

NEW YORK CITY REGIONAL EMERGENCY MEDICAL ADVISORY COMMITTEE

COMBINED BASIC AND ADVANCED LIFE SUPPORT

INTERFACILITY TREATMENT PROTOCOLS

September 1994

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Introduction

The New York City Regional Emergency Medical Advisory Committee recognizes that the needs of patients requiring interfacility transport may be different from the needs of those requiring prehospital emergency care. In the latter case, the call is initiated in the field by a person requesting emergency medical treatment from an ambulance service or emergency medical service agency, usually on an emergent basis (primary transport). The patient in this instance has not been assessed by a licensed health professional, and the patient's condition may be less stable than suspected on the basis of presenting symptoms. In the former case, the call is initiated by a licensed health professional requesting transport to or from a medical care facility, often on a non-emergent basis (secondary transport). The patient in this instance has been assessed by a licensed health professional, and the patient's condition can be more accurately determined, on the basis of professional judgment. Thus, it usually is possible to predict the physiologic status of the patient during transport with some certainty, and to provide the level of care that most closely matches the perceived need.

Interfacility transports comprise the largest number of secondary transports. Certain types of interfacility transports, e.g., those involving high-risk neonates, critically ill or injured children, or cardiac patients on intra-aortic balloon pumps, typically demand a far higher level of care than others, e.g., those involving geriatric patients with chronic illnesses requiring transfer between clinics and nursing homes. For the former, highly sophisticated hospital-based transport teams may be needed. For the latter, emergency medical technicians may be sufficient to meet the needs of patient transfer. It is therefore incumbent upon the emergency medical services system to allocate its scarce resources as efficiently as possible without placing the patient at undue risk during the course of transport.

To this end, the Regional Emergency Medical Advisory Committee has defined six priority "segments" or levels of care, for the purpose of interfacility transport. These are summarized below.

Segment	Level of Risk	Level of Care Required
1		2 MDs and/or RNs, 1 MVO
2		1 MD or RN, 1 AEMT-P, 1 MVO
3		2 AEMT-Ps (DPU)
4		1 AEMT-P, 1 EMT (SPU)
5		2 EMTs (DTU)
6		1 EMT, 1 MVO (STU)

However, while emergency medical technicians and paramedics are frequently involved in patient care during secondary transport, they do not play the leading role required of them during primary transport. Instead, the patient remains the ultimate medical responsibility of the sending physician and facility, until such time as ultimate medical responsibility is passed to a receiving physician and facility. Indeed, the transport vehicle should be viewed as a movable platform upon which appropriate functions of the sending or receiving facility may be carried out. Thus, the role of emergency medical technicians and paramedics is to assist with, rather than perform, patient care upon the request of properly credentialed physicians or physician surrogates based in the sending or receiving facility, according to advance directive of the medical control physician to whom they are responsible.

It is the purpose of this document to express the consensus of regional expertise (hospital-based as well as ambulance-based) in interfacility transport regarding the roles and responsibilities of health care providers during secondary transports. Emergency medical technicians and paramedics assisting with such transports shall be governed by protocols (see below) that follow thereupon.

Legal Requirements Affecting Interfacility Transfer

Section 9121(b) of the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985, otherwise known as the Emergency Medical Treatment and Active Labor Act (PL 92-272), and all subsequent amendments, have the strongest impact on medical providers when it comes to interfacility transfer. They mandate that all institutional participants in the Medicare program rendering treatment to any patient in an emergency room for any emergency medical condition, or to a woman in active labor, stabilize the patient prior to transfer, unless by written certification of the treating physician, or a "medical person" acting as the agent for that physician, the medical benefits of immediate transfer reasonably outweigh the risks of ongoing medical treatment in the sending facility. The provisions of the law pertain specifically only to patients in the categories stated above, and apply irrespective of those patients' ability to pay, but should be considered to apply to all patients in designated, licensed, health care facilities who may require interfacility transfer. Further, such transfer is allowed only if:

- ◆ the transferring hospital provides the medical treatment within its capacity that minimizes the risks to the individual's health, and, in the case of a woman in labor, the unborn child;
- ◆ the receiving facility has available space and qualified personnel for the treatment of the patient;
- ◆ the receiving facility has agreed to accept the patient and provide appropriate treatment;
- ◆ the transferring hospital sends to the receiving facility all medical records (or copies thereof), related to the individual's emergency condition, available at the time of transfer;

- ◆ the transfer is effected through qualified personnel and transportation equipment, including the use of necessary and medically appropriate life-support measures during the transfer; and
- ◆ the transfer meets other requirements that the Secretary of Health and Human Services may find necessary."

Sections 1866 and 1867 of the Social Security Act, enacted in 1986, extend the transfer requirements initially mandated under the "anti-dumping" provisions of COBRA. They mandate that both informed consent for transfer by the patient or health care proxy, and a written order for transfer by the treating physician (or a "medical person" acting as the agent of that physician), be obtained prior to transfer. They further mandate immediate transfer to a facility "appropriate" for the patient's needs, if the patient has not been stabilized, either because the patient requests it, or the patient cannot be medically stabilized, provided the sending facility has first done all within its capacity to minimize the risk to the patient during transfer, and the sending physician makes written documentation of the above. Hospitals that have specialized capabilities or facilities (such as trauma centers, burn centers, neonatal intensive care units) may not refuse to accept appropriate transfer if they have the capacity to treat the individual(s) requiring transfer.

Responsibilities of Sending and Receiving Physicians

It is the responsibility of the sending physician, in consultation with the receiving physician, to determine the level of care required for each interfacility transport, based upon perceived need, and when appropriate and available, the advice of the medical directors of the referral hospital transport service or the medical director of the ambulance service providing the transport vehicle. In cases of high-risk transports (Segments 1 or 2) involving the use of a referral hospital-based, physician- or nurse-staffed transport team, the receiving physician will usually assume responsibility for arranging for transport, in cases of medium- and low-risk transports (Segments 3 through 6), the sending physician will usually assume responsibility for arranging for transport. In neither case, however, will the receiving physician have had the personal opportunity to examine the patient prior to dispatch of the transport team or crew. Thus, while the sending physician and receiving physician share responsibility for determining the level of care that may be required during transport, the receiving physician's ability to share in the responsibility for this decision shall extend only so far as the sending physician's description of the patient's condition is accurate.

