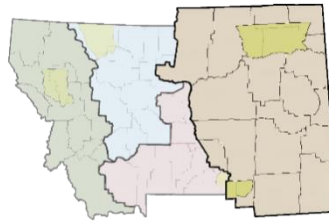
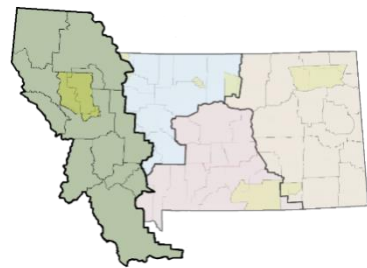
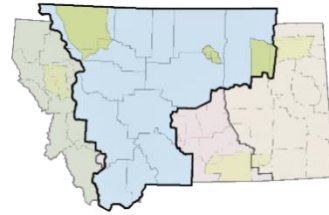
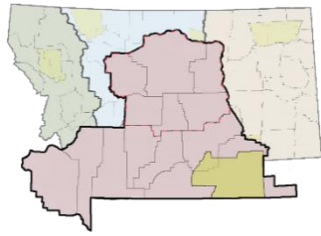


# EASTERN REGIONAL HEALTH CARE COALITION


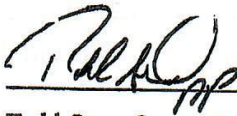


## PEDIATRIC SURGE ANNEX

Promulgation

August 2022  
Version 3

The Eastern RHCC Executive Committee declares this Eastern RHCC Pediatric Surge Annex to the Preparedness & Response Plan to be in force and effective until superseded or rescinded and provides full authority to health care agencies and organizations within the Coalition to effectively plan for coordinated response to pediatric mass casualty occurrences within the Eastern Region of Montana.

  
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This annex provides the structure, format and criteria for reacting and providing emergency response support to a location experiencing a surge in pediatric patients.

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# SECTION I: PURPOSE, SCOPE, SITUATION, AND ASSUMPTIONS

## 1.1 Purpose

This annex applies to a mass casualty event with a large number of pediatric patients. It supports the ERHCC Response Plan by addressing specific needs of children and supporting appropriate pediatric medical care during a disaster. This plan is intended to support, not replace, any existing facility or agency policy or plan by providing uniform regional response actions in the case of an emergency that involves (or could involve) significant numbers of children.

## 1.2 Scope

This Plan Annex is applicable to all health care entities within the Eastern Regional Health Care Coalition. For the purposes of this plan, “children” will be all-inclusive if under the age of 18. This plan recognizes that medical protocols at facilities might define “children” differently.

## 1.3 Situation

Emergency planning and response must include the whole community and address the access and functional needs of different populations. Civil rights protections and decisions, such as the Americans with Disabilities Act, Title VI and other case law (including several recent court decisions), must also be preserved in emergency planning and practices.

### **Health Care Facilities**

Any health care facility in Montana could encounter a pediatric surge situation. However, not all facilities might have adequate capabilities to provide optimal and safe care for that patient. Facilities should be aware of trauma referral patterns. The primary medical provider will determine the need and options for patient transfer in the event that they are presented with significantly impacted pediatric patients.

In the Eastern Region there are:

- 13 Critical Access Hospitals, including 2 Tribal/IHS Hospital
- Approximately 9 Inpatient Pediatric Beds and no specific Pediatric ICU Beds

### 1.3.1 ACCESS AND FUNCTIONAL NEEDS

Adequately addressing Access and Functional Needs, especially those of a specific group like children, in a response plan is challenging. Planning is more than giving the number of people in a jurisdiction with certain characteristics. Planning involves identifying how those community characteristics will affect response operations to ensure that people with diverse and functional needs access and benefit from the response and health care services that this coalition collectively provides.

## 1.4 Assumptions

The following are the planning assumptions for the purposes of this framework:

- All facilities within the region have developed their own Pediatric Surge plans.



- All hospitals providing emergency care may receive pediatric patients and should be able to provide initial assessment and stabilization before transferring to a higher level of care.
- Although there are adequately certified health care professionals, there are few pediatric and NICU beds within the state of Montana.
- An incident triggering the activation of the ERHCC Pediatric Surge Annex will happen with little or no warning.
- Initially, all local hospitals will follow the facility's organizational protocols when faced with pediatric patients.

## SECTION 2: CONCEPT OF OPERATIONS

### 2.1 Activation Indicators (Triggers)

Activation of this plan will occur upon the request for assistance from any health care entity within the region.

The initial response to a pediatric patient surge will be the responsibility of the local EMS and health care organizations. The entities will partner with emergency management agencies, public health, law enforcement, and other response agencies as needed, utilizing all available local resources. Existing protocols for incident command, coordination of resources, and distribution of patients will be adhered to. However, local efforts may quickly become exhausted and require external resource, care, and coordination assistance.

The ERHCC would fulfill a support role during any pediatric surge event. The following steps outline the potential flow of activations and response:

1. Mass casualty incident involving pediatric patients occurs;
2. Local EMS begins notifications, patient triage, and distribution from the incident scene per existing protocols and procedures. Local facilities may notify the ERHCC to assist with coordination and resource sharing as needed;
3. If local response agencies are overwhelmed, the ERHCC may assist in contacting regional and state resources as well as other partners;
4. The ERHCC will work with the facility for situational awareness, existing telemedicine programs, and available patient transfer agencies to help facilitate transfer to appropriate definitive care. Alternately, if facility resources are overwhelmed, requests are made to the State Emergency Coordination Center (SECC), operated by DES, and to PHEP/HPP through the DPHHS Duty Officer (DO). The ERHCC may be notified through PHEP/HPP of the need for assistance.

### 2.2 Notification

Notification will be the responsibility of the responding agencies and participating health care facilities. The ERHCC will assist with communication and resource needs as requested.

### 2.3 Roles and Responsibilities

Local organizations and agencies within the impacted jurisdiction will have primary responsibility for response, including initial triage and casualty distribution.

The roles and responsibilities of the responding agencies and participating health care facilities will be determined by each individual entity. It is the responsibility of the entities to acquire and provide appropriate education and training. The ERHCC does not have the authority to dictate or recommend roles and responsibilities but will provide education and training related to best practices.

## 2.4 Logistics

Logistics for space, staff, and supplies are the responsibility of the responding agencies and participating health care facilities. The ERHCC will assist with resource needs as requested.

### 2.4.1 SPACE

Each hospital should follow its own protocols for treating, holding, transporting, and transferring care regarding pediatric patients.

