Guidelines for Care of Children in the Emergency Department

This checklist is based on the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association 2009 joint policy statement "Guidelines for Care of Children in the Emergency Department," which can be found online at http://aappolicy.aappublications.org/cgi/reprint/pediatrics;124/4/1233.pdf. Use the checklist to determine if your emergency department (ED) is prepared to care for children.

Appointed Pediatric Physician and Nurse Coordinator

- ○ Pediatric physician coordinator is a specialist in pediatrics, emergency medicine, or family medicine, appointed by the ED medical director, who through training, clinical experience, or focused continuing medical education demonstrates competence in the care of children in emergency settings including resuscitation. See policy statement for details.
- ○ Pediatric Nurse coordinator is a registered nurse (RN), appointed by the ED nursing director, who possesses special interest, knowledge, and skill in the emergency medical care of children. See policy statement for details.

Physicians, Nurses and Other Healthcare Providers Who Staff the ED

- ○ Physicians who staff the ED have the necessary skill, knowledge, and training in the emergency evaluation and treatment of children of all ages who may be brought to the ED, consistent with the services provided by the hospital.
- ○ Nurses and other ED health care providers have the necessary skill, knowledge, and training in providing emergency care to children of all ages who may be brought to the ED, consistent with the services offered by the hospital.
- ○ Baseline and periodic competency evaluations completed for all ED clinical staff, including physicians, are age specific and include evaluation of skills related to neonates, infants, children, adolescents, and children with special health care needs. Competencies are determined by each institution's medical staff privileges policy.

Guidelines for QI/PI in the ED

The pediatric patient care-review process is integrated into the ED QI/PI plan.

- ○ Components of the process interface with out-of-hospital, ED, trauma, inpatient pediatric, pediatric critical care, and hospital-wide QI or PI activities.

Guidelines for QI/PI in the ED, Continued

Clinical and Professional Competency

Below are the potential areas for the development of pediatric competency and professional evaluations.

- ○ Triage
- ○ Illness and injury assessment and management
- ○ Pain assessment and treatment, including sedation and analgesia
- ○ Airway management
- ○ Vascular access
- ○ Critical care monitoring
- ○ Neonatal and pediatric resuscitation
- ○ Trauma care
- ○ Burn care
- ○ Mass-casualty events
- ○ Patient- and family-centered care
- ○ Medication delivery and equipment safety
- ○ Training and communication

- ○ Mechanisms are in place to monitor professional performance, credentials, continuing education, and clinical competencies.

Guidelines for Improving Pediatric Patient Safety

The delivery of pediatric care should reflect an awareness of unique pediatric patient safety concerns and are included in the following policies or practices.

- ○ Children are weighed in kilograms.
- ○ Weights are recorded in a prominent place on the medical record.
- ○ For children who are not weighed, a standard method for estimating weight in kilograms is used (e.g., a length-based system).
- ○ Infants and children have a full set vital signs recorded (temperature, heart rate, respiratory rate) in the medical record.
- ○ Blood pressure and pulse oximetry monitoring are available for children of all ages on the basis of illness and injury severity.

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- A process for identifying age-specific abnormal vital signs and notifying the physician of these is present.
- Processes in place for safe medication storage, prescribing, and delivery that includes precalculated dosing guidelines for children of all ages.
- Infection-control practices, including hand hygiene and use of personal protective equipment, are implemented and monitored.
- Pediatric emergency services are culturally and linguistically appropriate
- ED environment is safe for children and supports patient- and family-centered care.
- Patient-identification policies meet Joint Commission standards
- Policies for the timely reporting and evaluation of patient safety events, medical errors, and unanticipated outcomes are implemented and monitored.

Guidelines for ED Policies, Procedures, and Protocol

Policies, procedures, and protocols for the emergency care of children should be developed and implemented in the areas listed below. These policies may be integrated into overall ED policies as long as pediatric specific issues are addressed.

