Description of Essential Criteria for PREPARED ADVANCED Emergency Department

Access to optimal emergency care for children is affected by the lack of availability of equipment, appropriately trained staff to care for children, and policies and procedures that ensures timely transfer to definitive care. Although advances have been made that promote access to emergency care for children, improved awareness of the pediatric resources available to hospitals and the development of a coordinated emergency and trauma care system, may optimize access and outcomes for many acutely ill and injured children.

Institutional Organization

Physicians Requirements:

Director

- Prepared Advanced emergency department (ED) shall have a director who is board-eligible or board-certified in:
  a. Pediatric Emergency Medicine OR
  b. Pediatrics *and* Emergency Medicine OR
  c. Pediatrics *or* Emergency Medicine with at least the minimum same experience as that to sit for the PEM board exam (experience had to be in an ED that sees >15,000 kids a year and was in direct contact with EMS services, minimum experience for 5 years or 6,000 hours, 24 months of the 60 months had to be consecutive experience)
- The Director shall have 10 hours of pediatric emergency medicine CME (exclusive of Pediatric Advanced Life Support (PALS) or Advanced Pediatric Life Support (APLS)) every year
- The Director is responsible for the following:
  - Promoting and verifying adequate skill and knowledge of ED staff physicians and other ED health care providers (i.e., physician assistants and advanced practice nurses) in the emergency care and resuscitation of infants and children.
  - Overseeing ED pediatric quality improvement, patient safety, injury and illness prevention, and clinical care activities.

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    - Overseeing ED pediatric quality improvement, patient safety, injury and illness prevention, and clinical care activities.
    - Assisting with development and periodic review of ED guidelines and procedures and standards for medications, equipment, and supplies to ensure adequate resources for children of all ages.
    - Serving as liaison/coordinator to appropriate in-hospital and out-of-hospital pediatric care committees in the community (if they exist).
    - Serving as liaison/coordinator to a definitive care hospital (such as a regional pediatric referral hospital and trauma center), EMS agencies, primary care providers, health insurers, and any other medical resources needed to integrate services for the continuum of care of the pediatric patient.
    - Facilitating pediatric emergency education for ED health care providers and out-of hospital providers affiliated with the ED.
    - Ensuring that competency evaluations completed by the staff are pertinent to children of all ages.
    - Ensuring that pediatric needs are addressed in hospital disaster/emergency preparedness plans.
    - Collaborating with the pediatric nursing coordinator to ensure adequate staffing, medications, equipment, supplies, and other resources for children in the ED.

Physicians

Physicians staffing a Prepared Advanced center should be Board-eligible or Board-certified in one of the allopathic or osteopathic boards of: Emergency Medicine or Pediatric Emergency Medicine. If board-certified in Pediatrics or Family Medicine, they must have at least 5 years of active and continuous pediatric emergency experience.

Mid-Level Providers:

Nurse Practitioners staffing a Prepared Advanced center must have:

- Completed an Acute Care Nurse Practitioner (ACNP) or Emergency Nurse Practitioner (ENP) program.
- Obtained an advanced practice nursing license from the State of Arizona
- Credentialing that reflects orientation, ongoing training, and specific competencies in the care of the pediatric emergency patients. A Registered Nurse Practitioner (RNP) shall only provide health care services within the nurse practitioner's scope of practice for which the RNP is educationally prepared and for which competency has been established and

maintained. Educational preparation means academic coursework or continuing education activities that include both theory and supervised clinical practice.

Physician Assistants staffing a Prepared Advanced center must have:

- Current Arizona licensure
- Credentialing that reflects orientation, ongoing training, and specific competencies in the care of the pediatric emergency patient.

Continuing Medical Education:

All Physician staff and Mid-Level Providers shall maintain at least 8 hours of clearly pediatric emergency medicine CME every year.