In cases of critical or acute transports where a patient requires transfer from a facility unable to provide definitive care for an (emergency) condition to a facility able to provide definitive care for that (emergency) condition, the receiving physician shall also advise the sending physician regarding (critical) medical interventions that may be necessary to support the patient prior to the arrival of the transport team or crew, within the limits of good medical judgment. The sending physician shall ensure that these recommendations are followed, within the limits of good medical judgment, and professional and institutional capability. Again, however, the receiving physician will not have had the personal opportunity to examine the patient to determine if the recommended interventions in fact are warranted. Thus, direct responsibility for the emergency management of

the patient cannot be accepted by the receiving physician until personally examined by that physician, or a physician surrogate directly responsible to that physician.

Medical Authority During Interfacility Transport

Good medical practice dictates that every patient receives at all times the level of care most appropriate to the condition(s) for which that patient is being treated. This requires at any given moment that the immediate treatment of any patient be supervised by a licensed physician who is both knowledgeable about that phase of treatment, and immediately available in person, by telephone, and/or through properly trained and credentialed physician surrogates. Medical authority for the care of an individual patient during transport must therefore rest with the attending physician(s) in the sending or receiving facility who are most knowledgeable about, and familiar with, the care that patient has received prior to transport, and may continue to require during transport, although treatment may be provided by properly trained and credentialed physician surrogates working under the direction of the responsible physician(s). Ultimate responsibility can be shared with other attending physicians who are more knowledgeable about specific treatments a patient may require during transport, but cannot be delegated to physicians who possess inadequate knowledge of the definitive care a patient may require during transport, or physician surrogates (including physicians in training), regardless of their level of expertise.

Emergency medical technicians and paramedics assisting with the care of patients during transport must therefore be informed not only of the exact nature of the transport, and the level of care (priority segment) that will be required, but also should be in possession of an order from the responsible sending physician or properly credentialed designee, authorizing transport. This order must state which physician and/or physician surrogate will be responsible for each element of the care the patient may require while enroute. This order must also indicate what procedures emergency medical technicians and paramedics assisting with the care of patients during transport will be allowed to perform or assist with enroute, under what circumstances, and at whose specific request. Emergency medical technicians and paramedics will be allowed only to assist by, or in, performing procedures that are either within their defined scope of practice or in which they have received special additional training, and are specifically permitted by advance direction of their medical control physician or properly credentialed designee.

NOTE: EMERGENCY MEDICAL TECHNICIANS AND PARAMEDICS WILL AT ALL TIMES REMAIN UNDER THE DIRECT AND INDIRECT MEDICAL CONTROL OF THEIR MEDICAL CONTROL PHYSICIAN OR PROPERLY CREDENTIALLED DESIGNEE, EVEN WHEN REQUESTED BY A PHYSICIAN ATTENDING AN INTERFACILITY TRANSPORT TO PERFORM OR ASSIST WITH PROCEDURES DURING THE COURSE OF SUCH TRANSPORT (UNLESS THIS PHYSICIAN HAS BEEN PROPERLY CREDENTIALLED AND DESIGNATED TO PROVIDE DIRECT MEDICAL CONTROL). THE PATIENT, HOWEVER, WILL AT ALL TIMES REMAIN UNDER THE MEDICAL AUTHORITY OF THE SENDING OR RECEIVING PHYSICIAN.

Transfer of Medical Authority

It is the responsibility of health care professionals in the sending facility to assist transport providers in initiating, and assuming medical responsibility for the conduct of, transport of the patient being transferred as safely, smoothly, and expeditiously as possible. This shall include assistance in stabilizing and securing the airway for transport, assistance in determining mechanical ventilator settings and vasoactive infusion rates that will be required during transport, assistance in preparing for continuation of whatever other pharmacologic agents or therapeutic interventions that may be required enroute, assistance in providing and preparing medications that may be required enroute, assembling copies of all necessary patient records including a copy of the hospital chart and copies of all pertinent x-ray films, preparing a written transfer note, arranging for informed consent for transport, and meeting other reasonable requests of the transport team or crew. In addition, the sending physician shall sign an order authorizing transfer from the sending facility to the receiving facility. The sending physician shall also sign an order authorizing transport of the patient in question by the transport team or crew, describing both the nature of the transport and the level of care required, and the responsibilities of non-physician transport providers.

In cases of high-risk transports (Segments 1 or 2) initiated by a sending facility incapable of providing the specialized care required by a patient, and for which a physician-headed transport team is present that is trained, credentialed, and authorized by the receiving facility to assume responsibility for the definitive care of the patient, the very act of requesting transport constitutes a declaration by the sending facility that the patient requires a higher level of care than it is capable of providing. In such circumstances, there exists a duty on the part of the receiving facility to assume responsibility for the patient as soon after the arrival of its transport team at patient bedside in the sending facility as is feasible, within the limits of the capabilities of the transport team. There also exists a duty on the part of providers responsible to the sending physician to assist the transport team in preparing for transport in ways set forth in the preceding paragraph, upon the request of the physician leader of the transport team, who shall direct the care of the patient in accordance with standards of medical and nursing practice accepted by the receiving facility. However, the patient shall be considered to be under the medical authority of the receiving facility, once primary responsibility for management of the airway is assumed by its agents.

