

TRANSPORT OF THE MOTHER-FETUS-INFANT

TYPES OF TRANSPORT

A. *Maternal-Fetal Transport*

Maternal transfer (with fetus in uterus) compared to neonatal transfer is the more desirable form of transport and results in the lowest incidence of neonatal morbidity/mortality and maternal morbidity/mortality. Any labor and delivery service should have the capacity to transport complicated pregnancies to a tertiary center.

B. *Neonatal*

Neonatal transport is the transport of a sick or low-birth weight infant to a regional Level III center. The most common transportation destination from USNH Camp Pendleton is Naval Medical Center Balboa..

C. *Return Infant Transport*

This is transport of a low-birth weight infant back to the local level I or II facility for continued care.

11. PERFORMING A SUCCESSFUL MATERNAL-FETAL TRANSPORT

A. *Communication*

- 1 Verbal communication is of paramount importance for performing successful in utero transport. Calling as early as possible is helpful particularly if an intensive care bed will be needed; this must be set up prior to initiating the actual transfer. Both the Perinatology and Neonatology Units should be contacted simultaneously and at Naval Medical Center Balboa this can be facilitated by contacting the resident on call.

Transport of any mother to Balboa or other accepting facilities should be preceded by acceptance of the patient by calling one of the telephone numbers. The attending physician on call can be requested at any time for consultation.

2. Medical records should be duplicated and accompany the patient during transfer. Particular attention should be paid to these records to ensure that they contain an accurate reflection of the events that occurred at the level I or II center prior to transfer and that these records contain copies of ultrasound reports, amniotic fluid studies, fetal heart rate tracings, prenatal information, and tubal sterilization consent forms.
3. Estimated time of arrival should be predicted by the referring facility so that appropriate arrangements can be made prior to the patient arriving at the level

III center. This is especially true for critically ill obstetric patients that will likely require an intensive care unit bed.

B. *Transport Personnel*

Based on the individual patient situation, the transport personnel can include one or more of the following: physician, neonatal nurse-clinician, registered nurse, respiratory therapist, emergency medical technicians. Generally, it is not necessary for a physician to accompany the patient in transfer.

C. *Transport Equipment*

During transport, equipment should be readily available for maternal-fetal monitoring, resuscitation, and support. The amount of equipment deemed appropriate depends on the individual clinical situation. Most ground ambulance services offer an adequate amount of equipment as well as trained personnel. Frequency of maternal-fetal monitoring also depends upon the gestational age and stage of labor comparable to that performed in a labor and delivery unit.

D. *Transport Vehicles*

Selection of transport vehicles usually depends on maternal status and availability of vehicles.

1. Helicopters

Helicopters are the preferred mode of air transport for critically ill obstetric patients. Unlike fixed-wing aircraft, helicopters are highly adaptable and, in most situations, can fly from hospital helicopter pad to hospital helicopter pad. Limitations of the use of helicopters include weather conditions that make flying unsafe, limited space and weight requirements, and expense when compared to ground ambulance.

a. Indications

1. Any distance between 60 and 170 miles is appropriate for air transport.
2. Locations closer than 60 miles may be appropriate when urgent transport is needed (abruption placentae, breech with advanced cervical dilatation, etc.).

b. Advantages

1. Transport team is trained in delivery procedures and ob/gyn medications.
2. Out-of-hospital time is decreased.

2. Ground Ambulance

This is the most common choice of maternal-fetal transport.. Compared to air transport, it is relatively economical, adaptable to changes in transfer plans, and able to operate in most weather conditions. Ground ambulances are operated by trained emergency medical technicians who have had some experience with labor and delivery.

3. Private Automobile

Undoubtedly, a private automobile is the most economical form of maternal transport. In fact, this may be the transport of choice in clinical situations that are urgent but not acute. The major disadvantage of private automobile transfer is they are operated by individuals that do not have emergency medical skills. Also, often times the operator of the automobile may become lost when trying to find the level III center.

E. *Patient Care in Transit*

A stable patient requires little intervention during transit. Ground ambulance provides adequate space, power, and trained personnel to monitor uterine contractions, fetal heart rate, deep tendon reflexes, IV infusion rates, and administration of medications. In most circumstances, these are the only care provisions required during maternal-fetal transport.

IV. INDICATIONS FOR MATERNAL-FETAL TRANSPORT

A. *Maternal indications:*

1. Obstetric complications
2. Medical complications
3. Surgical complications
4. Seriously injured trauma victim

B. *Fetal indications:*

1. Anomalies that require surgery or specialized care
2. Severe Rh disease with or without hydrops
3. Potentially viable preterm pregnancy in early labor unlikely to deliver in route

V. MEDICOLEGAL CONCERNS

- A. Parties responsible for ensuring adequate care regarding maternal-fetal transport include the referring hospital, referring hospital personnel, receiving hospital, receiving hospital personnel, commercial ambulance corporation, and possibly commercial aircraft corporation.
- B. It is the responsibility of each of these parties to be abreast of any current legislative changes or judicial interpretations regarding patient transfer.
- C. In general, it is the responsibility of the referring facility and personnel to provide an adequate **level** of care and monitoring during transit.
- D. It is the responsibility of the receiving facility to initiate the appropriate action plan and assure that foreseeable services will be available upon the patient's arrival (especially the availability of intensive care bed/services if needed to be assured prior to acceptance of patient's transfer).
- E. **Prior to accepting transfer, the accepting physician should determine (1) severity of condition; (2) assurance that patient's records will be sent; (3) expected level of care needed on arrival (ICU?); and (4) that an ICU bed is available if needed.**

