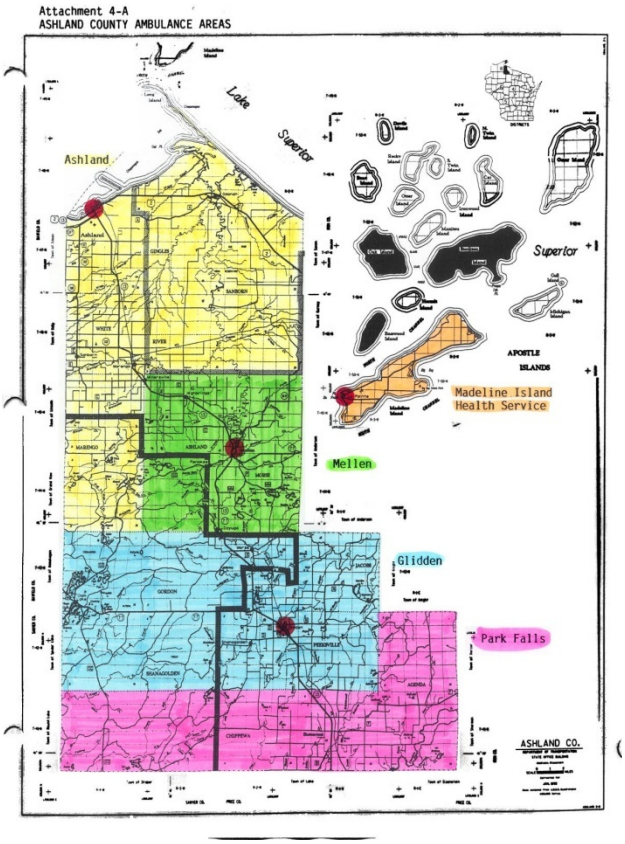
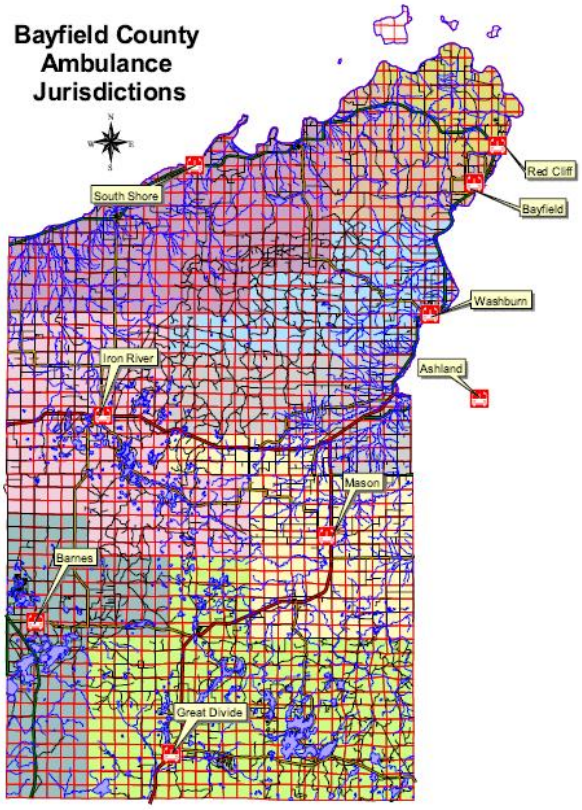
ASHLAND/BAYFIELD COUNTY

2008

EMERGENCY MEDICAL SERVICES

MANUAL





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THIS DOCUMENT PROUDLY PRESENTED

AND APPROVED

BY

Ashland/Bayfield County EMS Council
and
Keith Wesley, MD FACEP

Signed:_____

Date:_____

INTRODUCTION

This document contains the policies, protocols, guidelines, and instructions for emergent out-of-hospital care and inter-facility transfer transports for services rendered by the service overseen by the Ashland/Bayfield EMS Council. These services encompassed by these protocols and their contact information is contained in the following table:

It is a consensus document, drawing from the experiences and training of the medical director and field providers. It establishes standards of care that conform to the current guidelines of the State of Wisconsin.