### 2.4.2 STAFF

Facilities are encouraged to utilize Montana Health Care Mutual Aid System (MHMAS) to request trained staff as needed. Facilities are also encouraged to utilize the DPHHS EMS for Children (EMS-C) program as subject matter experts in pediatric care.

### 2.4.3 SUPPLIES

The ERHCC may assist with facilitating mutual aid to find supplies and resources, including transportation. This may include utilizing EMResource, existing MOUs, volunteer registry, existing cache, and access to supply vendors to address resource shortages.

### 2.4.4 TELEMEDICINE

Telemedicine or other telecommunication technology may be utilized when a facility is not able to transfer the pediatric patient to a higher level of care; i.e. bad weather.

## 2.5 Special Considerations

### 2.5.1 BEHAVIORAL HEALTH

In coordination with direct medical care, behavioral health care may be necessary to support patients and families impacted by a pediatric surge event. Plans should be enacted early in a pediatric response to address and plan for behavioral health care needs as appropriate. Additionally, due to the impact of treating pediatric patients, plans may be required to support a surge in behavioral health needs of patients, family members, community members, health care staff, and employees. Health care organizations should work together to facilitate information coordination and standardization of resources provided to address behavioral health concerns based on the incident. Behavioral health response may need to continue long after a response is demobilized.

### 2.5.2 DECONTAMINATION, EVACUATION, SPECIAL PATHOGENS AND SECURITY

With regard to decontamination, evacuation, special pathogens and security; each agency should follow its own protocols and be apprised of industry best practices.

## 2.6 Operations – Medical Care

Operations for all responders providing medical care are the responsibility of the health care entity. The ERHCC cannot assume the responsibility of providing guidance and/or protocol for medical care.

### 2.6.1 TRIAGE

The impacted health care organizations will immediately begin triage and treatment according to local protocols. During triage, EMS and primary receiving facilities should consider patient allocation by number of patients, age, and severity priority for pediatric patients. As stated, all hospitals providing emergency care may receive pediatric patients and should be able to provide initial assessment and stabilization before transferring to a higher level of care. Secondary triage of patients to an appropriate center for continued care will be critical. Hospitals may rely on telehealth to assess these patients based on available resources within the facility.

### 2.6.2 TREATMENT

Treatment of pediatric patients, including how information will be shared and how pediatric care specialty consultation will be obtained by the impacted facilities and responding agencies and their approach to patient care should align with best practice protocols.

## 2.7 Transportation

Considerations for safe inter-facility transport, including prioritization, of stable, unstable, and potentially unstable pediatric patients will be at the discretion of the sending and receiving facilities in concert with the transporting agency.

The decision to transfer a patient to another facility for definitive care is complex, and relies on consideration of a number of factors to determine which patient is transported to which facility, and when.

## 2.8 Tracking

Health care facilities will follow routine and/or disaster protocols for tracking patient movement within their hospital system. More uncommon patient movement, including transfers from a facility to a destination facility outside of the hospital system or state, may occur.

## 2.9 Reunification

Facilities should utilize existing plans and protocols for providing appropriate patient supervision in a pediatric safe area and hospital family information center/support center.

## 2.10 Deactivation and Recovery

Triggers for incident conclusion include decreased patient volumes and near-normal levels of hospital staffing and supplies. When these triggers occur, demobilization efforts will be activated at the discretion of participating agencies with all appropriate stand-down measures initiated as needed. The Health care Coalitions will provide guidance and support as able.

## SECTION 3: MAINTENANCE & REVIEW

The ERHCC formally reviews all components of this preparedness plan on a five-year cycle. A preparedness planning review group, convened by the executive committee, offers advice and suggestions on appropriate emergency planning and construction of the document. This process allows the coalition to determine if it meets all essential factors, remains, applicable, and affords the opportunity to update and change the plan as the coalition changes and grows.

Minor corrections, edits, updates, or adjustments in this document might occur on occasion without a formal review. Changes may also take place as part of improvement plans from exercise after action reports. All changes are tracked in a versioning method and in the Record of Change log.

## 3.1 Training

Just in Time training for personnel involved with supporting the incident. Potential training venues will be provided on the HCC website.

## 3.2 Exercises

This plan or any of its components could be exercised separately or in conjunction with other exercises. Exercises will be run under simulated, but realistic, conditions to validate plans for responding to specific emergency situations and to identify deficiencies that need to be corrected. Personnel participating in these exercises should be those who will make policy decisions or perform the operational procedures during an actual event (i.e. critical personnel). Exercises are conducted under no-fault pretenses.

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# Appendix 1: Job Action Sheet

## Sample HICS Job Action Sheet–Medical/Technical Specialist-Pediatric Care

**Mission:** Advise the Incident Commander or Operations Section Chief, as assigned, on issues related to pediatric emergency response.

Date: \_\_\_\_\_ Start: \_\_\_\_\_ End: \_\_\_\_\_ Position Assigned to: \_\_\_\_\_ Initial: \_\_\_\_\_

Position Reports to: \_\_\_\_\_ Signature: \_\_\_\_\_

Hospital Command Center (HCC) Location: \_\_\_\_\_ Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_ Time: \_\_\_\_\_ Initial: \_\_\_\_\_

Other Contact Info:

\_\_\_\_\_ Radio

Title: \_\_\_\_\_

### Immediate (Operational Period 0-2 Hours)

Receive appointment and briefing from the Incident Commander or Operations Section Chief, as assigned.

Read this entire Job Action Sheet and review incident management team chart (HICS Form 207). Put on position identification.

Notify your usual supervisor of your HICS assignment.

Document all key activities, actions, and decisions in an Operational Log (HICS Form 214) on a continual basis.

Meet with the Command staff, Operations and Logistics Section Chiefs and the Medical Care Branch Director to plan for and project pediatric patient care needs.

Communicate with the Operations Section Chief to obtain:

- Type and Location of Incident
- Number and condition of expected pediatric patients
- Estimated arrival time to facility
- Unusual or hazardous environmental exposure

Request staffing assistance from the Labor Pool and Credentialing Unit Leader, as needed, to assist with rapid research as needed to determine hazard and safety information critical to treatment and decontamination concerns for the pediatric victims.

Provide pediatric care guidance to Operation Section Chief and Medical Care Branch Director based on incident scenario and response needs.

Ensure pediatric patient identification and tracking practices are being followed.

Communicate and coordinate with Logistics Section Chief to determine pediatric:

- Medical care equipment and supply needs
- Medications with pediatric dosing
- Transportation availability and needs (carts, cribs, wheelchairs, etc.)

