PURPOSE: The purpose of this policy is to establish requirements and procedures for classifying EMS aircraft and authorizing EMS aircraft providers to operate in San Joaquin County.

AUTHORITY: Health and Safety Code, Division 2.5, Section 1797.220; 1798 et seq; San Joaquin County Ordinance #4231

DEFINITIONS

A. “Advanced Life Support” or “ALS” means any definitive prehospital emergency care role approved by the San Joaquin County EMS Agency, in accordance with state regulations, which includes all of the specialized services listed in H&SC § 1797.52.

B. “Advanced Life Support Rescue Aircraft” or “ALS Rescue Aircraft” means a rescue aircraft whose medical flight crew has at a minimum one attendant certified or licensed in advanced life support.

C. “Air Ambulance” means any aircraft specially constructed, modified or equipped and used for the primary purposes of responding to emergency calls and transporting critically ill or injured patients whose medical flight crew has at a minimum two (2) attendants certified or licensed in advanced life support.

D. “Air Ambulance Service” means an air transportation service which utilizes air ambulances.

E. “Air Rescue Service” means an air service used for emergencies including search and rescue.

F. “Air Ambulance Provider” and/or “Air Rescue Service Provider” means the individual, group, or entity that owns and/or operates an air ambulance or air rescue service.

G. “Authorizing EMS Agency” means the local EMS agency which approves utilization of specific EMS aircraft within its jurisdiction.

H. “Auxiliary Rescue Aircraft” means a rescue aircraft which does not have a medical flight crew or whose medical flight crew does not meet the minimum requirements for BLS rescue aircraft.

I. “Basic Life Support” means those procedures and skills contained in the EMT-I scope of practice as specified in Title 22, California Code of Regulation Section 100063.

J. “Basic Life Support Rescue Aircraft” or “BLS Rescue Aircraft” means a rescue aircraft whose medical flight crew has at a minimum one attendant certified as an EMT-I with at least eight (8) hours of hospital clinical training and ten (10) hours of field clinical experience in the aeromedical transport of patients.

K. “Classifying EMS Agency” or “Classifying Agency” means the local EMS agency which categorizes EMS aircraft as an air ambulance, ALS rescue aircraft, BLS rescue aircraft, or auxiliary rescue aircraft. The classifying local EMS agency shall be the local EMS agency in the jurisdiction of origin except for aircraft operated by the California Highway Patrol which shall be classified by the EMS Authority.
L. “Designated Dispatch Center” means an organization which has been designated by the local EMS agency for the purpose of coordinating air ambulance or rescue aircraft response to the scene of a medical emergency within the jurisdiction of a local EMS agency. The designated dispatch center for coordinating EMS Aircraft in San Joaquin County is AMR-LIFECOM.

M. “Emergency Medical Services Aircraft” or “EMS Aircraft” means any aircraft utilized for the purpose of pre-hospital emergency patient response and transport. EMS aircraft includes air ambulances and all categories of rescue aircraft.

N. “Jurisdiction of Origin” means the local EMS agency jurisdiction within which the authorized air ambulance service or rescue aircraft is operationally based.

O. “Medical Flight Crew” means the individual(s), excluding the pilot, specifically assigned to care for the patient during aircraft transport.

P. “Rescue Aircraft” means an aircraft whose usual function is not prehospital emergency patient transport but which may be utilized, in compliance with local EMS policy, for prehospital emergency patient transport when use of an air or ground ambulance is inappropriate or unavailable. Rescue aircraft includes ALS rescue aircraft, BLS rescue aircraft and Auxiliary rescue aircraft.

POLICY:

I. The San Joaquin County EMS Agency is the sole agency responsible for classifying EMS aircraft operationally based in San Joaquin County with the exception of EMS aircraft operated by the California Highway Patrol which are classified by the EMS Authority.

II. The San Joaquin County EMS Agency is the sole agency responsible for approving the utilization of specific EMS aircraft, providers within San Joaquin County.