In cases of medium- and low-risk transports (Segments 3 through 6) that are accompanied by the attending physician, or other physician(s) credentialed by the sending facility to render medical treatment and authorized by the sending facility to care for the patient while enroute, ongoing medical treatment shall be the immediate responsibility of the attending physician(s) and/or properly trained, credentialed, and supervised physician surrogates(s) from the sending facility, assisted by the transport crew (within the limits of their scope of practice and special additional training). In cases of medium- and low-risk transports (Segments 3 through 6) not accompanied by the attending physician(s), or other physician(s) credentialed by the sending facility to render medical treatment and authorized by the sending facility to care for the patient while enroute, the sending physician shall also sign an order authorizing ongoing medical treatment by the transport crew (within the limits of their scope of practice and special additional training), including ongoing administration of whatever medications and treatments begun in the sending facility that are

expected to be continued enroute. Transfer of medical authority for conduct of the transport itself from the sending physician to the physician immediately supervising the providers caring for the patient during transport formally occurs once all parties agree that the patient is ready for transport, and primary responsibility for management of the airway is passed from providers responsible to the sending physician to providers responsible to the physician immediately supervising transport. However, transfer of medical authority for the overall care of the patient from the sending physician to the receiving physician does not formally occur until the patient arrives at the receiving facility and is accepted by the receiving physician.

Conduct of Interfacility Transport

Physicians and nurses rendering interfacility treatment shall do so in accordance with accepted standards of medical and nursing practice to the extent permitted by their professional licenses, must be trained and credentialed in interfacility transport by their base hospitals for this purpose, and shall be chiefly responsible for patient care, by written agreement of the sending and receiving hospitals and the ambulance service providing the transport vehicle. Emergency medical technicians and paramedics assisting with interfacility treatment shall do so in accordance with the protocols that follow hereupon, must be trained and credentialed in interfacility transport by their ambulance services for this purpose, and shall be responsible for assisting the sending and receiving physicians with patient care, by written agreement of the sending and receiving hospitals and the ambulance service providing the transport vehicle. Direct medical control during transport shall be provided by the medical director of the high-risk hospital-based transport service or properly credentialed designee. Indirect medical control shall be provided jointly by the medical directors of the high-risk hospital-based transport service and the ambulance service providing the transport vehicle.

Transport begins the moment transfer of primary responsibility for management of the airway is actually effected. This does not ordinarily take place until the patient has been optimally prepared for transport, within the limits of the sending facility's ability to assist the transport team or crew in doing so. Transport ends the moment primary responsibility for management of the airway is accepted by health professionals assigned to the patient care unit within the receiving facility that has accepted the transfer. This shall be accomplished as soon after the arrival of the patient at the designated patient care unit as is feasible, within the limits of the receiving facility's ability to relieve the transport team or crew of immediate responsibility for management of vital life support(s).

Training for Interfacility Transport

Transporting emergency medical technicians and paramedics may render patient care, or may assist physician and nurse members of transport crews or teams in rendering patient care upon request, only by advance directive of their medical control physician, and only if have been trained and credentialed to perform all required task(s) in accordance with standards established by the medical director of the ambulance service providing the transport vehicle, and the medical director of the high-risk hospital-based transport service as appropriate. The medical director of the ambulance service providing the transport vehicle shall be responsible for maintaining records documenting

compliance with the above, and shall furnish medical directors of high-risk hospital-based transport services they may assist with documents attesting to the above.

Transporting emergency medical technicians and paramedics may render care involving the use of specialized equipment only if they have been specifically trained in the use of the make and model of specialized equipment to be utilized during transport. Such training should be conducted only by individuals authorized to operate such equipment, such as critical care physicians, critical care nurses, or life support technologists (respiratory therapists or cardiopulmonary perfusionists). Following initial didactic and laboratory training, clinical training of sufficient length to assure clinical competency must be provided by an appropriate preceptor. Continuing education in the operation of all such equipment must also be provided to assure clinical competency is fully maintained.

Definitions

The following definitions shall apply to interfacility transport:

Primary transport: A call initiated in the field by a person requesting emergency medical treatment from an ambulance service or emergency medical service agency. The patient in this instance may not have been assessed by a licensed health care professional for this emergency.

Secondary transport: A call initiated by a licensed health care professional requesting transport to/from a health care facility. The patient in this instance has been assessed by a licensed health care professional for the condition requiring transport.

Interfacility transport: A secondary transport between designated licensed health care facilities.

Scheduled transport: An interfacility transport that has been arranged three (3) or more hours in advance between licensed sending and receiving physicians in licensed health care facilities for purposes that are determined by these physicians.

Unscheduled transport: An interfacility transport that has been arranged less than three (3) hours in advance between licensed sending and receiving physicians in licensed health care facilities for purposes that are determined by these physicians.

Stat transport: A secondary transport that has been requested on an emergency basis by a licensed sending health care professional and accepted by a licensed receiving physician in a licensed health care facility for purposes that are determined by these health care professionals.

Critical transport: An interfacility transport that has been requested on an emergency basis by a licensed sending physician in a licensed health care facility not able to provide definitive care to a patient in a critical emergency, and accepted by a licensed receiving physician in a licensed health care facility able to provide definitive care to that patient for that critical emergency, for purposes

that are determined by these sending and receiving physicians. A critical transport is normally considered high-risk (Segment 1 or 2).

Acute transport: An interfacility transport that has been requested on an emergency or non-emergency basis by a licensed sending physician in a licensed health care facility wishing to transfer a patient to another licensed health care facility, and accepted by a licensed receiving physician in a licensed health care facility able to provide a level of care required by that patient that is equal to or higher than that which the sending facility may be able to provide at the time transfer is arranged, for purposes that are determined by these sending and receiving physicians. An acute transport is normally considered medium-risk (Segment 3 or 4).

Routine transport: An interfacility transport that has been requested on a non-emergency basis by a licensed sending physician in a licensed health care facility wishing to transfer a patient to another licensed health care facility, and accepted by a licensed receiving physician in a licensed health care facility able to provide a level of care to a patient who requires it that is equal to or alternate to that which the sending facility may be able to provide at the time transfer is arranged, for purposes that are determined by these sending and receiving physicians. A routine transport is normally considered low-risk (Segment 5 or 6).

Onward transport: A critical or acute interfacility transport that has been requested on an emergency basis by a licensed sending physician in a licensed health care facility unable to provide definitive care for a critical or acute emergency, and accepted by a licensed receiving physician in a licensed health care facility able to provide critical or acute care for that emergency, for purposes that are determined by these sending and receiving physicians. Typically, the licensed health care facility that referred the patient initially received the patient by primary transport and the licensed health care facility to which that patient is transferred is a Specialty Referral Center.