Communicate with Planning Section Chief to determine pediatric:

- Bed availability
- Ventilators
- Trained medical staff (MD, RN, PA, NP, etc.)
- Additional short- and long-range pediatric response needs

Ensure that appropriate pediatric standards of care are being followed in all clinical areas.

## Appendix 2: Transfer Agreements

Inpatient facilities should follow established transfer protocols to higher levels of care. The closest pediatric specialty care facilities are listed below and health care agencies are encouraged to have transfer agreements in place with at least one organization.

Shodair Children's Hospital, Helena

Logan Health Children's, Kalispell

Denver Children's Hospital

University of Utah Primary Children's Hospital

Seattle Children's Hospital

Sacred Heart Children's Hospital, Spokane

## Appendix 3: References

Provided by ASPR TRACIE

### American Academy of Pediatrics (AAP) Resources:

American Academy of Pediatrics. (2013). Pediatric Preparedness Resource Kit.

This kit allows pediatricians, public health leaders and other pediatric care providers to assess what is happening in their community or state, and help determine what needs to be done before an emergency or disaster (e.g., a pandemic). The kit also promotes collaborative discussions and decision making about pediatric preparedness planning.

American Academy of Pediatrics. (2013). Preparedness Checklist for Pediatric Practices.

This document offers checklists and steps that pediatricians or their practice staff can take to improve office preparedness. It allows for advanced preparedness planning that can mitigate risk, ensure financial stability, strengthen the medical home, and help promote the health of children in the community.

American Academy of Pediatrics. (2018). Pediatric and Public Health Preparedness Exercise Resource Kit.

This resource kit was developed through a collaboration between the American Academy of Pediatrics and the Centers for Disease Control and Prevention. Its purpose is to “provide the tools and templates to make it easier for states, communities, hospitals, or health care coalitions to conduct a pediatric tabletop exercise, which provides participants with the opportunity to discuss and assess preparedness plans and capabilities for a disaster that affects children.”

American Academy of Pediatrics. (2019). Children's Hospitals and Preparedness Webinar Series.

The AAP created this webinar series in collaboration with the Centers for Disease Control and Prevention to promote a dialogue among clinicians and disaster planners at children’s hospitals and to improve each hospital’s response plans and ability to care for children in an emergency.

American Academy of Pediatrics, in collaboration with Massachusetts General Hospital, Center for Disaster Medicine. (2018). Family Reunification Following Disasters: A Planning Tool for Health Care Facilities.

This planning tool was created to assist hospitals with their plans to provide information, support services, and safe reunification assistance to family members of patients who have experienced disasters. It provides potential solutions to reunification-related challenges, including: planning for the secure reception, tracking, and care of large numbers of children who may present to a hospital following a mass-casualty event; identifying injured and unaccompanied children in a disaster; tracking unaccompanied children during their hospital stay; and what legal authority a hospital has to administer care to minors when the parent/guardian is unavailable to participate in the informed consent process.



American Academy of Pediatrics, Needle, S. and Wright, J. (2015). Ensuring the Health of Children in Disasters. American Academy of Pediatrics. 136(5): e1407-e1417.

This policy statement addresses how pediatricians and others involved in the care and well-being of children can prepare for and mitigate the effects of disasters, encourage preparedness and resiliency among children and families and within communities, and ensure that children's needs, including those of children and youth with special health care needs, are not neglected in planning, response, and recovery efforts.

American Academy of Pediatrics, Remick, K., Gausche-Hill, M., Joseph, M.M., et al. (2018). Pediatric Readiness in the Emergency Department. Pediatrics. 142(5).

This Policy Statement defines the recommended resources Emergency Departments need to be prepared to treat pediatric patients.

Chung, S., Foltin, G., and Schonfeld, D.J. (2019). Pediatric Disaster Preparedness and Response Topical Collection: Emerging Infectious Diseases. American Academy of Pediatrics.

This chapter is included in the AAP Pediatric Disaster Preparedness and Response Topical Collection. The chapter describes the importance of being prepared to safely care for pediatric patients with highly hazardous communicable, as emerging and reemerging infectious diseases are a constant threat to pediatric health care worldwide.

Chung, S., Foltin, G., and Schonfeld, D.J. (2019). Pediatric Disaster Preparedness and Response Topical Collection: How Children are Different. American Academy of Pediatrics.

This chapter is included in the AAP Pediatric Disaster Preparedness and Response Topical Collection. The chapter describes the unique anatomic, physiologic, immunologic, developmental, and psychologic considerations that potentially affect children's vulnerability to injury and response in a disaster.

Chung, S., Foltin, G., and Schonfeld, D.J. (2019). Pediatric Disaster Preparedness and Response Topical Collection: Mental Health Issues. American Academy of Pediatrics.

This chapter is included in the AAP Pediatric Disaster Preparedness and Response Topical Collection. This chapter describes the roles that pediatricians and other health professionals that care for children will play in identifying and addressing the mental health needs of children and families in a disaster or terrorist event.

Chung, S., Foltin, G., and Schonfeld, D.J. (2019). Pediatric Disaster Preparedness and Response Topical Collection: Pediatric Preparedness Exercises. American Academy of Pediatrics.

This chapter is included in the AAP Pediatric Disaster Preparedness and Response Topical Collection. This chapter describes the many types of exercises that can be completed to help an organization test a hypothetical situation, such as a natural or man-made disaster, and evaluate the group's ability to cooperate and work together and to test their readiness to respond.

Davies, H. and Byington, C. (2016). Parental Presence During Treatment of Ebola or Other Highly Consequential Infection. *Pediatrics*. 138(3).

This clinical report from the American Academy of Pediatrics Committee on Infectious Diseases presents options for meeting the needs of patients and their families while posing the least risk to health care providers and facilities.

Disaster Preparedness Advisory Council. (2016). Medical Countermeasures for Children in Public Health Emergencies, Disasters, or Terrorism. *Pediatrics*. 137(2).

The Council shares that many medical countermeasures (MCM) are more likely to be approved for adult use and may not take the unique needs of children into account. They drafted this policy statement to suggest recommendations that address the gaps for the development and use of MCMs in children during public health emergencies or disasters.

Hinton, C.F., Davies, H.D., Hocevar, S.N., et al. (2016). Parental Presence at the Bedside of a Child with Suspected Ebola: An Expert Discussion. *Clinical Pediatric Emergency Medicine*. 17(1):81-86.