- Pediatric Advanced Life Support (PALS) or Advanced Pediatric Life Support (APLS) are required for Pediatric physicians. Non-board-certified physicians are required to have current PALS or APLS certification. Board-certified emergency medicine physicians are required to have held PALS or APLS certification at one time. PALS and APLS ***may*** be counted towards 2 hours of the CME requirement.
- Nurse Practitioners and Physician Assistants are required to have current PALS, Emergency Nurse Pediatric Course (ENPC) or APLS certification

Coverage:

There must be 24/7 in-house coverage by a physician with a second physician available as back up within 1 hour for unusual events (disasters, unexpected high acuity). Both must meet the above Prepared Advanced level requirements.

Nursing Requirements:

Nursing Coordinator

- A Prepared Advanced center shall have a nursing coordinator for pediatric emergency care who is appointed by the ED nursing director. The nursing coordinator has the following qualifications:
    - Registered nurse (RN) who possesses special interest, knowledge, and skill in the emergency medical care of children as demonstrated by training, clinical experience, or focused continuing nursing education.
    - Maintains competency in pediatric emergency care
    - Is credentialed and has competency verification per the hospital policies and guidelines to provide care to children of all ages
    - Is certified (CEN, CPEN,CFRN, CTRN or CCRN
    - May be the nursing director, the manager or staff nurse who is currently assigned other roles in the ED, such as clinical nurse specialist, or may be shared through formal consultation agreements with professional resources from a hospital that is capable of providing definitive pediatric care.

- The nursing coordinator is responsible for the following:
  - Facilitating ED pediatric QI/PI activities.
  - Serving as liaison to appropriate in-hospital and out of- hospital pediatric care committees.
  - Serving as liaison to inpatient nursing as well as to a definitive care hospital, a regional pediatric referral hospital and trauma center, EMS agencies, primary care providers, health insurers, and any other medical resources needed to integrate services for the continuum of care of the pediatric patient.
  - Facilitating, along with hospital based educational activities, ED nursing continuing education in pediatrics and ensuring that pediatric-specific elements are included in orientation for new staff members.
  - Ensuring that initial and annual competency evaluations completed by the ED nursing staff are pertinent to children of all ages.
  - Promoting pediatric disaster preparedness for the ED and participating in hospital disaster-preparedness activities.
  - Promoting patient and family education in illness and injury prevention.
  - Providing assistance and support for pediatric education of out-of-hospital providers who are affiliated with the ED.
  - Working with clinical leadership to ensure the availability of pediatric equipment, medications, staffing, and other resources through the development and periodic review of ED standards, policies, and procedures.
  - Collaborating with the physician Director to ensure that the ED is prepared to care for children of all ages, including children with special health care needs.

Nursing Staff:

- Nursing staff must be licensed in the State of Arizona or multistate compact privilege.
- All Nursing personnel shall have PALS certification as well as ENPC verification. ENPC verification within 6 months of employment.
- If the facility is a recognized trauma center:
  - Trauma Nurses who attend pediatric trauma shall have ENPC verification within 6 months of employment
- All Nursing staff shall maintain at least 8 hours of clearly pediatric emergency medicine CE every year. PALS and ENPC may be counted towards 2 hours of the CE requirement.
- 15% of nursing staff are certified (CEN, CPEN,CFRN, CTRN or CCRN
- Baseline and periodic competency evaluations completed for all ED clinical staff 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 policy.

Facility Requirements:

- Basic radiographic capabilities
- CT scan capabilities 24/7
- Laboratory 24/7 (including Blood Bank)

- Pediatric Intensive Care Unit (Pediatric Specific)

On-Call Coverage:

- Formal: Based on facility agreement with subspecialists
- Radiology: 24/7 availability of radiologists to perform procedures, both routine and interventional
- General Surgery: primary or consultative coverage by surgeons trained in pediatrics
- Orthopedics
- Pediatric Critical Care
- All other coverage needs, or gaps in coverage, not met by a Prepared Advanced Care center must be met with nonexclusive formal transfer agreements with outside institutions

Quality Improvement:

The health care institution shall have an operational Quality/Performance improvement program that monitors, evaluates, and improves the performance of pediatric patient care on a continuous basis. An acceptable performance improvement program includes a Multidisciplinary Committee comprised of: Medical Director, ≥3 additional Physicians, and Nurse Manager. Pediatric emergency medical care shall be included in the hospitals emergency department's quality improvement (QI) program and reported to the hospital QI committee.

