

3.08 PEDIATRIC INTERFACILITY TRANSPORT

Introduction

Acute care pediatric services continue to be centralized, causing pediatric inter-facility transport programs to progress and evolve. Evidence has shown that specialty transport teams capable of delivering state of the art care improve patient outcomes. This has resulted in a paradigm shift in pediatric transport programs to emphasize delivery of definitive care both at the referring facility and throughout transport. Over the past years the number of institutionally sponsored hospital based pediatric specialty transport programs has increased in response to this need. Pediatric hospitalists may serve as the referring or accepting physician, transport physician, or medical control physician (transport coordinator) for these patients. Through each of these roles pediatric hospitalists fulfill an essential function in ensuring the safe and timely transport of ill children.

Knowledge

Pediatric hospitalists should be able to:

- Compare and contrast advantages and disadvantages between transport modalities including non-medical, Basic Life Support (BLS), Advanced Life Support (ALS), Critical Care Team (CCT), and specialized Neonatal/Pediatric Critical Care Transport service.
- Describe features of the medical history and physical examination that necessitate emergent or urgent patient transfer.
- Cite common transport team members and discuss the proficiency and expertise required to safely provide effective triage and stabilization for differing pediatric diseases and conditions, attending to the roles of physician, nurse, respiratory therapist, and others.
- Review the role of pediatric hospitalists serving as the referring and/or accepting physician, attending to communications with and documentation for the referring physician, accepting site, local healthcare team, and the family/caregivers.
- Discuss how pediatric hospitalists may serve as the physician on transport, attending to local context and scope of practice.
- Summarize the role of the Medical Control Officer and review the responsibilities related to triage, team management, and maintaining ongoing consistent care through assistance with treatment decisions and planning from referring to accepting sites.
- Explain how the selection of transport modality and team composition are influenced by the patient's clinical status as well as environmental and logistical factors.
- Describe the benefits of various monitoring techniques commonly used on transport, including oximetry, capnography, venous and arterial pressure, electrocardiography (ECG), and others.
- Discuss the indications, benefits, and risks of various interventions commonly utilized during transport such as high flow oxygen delivery, non-invasive positive pressure ventilation systems, artificial airways, medications, and others.
- Describe the importance of collaboration between hospi-

talists, subspecialists, and intensivists in stabilization and management during transport and upon arrival to the destination facility.

- Describe the knowledge base and skill set of non-physician transport team members.
- Discuss the use of standardized protocols and procedures on transport, including how they are used by non-physician team members and the process for implementation and oversight.
- Review how technologies such as telemedicine or other devices can aid in communication, patient assessment, and care delivery.

Skills

Pediatric hospitalists should be able to:

- Efficiently obtain and communicate critical clinical information, placing emphasis on cardiac, pulmonary, and neurologic disease that could impact the transport process.
- Formulate accurate rapid assessments and provide recommendations regarding laboratory studies and imaging, as well as therapeutic interventions that are evidence based and in accordance with Pediatric Advanced Life Support/Neonatal Resuscitation Program guidelines.
- Select modality of transport and team composition based on patient acuity and potential for deterioration, in the context of local logistical and environmental factors, such as time of day, traffic, and weather conditions.
- Effectively communicate with the transport team members to anticipate possible complications during the transport and create action plans prior to transport.
- Provide ongoing recommendations for management throughout the transport process to ensure optimal patient outcomes and safety.
- Identify patients whose illness severity is outside of hospital medicine's scope of practice and adjust transport plan appropriately, according to local context.
- Consult intensivists and subspecialists effectively and efficiently during the pre-transport, transport, and/or post-transport process as clinically indicated, whether serving as referring or accepting physician, transport physician, or Medical Control Officer.
- Ensure effective and efficient communication at each transition of care.
- Coordinate care between facilities that is timely yet also reduces unnecessary testing and/or radiation exposure through engagement of pediatric subspecialists and diagnostic testing equipment.
- Demonstrate skills in effective, efficient, and respectful phone communications.
- Identify patient-specific monitoring and immediate care needs, and secure best patient placement from the referring emergency department, such as to a pediatric emergency department, operating room, ward, or critical care unit within local context.
- Perform effective verbal handoffs and transfer of relevant written or electronically accessible patient information.

- Communicate effectively with patients and the family/caregivers regarding the transport process, adhering to the principles of patient and family centered care.

Attitudes

Pediatric hospitalists should be able to:

- Exemplify professionalism when responding to all calls and requests for transport.
- Realize the importance of educating and mentoring trainees and other healthcare providers regarding aspects of transport including clinical decision-making, risk management, customer service, and operational issues.
- Realize the importance of establishing and maintaining collegial relationships with referral sources and transport team members.
- Reflect on the importance of maintaining ongoing care for the child throughout the transport process.
- Recognize the added stress and fear felt by the family/caregivers when a child is being transported, including the fear of separation.

Systems Organization and Improvement

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Work with hospital administration, transport team members and transport program leadership to promote financially sound growth and development of pediatric transport ser-

vices and corresponding policies, including those governing maintenance of competency and scope of practice.

- Lead, coordinate, or participate in ongoing educational and training opportunities to maintain the skill set of transport team members and medical control physicians.
- Lead, coordinate, or participate in the development and implementation of cost-effective, safe, evidence-based care pathways or protocols to standardize the management of common diagnoses for children transported between facilities.
- Lead, coordinate, or participate in multidisciplinary group forums of stakeholders involved in pediatric transport, to establish and/or track transport-specific benchmarks, ensure quality of care, and improve system-wide processes.
- Lead, coordinate, or participate in review of transport cases to promote improvement opportunities, identification of systems issues, and education.

References

1. Fine BR, Manning K. Transport. In: Gershel JC, Rauch DA, eds. *Caring for the Hospitalized Child*, 2nd ed. Elk Grove Village, IL: American Academy of Pediatrics, 2018:389-393.
2. Rosenthal JL, Okumura MJ, Hernandez L, Li ST, Rehm RS. Interfacility transfers to general pediatric floors: A qualitative study exploring the role of communication. *Acad Pediatr*. 2016;16(7):692-699. <https://doi.org/10.1016/j.acap.2016.04.003>.
3. Insoft RM, Schwartz HP. *Guidelines for Air and Ground Transport of Neonatal and Pediatric Patients*, 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015.