

# ***INTERFACILITY AND SPECIALIZED TRANSPORT***

## **Transportation between health care facilities may take place for several reasons:**

- patient preference,**
- unavailable diagnostic or therapeutic resources at the transferring facility, or**
- a requirement of managed care organizations that patients be cared for in predesignated hospitals after stabilization.**
- critical patients admitted to less specialized facilities may need to be transferred to tertiary care or designated trauma centers.**

- **Whereas long-distance transport may be best accomplished by air medical services, regional or local transport should use ground systems. These systems may be provided by either local EMS resources or those owned and operated by the hospital.**

- **These guidelines primarily involve particular information and obligations that must be satisfied by the transferring and receiving facilities before transfer:**

- An **unstable** patient should **not** be transferred to another facility at the request of a managed care organization  
**unless**  
the transferring hospital is incapable of providing standard care  
**and**  
the receiving hospital does have the capability of managing the condition and foreseeable complications.

various requirements that must be completed before transferring a patient to another facility:

- **Complete certification (risks and benefits) of transfer Informed consent obtained from patient or family**
- **Appropriate transportation (equipment and personnel) arranged**
- **Treatment and stabilization performed**
- **Acceptance from receiving facility ensured**
- **Appropriate patient care data sent (fax or with patient)**

- **Depending on patient condition, specialized transport services may function at the BLS or ALS level for providing emergency or nonemergency transportation.**

- **Patient transfers considered ALS may include interhospital (either emergency department or intensive care unit) neonatal or high-risk infant, critical cardiac, or trauma transport.**
- **The personnel configuration depends on the system design and level of care provided. Many programs use a nurse-paramedic combination.**



- **Patients requiring specialized care may need the services of specifically trained individuals, such as respiratory therapists, neonatal nurses, or other specialized critical care personnel. The presence of a physician is not mandatory but may be useful in select cases.**

# Transport of Pregnant Patients:

- transport of pregnant patients for reasons of maternal bleeding, eclampsia or preeclampsia, fetal distress, multiple gestations, fetal anomalies, and other maternal health problems including traumatic injuries has increased markedly. The most common reason for transport of obstetric patients to a tertiary care center is the premature rupture of membranes.

- The transport team should be trained to assist in the precipitous delivery of an infant and educated in the use of basic obstetrical supplies. Prehospital protocols should be reviewed often so that EMS personnel remain prepared for the rare and potentially catastrophic pregnancy-related event.

# Equipment and Supplies for Emergency Delivery

Surgical scissors
Placenta basin
Rubber suction bulb
Neonatal airways
Towels
Hemostats
Cord clamps
Sterile gloves
Sterile towels and drapes
Gauze sponge (4 × 4)
Syringes (10 mL)
Needles (23 gauge)

# In ED:

- Whether patients deliver in the prehospital setting or immediately on arriving to the ED, every ED should be prepared for emergency delivery by preparing a basic delivery kit, along with resources for the initial care and potential resuscitation of the newborn.
- These include an infant warmer/isolette and supplies for neonatal resuscitation .

# AIR MEDICAL:

- **The history of air medical transport (AMT) began with the evacuation of wounded soldiers by balloon from Paris during the Franco-Prussian War. The French first used a fixed-wing aircraft (airplane) as an ambulance during World War I. In World War II, more than 1.1 million sick and wounded soldiers were airlifted to the United States during the last 3 years of the war. The Korean War introduced the rotor-wing aircraft (helicopter) to AMT.**

- Air medical transport consists of helicopter (or rotor-wing) and airplane (or fixed-wing).
- have different capabilities and advantage/disadvantage profiles. These specialized vehicles offer fast speeds, ranging from 100 to 200 miles per h for helicopters to over 500 miles per h for airplanes, but planning for appropriate vehicle use involves many other logistic factors as well as speed.

- as a general rule, fixed-wing transport is considered when weather is bad or when transport distances exceed 150 to 200 miles.



