



## Checklist of Required Items for COPPER Recognition

Note: The following locations house resources to help your emergency department address gaps in pediatric readiness:

- <https://www.emsccolorado.com/copper-resources>
- <https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/>

PP = Pediatric Prepared (baseline pediatric preparedness)

PA = Pediatric Advanced (highest level of pediatric preparedness)

NR = Not Required

PEDIATRIC EMERGENCY CARE COORDINATORS	PP	PA
Physician coordinator for pediatric emergency care	NR	<input type="checkbox"/>
Nurse coordinator for pediatric emergency care	<input type="checkbox"/>	<input type="checkbox"/>
COMPETENCIES FOR ED HEALTH CARE PROVIDERS	PP	PA
All ED physicians should have current Pediatric Advanced Life Support (PALS), Advanced Pediatric Life Support (APLS), or Pediatric Emergency Assessment, Recognition and Stabilization (PEARS) certifications	<input type="checkbox"/>	<input type="checkbox"/>
At least one ED physician who is board certified and/or an eligible specialist in emergency medicine or pediatric emergency medicine will be in the ED at all times	NR	<input type="checkbox"/>
There is at least one physician with pediatric training and/or education who is available (on call or via telehealth) as a resource to the ED <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Pediatric Prepared:</b> There is at least one nurse on staff in the ED at all times who is trained in the emergency evaluation and treatment of children of all ages (e.g., PALS, APLS, ENPC certified)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Pediatric Advanced:</b> There is a comprehensive pediatric training program ensuring all ED nurses participate in regularly scheduled pediatric training such as PALS, ENPC, APLS, etc.	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> Can include physicians trained in Family Medicine.



Baseline and ongoing competency evaluations for <i>all</i> ED clinical staff are population specific and include a review of clinical skills unique to children of all ages	NR	<input type="checkbox"/>
All staff are regularly oriented on the location of pediatric equipment	<input type="checkbox"/>	<input type="checkbox"/>
<b>QUALITY IMPROVEMENT AND/OR PERFORMANCE IMPROVEMENT IN THE ED</b>	<b>PP</b>	<b>PA</b>
QI/PI plan includes the following pediatric specific indicators for which data are collected and analyzed, system performance is monitored over time, and system changes are implemented based on performance: <ul style="list-style-type: none"> <li>• Weighing in kilograms</li> <li>• Recording weight in kilograms</li> <li>• Weight-based medication doses</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
QI/PI plan also includes at least one of the following pediatric specific indicators for which data are collected and analyzed, system performance is monitored over time, and system changes are implemented based on performance: <ul style="list-style-type: none"> <li>• Avoiding antibiotics for viral illnesses</li> <li>• Readmission rates (within 3 days)</li> </ul>	NR	<input type="checkbox"/>
Pediatric specific indicators are reviewed at a minimum quarterly and action item follow-up is integrated into the ED QI/PI plan	NR	<input type="checkbox"/>
There is a quarterly pediatric case review process for: <ul style="list-style-type: none"> <li>• All pediatric deaths</li> <li>• All critical care transfers out</li> <li>• 10 patients/month or 25% of overall pediatric admissions, or 100% of pediatric census, if less than 10/month</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PEDIATRIC PATIENT AND MEDICATION SAFETY IN THE ED</b>	<b>PP</b>	<b>PA</b>
Children are weighed in kilograms	<input type="checkbox"/>	<input type="checkbox"/>
Weights are recorded in a prominent place on medical record	<input type="checkbox"/>	<input type="checkbox"/>
For children not weighed, a standard method for estimating weight in kilograms is used (e.g., a length-based system)	<input type="checkbox"/>	<input type="checkbox"/>
A full set of vital signs is recorded and reassessed for all children, including temperature, heart rate, respiratory rate, pulse oximetry, blood pressure, pain, and mental status (as indicated) ( <i>if unable to obtain BP in triage, attempt in the secondary assessment of patient</i> )	<input type="checkbox"/>	<input type="checkbox"/>