Back transport: An acute or routine interfacility transport that has been requested on a non-emergency basis by a licensed sending physician in a licensed health care facility that provided definitive care for a critical or acute emergency, and accepted by a licensed receiving physician in a licensed health care facility able to provide acute or chronic follow-up care for that emergency, for purposes that are determined by these sending and receiving physicians. Typically, the licensed health care facility that initially referred the patient and the licensed health care facility to which that patient is transferred for follow-up care after the emergency is over are one and the same.

Medical authority: The locus of final decision-making authority and responsibility for the medical care of an individual patient.

Medical oversight: The locus of authority for overall medical supervision of (emergency) medical treatment rendered to an individual patient by emergency medical technicians assisting the licensed physician with ultimate medical authority for that patient in providing the medical care required during the course of a secondary transport.

Direct medical control: The locus of authority for issuance of immediate on-scene or on-line physician orders to emergency medical technicians assisting with secondary transport.

Indirect medical control: The locus of authority for the development of guidelines and protocols for triage and treatment of patients during secondary transport by emergency medical technicians assisting with such transport.

Physician surrogate: A physician in training, nurse, physician assistant, or life support technologist possessing a technical skill required for the safe conduct of an interfacility transport (such as a respiratory therapist or cardiopulmonary technician), who has undergone special training in interfacility transport, and is properly credentialed by the home institution to conduct or assist with interfacility transport.

Transport team: A referral hospital-based, physician- and/or nurse-staffed, subspecialty oriented transport provider contingent authorized to conduct interfacility transports of high-risk patients from a secondary care facility (community hospital) to a tertiary care facility (referral hospital), usually the referral hospital at which the transport team is based.

Transport crew: An ambulance service-based, emergency medical technician-staffed transport provider contingent authorized to conduct transports of medium-risk and low-risk patients between licensed health care facilities.

Double paramedic unit (DPU): An advanced life support ambulance or response vehicle staffed by two advanced emergency medical technician-paramedics (AEMT-P).

Single paramedic unit (SPU): An advanced life support ambulance or response vehicle staffed by one advanced emergency medical technician-paramedic (AEMT-P) and one emergency medical technician-basic (EMT).

Double technician unit (DTU): A basic life support ambulance staffed by two emergency medical technicians-basic (EMT).

Single technician unit (STU): A basic life support ambulance staffed by one emergency medical technician-basic (EMT).

Summary

Interfacility transport differs from prehospital transport in that the ultimate medical responsibility for the patient rests with designated attending physicians in the facilities from/to which the patient is being transferred. In this context, the ambulance should be viewed as a mobile platform for the hospital bed, and ambulance providers should view their role as assisting hospital personnel with the care of a hospitalized patient.

The sending and receiving physicians determine the level of care required during transport with the advice and consent of the medical control physician who is responsible only for the conduct of the transport, not the decision to transport. The sending and receiving physicians, in consultation with the medical control physician, also determine the type of care the patient will require during

transport, and retain ultimate responsibility for the care of the patient during transport.

The sending physician cannot transfer ultimate medical authority to the receiving physician until the receiving physician or physician surrogate directly responsible to the receiving physician personally examines the patient and assumes ultimate medical authority.

The receiving physician must assist the sending physician in ensuring optimal medical care during transport by providing appropriate consultative advice upon request.

In cases where a technician-staffed, ambulance service-based transport crew is called upon to transport the patient, the sending physician and sending facility retain ultimate responsibility for the care of the patient, and must assist the transport crew in preparing for the transport to the level of their capabilities until the moment of transfer.

In cases where a high-risk transport team is called upon to transfer the patient, the receiving physician or physician surrogate directly responsible to the receiving physician, and receiving facility where the receiving physician is based, must assume ultimate responsibility for the care of the patient to the level of their capabilities as soon as possible after arrival and upon examination of the patient at the sending facility.

Emergency medical technicians, both basic and advanced, may assist in performing only those tasks that are within their designated scope of practice or in which they have received special additional training that has been reviewed and approved by all appropriate medical authorities.

Transport begins/ends when primary responsibility for management of the airway is transferred to/from transport personnel.

All applicable provisions of the COBRA anti-Dumping Statute and Regulations must be followed by all providers at all times.

600 GENERAL INTERFACILITY TRANSPORT PROTOCOL

For special conditions, see additional protocols below.

PRIOR TO TRANSPORT:

Review written orders to transport.

Confirm destination accommodations.

Perform extended primary assessment.

NOTE: IF THE PATIENT IS FOUND TO BE UNSTABLE OR UNSUITABLE FOR INTERFACILITY TRANSPORT, OR APPEARS TO REQUIRE A HIGHER LEVEL OF CARE THAN WAS ANTICIPATED AT THE TIME TRANSPORT AS ARRANGED, DO NOT ATTEMPT TRANSPORT. CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT) FOR FURTHER INSTRUCTIONS.

Measure and record vital signs.

Initiate EKG monitoring as necessary.

Obtain signature of accompanying physician or nurse for all medications to be carried enroute on the Interfacility Transfer Report, noting routes of administration. Where possible, medications being infused by electrical pump should be converted to alternate administration systems.

Notify medical control that transport is underway.

Initiate and record appropriate oxygen therapy.

DURING TRANSPORT:

Monitor the airway.

Continue appropriate oxygen therapy.

Monitor and record vital signs as necessary.

Perform or assist in performing those procedures allowed by specific advance direction of medical control, as necessary.

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate is present, assist with allowed procedures on request and contact medical control.

600 GENERAL INTERFACILITY TRANSPORT PROTOCOL
(continued)

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate is not present, revert to pre-hospital standing orders and contact medical control.

AFTER TRANSPORT:

Notify medical control that transport has been accomplished.

Complete and sign the Interfacility Transfer Report, recording all measurements of vital signs made during transport, and describing in detail any changes in patient condition or unusual incidents occurring enroute.

