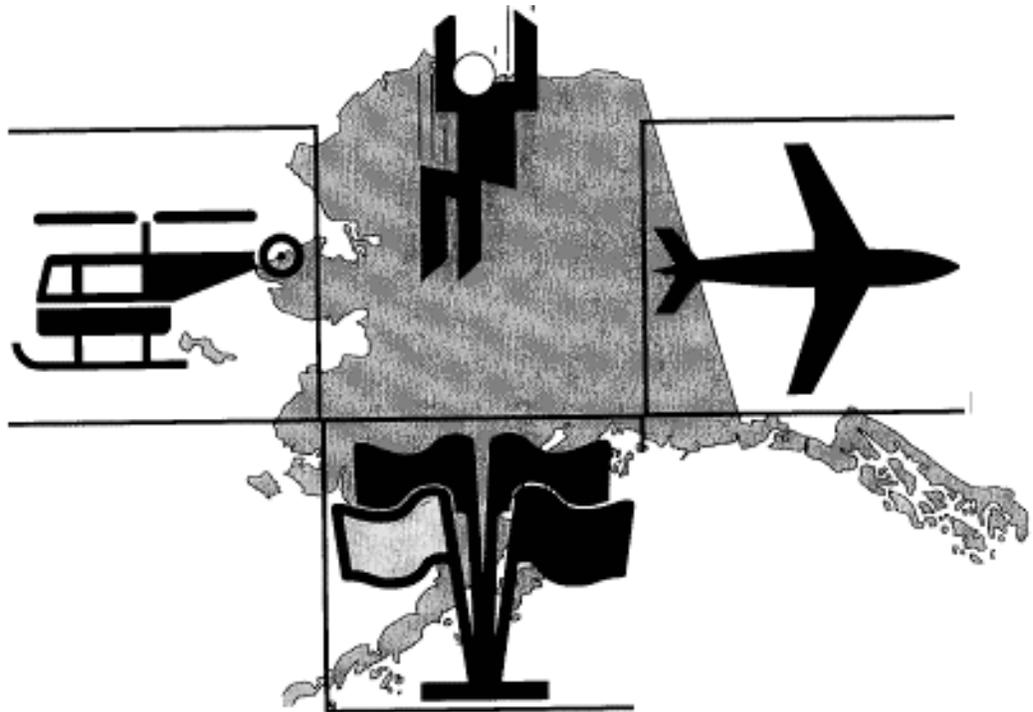


TRAUMA TRIAGE, TRANSPORT & TRANSFER GUIDELINES



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Introduction

These Trauma Triage, Transport and Transfer Guidelines are intended to assist medical personnel and health care planners in improving the systems for assessing trauma patients and ensuring they are transported in an appropriate and expeditious manner to definitive care. The Guidelines focus on patients with significant trauma. It is recognized that patients with minor trauma may decline treatment or not need to be transported or transferred.

Alaska is primarily a rural state with limited medical resources. Two communities, Anchorage and Fairbanks have comprehensive medical facilities. Seven or eight smaller population centers have hospitals with surgical capabilities but limited sub-specialty care. The remaining communities have a variety of medical resources ranging from EMS first responders or Community Health Aides to small regional hospitals with general medical staff, but no surgical capabilities.

Anchorage is the only city in the state with more than one non-government comprehensive health care facility. There are two private hospitals serving as statewide referral centers, one hospital at Elmendorf Air Force Base limited to military personnel and dependents, and the Alaska Native Medical Center which has comprehensive services focused primarily on care to Alaska Natives. The two private facilities provide similar services and share essentially the same medical staff. Anchorage also has the only two institutions with pediatric intensive care, The Children's Hospital at Providence Alaska Medical Center and the Alaska Native Medical Center.

In Fairbanks, there is one private hospital and one military facility limited to military personnel and dependents. Sitka is the only other community in Alaska with more than one hospital, having an Alaska Native hospital and a small community hospital.

Many of the most rural communities are Alaska Native villages. The Alaska Native Medical Center in Anchorage is the Native referral center for a well functioning tiered medical system throughout the state. Health care in small Native villages is provided primarily by Community Health Aides. Villages are usually clustered around larger "bush" towns (regional centers) which generally have non-surgical hospital facilities. Many of these hospitals are now run by private, non-profit Native Health Corporations but are still strongly entwined in the statewide Native health care system, centered by the Alaska Native Medical Center in Anchorage.

Large cruise ships ply the waters of Alaska on a seasonal basis and have medical capabilities which are inadequate for dealing with serious trauma. These vessels may be located near a small community with few medical resources when a patient or crewmember becomes seriously ill or injured. The Section of Community Health and EMS has developed and annually updates the *Basic Medical Resources: A Guide to the Medical Resources of Ports Served by Cruise Line Vessels*. This guide is intended to improve marine vessel's understanding of local medical resources and encourage proper physician to physician transfers of patient care.

