

Air Medical Transport Planning

Good planning can save lives. Planning for air medical transport is important to maximize efficiency and safety; it helps create the best care for patients.

Learning Objectives

Upon completion of this chapter, the participant should be able to:

- ▶ Name three issues to consider when making a decision to transport a patient by air.
- ▶ State the goal of air medical transport.
- ▶ List three documents that can assist a community in air medical transport planning.
- ▶ Name four factors to consider when selecting an appropriate aircraft for an air medical mission.
- ▶ List four airfield/runway factors that affect air medical transport planning in a community.
- ▶ List four steps to arrange an air medical transport.
- ▶ List ten job-specific competencies required of the air medical escort.

Making the Decision to Transport a Patient By Air

Air transport is demanding and challenging. Decisions about air medical transport require independent thinking and creativity by self-confident people. Learning the material in this manual and training in the different skills required of air medical escorts builds self-confidence.

Transporting patients by air when it is not necessary can harm patients and can waste time and resources. Each air medical mission will present new challenges to resolve for both the escort and air carrier.

It is important that air medical providers understand the normal physical changes that happen to the human body during flight. They also need to know how to assess and treat their patients' specific problems in the air medical environment.

Patient transport is necessary whenever local medical or surgical facilities are not able to provide the level of care the patient needs. Often, ground transportation is not an option in remote locations. Patients with critical injuries or illnesses may have an increased chance of survival when appropriate medevac resources are available.

The following issues should be considered when making the decision to transport by air:

- Is an air medical transport the best solution for the patient?
- Is the benefit of the air medical transport worth the cost?
- What type of transport does the patient really need?
- What resources are available locally?
- What are the disadvantages for the patient who will be away from home and family?
- What are the legal implications of not transporting the patient?

In addition, documentation considerations must be addressed. The Alaska Medevac Transport Form (Appendix E) and the Patient Transfer Checklist (Appendix F) are examples of forms that can be used by air medical services.

Comprehensive Planning and System Coordination

The goal of any air medical mission is the timely transfer of a patient to appropriate medical care while minimizing any negative effects to the patient. The number of people or agencies involved throughout the process can vary with each situation. The success of a transport ultimately depends upon organization and cooperation. Each community will have to anticipate different situations and prepare materials to address each situation. The goal of this planning is to meet the needs of patients during air medical transfers.

The following documents and materials should be prepared and available to health care providers as part of the air medical transport planning process:

- A list of all air carriers and air medical services that serve the community. The list should include the types of aircraft each carrier has available, 24-hour contact information, and any limitations that the carrier has in terms of equipment or personnel.
- A list of potential air medical escorts. The list should include the escorts' names, 24-hour contact information, summaries of the escorts' training and experience and the escorts' limitations in accompanying patients, such as their job and family responsibilities.
- A resource contacts list for the receiving community. This list should include the names and 24-hour contact information for ground transportation, emergency departments and responsible physicians.
- A list of contacts within the community in which the air medical transport starts; people who can help EMS and other personnel with ground transportation and loading at departure.
- Copies of any patient forms required by potential air carriers, receiving facilities or local agencies.

In addition, adequate supplies and equipment should be on hand. It is useful to prepare air medical transport packs with adequate supplies before a flight is needed. Supplies and equipment should be marked clearly with directions for their return.

Planning for Aircraft

Arranging air medical transportation for patients involves many decisions. Some basic information about the different types of aircraft that are used in air medical transport is important in planning. Some aircraft are better suited for some missions than for others. The following information about different aircraft types should be included in the planning:

- Whether or not the aircraft is pressurized. Pressurization may be critical for patients with certain medical conditions.
- The runway length and surface requirements for the plane to take off and land. Note: Some communities or locations can be accessed only by floatplane or helicopter.
- The seat and/or stretcher configuration of the aircraft.
- The passenger capacity of the aircraft not including the flight crew. This can be important when determining whether a parent or other person can accompany the patient.
- The aircraft's door dimensions. If a stretcher is used it must fit through the door.
- The aircraft's cabin length and height. The interior of the aircraft must provide room for the patient, necessary supplies and patient care.
- The aircraft's range. This determines the need for and number of fueling stops along the way. It is even more important during bad weather.
- The aircraft's cruise speed. This affects the duration of the transport.
- Electrical requirements for the flight and availability of electricity. Some medical equipment operates on batteries while other equipment requires an inverter onboard to convert power from DC (battery-power) to AC ("plug-in" power).
- The aircraft's payload or capacity. This is the weight and space available for equipment and people. It affects the amount of equipment and supplies that can be carried, and the number of people who can accompany the patient.

- The medical equipment available on the aircraft.