Processes are in place for safe, weight-based medication administration, such as pre-calculated drug dosing and formulation guides; consider identifying a pediatric pharmacist resource and <b>ensure that a pediatric dosing reference is available at all times</b>	<input type="checkbox"/>	<input type="checkbox"/>
Pediatric emergency services are culturally and linguistically appropriate; this includes 24/7 access to interpreter services in the ED	<input type="checkbox"/>	<input type="checkbox"/>
Timely tracking and reporting of patient safety events; consider celebrating near misses/good catch events to encourage submission of possible safety events	<input type="checkbox"/>	<input type="checkbox"/>
<b>POLICIES, PROCEDURES, AND PROTOCOLS FOR THE ED</b>	<b>PP</b>	<b>PA</b>
Intake and triage assessment of the pediatric patient	<input type="checkbox"/>	<input type="checkbox"/>
Pediatric patient assessment and reassessment	<input type="checkbox"/>	<input type="checkbox"/>
Documentation of a full set of vital signs including blood pressure on all pediatric patients	<input type="checkbox"/>	<input type="checkbox"/>
Identification of abnormal pediatric vital signs and notification to the responsible provider	<input type="checkbox"/>	<input type="checkbox"/>
Immunization status documentation and management of the underimmunized patient	<input type="checkbox"/>	<input type="checkbox"/>
Sedation and analgesia of the pediatric patient	NR	<input type="checkbox"/>
Consent, including when parent or legal guardian is not immediately available	<input type="checkbox"/>	<input type="checkbox"/>
Social and behavioral health issues	NR	<input type="checkbox"/>
Use of physical or chemical restraint of patients	<input type="checkbox"/>	<input type="checkbox"/>
Procedures for recognizing, assessing, and reporting suspected child maltreatment (hospital policy should specify where patients will be transferred if full assessment is not completed in house; if maltreatment is suspected, even if patients are transferred out, reporting is mandated and should be specified in hospital policy)	<input type="checkbox"/>	<input type="checkbox"/>
Management of family presence and family centered care during the death of the child in the ED	<input type="checkbox"/>	<input type="checkbox"/>
Do not resuscitate (DNR) orders	<input type="checkbox"/>	<input type="checkbox"/>
Referral policy for patients who lack a medical home	<input type="checkbox"/>	<input type="checkbox"/>
Children with special health care needs	NR	<input type="checkbox"/>



Family-centered care	<input type="checkbox"/>	<input type="checkbox"/>
Communication with the patient's medical home or primary care provider as needed	<input type="checkbox"/>	<input type="checkbox"/>
All-hazard disaster preparedness / emergency operations plan that addresses pediatric issues	<input type="checkbox"/>	<input type="checkbox"/>
Written pediatric interfacility transfer procedures and/or agreements that include pediatric components	<input type="checkbox"/>	<input type="checkbox"/>
Monitoring of the pediatric patient, e.g., O2 saturations should be monitored during an infant lumbar puncture (LP), patients with DKA/new onset diabetes should be placed on an ECG monitor, asthmatic patients who are receiving a continuous nebulizer should be on an ECG monitor, CO2 should be monitored on children during sedation or intubation, etc.	NR	<input type="checkbox"/>
<b>ED SUPPORT SERVICES</b>	<b>PP</b>	<b>PA</b>
Medical imaging capabilities and protocols address age- or weight-appropriate dose reductions for children	<input type="checkbox"/>	<input type="checkbox"/>
Transfer of all care documentation or complete encounter record, including images, when a patient is transferred from one facility to another	<input type="checkbox"/>	<input type="checkbox"/>
Collaboration with radiology, laboratory and other ED support services to ensure the needs of children in the community are met	<input type="checkbox"/>	<input type="checkbox"/>
<b>EQUIPMENT AND SUPPLIES</b>	<b>PP</b>	<b>PA</b>
Pediatric appropriate resuscitation equipment and supplies shall be kept in the ED; other pediatric appropriate items may be housed elsewhere, ensuring accessibility by the ED team when needed	<input type="checkbox"/>	<input type="checkbox"/>
ED staff must be able to verbalize the location of all pediatric equipment and supplies listed in the sections below	<input type="checkbox"/>	<input type="checkbox"/>
There is a method in place to verify the proper location and function of pediatric equipment and supplies	<input type="checkbox"/>	<input type="checkbox"/>
<b>General Equipment</b>		
Weight scale, in kilograms only, for infants and children or a process in place to ensure weight is recorded in kilograms (it is highly recommended that scales are locked in kilograms mode)	<input type="checkbox"/>	<input type="checkbox"/>
Weight- and length-based tool or chart for resuscitation medication dosing and airway management	<input type="checkbox"/>	<input type="checkbox"/>
Rigid boards for use in CPR	<input type="checkbox"/>	<input type="checkbox"/>
<b>Highly Recommended General Equipment (not required for COPPER recognition; listed for your reference)</b>		