Given these unique attributes of Alaska's health care system, trauma triage, transport and transfer protocols serve a different role than in many EMS systems in other states. In larger urban cities in the lower 48 contiguous states, triage and transport protocols are designed to identify trauma patients in the field, and to triage these victims to appropriate trauma centers. In Alaska, most communities have no surgical trauma care facilities. Only Anchorage and Fairbanks have more than one tertiary care hospital. In Anchorage the Alaska Native Medical Center is the only American College of Surgeons designated Level II trauma center. Providence

Alaska Medical Center and Alaska Regional Hospital are not certified by the American College of Surgeons but these hospitals have tertiary care capability and function on equal par in their ability to handle trauma. Trauma triage and transport protocols in Alaska must provide guidelines for the rapid identification of major trauma patients in the field, and a smooth transport through several tiers of medical care usually over prolonged times and distances to final definitive care. For the purposes of these guidelines, a major trauma victim is defined as a patient with suspected injuries that might require surgical intervention within the first 24 hours post injury.

Six distinct levels of medical resources have been identified within the state (see *Appendix A*). Guidelines for each level have been developed. It is understood that, given the variety in the level of medical resources available in each community, various portions of these guidelines will not be relevant to specific community needs. EMS Medical Directors and EMS Regional staffs should use only the information they feel is pertinent to create detailed and functioning triage, transfer, and transport protocols for their particular community or region.

The word “triage” is often used to describe the process of sorting multiple patients with injuries at the scene of an accident. In such a context, the Simple Triage and Rapid Treatment (START) system is recommended as the standard for teaching and performing triage in Alaska. The system is already in use in many communities throughout the state and has a long history of success since its development in Newport Beach, California in the mid-1980’s.

In this document, “triage” is used more broadly to denote the process of assigning a trauma patient to an appropriate medical facility for definitive care.

With the 2002 edition of these Trauma Triage, Transport and Transfer Guidelines, a new appendix (Appendix F) has been added that relates to the federally mandated requirements regarding patient transfers as defined in the Emergency Medical Treatment and Active Labor Act (EMTALA). These regulations clearly define the responsibilities of hospitals that participate in the Medicare program in regards to how a patient may be legally transferred. These laws do not apply if the medical facility involved in the transfer is not a hospital with an “emergency service” or if the hospital does not participate in the Medicare program. It is very important that providers know the status of their medical facility in regard to the EMTALA regulations. Failure to comply with EMTALA regulations can result in significant legal and financial penalties to both the clinical provider and the hospital if a transfer is not done properly.

For the purpose of these Guidelines, basic stabilization refers to the following procedures:

1. Provision of oxygen.
2. Splinting of extremity and spine injuries.
3. Control of external hemorrhaging.
4. Peripheral intravenous lines and fluid resuscitation.

Advanced resuscitation procedures include all of the above and, in addition, the following:

1. Endotracheal intubation.
2. Cricothyrotomy.
3. Chest tubes.
4. Central lines.
5. Availability of blood products.
6. Pericardiocentesis.
7. Advanced Cardiac Life Support (ACLS) medications.

8. External pacing
9. Defibrillation

The Section of Community Health and EMS maintains a comprehensive web site at <http://www.chems.alaska.gov> that contains a great deal of information about the EMS system in Alaska. These guidelines, and many others, are available for download from the site. In addition, the site contains a number of on-line databases, including the Alaska Community Medical Resource Database, which uses a graphical interface to allow users to obtain information about community medical resources through an Internet browser.

COMMUNITIES/REMOTE SITES WITH NO MEDICAL RESOURCES

Triage Guidelines

In this setting there is no organized medical triage. Due to the lack of a medical contact within the community, the Regional EMS Office should ensure the following information is made public within the community (see *Appendix B*).

1. Phone numbers of nearest medical facilities.
2. Phone numbers of nearest emergency medical services, and/or Community Health Aides.
3. Phone numbers of local or remote air medical services.
4. Phone number for the local Village Public Safety Officer or Alaska State Troopers.

If the Regional EMS Office believes that the community is close enough to a definitive care surgical hospital so that an trauma patient could be transported to that facility within one hour of the time of injury, then emphasis should be placed on transporting serious injury victims to that facility directly. If transport times are likely to exceed one hour, then the Regional EMS Office should emphasize transport to the nearest medical service that could provide minimal stabilization (see Appendix B), such as an emergency medical service that can provide care at an Emergency Medical Technician (EMT) II or greater level, a clinic with a mid-level practitioner or physician, or possibly a Health Aide clinic or a small rural hospital.

Transport Guidelines

Since only very basic or no medical evaluation occurs at the scene, no specific transport protocols exist. Transportation should be provided by the most expedient means. The Regional EMS Office should ensure publication and distribution to the community of a list of neighboring EMS and air medical resources as well as remote air medical services (See Appendix B). It is anticipated that non-medical transportation systems may sometimes be required to transport unstable patients, and receiving facilities and EMS responders need to be made aware of this possibility by the Regional EMS Office.

COMMUNITIES WITH MINIMAL MEDICAL RESOURCES EMS (Emergency Trauma Technicians or Basic EMTs) WITHOUT MEDICAL CONTROL)

Triage Guidelines

The Regional EMS Office should provide the following information to both the community as well as any identified prehospital EMS provider (Emergency Trauma Technician (ETT), Emergency Medical Technician (EMT), etc.) within the community (see *Appendix B*).