This article demonstrates the challenges and weighing of risks and benefits involved in the consideration of parental presence at the bedside of a child suspected of having Ebola.

Schonfeld, D.J., Demaria, T., and the Disaster Preparedness Advisory Council and Committee on Psychosocial Aspects of Child and Family Health. (2015). Providing Psychosocial Support to Children and Families in the Aftermath of Disasters and Crises. *Pediatrics*. 136(4): E1120-E1130.

The American Academy of Pediatrics released this clinical report urging pediatricians to look for common adjustment problems in children following a disaster or crisis, and to promote effective coping strategies to ease the impact of the event. The report stresses the importance of ensuring basic support services, psychological first aid, and professional self-care while working with patients and families in the wake of disaster.

### **HCC-Level Pediatric Plans**

National Capital Region. (2019). NCR Plan for Management of Pediatric Patients in an Emergency.

Stanislaus County. (2019). Health care Emergency Preparedness Coalition, Pediatric Disaster Surge Plan.

### **HCC Pediatric Planning Templates and Resources**

DC Emergency Health Care Coalition. (n.d.). Initial Management Guidelines for Pediatric Burn Patients.

These templates--part of the National Capital Region Burn Mass Casualty Incident Response Plan--can help health care providers care for pediatric burn patients.

Dodgen, D., Anderson, M., Edgerton, E., et al. (2013). Pediatric Preparedness for Health Care Coalitions. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This 90-minute webinar introduces health care system preparedness for children, and a national perspective on preparedness for children in disasters. Presenters also cover improving the emergency care system for children, perspectives on creating a multi-state coalition for pediatric surge, and New York City Pediatric Disaster Coalition operational pediatric disaster planning.

Frogel, M., Flamm, A., Sagy, M., et al. (2017). Utilizing a Pediatric Disaster Coalition Model to Increase Pediatric Critical Care Surge Capacity in New York City. *Disaster Medicine and Public Health Preparedness*. 11(4): 473-478.

The authors describe the stepwise development of the NYC Pediatric Disaster Coalition as a model for other cities to replicate in planning for pediatric disaster patients. They also discuss how the coalition supported hospitals in planning for pediatric surge.

Hansen, C., Dodgen, D., Levine, C., et al. (2014). Pediatric Preparedness for Health Care Coalitions: Part II. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This 90-minute webinar reviews resources, strategies, and partnerships used by medical planners and health care coalitions to strengthen pediatric components of their jurisdiction's health care preparedness capabilities. Included are lessons learned from the response to Superstorm Sandy and the Alaska Shield/Hale Borealis exercise.

Minnesota Department of Health. (2014). Patient Care Strategies for Scarce Resource Situations Card Set.

This card set can be used as a decision support tool and was developed to facilitate a structured approach to resource shortfalls at a health care facility. Pediatrics Resource Cards and Pediatrics Triage Cards are provided in Section 10.

Schreiber, M., Pfefferbaum, B, and Sayegh L. (2012). Toward the Way Forward: The National Children's Disaster Mental Health Concept of Operations. (Abstract only.) *Disaster Medicine and Public Health Preparedness*. 6(2):174-81.

The authors identify critical gaps in pediatric triage and treatment strategies during disaster response. This report provides an outline for a triage-driven children's disaster mental health incident response strategy.

Schreiber, M., Shields, S., Formanski, S., et al. (2012). Code Triage: Integrating the National Children's Disaster Mental Health Concept of Operations Across Health Care Systems. *Academic Emergency Medicine*. 18: s59.

The authors identify three key concept of operations strategies that provide an integrated "disaster systems of care": (1) the PsySTART Disaster Mental Health Triage System, (2) a child

focused Incident Action Plan, and (3) a continuum of risk stepped-care model that matches the level of evidence-based treatment interventions with the level of identified risk using a stepped-care framework.

### **Regional and State-Level Pediatric Plans and Resources**

Central Valley, CA. (2012). Regional Pediatric Disaster Surge Framework. California Hospital Association.

This document provides a framework for community collaboration to develop regional, comprehensive, integrated pediatric preparedness response plans.

Contra Costa Health Services Emergency Medical Services Agency. (2011). Contra Costa Pediatric/Neonatal Disaster and Medical Surge Plan and Preparedness Toolkit.

This toolkit was developed to facilitate disaster preparedness that involves the practice of including neonates and pediatrics in all county, provider agency, and hospital-based disaster exercises. It provides an example of implementing emergency medical services for children guidelines at the local level.

This plan provides a detailed framework for various stakeholders involved in an emergency response within the State of Illinois and surrounding states in order to protect children and provide appropriate pediatric medical care during a disaster. The plan can be used to guide a state-level response and provides local medical services guidance on the care of children, including patient movement, system decompression, recommendations for care, and resource allocation during a surge of pediatric patients. It includes several tools such as transfer forms and algorithms.

Los Angeles County Emergency Medical Services Agency. (2016). Los Angeles County Pediatric Surge Plan. California Hospital Association.

This plan provides details on how each hospital within Los Angeles County would support a pediatric surge of patients including surge targets, supplies, and patient type. This plan also includes parameters for transporting children from prehospital field operations to health care facilities and transferring of patients among hospitals.

Minnesota Department of Health. (2019). Minnesota Pediatric Surge Primer and Template Plan.

This customizable template is geared for small community hospitals that do not usually provide pediatric trauma or inpatient services. It provides guidance and templates that facilities and regions can follow to plan for pediatric patients in a mass casualty event.

Texas Trauma Service Area (TSA) B. (2016). Trauma Service Area -B (BRAC): Regional Pediatric Plan.

This plan provides prehospital and hospital providers with regional standardized procedures for the treatment of pediatric patients. It addresses various issues to include: prehospital triage, helicopter activation, inter-hospital transfers, pediatric trauma triage/ transfer decision scheme, among others topics.

Western Region Homeland Security Advisory Council. (2017). Children in Disasters Emergency Preparedness: Family Reunification Plan Template.

This template can be used by any organization (e.g., hospitals, educational institutions, and day care centers) to develop a family reunification plan. It addresses information on topics including reunification protocols, legal authorities, terminology, methods of reunification, and coordination of efforts with key stakeholders.

#### **Hospital/Health Care Pediatric Plans and Resources**

Bradin, S., Lozon, M., Butler, A., et al. (2015). Planning for Children in Disasters: A Hospital Toolkit. Michigan Department of Health and Human Services.

This toolkit includes information to assist hospitals with planning for the needs of children through all stages of a disaster. Guidance covers medical surge and triggers; staffing plans; triage protocols; decontamination; transport of pediatric patients; chemical agents and antidotes; infection protection; family reunification; and psychological support.