The health care institution shall establish continuous quality improvement (CQI) activities with documented CQI monitors addressing pediatric care within the emergency department, with identified clinical indicators and/or outcomes for care.

Required review:

- All transfers out
- All pediatric deaths
- All child abuse/maltreatment

Choose two or more of the following:

- Pediatric diversion
- Left without treatment
- Incident Reports
- Pediatric ED return visits as defined by hospital policy (24, 48, 72 hours)
- Pediatric medication errors
- Asthma management

Pediatric CQI Liaison

A member of the professional staff who has ongoing involvement in the care of pediatric patients shall be designated and supported by the hospital as the pediatric liaison. This individual may be employed in an area other than the emergency department and shall have

pediatric inpatient, critical care, or emergency department experience. The responsibilities of the pediatric liaison shall include:

1. Work in conjunction with the ED nurse manager and the ED medical director to ensure compliance with and documentation of the pediatric continuing education of all emergency department staff.

2. Maintain a data summary and work in conjunction with the multidisciplinary CQI committee to coordinate criteria-based review and follow-up of sample pediatric emergency department visits.

Guidelines and Procedures:

Interfacility Transfer

- The facility shall have transfer guidelines/procedures concerning transfer of critically ill and injured pediatric patients to outside institutions.

Suspected Child Abuse

- The facility shall have guidelines/procedures addressing the identification, evaluation and referral of victims of suspected child abuse in accordance with State law.

Patient Safety and Care

- Pediatric patient scales are locked in kilograms; if a facility is unable to lock the scale, weights are verified by a second staff member.
- Pediatric medication name/ dose are validated by a second caregiver.
- Blood pressures are attempted on all pediatric patients regardless of age.
- Use of a evidence based pediatric clinical pathway for acute respiratory illness.
- Medical imaging guidelines that address age- or weight-appropriate dosing for children receiving studies that impart ionizing radiation, consistent with as-low-as reasonably-achievable (ALARA) principles.

Pediatric Sedation Guidelines

- If conscious sedation is used for pediatric radiology and/or painful procedures please include guideline or policy for review

Disaster Preparedness

- Hospital disaster plan addresses issues specific to the care of children and the needs of children are included in the mock drills

Guidelines

The facility shall have guidelines (minimum of 5) addressing appropriate stabilization measures in response to critically ill or injured pediatric patients (i.e., trauma, respiratory distress, seizures). Staff should be educated accordingly; and they should be monitored for

compliance and periodically updated. These resources should include, but are not limited to, the following:

1. Illness and injury triage.
2. Pediatric patient assessment and reassessment.
3. Documentation of pediatric vital signs, abnormal vital signs, and actions to be taken for abnormal vital signs.
4. Immunization assessment and management of the under-immunized patient.
5. Sedation and analgesia for procedures, including medical imaging.
6. Consent (including situations in which a parent is not immediately available).
7. Social and mental health issues.
8. Physical or chemical restraint of patients.
9. Child maltreatment (physical and sexual abuse, sexual assault, and neglect) and domestic violence mandated reporting criteria, requirements, and processes.
10. Death of the child in the ED.
11. Do-not-resuscitate orders.
12. Family-centered care, including:
    a. Involving families in patient care decision-making and in medication safety processes.
    b. Family presence during all aspects of emergency care, including resuscitation.
    c. Education of the patient, family, and regular caregivers.
    d. Discharge planning and instruction.
    e. Bereavement counseling.
13. Communication with the patient's medical home or primary health care provider.
14. Medical imaging policies that address age- or weight-appropriate dosing for children receiving studies that impart ionizing radiation, consistent with as-low-as reasonably-achievable (ALARA) principles.

