



State of Oregon EMS-C Advisory Committee

*Guidelines for the Minimum Emergency Department
Pediatric Equipment & Medications*

December 2003

Below are the verbatim recommendations for the stocking of equipment and medications in all emergency departments from the American Academy of Pediatrics and the American College of Emergency Physicians approved in December 2000 and September 2000 respectively. This was published subsequently in both the journals *Pediatrics* and the *Annals of Emergency Medicine* for national distribution and implementation. I would propose we adopt these as is as state-wide guidelines. We will need guidance from the Division of Trauma & EMS on how to proceed to get this implemented.

“GUIDELINES FOR EQUIPMENT, SUPPLIES, AND MEDICATIONS FOR CHILDREN IN THE ED

- A. Necessary medications, equipment, and supplies are listed in [Table 1](#). Each hospital must develop a method for storage and provide accessibility of medications and equipment for children. The method used must ensure that the health care practitioner can easily identify appropriate dosages of medication based on the patient's weight and choose appropriately sized equipment. Length-based systems or pre-calculated drug systems should be used to avoid calculation errors of medications delivered.
- B. All equipment and supplies are listed in [Table 2](#) and include age-appropriate and size-appropriate equipment for use for children of all ages and sizes from premature infants through adolescents.
- C. Quality indicators ensure regular periodic review of drugs and equipment, monitoring of expiration dates of items, and replacement of used items.

For periodic updates of this statement, including medications and equipment, see the American Academy of Pediatrics Policy Web site (<http://aappolicy.aappublications.org/>) or the American College of Emergency Physicians Web site (<http://www.acep.org/>).



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TABLE 1

Guidelines for Medications for Use in Pediatric Patients in EDs*

Resuscitation Medications	Other Drug Groups
Atropine	Activated charcoal
Adenosine	Analgesics
Bretylium tosylate	Antibiotics (parenteral)
Calcium chloride	Anticonvulsants
Dextrose	Antidotes (common antidotes should be accessible to the ED)†
Epinephrine (1:1000, 1:10 000)	Antipyretics
Lidocaine	Bronchodilators
Naloxone hydrochloride	Corticosteroids
Sodium bicarbonate (4.2%)	Inotropic agents
	Neuromuscular blocking agents
	Oxygen
	Sedatives

- Adapted from Committee on Pediatric Equipment and Supplies for Emergency Departments, National Emergency Medical Services for Children Resource Alliance. Guidelines for pediatric equipment and supplies for emergency departments. *Ann Emerg Med.* 1998;31:54-57.⁹

† For less frequently used antidotes, a procedure for obtaining them should be in place.



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TABLE 2

Guidelines for Equipment and Supplies for Use in Pediatric Patients in the ED*

Monitoring equipment
• Cardiorespiratory monitor with strip recorder
• Defibrillator with pediatric and adult paddles (4.5 cm and 8 cm) or corresponding adhesive pads
• Pediatric and adult monitor electrodes
• Pulse oximeter with sensors and probe sizes for children
• Thermometer or rectal probe†
• Sphygmomanometer
• Doppler blood pressure device
• Blood pressure cuffs (neonatal, infant, child, and adult arm and thigh cuffs)
• Method to monitor endotracheal tube and placement‡
• Stethoscope
Airway management
• Portable oxygen regulators and canisters
• Clear oxygen masks (standard and nonbreathing—neonatal, infant, child, and adult)
• Oropharyngeal airways (sizes 0-5)
• Nasopharyngeal airways (12F through 30F)
• Bag-valve-mask resuscitator, self-inflating (450- and 1000-mL sizes)
• Nasal cannulae (child and adult)
• Endotracheal tubes: uncuffed (2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, and 6.0 mm) and cuffed (6.5, 7.0, 7.5, 8.0, and 9.0 mm)
• Stylets (infant, pediatric, and adult)
• Laryngoscope handle (pediatric and adult)
• Laryngoscope blades: straight or Miller (0, 1, 2, and 3) and Macintosh (2 and 3)
• Magill forceps (pediatric and adult)
• Nasogastric/feeding tubes (5F through 18F)
• Suction catheters—flexible (6F, 8F, 10F, 12F, 14F, and 16F)



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• Yankauer suction tip
• Bulb syringe
• Chest tubes (8F through 40F)§
• Laryngeal mask airway (sizes 1, 1.5, 2, 2.5, 3, 4, and 5)
Vascular access
• Butterfly needles (19-25 gauge)
• Catheter-over-needle devices (14-24 gauge)
• Rate limiting infusion device and tubing§¶
• Intraosseous needles (may be satisfied by standard bone needle aspiration needles)
• Arm boards
• Intravenous fluid and blood warmers§
• Umbilical vein catheters§# (size 5F feeding tube may be used)
• Seldinger technique vascular access kit§
Miscellaneous
• Infant and standard scales
• Infant formula and oral rehydrating solutions§
• Heating source (may be met by infrared lamps or overhead warmer)§
• Towel rolls, blanket rolls, or equivalent
• Pediatric restraining devices
• Resuscitation board
• Sterile linen**
• Length-based resuscitation tape or precalculated drug or equipment list based on weight
Specialized pediatric trays
• Tube thoracotomy with water seal drainage capability§
• Lumbar puncture
• Pediatric urinary catheters
• Obstetric pack
• Newborn kit§
• Umbilical vessel cannulation supplies§
• Venous cutdown§
• Needle cricothyrotomy tray



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• Surgical airway kit (may include a tracheostomy tray or a surgical cricothyrotomy tray)§
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Fracture management

• Cervical immobilization equipment§††
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• Extremity splints§

• Femur splints§

Medical photography capability

* Adapted from Committee on Pediatric Equipment and Supplies for Emergency Departments, National Emergency Medical Services for Children Resource Alliance.⁹

† Suitable for hypothermic and hyperthermic measurements with temperature capability from 25°C to 44°C.

‡ May be satisfied by a disposable CO₂ detector of appropriate size for infants and children. For children 5 years or older who are ≥20 kg in body weight, an esophageal detection bulb or syringe may be used additionally.

§ Equipment that is essential but may be shared with the nursery, pediatric ward, or other inpatient service and is readily available to the ED.

|| Equipment or supplies that are desirable but not essential.

¶ To regulate rate and volume.

Ensure availability of pediatric sizes within the hospital.

** Available within hospital for burn care.

†† Many types of cervical immobilization devices are available, including wedges and collars. The type of device chosen depends on local preferences and policies and procedures. Chosen device should be stocked in sizes to fit infants, children, adolescents, and adults. Use of sandbags to meet this requirement is discouraged, because they may cause injury if the patient has to be turned. “