III. No person or organization shall provide or hold themselves out as providing EMS Aircraft Service in San Joaquin County unless that person or organization has been authorized by the San Joaquin County EMS Agency to provide such services.

IV. No aircraft may be used as an EMS aircraft until that aircraft’s type has been classified by a classifying agency.

V. EMS Aircraft service providers including any company, lessee, agency (excluding agencies of the federal government), provider, owner, operator, who provides or makes available prehospital air transport or medical personnel either directly or indirectly or any hospital where an EMS aircraft is based, housed, or stationed permanently or temporarily shall adhere to all federal, state, and local statutes, ordinances, policies, and procedures related to EMS aircraft operations, including qualifications of flight crews and aircraft maintenance.
VI. All Air Ambulance and Air Rescue Service Providers, except Auxiliary Rescue Aircraft Providers, shall employ a provider medical director who is a physician licensed in the State of California whose education, experience, licensure and administrative and operational duties conform to the Guidelines for Medical Directors of Air Transport Programs as defined in the position paper of the National Association of EMS Physicians; Prehospital Emergency Care October/December 2002 Volume 6/Number 4.

VII. Classification and Authorization Requirements:

A. Classification of EMS Aircraft
   1. All EMS Aircraft operating in San Joaquin County shall be classified by the State of California EMS Authority, the San Joaquin County EMS Agency or by the local EMS agency in whose jurisdiction the aircraft are based.
   2. EMS aircraft classifications are limited to:
      a) Air Ambulance
      b) ALS Rescue Aircraft
      c) BLS Rescue Aircraft
      d) Auxiliary Rescue Aircraft
   3. The San Joaquin County EMS Agency shall classify aircraft within its jurisdiction in accordance with the requirements of Title 22, CCR, Chapter 8 et seq.

B. Authorization of Air Ambulance and Air Rescue Service Providers
   1. The San Joaquin County EMS Agency shall enter into written agreements and integrate into the EMS system those EMS Aircraft Service Providers that request to be part of the San Joaquin County EMS System and who meet the requirements for authorization, as specified in this policy and applicable federal, state, and local statutes, ordinances, policies, and procedures.
   2. In order to remain authorized, EMS aircraft service providers shall comply with the agreement authorizing service and the permit to operate in San Joaquin County issued pursuant to San Joaquin County Ordinance #4231.
   3. The San Joaquin County EMS Agency may suspend, revoke or deny the renewal of EMS aircraft service provider authorization for failure to adhere to applicable federal, state, and local statutes, ordinances, policies, and procedures or failure to adhere to the requirements of their authorization agreement or permit.
   4. Air Ambulance Providers, ALS Rescue Aircraft Providers, and BLS Air Rescue Providers must possess current accreditation from the Commission on Accreditation of Medical Transport Systems (CAMTS) to be eligible for and maintain authorization.
5. Temporary authorization of Air Ambulance providers may be granted on a call-by-call basis under the following conditions:
   a) No San Joaquin County authorized air ambulance provider is available to respond; and
   b) The request for immediate response is made by LIFECOM, in accordance EMS policy, to the next closest and available air ambulance provider authorized by another local EMS agency but who have not been integrated into the day-to-day operations of the San Joaquin County EMS System.

