced life support (ALS) leads to the best outcome for the patient. Because of regional variability in first responders and ambulances, local circumstances and time factors must also be considered.

- a. Close consideration must be paid to whether it is appropriate for aircraft to respond to trauma or medical arrests, especially when unwitnessed or when an automatic defibrillator has advised "no shock."
- b. Unusual or extenuating circumstances may also require special consideration. Some examples of this include, but are not limited to: pediatric arrest, penetrating or blunt trauma, hypothermia, and near-drowning.
- c. Policies for use of the aircraft must be developed within the context of the entire EMS system.

2. Guidelines or protocols must be written which define the extent of the interventions a medical crew should undertake when the patient has an appropriately executed DNR order.

- a. The decision to fly a potentially unstable patient with a DNR order must be carefully considered. Acutely correctable problems not related to the DNR status should be treated. Local options for hospital care or alternative means of transport should be considered, as well as patient and family wishes. For those pa-

Dr. Hankins is in the Division of EMS, Mayo Clinic, Rochester, Minnesota. Dr. Thomson is in the Eastcare Trailer, East Carolina University School of Medicine, Greenville, North Carolina.

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Address correspondence and reprint requests to: Daniel G. Hankins, MD, Division of EMS, Mayo Clinic, 200 1st Street Southwest, Rochester, MN 55905. e-mail: <danhankins@mayo.edu>.

tients who are likely to die, the limits of interventions must be clearly understood by the medical crew, family, and patient (if possible). These interventions must conform to guidelines set out by local medical direction.

- b. Should the patient die, a decision must be made, in conjunction with the pilot crew, regarding the desirability of returning to the place of origin or continuing to the destination of the flight.
3. For those flights where a "full-code" patient suffers cardiopulmonary arrest, the following principles apply:
 - a. If the flight is staffed and equipped for BLS, CPR should be implemented (if possible). The flight should proceed to the closest appropriate facility to obtain ALS assistance.
 - b. If the flight is staffed and equipped for ALS or critical care:
 - Proceed with full ALS or critical care resuscitation consistent with medical control guidelines.
 - Diversion to a nearby facility should be considered if the necessity of extraordinary specialty care is apparent.
 - If diversion is not indicated, a decision must be made as to whether to proceed to the planned destination or to return to the site of origin with the patient.
 - Written guidelines or protocols should be in place to cover the time at which resuscitation may be stopped in these "full-code" patients.
 4. The patient who dies during flight will, by convention, be pre-

sumed to have died where the aircraft lands.

5. The air medical director should have written off-line protocols or guidelines that deal with these issues, since on-line medical control with the aircraft may not always be possible.

DISCUSSION

Air medical services frequently deal with extremely critical patients. In some areas they are called on to respond to scenes where the patient's needs exceed the capabilities of the local EMS providers. For some of these patients, the higher level of care and speed of transport provided by an air medical service may be lifesaving. In some cases, though, the use of aircraft will not improve the outcome of the patient. This organization has previously published two position papers that discuss appropriate dispatch of air medical aircraft. Numerous groups have looked at the utility of air medical systems; that debate is ongoing. To date we are not aware of any papers that address the concerns of the air medical service in caring for the dying and dead patient.

Both ground and air EMS providers have been struggling with the problem of the DNR patient. All EMS providers are looking carefully at the problem of the unsuccessful field resuscitation. For the air medical provider, there is a severe need for clarification of this problem. Many transports today involve transcontinental trips, some requiring more than one day's journey. If a patient suffers a cardiac arrest on such a trip, continuation of resuscitation efforts may endanger the life of the crew, and are unlikely to improve the lot of the patient. On shorter trips, involving helicopter crews, there has been some question as to how to properly care for the "unresuscitatable" patient. Many services have been reluctant, how-

ever, to stop resuscitative efforts prior to landing at their home hospital or airport. This paper encourages services to terminate resuscitation when it is appropriate within the context of the individual patient and the air medical system.

Patients with DNR status may benefit from the use of air medical services. Yet many services have been reluctant to fly these patients because of concerns over how to properly care for the patient in the event of a cardiac arrest. This paper encourages services to fly those DNR patients who would benefit from the care given by an air medical service.

Discussion within the Air Medical Services Committee over the last four years has revealed many air medical services who have had problems with the jurisdiction of the medical examiner or coroner who is called upon to care for the dead patient upon landing. This paper encourages air medical directors to work with their local forensic medical systems to make the place of death the locality where the aircraft lands. We believe this is a commonsense solution to a difficult medicolegal problem.

SUMMARY

Air medical services must work within the overall EMS system to provide optimal care for the patient. Patients with DNR status should be afforded the use of air medical services when appropriate. Prolonged resuscitation efforts should not be performed by air medical services when the outcome appears hopeless. Medical directors should develop protocols that use this position paper to minimize the occurrence of these difficult situations. Medical directors must also work with coroners and other forensic medical professionals to develop appropriate guidelines for the legal definition of the place of death.