- Illness and injury triage
- Pediatric patient assessment and reassessment
- Documentation of pediatric vital signs and actions to be taken for abnormal vital signs
- Immunization assessment and management of the under-immunized patient
- Sedation and analgesia for procedures, including medical imaging
- Consent including when parent or legal guardian is not immediately available
- Social and mental health issues
- Physical or chemical restraint of patients
- Child maltreatment and domestic violence reporting criteria, requirements, and processes.
- Death of the child in the ED
- Do not resuscitate (DNR) orders
- Families are involved in patient decision-making and medication safety processes
- Family presence during all aspects of emergency care
- Patient, family, and caregiver education
- Discharge planning and instruction
- Bereavement counseling
- Communication with the patient's medical home or primary care provider
- Medical imaging policies that address pediatric age- or weight-based appropriate dosing for studies that impart radiation consistent with ALARA (as low as reasonably achievable) principles.
- All-hazard disaster-preparedness plan that addresses the following pediatric issues:
  - Availability of medications, vaccines, equipment, and trained providers for children
  - Pediatric surge capacity for injured and non-injured children
  - Decontamination, isolation, and quarantine of families and children
  - Minimization of parent-child separation (includes pediatric patient tracking, and timely reunification of separated children with their family)
  - Access to specific medical and mental health therapies, and social services for children
  - Disaster drills which includes a pediatric mass casualty incident at least every 2 years
  - Care of children with special health care needs
  - Evacuation of pediatric units and pediatric subspecialty units.
- Interfacility transfer policy defining the roles and responsibilities of the referring facility and referral center.
- Transport plan for delivering children safely and in a timely manner to the appropriate facility that is capable of providing definitive care.
- Process for selecting the appropriate care facility for pediatric specialty services not available at the hospital (may include critical care, reimplantation or digits or limbs, trauma and burn care, psychiatric emergencies, obstetric and perinatal emergencies, child maltreatment, rehability for recovery from critical conditions).
- Process for selecting an appropriately staffed transport service to match the patient's needs
- Process for patient transfer (including obtaining informed consent)
- Plan for transfer of patient information (medical record, copy of signed transport consent), personal belongings, directions and referral institution information to family'
- Process for return transfer of the pediatric patient to the referring facility as appropriate.

Guidelines for ED Support Services

- Radiology capability must meet the needs of the children in the community served
- A process for referring children to appropriate facilities for radiological procedures that exceed the capability of the hospital is established.
- A process for timely review, interpretation, and reporting of medical imaging by a qualified radiologist is established.
- Laboratory capability must meet the needs of the children in the community served, including techniques for small sample sizes
- A process for referring children or their specimens to appropriate facilities for laboratory studies that exceed the capability of the hospital is established

Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED

- ❍ Pediatric equipment, supplies, and medications are appropriate for children of all ages and sizes, easily accessible, clearly labeled, and logically organized. See list below for the medication, equipment, and supplies.
- ❍ ED staff is educated on the location of all items.
- ❍ Daily method in place to verify the proper location and function of equipment and supplies.
- ❍ Medication chart, length-based tape, medical software, or other systems is readily available to ensure proper sizing of resuscitation equipment and proper dosing of medications.

Medications

- ❍ Atropine
- ❍ Adenosine
- ❍ Amiodarone
- ❍ Antiemetic agents
- ❍ Calcium chloride
- ❍ Dextrose (D10W, D50W)
- ❍ Epinephrine (1:1000; 1:10 000 solutions)
- ❍ Lidocaine
- ❍ Magnesium sulfate
- ❍ Naloxone hydrochloride
- ❍ Procainamide
- ❍ Sodium bicarbonate (4.2%, 8.4%)
- ❍ Activated charcoal
- ❍ Topical, oral, and parenteral analgesics
- ❍ Antimicrobial agents (parenteral and oral)
- ❍ Anticonvulsant medications
- ❍ Antidotes (common antidotes should be accessible to the ED)
- ❍ Antipyretic drugs
- ❍ Bronchodilators
- ❍ Corticosteroids
- ❍ Inotropic agents
- ❍ Neuromuscular blockers
- ❍ Sedatives
- ❍ Vaccines
- ❍ Vasopressor agents

Equipment/Supplies: General Equipment

- ❍ Patient warming device
- ❍ Intravenous blood/fluid warmer
- ❍ Restraint device
- ❍ Weight scale in kilograms (not pounds)
- ❍ Tool or chart that incorporates weight (in kilograms) and length to determine equipment size and correct drug dosing
- ❍ Age appropriate pain scale-assessment tools

Equipment/Supplies: Monitoring Equipment

Blood pressure cuffs
- ❍ Neonatal
- ❍ Infant
- ❍ Child
- ❍ Adult-arm
- ❍ Adult-thigh

- ❍ Doppler ultrasonography devices
- ❍ Electrocardiography monitor/defibrillator with pediatric and adult capabilities including pads/paddles
- ❍ Hypothermia thermometer
- ❍ Pulse oximeter with pediatric and adult probes
- ❍ Continuous end-tidal CO_2 monitoring device