Illinois Emergency Medical Services for Children. (2009). Neonatal Intensive Care Unit (NICU) Evacuation Guidelines.

These neonatal intensive care unit (NICU) evacuation guidelines were developed by professionals throughout Illinois. A multi-disciplinary committee was also convened to collate personal experiences, recommendations, and current literature on NICU evacuations. This guide is intended to assist health care providers assess pre-event vulnerabilities and plan for the evacuation of medically fragile Level III NICU patients while addressing core components of incident management, in conjunction with the promotion of patient safety and evacuation procedures based on lessons learned from past disasters and experiences.

NYC Pediatric Disaster Coalition. (2018). NYC Pediatric Disaster Health Care Preparedness Toolkit – Hospitals.

This webpage includes links to guidelines and templates designed for pediatric providers to create disaster plans at their individual health care sites. It also offers comprehensive information on how to conduct exercises that can be used for plan revision and improvement within the context of overall disaster preparedness.

Rady Children's Hospital, San Diego. (2011). Pediatric Surge Planning: Train the Trainer.

This online course provides an in-depth overview of the special considerations associated with pediatric surge planning. The authors describe hospital incident command system activation, specific tools and actions linked to pediatric surge, and provide tips for developing a surge plan.

Seattle and King County Public Health Department. (2010). Hospital Guidelines for Management of Pediatric Patients in Disasters.

This toolkit is based on an earlier version developed by the New York City Department of Health and Mental Hygiene and includes considerations for staffing and training, resources, security, transportation, decontamination, hospital-based triage, and inpatient bed planning.

Abraham, H. (2014). Planning for Pediatrics in Disasters. *Journal of Emergency Medical Services*.

The author encourages emergency medical planners to account for children's' unique physical, psychological, and communication needs when drafting pre-hospital emergency response plans. She also shares pediatric-specific care tips for decontamination, triage, airway procedures, drug dosage and delivery, and psychological care.

American Academy of Pediatrics. (2013). Pediatric Preparedness Resource Kit.

This kit allows pediatricians, public health leaders and other pediatric care providers to assess what is happening in their community or state, and help determine what needs to be done before an emergency or disaster (e.g., a pandemic). The kit also promotes collaborative discussions and decision making about pediatric preparedness planning.

California Hospital Association. (2010). EMSC Pediatric Disaster Preparedness Guidelines: Hospitals.

This standards document is based on The Joint Commission and other national requirements for hospitals, tailored for pediatric issues.

EMSC. (n.d.). Checklist: Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies.

This Checklist is intended to be used as a tool to help hospital administrators and leadership incorporate essential pediatric considerations into existing hospital disaster policies. This publication is available in two versions: static pdf and interactive pdf.

Illinois Emergency Medical Services for Children. (2010). Hospital Pediatric Preparedness Checklist.

All hospitals need to assure that they are prepared to handle the unique needs of children in a disaster event. As hospitals develop their emergency operations plans, Illinois EMSC recommends the inclusion of pediatric components in several key areas. This checklist was designed to help hospitals identify their current level of pediatric preparedness and recognize additional opportunities for improvement.

Illinois Emergency Medical Services for Children. (2005). Pediatric Disaster Preparedness Guidelines

This document was created to promote awareness of children's unique vulnerabilities in a disaster or mass casualty incident and to guide organizations in integrating pediatric considerations into their disaster plans. Implementing these recommendations and guidelines is only the first step in improving emergency and disaster preparedness for children.

National Advisory Committee on Children and Disasters. (2015). Health Care Preparedness for Children in Disasters: A Report of the NACCD Health Care Preparedness Working Group.

This report was developed in response to a tasking by the U.S. Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR) to assess the readiness to care for children affected by disasters. It focuses on three key areas: coalition building, workforce development, and medical countermeasure readiness.

National Association of State EMS Officials. (2014). Checklist Tool for Pediatric Disaster Preparedness.

Derived from the 2010 report of the National Commission on Children and Disasters, this document is a tool for State EMS Offices to establish standards for EMS providers and agencies.

### **Other Relevant Resources**

Committee for Tactical Emergency Casualty Care. (2015). Pediatric Tactical Emergency Casualty Care.

This resource provides guidelines for the immediate on-scene stabilization of victims, depending on whether or not there is an ongoing threat to safety.

Illinois Emergency Medical Services for Children. (2013). NICU/Nursery Evacuation Tabletop Exercise Toolkit.

This toolkit provides various resources and tools developed specifically for exercises, and offers guidance on planning, conducting, and evaluating tabletop exercises focused on the neonatal intensive care unit and nursery population.

Laraque, D., Jensen, P., and Schonfeld, D.J. (2006). Feelings Need Check-ups Too Toolkit. American Academy of Pediatrics.

This toolkit can help practitioners intervene effectively with children experiencing emotional distress related to catastrophic events. Various screening tools are demonstrated through case studies, and treatment options are described, along with information on accessing mental health resources for treatment referrals.

The National Child Traumatic Stress Network. (2018). For Teens: Coping after Mass Violence.

This fact sheet identifies emotions and reactions that teens might experience after witnessing and surviving a traumatic event. It also addresses expectations that others may have and challenges and opportunities for recovery. Self-care is emphasized in addition to connecting with community partners and locations that offer support.

**Resources related to health care evacuation specific to Neonatal Intensive Care Units (NICU), newborn babies, laboring mothers, and high-risk obstetrics (OB)**

ASPR TRACIE Technical Assistance Request

**Request Receipt Date (by ASPR TRACIE):** 13 February 2019 **Response Date:** 14 February 2019 **Type of TA Request:** Standard

**Request:**

The requestor asked if ASPR TRACIE had any resources related to health care evacuation specific to Neonatal Intensive Care Units (NICU), newborn babies, laboring mothers, and high-risk obstetrics (OB), during notice and no-notice events.

**Response:**

The ASPR TRACIE Team reviewed existing Topic Collections; namely the following:

- Access and Functional Needs
  - In particular, please review the Population-Specific Resources: Women and Gender Issues section
- Health Care Facility Evacuation / Sheltering
  - In particular, please review the Special Populations: Pediatric, NICU, and OB/GYN-Related Resources section
- Pediatric

We also conducted a search online for additional resources. Section I in this document includes resources specific to evacuation and NICUs/ pediatrics. Section II provides materials specific to women and obstetrics.