1. Phone numbers of nearest medical facilities.
2. Phone numbers of nearest emergency medical service(s) and/or Community Health Aides.
3. Phone numbers of local or regional air medevac services.
4. Phone number for the Alaska State Troopers.

Prehospital providers should provide medical care in line with their level of training and in accordance with State guidelines for basic life support. It is assumed that basic stabilization as defined in the introduction could not be achieved in this setting. The Regional EMS Office should provide information to the prehospital EMS providers regarding the options for the most expedient transportation to the nearest surgical hospital (if that facility can be reached within one hour) or to the nearest medical facility (i.e. medical clinic or hospital) or emergency medical service that could provide basic or advanced stabilization

Transport Guidelines

Prehospital care EMS providers should use the skills available at their level of training to stabilize the victim for an expeditious transport. Prehospital EMS providers should contact (using predetermined modes of communication) the receiving facility directly and provide the following information:

1. Brief description of the injury.
2. Any available medical information such as vital signs, obvious injury, level of consciousness, blood loss, treatment rendered, etc.
3. Estimated time of arrival at receiving facility and means of transport.
4. Specific air medical transport needs, if a medevac team is being requested.

In accordance with ETT or EMT training and state guidelines, a clinical record of the patient's medical status and the care provided should be maintained. A copy of this record should be provided to the facility receiving the patient.

It is anticipated that non-medical transportation resources occasionally may be transporting unstable patients with no medical attendant. Receiving facilities and neighboring EMS systems need to be made aware of this possibility by the Regional EMS Office.

COMMUNITIES WITH ORGANIZED EMS OR COMMUNITY HEALTH AIDES (UNDER MEDICAL DIRECTION)

Triage Guidelines

Medical Directors should instruct the health care providers in these communities to use pre-determined triage criteria to identify significant trauma likely to require surgical intervention (see *Appendix C*). Medical Directors should establish protocols regarding the destination of a patient with significant trauma. The following guidelines are suggested:

1. If a surgical facility can be reached within one hour of the time of injury, then transport to that facility should be quickly arranged with the nearest air medical service, or using local transportation resources with the local prehospital providers stabilizing the victim within the scope of their abilities.
2. If a surgical facility is greater than one hour away and the prehospital EMS providers cannot provide basic stabilization, the patient should be transported to the closest medical facility or emergency medical service that could provide basic or advanced stabilization, such as a rural clinic with a mid-level practitioner or a small rural hospital.
3. If a surgical facility is greater than one hour away and the prehospital providers can provide basic stabilization, then the patient should be transported to the closest medical facility that can provide advanced stabilization such as a facility with full emergency services (equivalent to a Level IV Trauma Center). Ideally, the facility should have personnel trained in Advanced Trauma Life Support (ATLS).

Transport Guidelines

Prehospital EMS providers should obtain on-line medical direction as soon as possible and provide the following information:

1. Brief history of the injury.
2. Current status of the patient including vital signs, physical exam with pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival (when appropriate).

Medical direction should ensure that the patient has been stabilized within the scope of practice of the available prehospital EMS providers and that the mode of transportation is appropriate. In accordance with EMT training and state guidelines, a report of the patient's medical status and the care provided should be maintained. A written copy of this written report should be provided to each referral facility.

COMMUNITIES WITH MEDICAL CLINICS OR NON-SURGICAL HOSPITALS ABLE TO PROVIDE ADVANCED TRAUMA STABILIZATION PROCEDURES

Triage Guidelines

It is assumed that these communities have organized emergency medical services with medical control. The Medical Director of the EMS system should develop local protocols for prehospital EMS providers to triage trauma victims for significant injury likely to require surgical intervention (see *Appendix C*). In addition to the information required by local triage protocols, the EMS prehospital providers should provide the following information to medical control after rapidly obtaining on-line medical direction:

1. Brief history of the injury.
2. Current status of the victim including vital signs, physical exam with pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival.

At the receiving facility, the trauma alert initiated by reports from the prehospital EMS providers based upon field triage criteria should result in the following two simultaneous activities:

1. Mobilization of appropriate medical resources for stabilization of the victim at the clinic or hospital.
2. An early evaluation of the need for an urgent medevac and an alert to appropriate air medical resources (see *Appendix B*) of the possible need for transport to a distant surgical facility.

On arrival at the clinic or hospital, the patient should be stabilized as per ATLS protocols. Laboratory and radiologic exams should be performed to satisfy the following two conditions:

1. Confirm the need for transport to a higher level care facility if it is otherwise not obvious.
2. Provide data to assist in stabilization of the patient for safe transport (e.g. rule out pneumothorax, assess need for blood products, etc.).

No diagnostic testing should be performed that does not fall under the above categories and could possibly delay transport to a definitive care facility. However, if transport is delayed for other reasons (such as weather), then additional laboratory and radiologic evaluations should be performed since this could save valuable time at the receiving facility (as long as this evaluation in and of itself does not delay the transport).