6. C. Medical Flight Crew: The minimum staffing levels for a medical flight crews are:
   1. Air Ambulance must be comprised of two crew members of which one must be a licensed paramedic in the State of California in one of the following configurations:
      a) Two (2) attendants licensed as paramedics in the State of California and accredited by the San Joaquin County EMS Agency; or
      b) One (1) attendant licensed as a paramedic in the State of California and accredited by the San Joaquin County EMS agency; and one (1) registered nurse licensed in the State of California who is:
         i. Certified as a flight registered nurse (CFRN) by the Board of Certification for Emergency Nursing; and
         ii. Trained and authorized to function as a CFRN by the air ambulance provider’s medical director.
   2. ALS Rescue Aircraft:
      a) One (1) attendant licensed as paramedic in the State of California and accredited by San Joaquin County EMS Agency.
   3. BLS Rescue Aircraft:
      a) One (1) attendant certified as an EMT-I with at least eight (8) hours of hospital clinical training and ten (10) hours of field clinical experience in the aeromedical transport of patients.
   4. Auxiliary Rescue Aircraft:
      a) No medical flight crew or a flight crew which does not meet the requirements for BLS rescue aircraft.
   5. All Air Ambulance and Air Rescue Service Providers shall ensure that all medical flight crews are provided with training in aeromedical transportation including:
      b. Changes in barometric pressure and pressure related maladies.
      c. Changes in partial pressure oxygen.
      d. Other environmental factors affecting patient care.
      e. Aircraft operational systems.
f. Aircraft emergencies and safety.
g. Care of patients who require special considerations in the airborne environment.
h. EMS system and communications.
i. The San Joaquin County EMS Agency policies and procedures.
j. Use of onboard medical equipment.

D. EMS Aircraft providers shall maintain a current roster of medical flight crews on file with the San Joaquin County EMS Agency.

E. Air Ambulance and ALS Air Rescue providers must submit proof of having an agreement with a base hospital designated by the classifying EMS agency for on-line medical control. Alternate methods for on-line medical control may be considered at the discretion of the medical director of the San Joaquin County EMS Agency.

F. Flight nurses may perform skills and administer medications, which are beyond the classifying agency’s paramedic scope of practice, when those additional skills and medications have been developed by the provider’s medical director and approved by the medical director of the San Joaquin County EMS Agency.

G. EMS Aircraft providers shall submit for approval patient care and/or clinical protocols.

H. Space And Equipment:
   1. All Rescue Aircraft shall be configured to allow sufficient space in the patient compartment to accommodate one (1) patient on a stretcher and one (1) patient attendant.
   2. Air ambulances shall be configured to allow sufficient space in the patient compartment to accommodate one (1) patient on a stretcher and two (2) patient attendants.
   3. All EMS Aircraft shall configured or equipped to meet the following specifications:
      a. Ensure sufficient space for medical personnel to have adequate access to the patient in order to carry out necessary procedures including cardiopulmonary resuscitation on the ground and in the air.
      b. Ensure sufficient space for medical equipment and supplies required by the authorizing EMS agency.
      c. Each EMS aircraft shall have adequate safety belts and tie-downs for all personnel, patient(s), stretcher(s), and equipment to prevent inadvertent movement.
      d. Each EMS aircraft shall have on-board equipment and supplies commensurate with the scope of practice of the medical flight crew as specified by the classifying EMS agency. The requirement may be fulfilled through the use of appropriate kits (cases/packs) which can be carried on a given flight to meet the needs of the patient and/or additional medical personnel not usually staffing the aircraft. EMS
Aircraft Providers shall submit to the EMS Agency for approval a complete medical equipment and medication inventory for each aircraft.

e. All EMS Aircraft shall have the capability of communicating with the following agencies on frequencies specified by those agencies:
   1) LIFECOM (EMS Dispatch)
   2) San Joaquin County Ambulance (field communications)
   3) San Joaquin County Fire Departments (field communications)
   4) San Joaquin General Hospital (base hospital and disaster control facility communications)

H. EMS Aircraft Providers shall have a mechanism for returning non-expendable medical equipment (i.e. back boards and traction splints) transported with the patient back to their proper owner.

I. Medical Records, Quality Assurance, Program Evaluation:
   1. EMS Aircraft Service Providers shall provide patient care and flight data to the San Joaquin County EMS Agency in a format specified by the agency. Records and data shall be submitted for each scene and inter-facility transfer mission requested by or flown in San Joaquin County.
   2. Air Ambulance Providers shall provide to the San Joaquin County EMS Agency, in a format specified by the agency, hospital emergency department outcome data and hospital discharge data for all patients transported from San Joaquin County.
   3. Upon request EMS Aircraft shall provide information and records to the San Joaquin County EMS Agency for quality assurance and investigative purposes. These records may include but are not limited to dispatch data, dispatch recordings, medical records, medical and operational polices, records demonstrating personnel training and qualifications.
   4. EMS Aircraft Providers shall participate in the San Joaquin County EMS Agency’s Continuous Quality Improvement (CQI) program including but not limited to attendance at CQI meetings in San Joaquin County.