Patient warming device (e.g., infant warmer, radiant warmer, any infant warming device)	<input type="checkbox"/>	<input type="checkbox"/>
IV blood and/or fluid warmer	<input type="checkbox"/>	<input type="checkbox"/>
Pain scale assessment tools that are appropriate for age	<input type="checkbox"/>	<input type="checkbox"/>
<b>Monitoring Equipment</b>		
Blood pressure cuffs (neonatal, infant, child)	<input type="checkbox"/>	<input type="checkbox"/>
ECG monitor and/or defibrillator with pediatric and adult capabilities, including pediatric-sized pads and/or paddles	<input type="checkbox"/>	<input type="checkbox"/>
Pulse oximeter with pediatric and adult probes	<input type="checkbox"/>	<input type="checkbox"/>
Continuous end-tidal CO <sub>2</sub> monitoring <sup>2</sup>	NR	<input type="checkbox"/>
<b>Highly Recommended Monitoring Equipment (not required for COPPER recognition; listed for your reference)</b>		
Blood pressure cuffs (adult arm and thigh)	<input type="checkbox"/>	<input type="checkbox"/>
Doppler ultrasonography devices	<input type="checkbox"/>	<input type="checkbox"/>
<b>Respiratory Equipment</b>		
Endotracheal tubes (uncuffed: 2.5mm, 3.0mm; cuffed or uncuffed: 3.5mm, 4.0mm, 4.5mm)	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope blades (curved: 2; straight: 00, 0, 1, 2)	<input type="checkbox"/>	<input type="checkbox"/>
Pediatric Magill forceps	<input type="checkbox"/>	<input type="checkbox"/>
Pediatric and infant sized stylets for endotracheal tubes	<input type="checkbox"/>	<input type="checkbox"/>
Suction catheters (infant and child: 6F, 8F, 10F)	<input type="checkbox"/>	<input type="checkbox"/>
Self-inflating bag-valve-mask (manual resuscitator) (infant) <sup>3</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Simple oxygen masks (standard infant, standard child)	<input type="checkbox"/>	<input type="checkbox"/>

<sup>2</sup> End-tidal CO<sub>2</sub> monitoring is considered the optimal method of assessing for and monitoring of endotracheal tube placement in the trachea; however, for low-volume hospitals, adult and pediatric CO<sub>2</sub> colorimetric detector devices can be substituted. Clinical assessment alone is not appropriate.

<sup>3</sup> May substitute anesthesia bag if appropriately trained.

Oxygen masks (non-rebreather) appropriate for use with infant patients	<input type="checkbox"/>	<input type="checkbox"/>
Masks to fit bag-mask device adaptor (neonatal, infant, child)	<input type="checkbox"/>	<input type="checkbox"/>
Nasal cannula and securement device (infant)	<input type="checkbox"/>	<input type="checkbox"/>
Nasogastric (Salem Sump) tubes: infant (8F catheter) and child (10F catheter) <sup>4</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Nasal aspirator (recommend using something like the aspirators with the olive/mushroom tip)	<input type="checkbox"/>	<input type="checkbox"/>
Supraglottic device (e.g., LMA) (infant, child)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Highly Recommended Respiratory Equipment (not required for COPPER recognition; listed for your reference)</b>		
Endotracheal tubes (cuffed or uncuffed: 5.0mm, 5.5mm; cuffed: 3.0mm, 6.0mm)	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope blades (curved: 3; straight: 3)		
Nasopharyngeal airways (sizes 16, 18, 20, 24, 28, 32F)	<input type="checkbox"/>	<input type="checkbox"/>
Oropharyngeal airways (infant and child, sizes 0–5)	<input type="checkbox"/>	<input type="checkbox"/>
Rigid suction device	<input type="checkbox"/>	<input type="checkbox"/>
Self-inflating bag-valve-mask (manual resuscitator) (child, and adult sizes) <sup>5</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen masks (non-rebreather) appropriate for use with child and adult patients	<input type="checkbox"/>	<input type="checkbox"/>
Masks to fit bag-mask device adaptor (adult sizes)	<input type="checkbox"/>	<input type="checkbox"/>
Nasal cannula and securement device (child and adult)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Vascular Access Equipment</b>		
Angiocatheter (14–24 gauge)	<input type="checkbox"/>	<input type="checkbox"/>
Intraosseous needles or device (pediatric sizes)	<input type="checkbox"/>	<input type="checkbox"/>

<sup>4</sup> Alternatively, this can be replaced with a tube that can be used for gastronomy decompression of the pediatric patient (e.g., the average foley tube)

<sup>5</sup> May substitute anesthesia bag if appropriately trained.