601 VENTILATOR MANAGEMENT

NOTE: PARAMEDICS MAY PROVIDE, OR ASSIST IN PROVIDING, MECHANICAL VENTILATORY SUPPORT DURING INTERFACILITY TRANSPORT ONLY IF THEY HAVE COMPLETED SPECIAL ADDITIONAL TRAINING IN THE USE OF TRANSPORT VENTILATORS, INCLUDING APPROPRIATE CONTINUING EDUCATION, AND ARE PROPERLY CREDENTIALLED BY THE AMBULANCE SERVICE MEDICAL DIRECTOR TO OPERATE SUCH EQUIPMENT.

BEFORE TRANSPORT:

Together with physician, nursing, or respiratory therapy staff (as appropriate), ensure that the endotracheal tube is patent, intact, properly positioned, and securely taped.

If the transport is not accompanied by a physician or nurse, obtain written order for ventilator settings to be used enroute.

NOTE: IF YOU ARE NOT FAMILIAR WITH THE TYPE OF TRANSPORT VENTILATOR BEING USED, OR DO NOT FEEL COMFORTABLE WITH THE VENTILATOR SETTINGS PRESCRIBED BY THE SENDING PHYSICIAN, DO NOT ATTEMPT TRANSPORT. CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT) FOR FURTHER INSTRUCTIONS.

For Special Considerations, see below.

Place patient on pulse oximeter if not already done.

Ensure that the transport ventilator is properly functioning, that its settings are correct, and that it is ready to be attached to the endotracheal tube.

Assist physician, nursing, or respiratory therapy staff (as appropriate) detach endotracheal tube from hospital ventilator and hyperventilate patient with 100% oxygen via bag-valve device in preparation for transport, then attach endotracheal tube to transport ventilator.

Verify that breath sounds and chest rise remain present bilaterally and that vital signs remain unchanged.

DURING TRANSPORT:

Continuously monitor airway, breath sounds, chest rise, vital signs, oxygen saturation, and ventilator function.

In the event of mechanical failure which cannot readily be corrected, detach endotracheal tube from ventilator, and perform manual ventilation with bag-valve device.

601 VENTILATOR MANAGEMENT
(continued)

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate IS present, assist with ventilator management on request, and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate is NOT present, detach endotracheal tube from ventilator, perform manual ventilation with bag-valve device, and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

NOTE: DO NOT ADJUST PRESCRIBED VENTILATOR SETTINGS. IF THE PATIENT BECOMES UNSTABLE OR NEEDS RESUSCITATION, DETACH ENDOTRACHEAL TUBE FROM VENTILATOR, PERFORM MANUAL VENTILATION WITH BAG-VALVE DEVICE, AND CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT) AS SOON AS POSSIBLE (WITHOUT COMPROMISING PATIENT SAFETY).

AFTER TRANSPORT:

Together with physician, nurse, or respiratory therapy staff (as appropriate), ensure that hospital ventilator is properly functioning, that its settings are correct, and that it is ready to be attached to the endotracheal tube.

Detach endotracheal tube from transport ventilator and hyperventilate patient with 100% oxygen via bag-valve device, then assist physician, nursing, or respiratory therapy staff (as appropriate) attach endotracheal tube to hospital ventilator.

Record type and model of transport ventilator used, ventilator settings employed, and the oxygen saturation measurements obtained during transport, as well as any changes in patient condition, modifications in ventilator settings, and unusual incidents occurring enroute, on Interfacility Transfer Report.

Special Considerations

PEDIATRIC PATIENTS

Do NOT, use a volume-cycled transport ventilator for an infant or small child who requires a pressure-cycled ventilator. If a pressure-cycled transport ventilator is indicated but unavailable, perform manual ventilation via a bag-valve device during transport.

NOTE: UNCUFFED ENDOTRACHEAL TUBES ARE USED IN VENTILATING INFANTS AND SMALL CHILDREN, INCREASING THE RISK OF DISLODGMET DURING TRANSPORT.

601 VENTILATOR MANAGEMENT
(continued)

TRACHEOSTOMY TUBES

In patients being ventilated via tracheostomy tubes rather than endotracheal tubes, exercise special care in detachment and attachment of ventilator circuits to avoid dislodgment of cannulas.

NOTE: THICK SECRETIONS ARE TYPICALLY PRESENT IN PATIENTS BEING VENTILATED VIA TRACHEOSTOMY TUBES, WHICH MAY REQUIRE THAT SALINE SOLUTION BE USED WHEN SUCTIONING.

HOME VENTILATORS

If the patient is stable, without evidence of respiratory distress or respiratory failure, review written home ventilator orders (if available) and duplicate indicated home ventilator settings (as appropriate), with assistance of family member who is responsible for ventilator.

NOTE: IF YOU ARE IN DOUBT ABOUT THE VENTILATOR SETTINGS BEING USED, PERFORM MANUAL VENTILATION WITH BAG-VALVE DEVICE, OR CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT).

604-D INTRA-AORTIC BALLOON PUMP MANAGEMENT

NOTE: PARAMEDICS MAY PROVIDE, OR ASSIST IN PROVIDING, MECHANICAL CIRCULATORY SUPPORT DURING INTERFACILITY TRANSPORT ONLY IF THEY HAVE COMPLETED SPECIAL ADDITIONAL TRAINING IN THE USE OF INTRA-AORTIC BALLOON PUMPS, INCLUDING APPROPRIATE CONTINUING EDUCATION, AND ARE PROPERLY CREDENTIALLED BY THE AMBULANCE SERVICE MEDICAL DIRECTOR TO OPERATE SUCH EQUIPMENT.

BEFORE TRANSPORT:

Together with physician, nurse, or cardiovascular technical staff (as appropriate), ensure that intra-aortic balloon catheter is properly secured, check intra-aortic balloon insertion site for bleeding or drainage, confirm adequacy of distal pulses and perfusion, and record pre-transport intra-aortic balloon pump settings.

NOTE: IT MAY BE NECESSARY TO USE A DOPPLER STETHOSCOPE TO CONFIRM PULSATILE FLOW IF CARDIOGENIC SHOCK IS SEVERE.

Measure and record augmented systolic, mean, and diastolic blood pressure in addition to standard vital signs.

