

Pediatric Consultation and Transfer Guidelines

Introduction

Hospitals that are designated trauma centers must have transfer guidelines in place as part of the designation process. In response to the many requests for a template or guideline, the Pediatric Technical Advisory Committee for the State of Washington put together a compilation of guidelines that hospitals may utilize as their own transfer guidelines.

The transfer guidelines were developed in accordance with published standards (internet and print) across the nation at other trauma centers, a publication from the AAP (American Academy of Pediatrics) as well as published NHTSA (National Highway and Transportation Safety Administration) standards in regards to mode of transport. The transfer guidelines are meant to be inclusive of pediatric critical illness as well as pediatric trauma.

The following guidelines are not part of WAC (Washington Administrative Code) and are merely a template that facilities may adopt in order to fulfill requirements for trauma designation or simply to facilitate development of appropriate pediatric inter-facility transfer guidelines.

The Department of Health does not mandate Washington State Designated Trauma Services to use these guidelines, but offers them to assist Trauma Services in the development of their own guidelines. The Department recognizes the varying resources of different services and that approaches that work for one trauma service may not be suitable for others. The decision to use these guidelines in any particular situation always depends on the independent medical judgment of the physician.

Pediatric Consultation and Transfer Guidelines
for Trauma and Critical Illness

The transfer of pediatric patients with traumatic injuries as well as non-traumatic illness is addressed in the following document. The State of Washington has adopted three levels of pediatric trauma care in order to enhance the care of injured children across the State. The acutely injured child who does not require critical care management can be cared for in a level 3 Pediatric Trauma Center. It is only the critically injured child and/or a child whose level of care exceeds the local area capability that should be transferred to a level 2 or level 1 Pediatric Trauma Center. It is accepted that some level 3 Pediatric Trauma patients may be admitted to an ICU for close observation; but if the patient begins to require ICU management, then per Washington Administrative Code guidelines the patient should be transferred to an appropriate Level One or Level Two Trauma Center.

In addition, pediatric patients with a non-traumatic illness can also be cared for in regional facilities. However, patients should be transferred to a higher level of care when their medical and/or nursing care exceeds what is available in their community.

The following contains guidelines of when to transfer the critically injured and/or ill pediatric patient. The guidelines serve as a resource for hospitals in the State of Washington. The Washington Administrative Code for trauma recognizes a pediatric patient as one aged 14 years and under. It is noted that many pediatric patients in their early teens may be the size of a small adult which may prompt physicians and surgeons to keep them in their local facility. Caution is advised with this practice, as these patients still have emotional and physical needs akin to all children such as child life services as well as nurses and ancillary staff, trained to care for the pediatric patient.

Pediatric Trauma Transfer Guidelines

Physiologic Criteria:

1. Depressed or deteriorating neurologic status
2. Respiratory distress or failure
3. Children requiring endotracheal intubation and/or ventilatory support
4. Shock, uncompensated or compensated
5. Injuries requiring any blood transfusion
6. Children requiring any one of the following:
 - a. Invasive monitoring (arterial and/or central venous pressure)
 - b. Intracranial pressure monitoring
 - c. Vasoactive medications

Anatomic Criteria:

1. Fractures and deep penetrating wounds to an extremity complicated by neurovascular or compartment injury
2. Fracture of two or more major long bones (such as femur, humerus)
3. Fracture of the axial skeleton
4. Spinal cord or column injuries
5. Traumatic amputation of an extremity with potential for replantation
6. Head injury when accompanied by any of the following:
 - a. Cerebrospinal fluid leaks
 - b. Open head injuries (excluding simple scalp injuries)
 - c. Depressed skull fractures
 - d. Decreased level of consciousness
 - e. Intracranial hemorrhage
7. Significant penetrating wounds to the head, neck, thorax, abdomen or pelvis
8. Pelvic fracture
9. Significant blunt injury to the chest or abdomen

Pediatric patient with burn injuries should be transferred to a Burn Center per the following burn criteria:

American Burn Association Transfer Criteria:

1. Second degree burns (partial thickness) of greater than 10% of the body surface area (BSA)
2. Third degree burns (full thickness) in any age group
3. Burns involving:
 - a. Signs or symptoms of inhalation injury
 - b. Respiratory distress
 - c. The face
 - d. The ears (serious full thickness burns or burns involving the ear canal or drums)
 - e. The mouth and throat
 - f. Deep or excessive burns of the hands, feet, genitalia, major joints, or perineum
4. Electrical injury or burn (including lightening)
5. Burns associated with trauma or complicating medical conditions
6. Chemical burns
7. Burn injury in patients who will require special social, emotional, or rehabilitative intervention

Other criteria for transfer:

1. Children requiring pediatric intensive care other than for close observation
2. Any child who may benefit from consultation with, or transfer to, a Pediatric Trauma Center or a Pediatric Intensive Care Unit.

Pediatric Non-Trauma Transfer Guidelines

Physiologic Criteria

1. Depressed or deteriorating neurologic status.
2. Severe respiratory distress and/or respiratory failure
3. Children requiring endotracheal intubation and/or ventilatory support.
4. Serious cardiac rhythm disturbances.
5. Status post cardiopulmonary arrest.
6. Heart failure.
7. Shock responding inadequately to treatment.
8. Children requiring any one of the following:
 - A. Arterial pressure monitoring.
 - B. Central venous pressure or pulmonary artery monitoring.
 - C. Intracranial pressure monitoring.
 - D. Vasoactive medications.
 - E. Treatment for severe hypothermia or hyperthermia
 - F. Treatment for hepatic failure.
 - G. Treatment for renal failure, acute or chronic requiring immediate dialysis.

Other Criteria

1. Near drowning with any history of loss of consciousness, unstable vital signs or respiratory problems.
2. Status epilepticus.
3. Potentially dangerous envenomation.
4. Potentially life threatening ingestion of, or exposure to, a toxic substance.
5. Severe electrolyte imbalances.
6. Severe metabolic disturbances.
7. Severe dehydration.
8. Potentially life-threatening infections, including sepsis.
9. Children requiring intensive care other than for close observation.
10. Any child who may benefit from consultation with, or transfer to, a Pediatric Intensive Care Unit.

Guidelines for Interfacility Transport: Transport Team and Method of Transport

Decision: The decision to transfer a patient is based on the previously listed anatomic and/or physiologic criteria in which the care of the patient is above and beyond the ability of the referring institution. Referring institutions need to have established policies and procedures in regards to the process of initiating the transfer (i.e. who talks to whom), gathering the required paperwork, as well as the process of informing the family and giving them maps to the receiving institution. The list of hospitals at the end of this document indicates the phone number(s) they want the referring institution to use to contact them for pediatric transfers (as of early 2008).

Method: The method of interfacility transport is dependant on many variables. The state of Washington holds many geographic as well as weather challenges which will influence the referring provider's decision on moving a patient from one facility to the next. Transport by private vehicle is not encouraged with sick and/or injured children. Two areas to address in this determination of transport team as well as method of transport are patient related factors and general transport issues. WAC guidelines (388-546-0001) define a "specialty care transport" as an interfacility transport of a critically injured or ill client by a ground ambulance vehicle....at a level of service beyond the scope of a paramedic. For the purposes of this document, a pediatric transport team is considered a specialty care transport team.

Equipment: Choosing the type of transport team (i.e. BLS, ALS, and/or specialty team) can be challenging given our state's rural nature as well as geographic obstacles. The following gives a synopsis of what type of patient can/should be transferred according to their level of care. At all times, the referring institution should be knowledgeable about the transport mode's pediatric capabilities, especially in regards to pediatric equipment on-board. If they do not have a specific item on-board (example: pediatric nebulizer) then the referring institution must ensure the patient leaves their facility with the needed piece of equipment.

Communication:

1. Both the referral (sending) and receiving (accepting) institution should have policies regarding hospital-to-hospital communication in regards to:
 - Work-up required or not required prior to transport (i.e. CT scan),
 - Helping the referral institution determine mode/method of transport (i.e. air vs ground) and
 - Patient stabilization requirements for transport.
 - Communication back to the receiving institution in regards to:
 - Patient arrival at the receiving institution with updated patient health status
 - Overall patient outcome
 - The ability to discuss any patient care specifics enabling both facilities to optimize patient care for future transfers.
2. Back-transfer to the referring institution also needs to be discussed for those patients requiring long-term or chronic care post injury/illness. Back-transfer is encouraged if the referring institution has the ability to care for the pediatric patient in the inpatient setting.