Transport / Transfer Guidelines

Hospital or clinic personnel should have written protocols for the transfer of a patient to another medical facility. *Appendix D and F* provide the guidelines from the American College of Surgeons, the American College of Emergency Physicians and federal EMTALA regulations in this regard. Clinic or hospital care providers should contact physicians at the receiving hospital directly and provide the following information:

1. Brief history of the injury.
2. Current status of the victim including vital signs, physical exam and pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival.

A copy of the prehospital EMS record, hospital treatment records, radiographs, lab values, cardiograms, and a transfer note, should accompany the medical attendant with the patient to the receiving hospital. It is recommended that a checklist be developed to ensure that the transport will be safe (including adequate personnel and equipment), that an adequate transfer of information will occur, and that federal guidelines regarding hospital transfers are being met (see *Appendix E and F*).

If more than one referral hospital is available for transfer, the following guidelines are listed in order of priority for making an appropriate destination selection:

1. The receiving hospital must have the medical resources to deal with the most serious life or limb threatening injury of the victim.
2. Consideration should be given to facilities with Level I, Level II, Level III, or Level IV Trauma Center status, as appropriate to meet the needs of the patient, since this designation signifies a greater commitment to trauma care than facilities without trauma center status. Currently the Alaska Native Medical Center is the only level II or higher designated center in the state.
3. Beneficiaries of Native or military hospitals should be transported to the appropriate facility if that facility can meet *Criteria 1*.

The selection of an appropriate destination hospital should be performed by the medical personnel at the originating facility in conjunction with the medical personnel at the receiving facility. Many of these transfers will involve decision making by emergency department physicians. If a receiving hospital provides a service that is not available at the transferring facility, the emergency physician at the receiving hospital should not delay transport while seeking the approval of an appropriate specialist. Federal EMTALA statutes also prohibit tertiary care hospitals from refusing any transfer if the transferring hospital does not have the capability to stabilize the patient and if the receiving hospital has the capacity and capability to treat the patient.

COMMUNITIES WITH SURGICAL FACILITIES BUT LIMITED SUB-SPECIALTY CARE

Triage Guidelines

The Medical Director of the EMS system should develop local protocols for prehospital EMS providers to triage trauma victims for significant injury likely to require surgical intervention (see *Appendix C*). In addition to the information required by local triage protocols, the prehospital EMS providers should provide the following information after rapidly obtaining on-line medical direction:

1. Brief history of the injury.
2. Current status of the victim including vital signs, physical exam and pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival.

Transport Guidelines

At the receiving hospital, the trauma alert initiated by reports from prehospital EMS providers based upon field triage criteria should result in the mobilization of anticipated medical resources (including surgeons and operating room crews if necessary). If the prehospital EMS providers identify an injury which is life or limb threatening and cannot be managed by the resources at the local receiving facility, personnel at the receiving facility should alert air or ground medical transportation resources, as appropriate, of the possible need for transport to a referral center. Decisions to by-pass the local surgical facility to a comprehensive trauma surgical hospital should be at the discretion of the medical control physician at the local surgical facility or directed by predetermined protocols from the local EMS Medical Director. Transport by an air medical service capable of providing advanced resuscitation procedures (e.g., intubation, etc.) is recommended in such instances.

At the local receiving hospital, stabilization and evaluation of patient injuries should be carried out per Advanced Trauma Life Support (ATLS) protocols. Laboratory and radiologic studies should be performed to determine if the injuries can be safely managed at the trauma surgical hospital. Once a determination has been made that transfer to a higher level of trauma care is needed, only diagnostic studies which will ensure safe transport should be undertaken.

Transfer Guidelines

Hospital personnel should have written protocols for the transfer of a patient to another medical facility. *Appendix D and F* provide the guidelines from the American College of Surgeons, the American College of Emergency Physicians and federal EMTALA regulations in this regard. The referral physician should contact physicians at the receiving hospital directly and provide the following information:

1. Brief history of the injury.
2. Current status of the patient including vital signs, physical exam and pertinent history, and any treatment rendered.

A copy of the prehospital EMS report, hospital treatment records, radiographs, lab values, cardiograms, and a transfer note, should accompany the patient to the receiving hospital. It is recommended that a checklist be developed to ensure that the transport will be safe (including adequate personnel and equipment), that an adequate transfer of information will occur, and that federal guidelines regarding hospital transfers are being met (see *Appendix E and F*).

If more than one referral hospital is available for patient transfer, the following guidelines are listed in order of priority for making an appropriate destination selection:

1. The receiving hospital must have the medical resources to deal with the most serious life or limb threatening injury of the patient.
2. Consideration should be given to facilities with Level I, Level II, Level III, or Level IV Trauma Center status, as appropriate to meet the needs of the patient, since this signifies a greater commitment to trauma care. Currently the Alaska Native Medical Center is the only level II or higher designated center in the state.
3. Beneficiaries of Native or military hospitals should be transported to the appropriate facility if that facility can meet *Criteria 1*.