If the transport is not accompanied by a physician or nurse, obtain written order for intra-aortic balloon pump settings to be used enroute.

NOTE: IF YOU ARE NOT FAMILIAR WITH THE TYPE OF INTRA-AORTIC BALLOON PUMP BEING USED, OR DO NOT FEEL COMFORTABLE WITH THE INTRA-AORTIC BALLOON PUMP SETTINGS PRESCRIBED BY THE SENDING PHYSICIAN, DO NOT ATTEMPT TRANSPORT. CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT) FOR FURTHER INSTRUCTIONS.

Ensure that the intra-aortic balloon pump being used is properly functioning, that an acceptable ECG trigger is present, that its settings are correct, and that it is placed on standby, ready to be connected to the intra-aortic balloon catheter.

Assist physician, nurse, or cardiovascular technical staff (as appropriate) place hospital pump on standby and detach intra-aortic balloon catheter from hospital pump, then attach to transport pump, fill chamber, remove transport pump from standby, and begin pumping.

Assist physician, nurse, or cardiovascular technical staff (as appropriate) detach transducer set from hospital pump, then attach to transport pump. Zero and check blood pressure measurements. Compare with manual blood pressure measurements.

604-D INTRA-AORTIC BALLOON PUMP MANAGEMENT
(continued)

DURING TRANSPORT:

Continuously monitor augmented systolic, mean, and diastolic blood pressure in addition to standard vital signs.

In the event of mechanical failure, and the patient remains stable, attempt to identify and correct the problem. If the problem cannot be identified and corrected within twenty (20) minutes, detach intra-aortic balloon catheter from pump and manually operate intra-aortic balloon with 60 ml syringe and three-way stopcock.

In the event of mechanical failure, and the patient becomes unstable, attempt to identify and correct the problem. If the problem cannot be immediately identified and corrected, detach intra-aortic balloon catheter from pump and manually operate intra-aortic balloon with 60 ml syringe and three-way stopcock.

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate IS present, assist with intra-aortic balloon pump management on request, and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate is NOT present, proceed with cardiopulmonary resuscitation as indicated, and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

NOTE: CARDIOPULMONARY RESUSCITATION AND DEFIBRILLATION MAY BE PERFORMED WHILE THE INTRA-AORTIC BALLOON PUMP IS FUNCTIONING.

AFTER TRANSPORT:

Together with physician, nurse, or cardiovascular technical staff (as appropriate), ensure that hospital pump is properly functioning, that an acceptable ECG trigger is present, that its settings are correct, and that it is placed on standby, ready to be attached to the intra-aortic balloon catheter.

Place transport pump on standby, detach intra-aortic balloon catheter from transport pump, and assist physician, nurse, or cardiovascular technical staff (as appropriate) attach to hospital pump, fill chamber, remove hospital pump from standby, and begin pumping.

Record type and model of intra-aortic balloon pump used, settings employed in-transport, and augmented systolic, mean and diastolic blood pressures obtained post-transport, as well as any changes in patient condition, modifications in intra-aortic balloon pump settings, and unusual incidents occurring enroute, on Interfacility Transfer Report.

615 CONTINUOUS MEDICATION/FLUID ADMINISTRATION

NOTE: PARAMEDICS MAY PROVIDE, OR ASSIST IN PROVIDING, CONTINUOUS MEDICATION OR FLUID ADMINISTRATION DURING INTERFACILITY TRANSPORT ONLY IF THEY HAVE COMPLETED SPECIAL ADDITIONAL TRAINING IN THE USE OF INFUSION DEVICES, INCLUDING APPROPRIATE CONTINUING EDUCATION, AND ARE PROPERLY CREDENTIALLED BY THE AMBULANCE SERVICE MEDICAL DIRECTOR TO OPERATE SUCH EQUIPMENT.

BEFORE TRANSPORT:

Together with nursing staff, ensure that all IV/IO device(s) are patent and securely taped, that all connections are secure and water-tight, that all tubing is compatible with the type(s) of medication(s) or fluid(s) being administered, and that all infusion device(s) are properly functioning.

If the transport is not accompanied by a physician or nurse, obtain written order(s) for the dosage(s), volume(s), and concentration(s) of medication(s) and fluid(s), as well as infusion rate(s), to be used enroute.

NOTE: IF YOU ARE NOT FAMILIAR WITH THE TYPE OF INFUSION DEVICE(S) BEING USED, OR DO NOT FEEL COMFORTABLE WITH THE DOSAGE(S), VOLUME(S), OR CONCENTRATIONS(S) OF MEDICATION(S) OR FLUID(S), OR INFUSION RATE(S), PRESCRIBED BY THE SENDING PHYSICIAN, DO NOT ATTEMPT TRANSPORT. CONTACT MEDICAL CONTROL (OR DULY AUTHORIZED AGENT) FOR FURTHER INSTRUCTIONS.

Set each transport infusion device to be used at the prescribed volume and rate of infusion.

Clear each line of air pockets prior to infusion.

Switch each infusion from hospital infusion device to transport infusion device.

NOTE: DO NOT OPEN STOPCOCKS WHEN SWITCHING BETWEEN INFUSION DEVICES.

Continue each infusion with transport infusion device.

NOTE: PROTECT EACH LINE FROM SUNLIGHT AS APPROPRIATE.

DURING TRANSPORT:

Continuously monitor vital signs, tissue perfusion, IV/IO access site, and infusion device function.

615 CONTINUOUS MEDICATION/FLUID ADMINISTRATION
(continued)

In the event of mechanical failure that cannot readily be corrected, detach tubing from infusion device, and continue infusion by gravity drip, carefully monitoring the infusion rate by direct observation.

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate IS present, assist with infusion management on request, and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

In the event of a clinical emergency, and a physician, nurse practitioner, or physician surrogate is NOT present, adjust rate(s) of infusion as appropriate within prescribed dose range(s), and contact medical control (or duly authorized agent) as soon as possible (without compromising patient safety).

NOTE: IF IT BECOMES NECESSARY TO STOP AN INFUSION ENTIRELY, BEGIN AN INFUSION OF DEXTROSE 5% IN WATER (D5W) TO KEEP VEIN OPEN.