IV administration sets with calibrated chambers and/or infusion devices with the ability to regulate the rate and volume of infusion (including low volumes)	<input type="checkbox"/>	<input type="checkbox"/>
Manual rapid infusion device, rated for pediatrics, for easy push-pull fluid administration	<input type="checkbox"/>	<input type="checkbox"/>
Syringe pumps that can administer inotropic agents (e.g., epinephrine, norepinephrine, dopamine, and milrinone) at an appropriate pediatric drip rate	NR	<input type="checkbox"/>
Atomizer for intranasal administration of medication	<input type="checkbox"/>	<input type="checkbox"/>
<b>Highly Recommended Vascular Access Equipment (not required for COPPER recognition; listed for your reference)</b>		
Arm boards for PIV stabilization (infant, child, and adult sizes)	<input type="checkbox"/>	<input type="checkbox"/>
Intraosseous needles or device (adult sizes)	<input type="checkbox"/>	<input type="checkbox"/>
IV solutions including NS, D <sub>5</sub> NS, lactated Ringer's solution, and D <sub>10</sub> W	<input type="checkbox"/>	<input type="checkbox"/>
<b>Highly Recommended Fracture Management Devices (not required for COPPER recognition; listed for your reference)</b>		
Extremity splints, including femur stabilizer (pediatric and adult sizes)	<input type="checkbox"/>	<input type="checkbox"/>
Cervical collars (infant, child, and adult sizes)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Highly Recommended Specialized Pediatric Trays or Kits (not required for COPPER recognition; listed for your reference)</b>		
Difficult airway supplies and/or kit (contents to be based on pediatric patients served at the hospital and may include some or all of the following: supraglottic airways of all sizes, such as the laryngeal mask airway, i-gels, needle cricothyrotomy supplies, the surgical cricothyrotomy kit, or video laryngoscopy) <sup>6</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Newborn delivery kit (including equipment for initial resuscitation of a newborn infant): umbilical clamp, scissors, bulb syringe, and towel	<input type="checkbox"/>	<input type="checkbox"/>
Urine specimen collection supplies (invasive and non-invasive) and closed system indwelling urinary collection kits (infant and child)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Additional Equipment Required for High-Volume EDs (&gt;10,000 Pediatric Patient Visits per Year)</b>		
Central venous catheters (4.0–7.0F)	NR	<input type="checkbox"/>

<sup>6</sup> Laryngeal mask airways can be shared with anesthesia but must be immediately accessible to the ED.

<b>Additional Equipment Highly Recommended for High-Volume EDs<sup>7</sup> (not required for COPPER recognition; listed for your reference)</b>		
Chest tubes to include infant, child, and adult sizes (infant: 8–12F catheter; child: 14–22F catheter; adult: 24–40F catheter) or pigtail catheter kit (8.5–14F catheter)	<input type="checkbox"/>	<input type="checkbox"/>
Continuous temperature monitoring for infants and pediatrics	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope blade size 00	<input type="checkbox"/>	<input type="checkbox"/>
Lumbar puncture tray, including infant-sized (22 gauge) and pediatric-sized (22 gauge) spinal needles	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory support escalation (a means to provide continuous positive airway pressure such as with a self-inflating, or flow-inflating, manual ventilation bag, noninvasive ventilation with a mechanical ventilator, pediatric specific mask, infant and pediatric high-flow nasal cannulas)	<input type="checkbox"/>	<input type="checkbox"/>
Tube thoracostomy tray	<input type="checkbox"/>	<input type="checkbox"/>
Tracheostomy tubes (tube sizes 0–6)	<input type="checkbox"/>	<input type="checkbox"/>
Umbilical vein catheters (3.5F catheter and 5.0F catheter) <sup>8</sup> / angiocath	<input type="checkbox"/>	<input type="checkbox"/>
Video laryngoscopy (with pediatric blades)	NR	<input type="checkbox"/>
<b>MEDICATIONS<sup>9</sup></b>	<b>PP</b>	<b>PA</b>
Alprostadil (prostaglandin E1) <sup>10</sup>	NR	<input type="checkbox"/>
Analgesics (oral, intranasal, and parenteral) and topical anesthetics (e.g., eutectic mixture of local anesthetics [EMLA]; lidocaine 2.5% and prilocaine 2.5%; lidocaine, epinephrine, and tetracaine [LET]; and LMX 4 [4% lidocaine])	<input type="checkbox"/>	<input type="checkbox"/>
Anticonvulsants <b>Pediatric Advanced:</b> levetiracetam, valproate, fosphenytoin, and phenobarbital	<input type="checkbox"/>	<input type="checkbox"/>

<sup>7</sup> Emergency departments with more than 10,000 pediatric patient visits per year.