The selection of an appropriate referral hospital should be performed by the medical personnel at the originating facility in conjunction with the medical personnel at the receiving facility. Many of these transfers will involve decision making by emergency department physicians. If a receiving hospital provides a service that is not available at the transferring facility, the emergency physician at the receiving hospital should not delay transport while seeking the approval of an appropriate specialist. Federal EMTALA statutes also prohibit tertiary care hospitals from refusing any transfer if the transferring facility does not have the capability to stabilize the patient and if the receiving hospital has the capacity and capability to treat the patient.

COMMUNITIES WITH COMPREHENSIVE SURGICAL HOSPITALS

Triage Guidelines

The Medical Director of the EMS system should develop local protocols to identify significant trauma in the field which is likely to require surgical intervention. If more than one receiving hospital is available to the prehospital EMS providers, the Medical Director should have pre-established triage criteria to select the most appropriate hospital. These criteria must be developed based upon known local resources with consideration given to each of the following:

1. Medical resources available at each facility;
2. Trauma Center designation;
3. Proximity; and
4. Diversion status

Prehospital EMS providers should obtain on-line medical direction as early as possible and provide the following information:

1. Brief history of the injury.
2. Current status of the patient including vital signs, physical exam and pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival.

At the receiving hospital, the trauma alert initiated by the prehospital EMS providers based upon field triage criteria should result in the mobilization of anticipated medical resources (including surgeons and operating room crews if necessary). If the prehospital EMS providers identify an injury which is life or limb threatening, which cannot be managed by the receiving facility, personnel at the receiving facility should identify an appropriate referral center and consider the needs for an expeditious transport to that facility.

At the local receiving hospital, stabilization and evaluation of the patient's injuries should be carried out per Advanced Trauma Life Support (ATLS) protocols. Once a determination has been made that a higher level of trauma care is required, only those diagnostic studies which will ensure safe transport should be undertaken.

Transport/Transfer Guidelines

Hospital personnel should have written protocols for the transfer of a patient to another medical facility. *Appendix D and F* provide the guidelines from the American College of Surgeons, the American College of Emergency Physicians and federal EMTALA regulations in this regard. The referring physician should contact physicians at the receiving hospital directly and provide the following information:

1. Brief history of the injury.
2. Current status of the patient including vital signs, physical exam and pertinent history, and any treatment rendered.
3. Mode of transport, destination, and estimated time of arrival.

A copy of the prehospital EMS record, hospital treatment records, radiographs, lab values, cardiograms, and a transfer note, should accompany the medical attendant with the patient to the referral hospital. It is recommended that a checklist be developed to ensure that the transport will be safe (including adequate personnel and equipment), that an adequate transfer of information will occur, and that federal guidelines regarding hospital transfers are being met (see *Appendix E and F*).

If more than one referral hospital is available for patient transfer, the following guidelines are listed in order of priority for making an appropriate destination selection:

1. The referral hospital must have the medical resources to deal with the most serious life or limb threatening injury of the patient.
2. Consideration should be given to facilities with Level I, Level II, Level III, or Level IV Trauma Center status, as appropriate to meet the needs of the patient, since this signifies a greater commitment to trauma care.
3. Beneficiaries of Native or military hospitals should be transported to the appropriate facility if that facility can meet *Criteria 1*.

The selection of an appropriate referral hospital should be performed by the medical personnel at the originating facility in conjunction with the medical personnel at the receiving facility. Many of these transfers will involve decision making by emergency department physicians. If a receiving hospital provides a service that is not available at the transferring facility, the emergency physician at the receiving hospital should not delay transport while seeking the approval of an appropriate specialist.

Federal EMTALA statutes also prohibit tertiary care hospitals from refusing any transfer if the transferring facility does not have the capability to stabilize the patient and if the receiving hospital has the capacity and capability to treat the patient.

APPENDICES

Appendix A - Community Types

**Appendix B - Sample Form for Community Emergency
Medical Listings**

Appendix C - Prehospital Trauma Severity Assessment

**Appendix D - American College of Surgeons and American
College of Emergency Physicians Guidance**

Appendix E - Sample Form: Out-of-Hospital Transfer

**Appendix F - Emergency Medical Treatment and Active
Labor Act (EMTALA)**

APPENDIX A

The following table shows the types of communities based upon availability of medical resources used in the development of the triage and transport protocols.

CHARACTERISTICS					
Community Medical Resources	Medical Direction	Basic Stabilization	Advanced (ATLS Stabilization)	Surgeons	Specialized Surgical Care
No medical resources	no	no	no	no	no
Basic medical resources	no	within limits of training	no	no	no
Organized EMS or CHA	yes	yes/no	no	no	no
Clinics or non-surgical hospital	yes	yes	yes	no	no
Surgical hospital with some sub-specialty care	yes	yes	yes	yes	yes/no
Comprehensive surgical hospital	yes	yes	yes	yes	yes

APPENDIX B

Full Service Surgical Hospital _____ Phone: _____
_____ Phone: _____
_____ Phone: _____

Trauma Center Status _____

General Surgical Hospital _____ Phone: _____
_____ Phone: _____
_____ Phone: _____

Trauma Center Status _____

Full Emergency Service Hospital _____ Phone: _____
_____ Phone: _____

Trauma Center Status _____

Alaska State Troopers _____ Phone: _____

Transport Services

LOCAL

ALS	BLS	LAND	
_____	_____	1.	_____ Phone: _____
_____	_____	2.	_____ Phone: _____
_____	_____	3.	_____ Phone: _____