Guidelines for transport, cont.

Transport Team Configuration: Patient factors

The referring facility needs to determine the risk for deterioration of the pediatric patient in order to determine the crew composition and ultimately, the method of transport. According to the National Highway Traffic Safety Administration (NHTSA) guidelines from April 2006, the following categories for risk are utilized. The desired team configuration is based on the NHTSA guidelines and adapted for pediatrics:

Stable with no risk for deterioration — Basic Life Support (BLS)

Oxygen, monitoring of vital signs, saline lock: Requires basic emergency medical care such as basic life support services.

Stable with low risk of deterioration —Intermediate Life Support (ILS, if available) or Advanced Life Support (ALS)

Running IV, some IV medications including pain medications, pulse oximetry, increased need for assessment and interpretation skills: Requires advanced care such as an advanced life support service or a service which is IV qualified

Stable with medium risk of deterioration — ALS with consideration of use of Pediatric Transport Team

3-lead EKG monitoring, basic cardiac medications, e.g., heparin or nitroglycerine: Requires advanced care such as an advanced life support service, a specialty pediatric transport team should be given consideration based on the patient's underlying medical condition and reason for transfer.

Stable with high risk of deterioration – ALS with use of Pediatric Transport Team highly encouraged

Patients requiring advanced airway but secured, intubated, on ventilator, patients on multiple vasoactive medication drips, patients whose condition has been initially stabilized, but has likelihood of deterioration, based on assessment or knowledge of provider regarding specific illness/injury: Requires advanced care such as an advanced life support service; use of a specialty pediatric transport team is encouraged.

Unstable — ALS with use of Pediatric Transport Team highly encouraged.

Any patient who cannot be stabilized at the transferring facility, who is deteriorating or likely to deteriorate, such as patients who require invasive monitoring, balloon pump, who are post-resuscitation, or who have sustained multiple trauma: Requires advanced care such as an advanced life support service; use of a specialty pediatric transport team is encouraged.

Guidelines for transport, cont.

The method of transport

The method of transport is dependant on the variables listed below. Air transport, either by fixed wing (airplane) or rotary wing (helicopter) is typically utilized when speed is critical, long distances are involved, and/or a specialty team is required for patient care. However, there are circumstances where taking an ALS unit off an island, for example, renders the rest of the island without an advanced life support unit for a prolonged period of time. Therefore, in this situation, use of a rotary wing service may be required so as not to endanger the rest of the island community.

The following guidelines will help the provider to determine which type of transport method to utilize when transferring a critically ill or injured child. This can also be divided into categories when assessing the method of transfer (ground vs air) as well as crew composition. (Per NHTSA April 2006 guidelines)

1. The availability of critical care and/or specialty care transport teams within a reasonable proximity.
2. The modes of transportation and/or transport personnel available as options in the particular geographic area.
3. Specific circumstances associated with the particular transport situation (e.g. inclement weather, major media event, etc.)
4. Anticipated response time of the most appropriate team and/or personnel.
5. Established state, local, and individual transfer service standards and/or requirements.
6. Combined level of expertise and specific duties/responsibilities of the individual transporting team members.
7. Degree of supervision required by and available to the transporting team members.
8. Complexity of the patient's condition.
9. Anticipated degree of progression of the patient's illness/injury prior to and during transport.
10. Technology and/or special equipment to be used during transport.
11. Scope-of-practice of the various team members.