<sup>8</sup> Feeding tubes (size 5F catheter) may be used as umbilical venous catheters but are not ideal. A method to secure the umbilical catheter, such as an umbilical tie, should also be available.

<sup>9</sup> Use liquid formulations when available and appropriate.

<sup>10</sup> Ensure there is a defined procedure for administering and monitoring.



<b>Pediatric Prepared:</b> levetiracetam, fosphenytoin		
Antidotes including lipids, naloxone hydrochloride (common antidotes should be accessible to the ED)	<input type="checkbox"/>	<input type="checkbox"/>
Anticholinergics for Inhalation (Ipratropium Bromide)	<input type="checkbox"/>	<input type="checkbox"/>
Antiemetics (e.g., ondansetron and prochlorperazine)	<input type="checkbox"/>	<input type="checkbox"/>
Antihypertensives <b>Pediatric Advanced:</b> hydralazine, labetalol, nicardipine, and sodium nitroprusside <b>Pediatric Prepared:</b> hydralazine	<input type="checkbox"/>	<input type="checkbox"/>
Antimicrobials (parenteral and oral)	<input type="checkbox"/>	<input type="checkbox"/>
Antipsychotics (e.g., olanzapine and haloperidol)	<input type="checkbox"/>	<input type="checkbox"/>
Antipyretics (e.g., acetaminophen and ibuprofen); ensure liquid formulations are available	<input type="checkbox"/>	<input type="checkbox"/>
Benzodiazepines (e.g., midazolam and lorazepam)	<input type="checkbox"/>	<input type="checkbox"/>
Bronchodilators (albuterol, ipratropium)	<input type="checkbox"/>	<input type="checkbox"/>
Corticosteroids <b>Pediatric Advanced:</b> dexamethasone, methylprednisolone, and hydrocortisone <b>Pediatric Prepared:</b> dexamethasone and methylprednisolone	<input type="checkbox"/>	<input type="checkbox"/>
Dextrose (D <sub>10</sub> W)	<input type="checkbox"/>	<input type="checkbox"/>
Diphenhydramine	<input type="checkbox"/>	<input type="checkbox"/>
Furosemide	<input type="checkbox"/>	<input type="checkbox"/>
Glucagon	<input type="checkbox"/>	<input type="checkbox"/>
Insulin (regular insulin to prepare continuous infusion for DKA, hyperkalemia)	<input type="checkbox"/>	<input type="checkbox"/>
Lidocaine	<input type="checkbox"/>	<input type="checkbox"/>
Magnesium sulfate	<input type="checkbox"/>	<input type="checkbox"/>

Neuromuscular blockers (at a minimum rocuronium)	<input type="checkbox"/>	<input type="checkbox"/>
Oral glucose	<input type="checkbox"/>	<input type="checkbox"/>
Sucrose solutions for pain control in infants	NR	<input type="checkbox"/>
Sedation medications (e.g., etomidate and ketamine for induction and fentanyl and midazolam to maintain sedation / longer duration of action)	<input type="checkbox"/>	<input type="checkbox"/>
Vaccines <b>Pediatric Advanced:</b> Tetanus vaccine (e.g., DT, DTaP, Td) and tetanus and rabies immunoglobulin <b>Pediatric Prepared:</b> Tetanus vaccine (e.g., DT, DTaP, Td)	<input type="checkbox"/>	<input type="checkbox"/>
3% hypertonic saline (Mannitol may be substituted)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Resuscitation Medications</b>		
Adenosine	<input type="checkbox"/>	<input type="checkbox"/>
Amiodarone	<input type="checkbox"/>	<input type="checkbox"/>
Atropine	<input type="checkbox"/>	<input type="checkbox"/>
Calcium Chloride <b>Pediatric Advanced:</b> calcium chloride and calcium gluconate <b>Pediatric Prepared:</b> calcium chloride	<input type="checkbox"/>	<input type="checkbox"/>
Epinephrine (1 mg/mL [IM] and 0.1 mg/mL [IV] solutions) <sup>11</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Lidocaine, Procainamide, Sodium bicarbonate (4.2%) <sup>12</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Vasopressor agents (e.g., dopamine, epinephrine, and norepinephrine)	<input type="checkbox"/>	<input type="checkbox"/>

<sup>11</sup> The formerly epinephrine 1:1000 solution is now 1 mg/mL for IM use or inhalation; the 1:10 000 solution is now 0.1 mg/mL for IV use.

<sup>12</sup> If only sodium bicarbonate 8.4% is available, may dilute 1:1 with normal saline before administration in children <2 y of age.