Equipment And Supplies For Use In Pediatric Patients In The ED:

General Equipment

- Patient warming device
- Intravenous blood/fluid warmer
- Restraint device
- Weight scale, in kilograms only (not pounds), for infants and children
- Tool or chart that incorporates both weight (in kilograms) and length to assist physicians and nurses in determining equipment size and correct drug dosing (by weight and total volume), such as a length-based resuscitation tape
- Pain-scale–assessment tools appropriate for age

Monitoring Equipment

- Blood pressure cuffs (neonatal, infant, child, adult-arm and thigh)
- Doppler ultrasonography devices
- Electrocardiography monitor/defibrillator with pediatric and adult capabilities including pediatric-sized pads/paddles
- Hypothermia thermometer
- Pulse oximeter with pediatric and adult probes
- Continuous end-tidal CO2 monitoring device
- Colorimetric capnography

Respiratory Equipment and Supplies

- Endotracheal tubes:
- Uncuffed: 2.5 and 3.0 mm
- Cuffed or uncuffed: 3.5, 4.0, 4.5, 5.0, and 5.5 mm
- Cuffed: 6.0, 6.5, 7.0, 7.5, and 8.0 mm
- Feeding tubes (5F and 8F)
- Laryngoscope blades (curved: 2 and 3; straight: 0, 1, 2, and 3)
- Laryngoscope handle
- Magill forceps (pediatric and adult)
- Nasopharyngeal airways (infant, child, and adult)
- Oropharyngeal airways (sizes 0 –5)
- Stylets for endotracheal tubes (pediatric and adult)
- Suction catheters (infant, child, and adult)
- Tracheostomy tubes (sizes 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5 mm)
- Yankauer suction tip
- Bag-mask device (manual resuscitator), self-inflating (infant size: 250mL; child size: 450 mL; adult size: 1000 mL)
- Clear oxygen masks (non-rebreathing) for an infant, child, and adult
- Masks to fit bag-mask device adaptor (neonatal, infant, child, and adult sizes)
- Nasal cannulas (infant, child, and adult)

- Nasogastric tubes (sump tubes): infant (8F), child (10F), and adult (14F–18F)
- Laryngeal mask airway (sizes 1, 1.5, 2, 2.5, 3, 4, and 5)

Vascular Access Supplies and Equipment

- Arm boards (infant, child, and adult sizes)
- Catheter-over-the-needle device (14 –24 gauge)
- Intraosseous needles or device (pediatric and adult sizes)
- Intravenous catheter–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 and 5.0F)
- Central venous catheters (4.0F– 7.0F)
- Intravenous solutions to include: normal saline; dextrose 5% in normal saline; and dextrose 10% in water

Fracture-Management Devices

- Extremity splints, including femur splints (pediatric and adult sizes)
- Spine-stabilization method/devices appropriate for children of all ages

Specialized Pediatric Trays or Kits

- Lumbar-puncture tray including infant (22-gauge), pediatric (22- gauge), and adult (18- to 21 gauge) lumbar-puncture needles
- Supplies/kit for patients with difficult airway conditions (to include but not limited to supraglottic airways of all sizes, such as the laryngeal mask airway, 2 needle cricothyrotomy supplies, surgical cricothyrotomy kit)
- Tube thoracostomy tray
- Chest tubes to include infant, child, and adult sizes (infant: 10F–12F; child, 16F–24F; adult, 28F– 40F)
- Newborn delivery kit (including equipment for initial resuscitation of a newborn infant: umbilical clamp, scissors, bulb syringe, and towel)
- Urinary catheterization kits and urinary (indwelling) catheters (6F–22F)

Institutional Commitment:

A Prepared Advanced ED will serve as a resource for all Prepared Care Emergency Departments.

A Prepared Advanced ED will be assigned 1 other Emergency Department to perform site review every year.

Reference:

American Academy of Pediatrics, Committee on Pediatric Emergency Medicine; American College of Emergency Physicians, Pediatric Committee, Emergency Nurses Association. Guidelines for care of children in the emergency department. Pediatrics. 2009; 124(4):1233-1243.

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Development of Hospital-Based Guidelines for Skeletal Survey in Young Children With Bruises Pediatrics. 2015;135 (2)312-320. e http://pediatrics.aappublications.org/content/135/2/e312

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Zebrack et al. Early resuscitation of children with moderate-to-severe traumatic brain injury. Pediatrics 2009; 124:56-64

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