**STATE OF WASHINGTON
DESIGNATED PEDIATRIC TRAUMA CENTERS
and
PEDIATRIC CRITICAL CARE CENTERS**

DESIGNATED LEVEL ONE PEDIATRIC TRAUMA AND BURN CENTER	
<p>Harborview Medical Center Seattle, Washington 1-888-744-4791 [transfer center]</p>	
DESIGNATED LEVEL TWO PEDIATRIC TRAUMA (AND CRITICAL CARE) CENTERS	
<p>Mary Bridge Children’s Hospital Tacoma, Washington (253) 403-1400 [Emergency Dept]</p>	<p>Sacred Heart Children’s Hospital Spokane, Washington (509) 474-5690 [Peds ED]</p>
DESIGNATED LEVEL THREE PEDIATRIC TRAUMA CENTERS	
<p>Central Washington Hospital Wenatchee, Washington (509) 662-1511</p>	<p>St. Mary Medical Center Walla Walla, Washington (509) 525-3320</p>
<p>Providence Everett Medical Center (Colby) Everett, Washington (425) 261-2000</p>	<p>Yakima Valley Trauma Service Yakima, Washington Yakima Regional Medical Center (509) 575-5000 Yakima Valley Memorial Hospital (509) 575-8000</p>
<p>St. Joseph Regional Medical Center Lewiston, Idaho (208) 743-2511</p>	
TERTIARY PEDIATRIC CRITICAL CARE UNIT (NON-TRAUMA)	PEDIATRIC CRITICAL CARE UNIT (NON-TRAUMA)
<p>Children’s Hospital and Regional Medical Center Seattle, WA (206) 987-8899 [Com-Center]</p>	<p>Swedish Medical Center Seattle, WA (206) 405-7500 (Pediatric Hospitalist on-call pager) (206) 386-6000 (Hospital operator)</p>
OREGON LEVEL ONE PEDIATRIC TRAUMA CENTERS (PLUS CRITICAL CARE	
<p>Oregon Health & Science University Portland, OR Priority number to Trauma Communications 503-494-7333 Non-emergent, transfer or ED: 503-494-7551</p>	<p>Legacy Emanuel Hospital & Health Center Portland, OR One Call Center 1-800-500-9111</p>

Template for an Interfacility Transfer Check-list

Items to send with patient and transfer crew:

- (2) Face Sheet (name, address, etc)
- EMS Run Sheet (if available)
- Copies of lab work
- Copies of x-rays, ultrasounds, CT scan, etc (Forward electronically via VPN network if possible, Digital if available; or copies of images)
- Copy of ECG (if applicable)
- Radiologist report (if available)
- Copy of medication administration record
- Intake and output record for past 24 hrs (if applicable) or ED amounts
- (2) Copies of past 24 hrs of vital signs or ED record
- Copy of signed transport/transfer consent
- Discharge Dictation (if applicable)

Name of pt: _____ age: _____

Diagnosis: _____

Transfer to: _____

Accepting Physician: _____

Transferring Physician: _____

Transferring Hospital: _____

<u>Transfer Level of care:</u>	<u>Method of transfer:</u>
<input type="checkbox"/> Basic Life Support	<input type="checkbox"/> Ground BLS ambulance
<input type="checkbox"/> Advanced Life Support	<input type="checkbox"/> Medic or ALS unit
<input type="checkbox"/> Pediatric Transport Team	<input type="checkbox"/> Rotary Wing (helicopter) Name of Service: _____
	<input type="checkbox"/> Fixed Wing (airplane) Name of Service: _____

- Family given written directions to facility
- Family given phone number of receiving unit or receiving Emergency Dept
- Family given patient belongings
- Family contact phone number: _____

References:

Air and Ground Transport of Neonatal and Pediatric Patients, 3rd edition. GA Woodward, Ed in Chief. American Academy of Pediatrics, 2007.

American Burn Association; <http://www.ameriburn.org>

Guide for Interfacility Patient Transfer, National Highway and Traffic Safety Administration; April 2006.

Interfacility Pediatric Trauma and Critical Care Consultation and/or Transfer Guidelines. Developed by the Pediatric Interfacility Consultation and/or Transfer Guidelines Subcommittee; California EMS Authority, 1994.

Interfacility Pediatric Trauma and Critical Care Consultation and/or Transfer Guidelines. Illinois Emergency Medical Services for Children. January 2006.

Interhospital Transfer Guidelines Manual Developed by the Maryland Institute for Emergency Medical Services Systems. January 1986, April 1994, January 2002