J. Insurance Requirements:
   1. EMS Aircraft Service Providers authorized to provide service in the San Joaquin County EMS system shall provide at its own expense and maintain at all times insurance with insurance companies licensed in the State of California and shall provide evidence of such insurance to the San Joaquin County EMS Agency.
   2. The types and amount of coverage for such insurance is determined by the San Joaquin County Board of Supervisors.
INTRODUCTION

The National Association of EMS Physicians (NAEMSP) recognizes that the position of medical director of an air medical transport program is an integral part of the program. Therefore, guidelines for education, experience, and performance of the medical director are essential to ensure quality patient care and provide a safe, proficient, and cost-effective operation.

This document, initially published in Prehospital and Disaster Medicine in October–December 1995 as a contribution of the the 1995 Air Medical Services Task Force, has been updated in 2002 by the NAEMSP Air Medical Services Task Force. The current Task Force members gratefully acknowledge the work of the previous document’s authors: Luis F. Eljaiek, Jr., MD, Robert Norton, MD, and Richard Carmona, MD.

DISCUSSION

It has been decades since the initial use of helicopters to evacuate wounded soldiers directly from the battlefield. During the Vietnam conflict, a system was employed that not only provided evacuation, but also provided the initiation of medical care to the wounded at the front line. These helicopter programs were supervised by the military medical corps with the assistance of flight surgeons, many of whom were members of the Aerospace Medical Association. Military models served as the basis for development of civilian medical evacuation programs.

Since the 1970s, air medical transport programs, and national organizations with interest in air transport, have increased in number. These organizations share the common goal of providing a safe, efficient, and well-organized system for delivering care to critically ill and injured persons. Furthermore, these groups were instrumental in implementing policies and procedures to attain these goals.

Air medical-related organizations include the Association of Air Medical Services, the National Flight Paramedics Association, the National Flight Nurses Association, the National Association of Air Medical Communication Specialists, the National Emergency Medical Services Pilots Association, the National Association of EMS Physicians, the Commission on Accreditation of Medical Transport Systems, and the Air Medical Physician Association. The Aerospace Medical Association remains active in advancing air medical issues, particularly for the military.

The roles, responsibilities, and qualifications for the medical director have been addressed partially by some of the above-mentioned organizations. All groups who have published on or discussed this issue have recognized the diversity of physicians in this position and have directed their guidelines at general attributes rather than at a specific specialty. Most recently, the Commission on Accreditation of Medical Transport Systems has published standards describing the qualifications and role of the medical director.

The program’s mission statement must be considered when selecting criteria for a medical director. Most programs deal with a wide spectrum of patient care settings, from out-of-hospital trauma and medical emergencies to

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interfacility transport of critical care patients. Furthermore, patient characteristics encompass myriad adult, pediatric, neonatal, and obstetric diagnoses. Clearly, with this diversity of disease process and acuity, the position of medical director must be filled by a physician with broad-based training and expertise.

Air medical and out-of-hospital care continues to evolve. Therefore, recommendations must allow for expected future growth and transition. In fact, the multiple pathways that have led to direction of an air medical transport program all have characteristic strengths and weaknesses. Primary care specialties such as medicine and surgery can provide a broad knowledge of acute illness and critical care, but these training programs tend to provide little or no orientation to aviation and aero-medical issues. Emergency medicine training programs provide a broad education with respect to acute management issues and often include exposure to air medical transport, but this experience is usually limited in duration (e.g., one-month rotation) and scope (e.g., helicopter transport vehicle only). As a subspecialty of preventive medicine, board certification in aerospace medicine provides excellent grounding in issues such as flight physiology but is not intended to train physicians in critical care issues. Until formal training programs are defined and available that provide all necessary qualities, the goal should be to ensure that medical directors possess the necessary information to safely oversee the programs. Prospective medical directors should first meet the guidelines for flight physicians (refer to the NAEMSP position statement “Flight Physician Training Program—Core Content,” which follows on page 458 in this issue), with further guidelines for directorship outlined below.