ALS	BLS	AIR MEDICAL	
_____	_____	1.	_____ Phone: _____
_____	_____	2.	_____ Phone: _____
_____	_____	3.	_____ Phone: _____

COMMERCIAL AIR/AIR TAXI

1. _____ Phone: _____
2. _____ Phone: _____
3. _____ Phone: _____

REMOTE

ALS	BLS	LAND	
_____	_____	1.	_____ Phone: _____
_____	_____	2.	_____ Phone: _____
_____	_____	3.	_____ Phone: _____

ALS	BLS	AIR MEDICAL	
_____	_____	1.	_____ Phone: _____
_____	_____	2.	_____ Phone: _____
_____	_____	3.	_____ Phone: _____

APPENDIX C

Over the last two decades, many triage scales have been developed to identify trauma victims with significant surgical injury while still in the field. Most of these trauma scores use variables related to physiology, anatomy of injury and biomechanics of injury. None of the scores developed to date have been shown to be consistently reliable in accurately triaging trauma victims. The utility of the scores may also depend upon the setting in which the trauma occurs. For example, in the urban setting, triage based upon physiologic criteria might more readily identify those patients who require surgical intervention. On the other hand, in a more remote setting the anatomy of injury and biomechanics of injury might be more sensitive indicators of victims with potential injuries that need to be transferred to surgical centers for observation as well as actual surgical intervention.

It is recommended that each Region EMS Office or Medical Director develop criteria that are most appropriate for their own practice setting. The common criteria for each of the three general headings are provided below. The bibliography following the appendices provides references regarding the usefulness as well as the pitfalls of using trauma scoring systems.

PREHOSPITAL TRAUMA SEVERITY ASSESSMENT

VITAL SIGNS AND LEVEL OF CONSCIOUSNESS (Adult indicators)

SHOCK	BP < 90 RP >120
RESPIRATORY DISTRESS	rate < 10 or > 20
ALTERED MENTATION	Glasgow Coma Score < 13

ANATOMY OF INJURY

- penetrating injury of head, neck, torso, groin; or
- combination of burns > 20 percent or involving face or airway; or
- amputation above wrist, ankle; or
- spinal cord injury; or
- flail chest; or
- two or more obvious proximal long bone fractures; or
- open or suspected skull fractures; or
- unstable pelvis or suspected pelvic fracture

BIOMECHANICS OF INJURY

- death of occupant in same vehicle; or
- ejection from vehicle; or
- falls > 20 feet; or
- pedestrian hit at speed > 20 MPH or thrown > 15 feet; or
- significant ATV, motorcycle, bicycle impact or airplane crash; or
- auto crash with significant vehicular body damage.

APPENDIX D

AMERICAN COLLEGE OF SURGEONS GUIDANCE

I. TRANSFER RESPONSIBILITIES

A. Referring Physician

The referring physician is responsible for the initiation of transfer of the patient to the receiving institution and for the selection of an appropriate mode of transportation and level of care required for optimal management of the patient en route. The referring physician should consult with the receiving physician and should be thoroughly familiar with the transporting agencies, their capabilities, and with the arrangements for patient management during transport.

The referring physician is responsible for stabilizing the patient's condition, within the capabilities of the initial institution, before the patient is actually transferred to another facility. Initiation of the transfer process should begin while resuscitative efforts are in progress.

Transfer agreements must be established to provide for the consistency and efficient movement of patients between institutions. These agreements allow for feedback to the referring hospital and enhance the efficiency and quality of the patient's management during transfer.

B. Receiving Physician

The receiving physician must be consulted with regard to the transfer of a trauma patient to his or her institution. The receiving physician must assure that his/her institution is qualified, able and willing to accept the patient, and is in agreement with the intent to transfer. The receiving physician may assist the referring physician in arrangements for the appropriate mode and level of care during transport.

The quality of care rendered en route also is of vital importance to the patient's outcome. Only by direct communication between the referring and receiving physicians can the details of patient transfer be clearly delineated. If adequately trained ambulance personnel are not available, a nurse, or physician should accompany the patient. All monitoring and management rendered en route should be documented.

II. MODES OF TRANSPORTATION

The principle of "Do No Further Harm" is the most important principle when choosing the mode of patient transportation. Ground and air transportation modalities can be safe and effective in fulfilling this principle. Keys to successful patient transport are the availability of appropriately trained personnel and proper equipment to manage problems specific to the patient's condition, whether transportation is by ground or air. The choice of transport mode is based on the availability of these personnel, and which mode provides the safest and most rapid method of transportation. Weather considerations are crucial in this decision-making process.

III. TRANSFER PROTOCOLS

Where protocols for patient transfer do not exist, the following guidelines are suggested.

A. Referring Physician

The local physician wishing to transfer the patient should speak directly to the physician accepting the patient at the receiving hospital and provide the following information:

1. Identification of the patient.
2. A brief history of the incident, including any pertinent prehospital data.
3. The initial patient findings in the Emergency Department and the patient's response to the therapy administered.