**NICU and Pediatric Evacuation-Specific Resources**

California Hospital Association. (2013). NICU Surge & Evacuation Considerations.

This document provides a list of considerations for hospital personnel to use when evacuating NICU patients. It includes a list of surge factors for the receiving hospitals and evacuation factors for the transferring hospital to consider.

Carbine, D., Cohen, R., Hopper, A., et al. (2014). Neonatal Disaster Preparedness Toolkit. California Association of Neonatologists.

This toolkit identifies major hazards faced by neonatal intensive care units in California and provides suggested mitigation and response planning strategies, including evacuation and sheltering in place. It also provides appendices with sample check lists, job action sheets, and information transfer sheets for specific hazards.

Espiritu, M., Patil, U., Cruz, H., et al. (2014). Evacuation of a Neonatal Intensive Care Unit in a Disaster: Lessons from Hurricane Sandy. *Pediatrics*. 134(6).

The authors identify lessons learned from the evacuation of NICU patients during Hurricanes Irene and Sandy in 2012.



Femino, M., Young, S., and Smith, V. (2013). Hospital-Based Emergency Preparedness: Evacuation of the Neonatal Intensive Care Unit-The Smallest and Most Vulnerable Population. (Abstract only.) *Pediatric Emergency Care*. 29(1):107-13.

The authors describe a full-scale neonatal intensive care unit evacuation exercise and emphasize the importance of constant, clear communication.

Graciano, A.L., and Turner, D. (2015). *Current Concepts in Pediatric Critical Care*. (Book available for purchase.) Society of Critical Care Medicine.

Chapter 16 of this book addresses pediatric preparedness, and specifically includes sections on the evacuation of pediatric intensive care units.

Hoskins, J., Krupa, A., and Lyons, E. (2016). *Pediatric Evacuation: You Don't Get To Go Home But You Can't Stay Here*. Illinois Public Health Association.

This presentation provides information on pediatric evacuation initiatives within the State of Illinois.

Illinois Emergency Medical Services for Children. (2009). *Neonatal Intensive Care Unit (NICU) Evacuation Guidelines*.

These neonatal intensive care unit (NICU) evacuation guidelines were developed by professionals throughout Illinois. A multi-disciplinary committee was also convened to collate personal experiences, recommendations, and current literature on NICU evacuations. This guide is intended to assist health care providers assess pre-event vulnerabilities and plan for the evacuation of medically fragile Level III NICU patients while addressing core components of incident management, in conjunction with the promotion of patient safety and evacuation procedures based on lessons learned from past disasters and experiences.

Illinois Emergency Medical Services for Children. (2013). *NICU/Nursery Evacuation Tabletop Exercise Toolkit*.

This toolkit provides various resources and tools developed specifically for exercises, and offers guidance on planning, conducting, and evaluating tabletop exercises focused on the neonatal intensive care unit and nursery population.

Loma Linda University Children's Hospital. (2013). *Pediatric/Neonatal Disaster Reference Guide: Bridging the Gap between EMS and Hospital Care*.

This guide was created to help emergency managers, coordinators, and hospitals in their efforts to develop their own specific departmental Emergency Operations Plan that addresses the special needs of children and infants.

Lucile Packard Children's Hospital. (n.d.). *Preplanning Disaster Triage for Pediatric Hospitals: TRAIN TOOLKIT*. (Accessed 2/14/2019.)

The Triage by Resource Allocation for In-patient (TRAIN) matrix is a tool for pediatric hospital disaster "pre-planning" and an in-patient triage system designed to facilitate evacuation in a major crisis. It categorizes pediatric inpatients according to their resource transportation needs. It can be implemented manually or within an electronic medical record.

Texas Perinatal Services. (2018). NICU Disaster Training: El Paso Hospitals Test Plans for Evacuating Tiniest Patients in an Emergency.

This resource provides information on the lessons learned from exercises that were conducted by El Paso hospitals in 2018 specific to the evacuation of NICUs.

### **Women and Obstetrics-Specific Resources**

American College of Obstetricians and Gynecologists' Committee on Obstetric Practice. (2017). Hospital Disaster Preparedness for Obstetricians and Facilities Providing Maternity Care. ACOG Committee Opinion. 726.

According to the authors, disasters can increase the likelihood of spontaneous miscarriages, preterm births, and low-birth weight infants. This opinion paper lists recommendations hospitals that provide maternity services can include in their disaster plans.

Centers for Disease Control and Prevention. (2014). Critical Needs in Caring for Pregnant Women During Times of Disaster for Non-Obstetric Health Care Providers.

This tip sheet addresses the critical obstetric considerations for non-obstetric providers for patients relocated due to disasters.

Centers for Disease Control and Prevention, Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion. (n.d.). Estimating the Number of Pregnant Women in a Geographic Area. (Accessed 2/14/2019.)

This factsheet describes the process used to estimate the number of pregnant women in a United States jurisdiction at any given time. It can be used by emergency planners to ensure adequate resource allocation and tailored planning.

Daniels, K., Austin, N., and Hilton, G. (n.d.). Get Ready Stay Ready. (Accessed 2/14/2019.) California Hospital Association.

This presentation provides disaster planning information for obstetric units. It addresses the unique needs of these units, and includes information on disaster training for obstetric units.

Daniels, K., and Peterson, N. (n.d.). We're in this Together. (Accessed 2/14/2019.) California Hospital Association.

This presentation provides disaster planning information for obstetric units. It provides strategies for surge and shelter-in-place procedures, and demonstrates a triage tool designed for obstetrical patients (OB TRAIN).

Haeri, S. and Marcozzi, D. (2015). Emergency Preparedness in Obstetrics. (Abstract only.) *Obstetrics and Gynecology*. 125(4):959-70.

The authors emphasize the need for emergency preparedness discussions and actions among obstetric providers, tailored plans for pregnant women and their families, and all-hazards hospital planning.

Harville, E.W., Xiong, X., and Buekens, P. (2010). Disasters and Perinatal Health: A Systematic Review. *Obstetrics and Gynecological Survey*. 65(11): 713728.

The authors examine the existing evidence on the effect of disasters on perinatal health. While there is evidence that disaster impacts maternal mental health outcomes and some perinatal

health outcomes, the authors suggest that future research focus on under-studied outcomes such as spontaneous abortion.

New York State Department of Health, Health Emergency Preparedness Program, and Division of Family Health Office of the Medical Director. (2010). Pediatric and Obstetric Emergency Preparedness Toolkit.