**Guidelines for Medical Directors of Air Medical Transport Programs**

**Education, Experience, and Licensure**

1. Licensed to practice in the state where the program is based, and board certification in an area appropriate to the care as defined by the program’s mission statement and mission profile
2. Familiarity with out-of-hospital and in-flight assessment and care, monitoring capabilities, and the limitations of the flight environment
3. Education, training, and/or experience in the program’s scope of care (and age range) as defined by the mission statement and mission profile
4. Knowledge in both air and ground emergency medical services (EMS) services
5. Knowledge and understanding of local, state, and federal laws and protocols affecting EMS and interfacility patient transport
6. Current training or experience in advanced resuscitation and care for adult and neonatal/pediatric patients with both traumatic and nontraumatic diagnoses
7. Knowledge and understanding of the effects and stresses of altitude on the patient, crew, and equipment
8. Knowledge and understanding of infection control and Occupational Safety and Health Administration regulations, Commission on Accreditation of Medical Transport Systems standards, and (if hospital-based) Joint Commission on Accreditation of Healthcare Organizations regulations
9. Understanding of aircraft capabilities, safety issues, weather minimums, and Federal Aviation Administration rules and regulations
10. Familiarity with communications and dispatch, including direct (online) medical oversight
11. Familiarity with international transport issues, including transport brokering and medical transport via the airlines
12. Understanding of relevant national and state-specific legislative issues
13. Familiarity with stress management
14. Knowledge of quality improvement theories and applications
15. Knowledge and understanding of business issues such as personnel management, budget planning, and financial management
16. Knowledge and understanding of disaster and mass-casualty planning
17. Knowledge of the impact of ethical and legal issues on air medical transport
18. Familiarity with the relevant medical organizations
19. Knowledge of adult education techniques

**Administrative and Operational Duties**

1. Assures high overall quality of patient care in conjunction with other health care professionals in the program
2. Develops and/or approves patient care guidelines
3. Develops and/or approves operational and safety protocols and procedures as well as crew configuration, including communications and dispatch
4. Participates in hiring of air medical and communications personnel
5. Participates in financial and reimbursement issues affecting the program
6. Responds to problems or issues affecting the program
7. Develops and/or adheres to a reporting structure and meets regularly with administration
8. Participates in all administrative decisions that impact patient care
9. Participates in quality-improvement and risk-management programs and in the Joint Commission on Accreditation of Healthcare Organizations process
10. Participates in short- and long-term planning
11. Participates in local and regional EMS and disaster planning, and is familiar with the program’s post-incident plan for responding to a transport vehicular crash
12. Approves the selection of the biomedical equipment and medications that will be used by air medical personnel
13. Establishes liaisons and working relationships with referring, accepting, and medical-control physicians who will participate in the care rendered by the program, as well as fosters good relations with hospital medical staff; has ultimate responsibility for providing a high level of direct and indirect medical oversight for the transport team
14. Participates in the initial training and continuing education of all air medical personnel to ensure that they are currently certified and meet appropriate training and certification specific to air medical transport
15. Works collaboratively with chief flight nurse (or equivalent) and program administrator (or equivalent) on a procedure for the management of complaints
16. Participates in marketing, public relations, and educational activities for the program.
17. Establishes criteria for utilization of air medical services and review for appropriateness
18. Participates in aircraft selection and the design of the medical interior to ensure that the goals of the mission statement are met
19. Participates in the selection of the air operator and personnel to the extent that the air transport program can meet its mission statement
20. Considers participating in air medical research and/or organizations
21. Considers participating in the local, state, and federal legislative processes that affect the air medical care

**SUMMARY**

The NAEMSP recognizes the multifaceted and integral position of a medical director for an air medical transport program and the EMS community at large.

**Bibliography**