AFTER TRANSPORT:

Record type and model of infusion device(s) used, and the dosage(s), volume(s), and concentration(s) of medication(s) and fluid(s) administered, as well as any changes in patient condition, modifications in infusion device settings, and unusual incidents occurring enroute, on Interfacility Transfer Report.

620 MAJOR TRAUMA TRANSPORT

Major trauma patients include patients with life-threatening traumatic injuries requiring onward transport from a 911 receiving hospital emergency department to a 911 receiving hospital trauma center.

Major trauma transports shall be classified as critical transports (Segment 1 or Segment 2) when accompanied by a physician or nurse or acute transports (Segment 3 or Segment 4) when not accompanied by a physician or nurse. By definition, major trauma transports are onward transports, therefore cannot be classified as routine transports (Segment 5 or Segment 6) requiring only basic life support care. Major trauma transports shall be conducted in accordance with all applicable policies and procedures of the 911 Receiving Hospital Trauma Center Advisory Committee. Major trauma transports in patients less than ten (10) years of age shall also be considered high-risk pediatric transports. (See Protocol # 650.)

Transporting paramedics may, if properly trained and credentialed to do so, operate under all applicable prehospital and interfacility protocols, or upon request of the designated direct medical control physician, may assist physician and nurse members of a high-risk transport team with the following tasks:

NOTE: THOSE ITEMS MARKED WITH AN ASTERISK(*) REQUIRE SPECIAL TRAINING.

1. Airway maintenance/suctioning
2. Oxygen administration
3. Airway/breathing adjuncts (OPA/NPA)
4. Assisted ventilation (BVM)
5. Endotracheal intubation (OT/NT)
6. Gastric intubation (NG/OG)
7. Vascular access (IV/IO)
8. Fluid medication/administration (IV/IO/ET/infusion device*)
9. Ventilator management*
10. Chest tube management*
11. Vital monitoring (EKG, SaO₂,* ETCO₂*)
12. Fracture/wound management*
13. Needle decompression of tension pneumothorax
14. Needle cricothyotomy

620 GARDNER-WELLS TONGS MANAGEMENT

NOTE: PARAMEDICS MAY PROVIDE, OR ASSIST IN PROVIDING, CERVICAL SPINE TRACTION DURING INTERFACILITY TRANSPORT ONLY IF THEY HAVE COMPLETED SPECIAL ADDITIONAL TRAINING IN THE USE OF GARDNER-WELLS TONGS, INCLUDING APPROPRIATE CONTINUING EDUCATION, AND ARE PROPERLY CREDENTIALLED BY THE AMBULANCE SERVICE MEDICAL DIRECTOR TO OPERATE SUCH EQUIPMENT.

NOTE: THE PURPOSE OF GARDNER-WELLS TONGS IS TO AVOID FLEXION AND EXTENSION OF THE NECK FOLLOWING CERVICAL SPINE INJURY (ROTATION IS NOT A CONCERN) TO MAINTAIN REDUCTION OF A CERVICAL SPINE FRACTURE IF ALREADY ACCOMPLISHED (THROUGH USE OF AXIAL TRACTION) AND TO UNDERSCORE THE FACT THAT THE PATIENT HAS A CERVICAL SPINE FRACTURE (SO THAT IMMOBILIZATION IS PROPERLY MAINTAINED).

BEFORE TRANSPORT:

Place long board beneath patient to prevent extension.

Attach ten pound (10 lb..) weight to rope attached to tongs and hang off head end of long board to prevent flexion.

NOTE: A FIVE POUND (5 lb.) WEIGHT MAY BE USED IN SOME CASES, PARTICULARLY WITH HIGH CERVICAL SPINE FRACTURES.

NOTE: THE PRECISE DIRECTION OF TRACTION IS NOT IMPORTANT SO LONG AS NECK IS KEPT IN NEUTRAL POSITION.

If the transport is not accompanied by a physician or nurse, obtain written order for the strength of traction to be used enroute.

DURING TRANSPORT:

Maintain traction as before transport.

NOTE: WHEN LIFTING OR TRANSFERRING PATIENT, GRIP TONGS WITH HANDS AND USE MANUAL IN-LINE CERVICAL TRACTION.

AFTER TRANSPORT:

Record strength of traction used on Interfacility Transfer Report.

623 CHEST TUBE MANAGEMENT

NOTE: PARAMEDICS MAY PROVIDE, OR ASSIST IN PROVIDING, THORACIC DRAINAGE AND SUCTION DURING INTERFACILITY TRANSPORT ONLY IF THEY HAVE COMPLETED SPECIAL ADDITIONAL TRAINING IN THE USE OF CHEST TUBES AND COLLECTION DEVICES, INCLUDING APPROPRIATE CONTINUING EDUCATION, AND ARE PROPERLY CREDENTIALLED BY THE AMBULANCE SERVICE MEDICAL DIRECTOR TO OPERATE SUCH EQUIPMENT.

PRIOR TO TRANSPORT:

Together with nursing staff, ensure that the chest tube is patent and securely taped, and that all connections are secure and airtight, and that the collection device is properly functioning.

If the transport is not accompanied by a physician or nurse, obtain written order to clamp chest tube, or for the amount of negative pressure to be applied to thoracic cavity while enroute.

DURING TRANSPORT:

Ensure that collection device remains upright.

If chest tube remains unclamped, provide sufficient suction to collection device to maintain prescribed amount of negative pressure to thoracic cavity. If collection device falls on its side and water seal is lost, clamp chest tube.

If chest tube becomes dislodged while enroute, seal wound with an occlusive dressing and tape on all four sides. If a tension pneumothorax subsequently develops, unseal one side of the occlusive dressing to vent the pressure as the patient exhales, and reseal after exhalation.

Monitor continuously for signs of tension pneumothorax.

AFTER TRANSPORT:

Record volume and character of drainage on Interfacility Transfer Report.

628 MAJOR BURN TRANSPORT

Major burn patients include patients with life-threatening thermal, chemical, or electrical injuries requiring onward transport from a 911 receiving hospital emergency department to a 911 receiving hospital burn center.