B. Information to Transferring Personnel

Information regarding the patient's condition and needs during transfer should be communicated to the transporting personnel. This information should include, but not be limited to:

1. Airway maintenance.
2. Fluid volume replacement.
3. Special procedures that may be necessary.
4. Revised Trauma Score, resuscitation procedures, and any changes that may occur en route.

C. Documentation

A written record of the problem, treatment given, and patient status at the time of transfer, as well as certain physical items **MUST ACCOMPANY THE PATIENT**. These should include:

1. Initial diagnostic impression.
2. Patient's name, address, hospital number, age; and name, address, and phone number of next of kin.
3. History of injury and illness.
4. Condition at time of admission to the hospital
5. Vital signs prehospital, during stay in Emergency Department, and at the time of transfer.
6. Treatment rendered, including medications given and route of administration.
7. Laboratory and roentgenographic findings, appropriate laboratory specimens (e.g. lavage), and all roentgenograms.
8. Fluids given by type and volume.
9. Name, address and phone number of the referring physician.
10. Name of physician at receiving institution who has been contacted about the patient.

D. Prior to Transfer

The patient should be resuscitated and attempts made to stabilize his or her condition as completely as possible based on this suggested outline.

1. Respiratory

- a. Insert an airway or endotracheal tube, if needed.
- b. Determine the rate and method of administration of oxygen.
- c. Provide suction.
- d. Provide mechanical ventilation when needed.
- e. Insert a chest tube if needed.
- f. Insert a nasogastric tube to prevent aspiration.

2. Cardiovascular

- a. Control external bleeding.
- b. Establish two large-caliber IVs and begin crystalloid solution infusion.
- c. Restore blood volume losses with crystalloid or blood, and continue replacement during transfer.
- d. Insert an indwelling urinary catheter to monitor urinary output.
- e. Monitor the patient's cardiac rhythm and rate.

3. Central Nervous System

- a. Administer mannitol or diuretics, if needed, after neurosurgical consultation.
- b. Immobilize head, neck, thoracic, and/or lumbar spine injuries.
- c. Administer solumedrol for cord injured patients when indicated and available (This recommendation is not part of the *ATLS Student Manual*.)

4. Diagnostic Studies

- a. Roentgenograms of cervical spine, chest, pelvis, and if indicated, extremities.
- b. Hemoglobin, hematocrit, type and crossmatch, arterial blood gas determinations, and pregnancy test on all females of childbearing age.
- c. Blood alcohol and/or other drugs as indicated.
- d. Electrocardiogram.
- e. Urinalysis (include drug screen as indicated).

5. Wounds

- a. Clean and dress.
- b. Tetanus toxoid.
- c. Tetanus Immune Globulin, if indicated.
- d. Antibiotics, when indicated.

6. Fractures: Appropriate splinting and traction.

E. Management During Transport

1. Continued support of cardiorespiratory system.
2. Continued blood volume replacement.
3. Monitoring of vital signs.
4. Use of appropriate medications as ordered by the physician or as provided by written protocol.
5. Maintenance of communication with a physician or institution during the transfer.
6. Maintenance of accurate records during transfer.

F. Transfer Flow Sheet

The information that accompanies the patient should include both demographic and historical information pertinent to the patient's injury. In addition to the information already outlined, space should be provided for sequential recording of data, specifically vital signs, CNS function, and urinary output. See *Appendix F* for an exemplary transfer form describing information that should accompany a patient, if available.

Reprinted with permission from: *Advanced Trauma Life Support Student Manual*, American College of Surgeons, 1993.

AMERICAN COLLEGE OF EMERGENCY PHYSICIANS GUIDANCE

The American College of Emergency Physicians believes that quality emergency care should be available to all who seek it. For that care to be provided, patients sometimes are transferred to another health care facility from the emergency facility where they have sought care. To ensure access to emergency care and patient safety when transfers occur, ACEP endorses the following principles regarding patient transfer:

- The health and well-being of the patient must be the overriding concern when any patient transfer is considered.
- Emergency physicians and hospital personnel should comply with applicable state and federal regulations regarding patient transfer. A “medical screening exam,” mandated by federal law, should be performed by a physician. In the event a physician is not physically present in the Emergency Department 24 hours a day, the screening exam may be performed by properly trained ancillary personnel according to written policies and procedures.
- The patient should be transferred to another facility only after medical evaluation and, when possible, stabilization. Stabilization includes evaluation and initiation of treatment to ensure, within reasonable medical probability, that transfer of patient will not result in death or in loss of, or serious impairment of bodily functions, parts, or organs.
- The physician should inform the patient or responsible party of reasons for, and the risks and likely benefits of, transfer and document this in the medical record. The competence of the patient to agree or refuse to be transferred should be assessed prior to obtaining consent. If the patient is incompetent to make this decision, a person legally responsible for the patient should accept or refuse the transfer on behalf of the patient.
- The hospital and medical staff should identify individuals responsible for transfer decisions and clearly delineate their duties regarding the patient transfer process.
- The patient should be transferred to a facility appropriate to the medical needs of the patient, with adequate space and personnel available.
- A physician or other responsible person at the receiving hospital must agree to accept the patient prior to the transfer.
- The patient transfer should not be refused by the receiving hospital when the transfer is medically indicated and the receiving hospital has the capability and/or responsibility to provide care for the patient. Economic reasons should not be the basis for transferring or refusing to accept a medically unstable patient.
- Communication to exchange clinical information between responsible persons at the transferring and receiving hospitals must occur prior to transfer.
- An appropriate medical summary and other pertinent records should accompany the patient to the receiving institution.
- The patient should be transferred in a vehicle that is staffed by qualified personnel and contains appropriate equipment.
- When transfer of patients is part of a regional plan to provide optimal care for patients at specialized medical facilities, written transfer protocols and interfacility agreements should be in place.