This toolkit is especially designed for those hospitals that do not have pediatric intensive care services or obstetric or newborn services, and must prepare for such patients during a disaster. Hospitals should use this document to inform their facility-specific plans.

Stanford Medicine Obstetrics and Gynecology. (2015). Stanford OB Disaster Planning Toolkit.

A Stanford Health Care multidisciplinary committee, consisting of obstetricians, obstetrical anesthesiologist, labor and delivery and postpartum nurses, created and tested in a simulated setting, a compilation of tools that can be employed in the event of a hospital disaster requiring evacuation. This toolkit addresses the evacuation of labor and delivery and antepartum units, and includes shelter in place plans for actively laboring patients.

UNC Center for Public Health Preparedness. (2011). Reproductive Health Assessment after Disasters A Toolkit for US Health Departments.

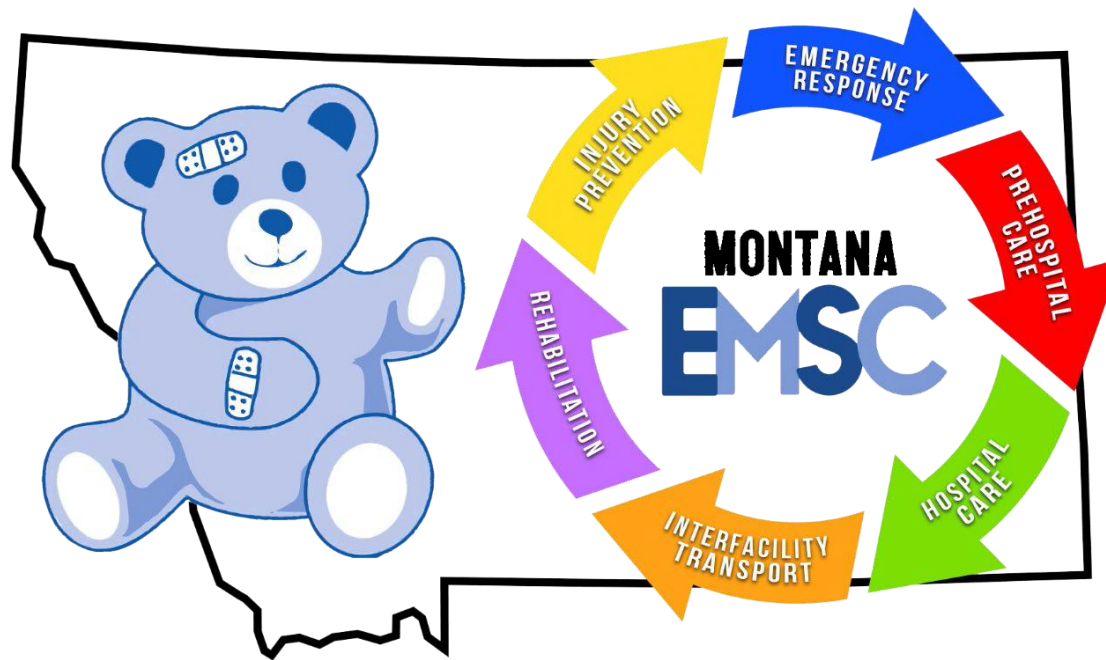
This toolkit can help health care providers assess the reproductive health needs of women aged 15-44 after a disaster. It includes links to a variety of resources including checklists, training resources, and instructions for analysis.

## Appendix 4: Resources

- Recommended Pediatric Equipment and Supplies for EMS
- Recommended Pediatric Equipment and Supplies for Hospitals
- Engage, Calm, Distract – Understanding and Responding to Children in Crisis
- Pediatric Emotional Distress Reference System

# Recommended Pediatric Equipment and Supplies for EMS

(Excerpted from the Montana Pediatric Facility Recognition Criteria)



## BLS UNITS LIST

## Transporting and Non-transporting Agencies

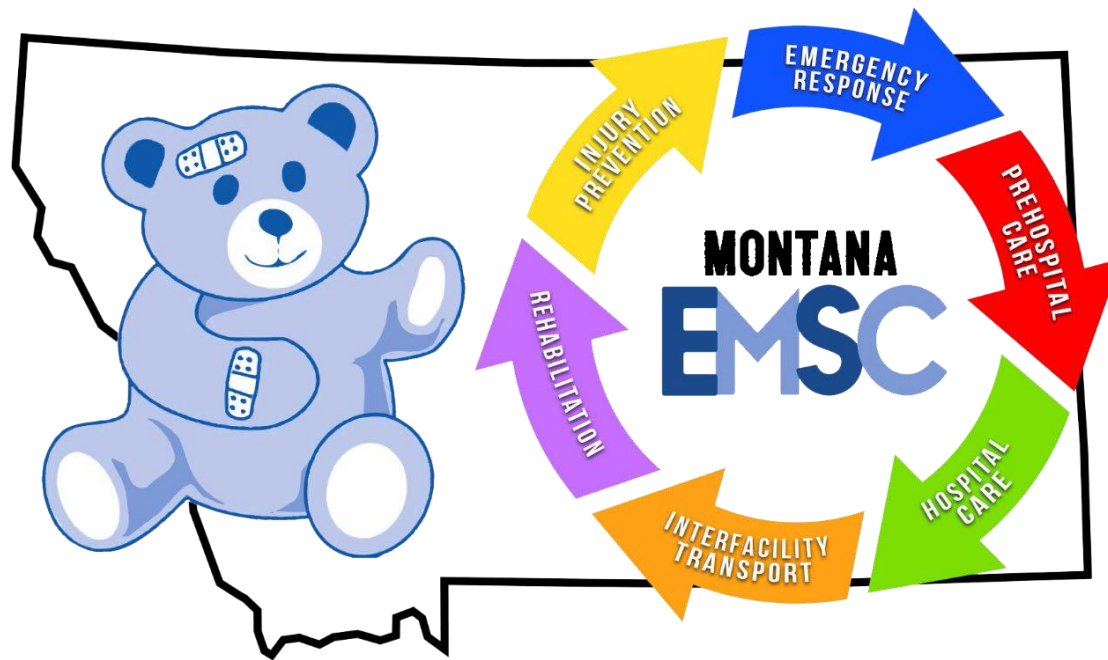
<input type="checkbox"/>	PEDIATRIC STETHOSCOPE	
<input type="checkbox"/>	PARAMEDIC SHEARS	
<input type="checkbox"/>	NASAL CANNULA-INFANT	
<input type="checkbox"/>	NASAL CANNULA-PEDIATRIC	
<input type="checkbox"/>	NON-REBREATHER MASKS-INFANT	
<input type="checkbox"/>	NON-REBREATHER MASKS-CHILD	
<input type="checkbox"/>	OXYGEN MASK -PEDIATRIC	
<input type="checkbox"/>	BULB SUCTION FOR INFANTS	
<input type="checkbox"/>		
<input type="checkbox"/>	PEDI-PAD BACKBOARD PAD	
<input type="checkbox"/>	OB KIT- SOFT PACK W/ SCISSORS	
<input type="checkbox"/>	PEDIATRIC E.C.G. ELECTRODES	
<input type="checkbox"/>	SPHYGMOMANOMETER - CUFF WITH INFLATION BULB & GAUGE	
<input type="checkbox"/>	PEDIATRIC	
<input type="checkbox"/>	INFANT	
<input type="checkbox"/>	PADDED SPLINT ARMBOARD 3X9 IN	
<input type="checkbox"/>	PADDED SPLINT ARMBOARD 3X6 IN	
<input type="checkbox"/>	DOSE BY GROWTH TAPE	
<input type="checkbox"/>	BAG VALVE MASK	
<input type="checkbox"/>	INFANT	
<input type="checkbox"/>	CHILD (450-750 ml)	
<input type="checkbox"/>	<b>7 COLOR CODED PEDIATRIC BAGS</b>	
<input type="checkbox"/>	<b>PINK/RED</b>	50 MM OPA; 14/16 NPA; 6 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>PURPLE</b>	60 MM OPA; 18 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>YELLOW</b>	60 MM OPA; 20 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>WHITE</b>	60 MM OPA; 22 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>BLUE</b>	70 MM OPA; 24 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>ORANGE</b>	80 MM OPA; 26 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR
<input type="checkbox"/>	<b>GREEN</b>	80 MM OPA; 28 NPA; 10 SUCTION CATHETER, JELLY, TONGUE DEPRESSOR