Major burn transports shall be classified as critical transports (Segment 1 or Segment 2) when accompanied by a physician or nurse or acute transports (Segment 3 or Segment 4) when not accompanied by a physician or nurse. By definition, major burn transports are onward transports, therefore cannot be classified as routine transports (Segment 5 or Segment 6) requiring only basic life support care. Major burn transports shall be conducted in accordance with all applicable policies and procedures of the 911 Receiving Hospital Burn Center Advisory Committee. Major burn transports in patients less than ten (10) years of age shall also be considered high-risk pediatric transports. (See Protocol # 650.)

Transporting paramedics may, if properly trained and credentialed to do so, operate under all applicable prehospital and interfacility protocols, or upon request of the designated direct medical control physician, may assist physician and nurse members of a high-risk transport team with the following tasks:

NOTE: ITEMS THOSE MARKED WITH AN ASTERISK(*) REQUIRE SPECIAL TRAINING.

1. Airway maintenance/suctioning
2. Oxygen administration
3. Airway/breathing adjuncts (OPA/NPA)
4. Assisted ventilation (BVM)
5. Endotracheal intubation (OT/NT)
6. Gastric intubation (NG/OG)
7. Vascular access (IV/IO)
8. Fluid medication/administration (IV/IO/ET/infusion device*)
9. Ventilator management*
10. Chest tube management*
11. Vital monitoring (EKG, SaO₂*, ETCO₂*)
12. Burn wound management*
13. Needle decompression of tension pneumothorax
14. Needle cricothyotomy

642 HIGH-RISK NEONATAL TRANSPORT

High-risk neonates include, but are not limited to, infants less than one month old born with prematurity, low birth weight, or life-threatening respiratory/circulatory illnesses, infections, congenital anomalies, or metabolic disorders.

High-risk neonatal transports shall be classified as critical transports (Segment 1 or Segment 2), and should be conducted in accordance with all applicable policies and procedures of the New York City Department of Health Perinatal Advisory Committee.

Physicians and nurses rendering interfacility treatment shall do so in accordance with accepted standards of medical and nursing practice to the extent permitted by their professional licenses, shall be trained and credentialed in high-risk neonatal transport by their base hospitals for this purpose, and shall be chiefly responsible for patient care, by written agreement of the medical directors of the high-risk neonatal transport service and the ambulance service providing the transport vehicle.

Transporting paramedics may assist physician and nurse members of the transport team in rendering patient care upon request, provided they have been trained and credentialed to perform all extraordinary task(s) in accordance with standards established jointly by the medical director of the high-risk neonatal transport service and the medical director of the ambulance service providing the transport vehicle. The medical director of the ambulance service providing the transport vehicle shall be responsible for maintaining records documenting compliance with the above, and shall furnish the medical director of the high-risk neonatal transport service with a document attesting to the above. Direct medical control during transport shall be provided by the medical director of the high-risk neonatal transport service or properly credentialed designee. Indirect medical control shall be provided jointly by the medical directors of the high-risk neonatal transport service and the ambulance service providing the transport vehicle.

Transporting paramedics may assist with the following tasks:

NOTE: THOSE ITEMS MARKED WITH AN ASTERISK(*) REQUIRE SPECIAL TRAINING.

1. Airway maintenance/suctioning
2. Oxygen/compressed air* administration
3. Airway/breathing adjuncts (OPA/CPAP*)
4. Assisted ventilation (BVM)
5. Endotracheal intubation (OT/NT)
6. Gastric intubation (NG/OG)
7. Vascular access (IV/IO)
8. Fluid/medication administration (IV/IO/ET/infusion device*)
9. Ventilator management*
9. Chest tube management*
10. Vital monitoring (EKG, (EKG, SaO₂*, ETCO₂*)
12. Transport environment (ambulance, isolette*, warming devices*).

650 HIGH-RISK PEDIATRIC TRANSPORT

High-risk pediatric patients include, but are not limited to, infants and children, newborn to 1, years of age, with life-threatening respiratory, circulatory, neurologic, metabolic, infectious, or traumatic illnesses.

High-risk pediatric transports shall be classified as critical transports (Segment 1 or Segment 2), and should be conducted in accordance with the American Academy of Pediatrics' "Guidelines for Air and Ground Transport of Pediatric Patients."

Physicians and nurses rendering interfacility treatment shall do so in accordance with accepted standards of medical and nursing practice to the extent permitted by their professional licenses, shall be trained and credentialed in high-risk pediatric transport by their base hospitals for this purpose, and shall be chiefly responsible for patient care, by written agreement of the medical directors of the high-risk pediatric transport service and the ambulance service providing the transport vehicle.

Transporting paramedics may assist physician and nurse members of the transport team in rendering patient care upon request, provided they have been trained and credentialed to perform all extraordinary task(s) in accordance with standards established jointly by the medical director of the high-risk pediatric transport service and the medical director of the ambulance service providing the transport vehicle. The medical director of the ambulance service providing the transport vehicle shall be responsible for maintaining records documenting compliance with the above, and shall furnish the medical director of the high-risk pediatric transport service with a document attesting to the above. Direct medical control during transport shall be provided by the medical director of the high-risk pediatric transport service or properly credentialed designee. Indirect medical control shall be provided jointly by the medical directors of the high-risk pediatric transport service and the ambulance service providing the transport vehicle.

Transporting paramedics may assist with the following tasks:

NOTE: THOSE ITEMS MARKED WITH AN ASTERISK(*) REQUIRE SPECIAL TRAINING.

1. Airway maintenance/suctioning.
2. Oxygen/compressed air* administration.
3. Airway/breathing adjuncts (OPA/NPA).
4. Assisted ventilation (BVM).
5. Endotracheal intubation (OT/NT).
6. Gastric intubation (NG/OG).
7. Vascular access (IV/IO).
8. Fluid/medication administration (IV/IO/ET/infusion device*).
9. Ventilator management.*
10. Chest tube management.*
11. Vital monitoring (EKG, (EKG, SaO₂,* ETCO₂*).
12. Transport environment (ambulance, isolette*, warming devices*).