Equipment/Supplies: Vascular Access Supplies

Arm boards
- ❍ infant
- ❍ child
- ❍ adult

Catheter-over-the-needle device
- ❍ 14 gauge
- ❍ 15 gauge
- ❍ 16 gauge
- ❍ 17 gauge
- ❍ 18 gauge
- ❍ 19 gauge
- ❍ 20 gauge
- ❍ 21 gauge
- ❍ 22 gauge
- ❍ 23 gauge
- ❍ 24 gauge

Intraosseous needles or device
- ❍ Pediatric
- ❍ Adult

- ❍ IV administration sets with calibrated chambers and extension tubing and/or infusion devices with ability to regulate rate and volume of infusate

Umbilical vein catheters
- ❍ 3.5F
- ❍ 5.0F

Central venous catheters
- ❍ 4.0F
- ❍ 5.0F
- ❍ 6.0F
- ❍ 7.0F

Intravenous solutions
- ❍ Normal saline
- ❍ Dextrose 5% in normal saline
- ❍ Dextrose 10% in water

Equipment/Supplies: Fracture-Management Devices

Extremity splints
- ❍ Femur splints, pediatric sizes
- ❍ Femur splints, adult sizes

- ❍ Spine-stabilization devices appropriate for children of all ages

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Equipment/Supplies: Respiratory

Endotracheal tubes
- ○ uncuffed 2.5 mm
- ○ uncuffed 3.0 mm
- ○ cuffed or uncuffed 3.5 mm
- ○ cuffed or uncuffed 4.0 mm
- ○ cuffed or uncuffed 4.5 mm
- ○ cuffed or uncuffed 5.0 mm
- ○ cuffed or uncuffed 5.5 mm
- ○ cuffed 6.0 mm
- ○ cuffed 6.5 mm
- ○ cuffed 7.0 mm
- ○ cuffed 7.5 mm
- ○ cuffed 8.0 mm

Feeding tubes
- ○ 5F
- ○ 8F

Laryngoscope blades
- ○ straight: 0
- ○ straight: 1
- ○ straight: 2
- ○ straight: 3
- ○ curved: 2
- ○ curved: 3

○ Laryngoscope handle

Magill forceps
- ○ pediatric
- ○ adult

Nasopharyngeal airways
- ○ infant
- ○ child
- ○ adult

Oropharyngeal airways
- ○ size 0
- ○ size 1
- ○ size 2
- ○ size 3
- ○ size 4
- ○ size 5

Stylets for endotracheal tubes
- ○ pediatric
- ○ adult

Suction catheters
- ○ infant
- ○ child
- ○ adult

Tracheostomy tubes
- ○ 2.5 mm
- ○ 3.0 mm
- ○ 3.5 mm
- ○ 4.0 mm
- ○ 4.5 mm
- ○ 5.0 mm
- ○ 5.5 mm

○ Yankauer suction tip

Bag-mask device, self inflating
- ○ infant: 450 ml
- ○ adult: 1000 ml

Masks to fit bag-mask device adaptor
- ○ neonatal

Equipment/Supplies: Respiratory, Continued

- ○ infant
- ○ child
- ○ adult

Clear oxygen masks
- ○ standard infant
- ○ standard child
- ○ standard adult
- ○ partial nonrebreather infant
- ○ nonrebreather child
- ○ nonrebreather adult

Nasal cannulas
- ○ infant
- ○ child
- ○ adult

Nasogastric tubes:
- ○ infant, 8F
- ○ child, 10F
- ○ adult, 14-18F

Laryngeal mask airway
- ○ size: 1
- ○ size: 1.5
- ○ size: 2
- ○ size: 2.5
- ○ size: 3
- ○ size: 4
- ○ size: 5

Equipment/Supplies: Specialized Pediatric Trays or Kits

○ Lumbar-puncture tray (including infant 22 gauge, pediatric –22 gauge, and adult 18-21 gauge), lumbar puncture needles

○ Supplies/kit for patients with difficult airway (supraglottic airways of all sizes, laryngeal mask airway, needle cricothyrotomy supplies, surgical cricothyrotomy kit)

○ Tube thoracostomy tray

Chest tubes to include:
- ○ infant: 10-12F
- ○ child: 16-24 F
- ○ adult: 28-40 F

○ Newborn delivery kit, including equipment for resuscitation of an infant (umbilical clamp, scissors, bulb syringe, and towel)

○ Urinary catheterization kits and urinary (indwelling) catheters (6F–22F)

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