Airfield Information Needed for Planning

Some airfield information is important to know when planning medevacs. Much of this information can be found in the Federal Aviation Administration (FAA) Flight Supplement. The following is a short list of the most important information to consider in planning for an air medical transport:

- The latitude and longitude (GPS) coordinates of the airfield to locate it precisely.
- The airfield's runway length (if there is a runway).
- The availability of fuel.
- Airport/airfield remarks in the FAA Supplement (e.g. potholes or icing of the runway).
- If there are any Notice to Airmen (NOTAMs) about specific temporary restrictions (e.g. airfield closures or restrictions, airspace restrictions, etc.) at the airfield. These are published by the FAA.
- The communication frequencies used at the airfield or landing site (if available).
- The presence of airfield lighting or markings. Some airfields do not have lights and cannot be used after dark.
- The availability of instrument approaches. Pilots can get information on: the runway heading; visual slope indicator and the type of instrument approaches available; and obstructions, such as light poles, from the FAA.

Planning Steps at the Time of the Air Medical Transport

Once the decision has been made to transport the patient by air, certain steps need to be taken to arrange the flight. The following list is a planning guide for air medical transport:

- Patient assessment. This is done to choose the best type of aircraft, and the level/type of air medical crew required for the patient's condition/situation.
- Assessment of landing conditions. This should be done by the pilot.
- Notification of the air carrier or air medical service. The carrier should be told how many patients there are and the condition of each. The number of escorts (medical and non-medical) flying with the patient and the equipment required for each patient should also be discussed. A fully informed pilot will be able to assist in aircraft selection and in creating the best arrangement of the interior of the aircraft.
- Notification of the provider, facility and ground transporter in the receiving community. The notification should cover pre-transport records detailing the patient's condition. Preparation of the medical records should be thorough, and include treatment performed as well as other relevant information. This is crucial for both the receiving personnel and the air medical escort. An example of a patient transfer checklist can be found in Appendix F. Patient or family contact and insurance information also should be included in the notification.

Competencies for the Air Medical Escort

Once the transport decision has been made, the pre-flight arrangements are completed, and the patient is onboard the aircraft, the air medical escort is responsible for trying to deliver the patient to the destination in a condition at least as stable as at the time of departure. This entails both patient monitoring and management of the specific medical condition.

Medical providers who have traditionally served as air medical escorts in Alaska include:

- Community Health Aides/Practitioners
- Emergency Medical Technicians
- Paramedics
- Nurses
- Mid-level practitioners
- Physicians

In most situations, it is best to have health care providers with air medical training and experience on air medical flights.

Options for managing the patient's condition during transport are determined by the escort's level of training and experience. Most physicians and many paramedics, nurses, and mid-level practitioners have sufficient background and judgment to adjust their treatment in response to changes in patient status. Community Health Aides and basic level EMTs have less flexibility to make independent decisions or to go beyond a definite set of treatment protocols.

There are potential medical-legal complications involved in entrusting patients who are currently receiving advanced therapies (e.g. IVs, advanced airways, etc.) to air medical escorts who are not trained in these skills. Since there are many levels of medical providers, care should be taken to match the patient's needs with a provider trained to the level to meet those needs. This may mean that an air medical provider from outside the community is a better choice for a specific patient than loading the patient onto an air taxi with a person unfamiliar with advanced procedures and/or a person who lacks air medical training.

The following list highlights competencies for air medical escorts, who should have the skills and abilities to do the following:

- Organize and coordinate the mechanical aspects of air medical transport.
- Assess the patient to anticipate the type of care and equipment that will be required in flight.

- Prepare the patient for the flight, both physically and psychologically.
- Act as liaison between the medical team, pilot and referring agency to accomplish the plan of care.
- Provide for the patient's comfort and safety during enplaning, flight and deplaning.
- Continue the patient's care in flight consistent with the escort's level of training.
- Respond to any changes in patient status that arise from the physiological effects of altitude, disease or injury in a manner consistent with the escort's level of training.
- Assist the patient and flight crew in a survival situation if the plane crashes.
- Stay with the patient and continue care until transfer is made to the next medical provider.
- Document the medical care given.
- Assure the transfer of all appropriate medical records—the air medical escort is responsible to ensure that appropriate records arrive at the receiving hospital; the wise escort gives transferring personnel an early reminder about paperwork, leaving time to prepare it.
- Give a verbal patient report to, and answer any questions asked by receiving personnel.
- Follow up on the patient's condition and treatment by contacting the agency at the origin of the patient transport after completion of the air medical transport.
- Return equipment in suitable condition to the agency of ownership, or ensure that it is marked and receiving personnel are aware of its destination when immediate return is not possible.

Summary

There are many things to consider when planning for air medical transport, including resource lists, copies of forms, adequate equipment and supplies, matching the appropriate aircraft with each patient and emergency medical response service that is essential for high-quality air medical transport. Following the recommended steps for planning medevacs, and careful selection of the medical escort and aircraft for the patient's needs, are critical for successful patient transports by air.

Notes
