Pediatric Consultation and Transfer Guidelines

Introduction

Hospitals that are designated trauma centers must have transfer guidelines in place as part of the designation process. This is 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 Pediatric) as well as published 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 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.

Pediatric Trauma Transfer Guidelines

Physiologic Criteria:

1. Depressed or deteriorating neurologic status.
2. Respiratory distress or failure.
3. Children requiring endotracheal intubation and/or ventilator 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 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.

Recommendations:

1. Immediately contact Pediatric Trauma Center for consultation with Pediatric Trauma Surgeon.
2. Immediately request activation of Pediatric Flight Team for patient transport.

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 Inter facility 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.

Method: The method of inter facility transport is dependent on many variables. The state of South Dakota 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. For the purposes of this document, a pediatric transport team is considered a specialty care transport team (i.e. Pediatric Flight 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 transport mode does not have the required equipment or care capabilities upgrade your method of transport to a mode that does have the appropriate equipment and capabilities.

Communication:

1. Both the referring (sending) and the receiving (accepting) institution should have policies regarding hospital-to-hospital communication in regards to:
    a. Work-up required or not required prior to transport (i.e. CT scan).
    b. Helping the referral institution determine mode/method of transport (i.e. air vs. ground).
    c. Patient stabilization requirements for transport.
    d. Communication back to the receiving institution in regards to:
        i. Patient arrival at the receiving institution with updated patient health status.
        ii. Overall patient outcome.
        iii. 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) 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 device or a service which is IV qualified.

Stable with medium risk of deterioration – Advance Life Support (ALS) with consideration of us of Pediatric Specialty 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 specialty transport team should be given consideration based on the patient's underlying medical condition and reason for transfer.

Stable with high risk of deterioration – Advanced Life Support (ALS) with use of Pediatric Specialty Transport Team is 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 specialty transport team is encouraged.

Unstable – Pediatric Specialty Transport Team (ALS if team not available)
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 a pediatric specialty transport team or advanced life support service.

Recommendations

1. Use of the pediatric specialty transport team is always highly encouraged with all ill/injured children requiring transport to an accepting facility.
2. Early/Timely activation of the pediatric specialty transport team is necessary to expedite the transfer process.
3. If multiple family members involved transport all family members to same facility if possible.

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. However, there are circumstances where taking an ALS unit out of a small town, for example, renders the rest of the town without an advanced life support unit for a prolonged period of time. Therefore, in this situation, use of a fixed/rotary wing service may be required so as not to endanger the rest of the town.

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 injury/illness 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 South Dakota
Designated Pediatric Trauma Centers

ACS Verified Level II Adult & ACS Verified Level II Pediatric Trauma Center
Sanford USD Medical Center Sioux Falls, SD 1-800-952-2229

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 GE PACS if possible, Digital if available; or copies of images)
- ☐ Copy of EKG (if available)
- ☐ 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 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: _____

Transfer Level of Care:	Method of Transfer:
☐ Basic Life Support ☐ Advanced Life Support ☐ Pediatric Transport Team	☐ Ground BLS Ambulance ☐ Medic or ALS Unit ☐ Rotary Wing (helicopter) Name of Service: ☐ Fixed Wing (airplane) Name of Service:

- ☐ Family given written directions to facility
- ☐ Family given phone number of receiving unit or receiving Emergency Department
- ☐ 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.

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