

MONTANA PEDIATRIC INTERFACILITY CONSULTATION/TRANSFER GUIDELINES

Certain types of severely ill or injured children may require specialized pediatric critical care services or specialized trauma services that are not generally available in local hospitals. Pediatric is defined as any patient 18 years or younger.

Decisions on when to seek consultation or to transfer pediatric patients need to be individualized, based on local needs and resources. However, children with certain categories of critical illness and injury are at high risk of death and disability. Early consultation with appropriate pediatric critical care or trauma specialists and rapid transport to specialized referral centers, when indicated, can improve the outcomes for these children. In particular, consultation should be sought for pediatric medical, surgical, and trauma patients who require intensive care when it is not locally available.

The attached guidelines can be used by medical providers and hospitals to identify the types of critically ill or injured children who might benefit from consultation with critical care or trauma specialists or transfer to specialized referral centers. It is recommended that hospitals and their medical staffs develop appropriate policies, procedures and staff education programs based on these guidelines. This will help to promote consultation, minimize delays, and facilitate appropriate, rapid and efficient transport of critically ill and injured children to specialty centers, when indicated.

The following guidelines are intended to assist medical providers and hospitals to identify the types of critically ill and injured children who might benefit from consultation with pediatric critical care specialists or trauma specialists and transfer to specialized pediatric critical care or trauma centers, when indicated. If an interfacility transport is required, the referring physician, in consultation with the receiving physician, should determine the method of transport and appropriate personnel to accompany the child.

Consultation with pediatric medical and surgical specialists at a pediatric tertiary care center or trauma specialists at a trauma center should occur as soon as possible after evaluation of the patient. It is recommended that each hospital and its medical staff develop appropriate emergency department and inpatient guidelines, policies, and procedures for obtaining consultation and arranging transport, when indicated, for the following types of pediatric medical and trauma patients.

I. PEDIATRIC NON-TRAUMA TRANSFER GUIDELINES

A. PHYSIOLOGIC CRITERIA

1. Depressed or deteriorating neurologic status.
2. Severe respiratory distress responding inadequately to treatment and accompanied by any one of the following:
 - a. Cyanosis.
 - b. Retractions (moderate to severe).
 - c. Apnea.
 - d. Stridor (moderate to severe).
 - e. Grunting or gasping respirations.
 - f. Status asthmaticus
 - g. 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.
9. Severe hypothermia or hyperthermia
10. Hepatic failure.
11. Renal failure, acute or chronic requiring immediate dialysis.

B. 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.
10. Any child who may benefit from consultation with, or transfer to, a Pediatric Critical Care Center.

II. PEDIATRIC TRAUMA TRANSFER GUIDELINES

A. PHYSIOLOGIC CRITERIA

1. Depressed or deteriorating neurologic status.
2. Respiratory distress or failure.
3. Children requiring endotracheal intubation and/or ventilatory support.
4. Shock, compensated or uncompensated.
5. Injuries requiring any blood transfusion.
6. 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.

B. ANATOMIC CRITERIA

1. Fractures or deep penetrating wounds to an extremity complicated by neurovascular or compartment injury.
2. Fracture of two or more major long bones (ie 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.
7. Significant penetrating wounds (gunshot, stabbing, etc.) to the head, neck, thorax, abdomen or pelvis.
8. Major pelvic fractures, pelvic instability.
9. Significant blunt injury to the chest or abdomen.

C. OTHER CRITERIA

1. Children requiring intensive care.
2. Any child who may benefit from consultation with, or transfer to, a Trauma Center or a Pediatric Critical Care Center.

D. BURN CRITERIA (THERMAL OR CHEMICAL) - Contact should be made with a Burn Center for children who meet any one of the following criteria:

1. Partial thickness burns of greater than 10% total body surface area (TBSA).
2. Third degree burns 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. The hands, feet, genitalia, major joints or perineum.
4. Electrical burns (including lightning injury).
 5. Chemical burns.
 6. Burns associated with trauma or complicating medical conditions.
 7. Burned children in hospitals without qualified personnel or equipment for the care of children.
 8. Burn injury in children who will require special social, emotional, or long term rehabilitative intervention.

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 regard 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. In patients to whom these guidelines apply, early contact with a receiving facility will allow for appropriate diagnostic services in the transferring ED and expedite timely transfer to definitive care.

METHOD: The method of interfacility transport is dependent on many variables. The state of Montana 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.

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 regard 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);
 - Patient stabilization requirements for transport; and
 - Communication back to the receiving institution in regards to:
 - Patient arrival at the receiving institution with updated patient health status;
 - Overall patient outcome; and
 - 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.

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) Guide for Interfacility Patient Transfer, 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 Qualified 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.

THE METHOD OF TRANSPORT

The method of transport is dependent 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.

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. Clinical capabilities and experience of the various team members.

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)

Transfer should never be delayed while waiting for printed results of diagnostics (lab/x-ray/CT). These can be faxed to the receiving facility.

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:

Pediatric Consultation and Transfer Guidelines, 4/23/08. Washington State Department of Health, Office of Community Health Systems

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