## ALS SERVICE UNITS

- MUCOSAL ATOMIZATION DEVICE (MAD)
- LENGTH-WEIGHT BASED TAPE 2019 Version
- PEDIATRIC NEBULIZER MASK
- 3-WAY STOPCOCK

# Recommended Pediatric Equipment and Supplies for Hospitals

(Excerpted from the Montana Pediatric Facility Recognition Criteria)





**PEDIATRIC EQUIPMENT AND SUPPLIES:**

Patient warming device

Intravenous blood/fluid warmer

Weight scale, in kilograms, not pounds for infants and children.

Length-based resuscitation tape 2019 version

Age appropriate Pain Scale assessment tools

Feeding Tubes (sizes 5 Fr, 8 Fr)

Foley Catheter

**MONITORING EQUIPMENT**

Accurate Temperature Monitoring Device

Blood pressure cuffs (neonatal, infant, child)

Continuous end-tidal CO<sub>2</sub> monitoring device

Electrocardiography monitor/defibrillator with pediatric-sized pads/paddles

Handheld Doppler ultrasonography devices

Pulse oximeter with pediatric probes

Glucose monitor

**RESPIRATORY EQUIPMENT AND SUPPLIES**

Endotracheal tubes (Cuffed/uncuffed-3.0, 3.5-8.0 mm)

Laryngoscope blades (curved: 2, 3 and straight: 0-3)

Laryngoscope handle

Oropharyngeal airways *Size* (0, 1, 2, 3, 4, 5)

Magill Forceps (pediatric)

Naso/Orogastric Tubes ( 6Fr – 18 Fr)

Nasopharyngeal airways (infant and child)

Stylets for endotracheal tubes (pediatric)

Suction Catheters (Sizes: 6, 8, 10, 12, 14, 16 Fr)

Yankauer/rigid Suction Tip

Tube Tracheostomy tray with chest tubes (*Sizes* 2, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5 mm)

King Tube (2, 2.5, 3, 4, 5) if within local use

Bag-mask device (manual), self-inflating (sizes 250 ml &amp; 450 ml)

Clear oxygen masks (Standard infant and child)

*Partial non-rebreather infant**Non-rebreather child*Masks to fit bag-mask device adaptor (*Neonatal, infant, and child*)

Nasal cannulas (infant and child)

Laryngeal mask airway <i>Sizes 1- 5 (if within local use)</i>
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.)
<b>VASCULAR ACCESS SUPPLIES AND EQUIPMENT</b>
Interosseous needles AND device (pediatric size)
Arm Boards (infant and child)
Umbilical vein catheters (Size 3.5 F, 5.0 F)
Central Venous Catheters ( <b>any two sizes 4.0F – 7.0 F</b> )
Catheter-over-the-needle device (14 – 24 gauge)
<b>FRACTURE MANAGEMENT DEVICES</b>
Extremity splints, including femur splints (pediatric sizes)
Cervical/spinal immobilization supplies with age appropriate (infant and child) including semi-rigid collars, backboards, towel rolls, straps, etc.
<b>SPECIALIZED PEDIATRIC TRAYS OR KITS</b>
Chest Tubes: Infant Size 10 F or 12 F
Chest Tubes: Child Size 16 F or 18F and 20F or 24 F
Newborn delivery kit (including equipment for initial resuscitation, umbilical clamp, scissors, bulb syringe and towel.)
Pediatric BAG or Cart w/ defined list of weight-based contents, easily accessed w/ list on outside
<b>MEDICINES</b>
Adenosine
Amiodarone
Antimicrobials (parenteral and oral)
Atropine
Calcium chloride
Charcoal (activated, with or w/out sorbitol)
Corticosteroids
Dextrose (D10W, D50W)
Dopamine
Epinephrine- (1:1000; 1:10,000 solutions)
Flumazenil
Glucose
Lidocaine
Magnesium Sulfate
Naloxone Hydrochloride

Sodium Bicarbonate (4.2%, 8.4%)
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<b>RAPID SEQUENCE/DRUG ASSISTED INTUBATION</b>
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Induction agents
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Paralytic Medications
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<b>OTHER MEDICATIONS</b>
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Activated Charcoal (with & without sorbitol)
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Analgesics
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Anticonvulsants (benzodiazepines, barbiturates)
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Antidotes (including cyanide)
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Antipyretics
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Bronchodilators
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Corticosteroids
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Diuretics
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Insulin
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Topical, oral and parenteral analgesics
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Narcotics
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Ocular Anesthetics
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Sedatives
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Vaccines-Tetanus, diphtheria-Tetanus, dPT, Immune globulin
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Vasopressor agents
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