- **The impact of AMT of the wounded soldier can be shown by comparing time to definitive care and mortality. During World War II, the average time from injury to definitive care was 6 to 12 hours, with a mortality rate of 6%. In Korea, the time was 2 to 4 hours, with 2% mortality. In Vietnam, the time was 65 minutes, and mortality was less than 1%**

- **Encouraged by the military experience, civilian AMT in the United States was propelled by the 1969 start of the first hospital-sponsored, fixed-wing air medical program. The first civilian helicopter emergency medical services (EMS) program in the United States was established in 1972.**

# Types of Missions

- **Air medical missions may involve primary or secondary response. Primary responses (“scene flights”) are responses in which the aircraft serves as the sole means of patient transport to a receiving facility. Aircraft involved in secondary responses transport patients from outlying hospitals to facilities offering higher levels of care.**

# HELICOPTER TRANSPORT:

- at speeds of 120 to 180 mph, helicopter transport time often cuts travel times by 75% compared with an equivalent distance by ground transport.
- The rotor-wing aircraft has the ability to avoid common traffic delays and ground obstacles and can fly into locations that may be inaccessible to other modes of travel. Helicopter landing zone requirements are a disadvantage compared with ground ambulances but offer an advantage over the airport requirements of airplanes.

- **Disadvantages to rotor-wing flight include the presence of noise and turbulence, which may interfere with patient evaluation, monitoring, and management. Weather considerations may limit significantly the availability of helicopter transport. In small and medium-sized helicopters, cramped patient compartments and weight limitations may compromise optimal patient care.**

- **Many helicopter programs permit flight only under visual flight rules. When the weather conditions (ceiling and visibility) fall below established program minimums, a program may decline to undertake a transport for safety reasons. An increasing number of programs are equipping their helicopters and training their pilots for instrument flight rules, however, to allow safe travel in less favorable weather conditions. Instrument flight rule flight does not facilitate travel to the scene of an accident.**

# Airplanes (Fixed-Wing Aircraft):

- Although rotor-wing missions attract more media attention, fixed-wing flights constitute a significant portion of AMT operations. Fixed-wing aircraft provide increased range; greater speed; and more patient, crew, and equipment capacity than rotor-wing vehicles. Decreased cabin noise and turbulence create fewer patient management problems, and pressurization can combat the impact of physiologic gas laws. Fixed-wing operations are limited, however, to areas that have airports, runways of appropriate length or condition, and refueling facilities. During fixed-wing transports, patient transfers require multiple vehicles (i.e., hospital to ambulance to airplane).

# Inter-Hospital Patient Transfers:

- The transferring physician is responsible for securing the acceptance of the patient by an appropriate physician at the receiving facility.
- Care initiated by the transferring facility may need to be continued during transport. The transferring physician will determine the treatment to be provided during the period of the patient transport, and what, if any, staff will be necessary to accompany the patient en route.



- Additional health care personnel may accompany the patient under the direction of the transferring physician, who is responsible for ensuring their qualifications. This person(s) shall be responsible for the direct patient care during transport, and will render care to the patient under the orders of the transferring physician. All medications anticipated in these situations will be provided by the transferring facility and be under control of the accompanying hospital staff. It will be the responsibility of the transferring facility to provide arrangements for the return of staff, equipment, and medications.

- If the transferring physician elects to transfer the patient in the care of paramedics, the physician must provide written orders to the paramedic prior to transfer. The orders must be consistent with the paramedics's training and abilities. The paramedic has the right to decline transport if he/she is uncomfortable with the orders.

- Infusion of medications must be maintained by a ***regulatory device***. The regulatory device will be supplied by the sending facilities. Should complications arise, infusions must be discontinued and Medical Control contacted.
- Nitroglycerin infusions may be continued during transport. This medication requires the use of a specialized programmable pump to be supplied by the transporting ambulance service. Paramedics must receive training in the use of this medication and of the pump.

- Patients who are receiving vasoactive medications or are hemodynamically unstable will not be transported by ALS units without accompanying hospital staff.
- If the Paramedic considers a patient unstable he/she may request hospital staff to accompany the patient. Alternate transport may also be considered, i.e. MICU or air medical.

- Patients with chest tubes that require water seal drainage should be transported with responsible staff (RN) or by alternate transportation, i.e. MICU or air medical.

- Patients beyond the scope of practice of the transfer capability of Paramedics as defined by this protocol must be transported with additional hospital staff or by alternate means, i.e. MICU or air medical

- Should questions or problems arise during transfer the crew may contact the sending physicians. If this is not possible or in
- event of an emergency the appropriate protocol should be followed and Medical Control contacted for direction.

The following information should accompany the patient (but not delay the transfer in acute situations):

1. Copies of pertinent hospital records
2. X-rays
3. Copies of all test results and lab reports
4. Written orders during transport
5. Any other pertinent information



- Documentation must include the interventions performed en route and by whom the intervention was performed.

*Thank you*