Used with permission from the American College of Emergency Physicians *Appropriate Interhospital Patient Transfer* statement, February 2002.

APPENDIX E

Out-of-Hospital Transfer Form

Patient's Name _____ M.R. # _____ Date: _____

PHYSICIAN'S RESPONSIBILITY

Reason for Transfer: _____

Stable for Transfer: YES NO if no explain and complete Physician certification below. _____

Level of Consciousness or Glasgow Coma Scale: _____

Type of personnel & equipment to be utilized for transfer: _____

Written physician order present on ED Clinical Worksheet: YES NO

Diagnosis present on ED Clinical Worksheet: YES NO

Name of receiving facility: _____

Name of person accepting transfer: _____

Date/Time of Consent to accept patient: _____

Copy of record to be sent with patient: _____

SEND	ENCLOSED	SEND	ENCLOSED
___ Laboratory Results	_____	___ API Application for Exam	___
___ X-Rays	_____	___ Patient Consent for Transfer	___
___ ED Clinical Worksheet	_____	___ Other _____	___

*** _____ In my medical opinion, this patient has no emergency medical condition or has been stabilized, and transfer at this time is appropriate.

OR

(Physician's Name) _____ Date _____ Time _____

*** _____ If an emergency medical condition (including a pregnant patient with contractions) exists, responsible physician must sign the following certification for transfer:

I have explained to the patient (or his or her legal representative) all of the expected medical benefits to be gained by the transfer, the medical risks posed by the transfer and why I believe the expected medical benefits of transfer outweigh risks posed by transferring this patient.

_____ Patient or legal representative concurs and requests transfer.

_____ Patient does not concur, but it is my medical judgment that the expected medical benefits associated with transfer outweigh the medical risks posed by transfer.

(Physician's Name) _____ Date _____ Time _____

NURSE'S RESPONSIBILITY

Vital Signs (BP, P, R, T) documented on ED Clinical Worksheet: YES NO

Copies of record checked off above are sent with patient (enclosed): YES NO

Type of personnel and equipment utilized for transport: _____

Report of patient's condition called to receiving facility and documented: YES NO

Name of person receiving report: _____

Nurse's Signature

APPENDIX F

The Emergency Medical Treatment and Active Labor Act (EMTALA) was passed by Congress in 1986. The Statute defined the roles of Medicare participating Hospitals in stabilizing and transferring patients with emergency medical conditions. The legislation is significant because it brings legal terms and responsibilities to an arena that had previously been primarily clinical. It is beyond the scope of this document to fully describe the EMTALA regulations and their implications to health care providers and hospitals. There are two references in the bibliography that can serve as excellent resources. The following discussion provides information about EMTALA as it relates to performing a legal transfer.

According to EMTALA rules, there are only two reasons a patient with an emergent condition may be transferred. One is if the transferring facility does not have the capability to stabilize the patient and the benefits of transfer to a higher level of care outweigh the risks of such a transfer. The second is if the patient requests a transfer.

If a transfer is to occur for any of the reasons listed above, there are four requirements that must be met for the transfer to be performed legally.

- *Requirement #1-* The transferring hospital provides medical treatment within its capacity that minimizes the risks to the individual's health and in the case of a woman in labor, the health of the unborn child.
- *Requirement #2-* The receiving facility (a) has available space and qualified personnel for the treatment of the individual; and (b) has agreed to accept transfer of the individual and to provide appropriate medical treatment.
- *Requirement #3-* The transferring hospital sends to the receiving facility all medical records related to the emergency condition which the individual has presented that are available at the time of the transfer, including available history, records related to the individual's emergency medical condition, observations of signs or symptoms, preliminary diagnosis, results of diagnostic studies or telephone reports of the studies, treatment provided, results of any tests and the informed written consent or certification as required by EMTALA regulation. In addition the name and address of any on-call physician who has refused or failed to appear within a reasonable time to provide necessary stabilizing treatment must be provided to the receiving facility. Other records (e.g. test results not available at time of transfer) must be sent as soon as practicable after transfer.
- *Requirement #4-* The transfer is effected through qualified personnel and transportation equipment, as required, including the use of necessary and medically appropriate life support measures during the transfer.

Failure to follow these regulations may result not only in a possible bad outcome of the transferred patient but also in monetary fines to the clinical providers and hospitals involved in the transfer.

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