The practice of out-of-hospital medicine requires a relative degree of flexibility to adequately address the great variability of situations that are part and parcel of working in a relatively uncontrolled environment. As such, circumstances may require occasional deviation from these instructions. The specific goal of any treatment must always be improvement in the patient's condition.

The practice of out-of-hospital medicine is also continually changing. As more research in this field is performed, guidelines for care will change. New technology, both in this particular arena and in hospital medicine, will likewise change the manner in which patients and their problems are managed. It is fully anticipated that this document will go through a variety of modifications over time, to make the most of new knowledge and advances in technology for the benefit of the patient.

The over-riding principal that guides this document and its users is that which guides all of medicine, that "the best interest of the patient is our primary concern".

BAYFIELD-ASHLAND COUNTIES EMS COUNCIL

Department	Contact/Address	Telephone Numbers	E-Mail Contact Address	Additional Info
ASHLAND	Keith Tveit, Chief Ashland Fire Department After 12/31/05 Wayne Chenier, Acting Chief 300 Stuntz Avenue Ashland WI 54806	Office: 715-682-7052 Home: Hall: 715-682-7052	ktveit@coashwi.org wchenier@coashwi.org	Career – Fire based – ALS. City of Ashland/Ashland County Medical Director: Dr. David Klee Contract with three towns in Bayfield County.
BARNES	Del Jerome, Director 9185 CO HWY N Drummond WI 54832	Home: 715-739-6245 Hall: 715-795-2424	djerome@cheqnet.net	Volunteer – BLS. Bayfield County Meetings: First Wednesday
BAYFIELD	Bill Andresen, Director PO BOX 218 Bayfield WI 54814 After 12/31/05 Jamie Patterson, Director 87975 Co Hwy J Bayfield WI 54814	Home: 715-779-9501 Work: 715-373-2667 Home: 715-779-5259 Hall: 715-779-3333	andresen@charter.net solarhill@ncis.net	Volunteer – BLS. Bayfield County Meetings: Second or Third Sunday
GLIDDEN	John Harding, Director R 1 Box 138J Mellen WI 54546	Home: 715-274-4402 Hall: 715-264-2914 Or 715-264-6059	john@pharmacymate.net or aecsincjohn@yahoo.com	Volunteer – BLS. Ashland County

GREAT DIVIDE	Candy Hankins, Operations Rob Puhls, Paramedic Coor PO BOX 478 Cable WI 54821	Office: Home: 715-798-4480 Hall: 715-798-3245	robrosie@cheqnet.net	Combination – ALS. 1 EMT/P (paid) and 1 EMT/B (volunteer) staffing. Medical Director: Dr. John McKichon No regular meeting night.
IRON RIVER	Gary Victorson PO BOX 53 Iron River WI 54847	Office: Home: 715-372-4620 Hall: 715-372-4394	garypaul67@hotmail.com	Volunteer – BLS. Bayfield County Second Monday – 7:30 PM
MADELINE ISLAND	Mary Ross PO Box 61 LaPointe WI 54850	Office: 715-747-2051 Home: 715-747-2333 Hall: 715-747-6667	maryross@madferry.com	Volunteer – BLS. Ashland County
MASON	Teresa Gunderson, Director 22155 TUTTLES LA Grand View WI 54843	Office: Home: 715-763-3207 Hall: 715-765-4449	gunner@cheqnet.net	Volunteer – BLS. Bayfield County Third Thursday – 7:30 PM
MELLEN	Rich Huber, Chief Mellen Fire 603 Chicago Ave Mellen WI 54546	Home: 715-274-8801 Hall:	brendalen.ronald@marshfieldclinic.org mellenambulance@yahoo.com	Volunteer – Fire Based – BLS. Ashland County

RED CLIFF	Michael LaGrew, Director 88385 Pike Rd Bayfield WI 54814	Hall: 715:779-3373	drmike19@hotmail.com josh_76g@yahoo.com	Volunteer – BLS. Tribal within Bayfield County
SOUTH SHORE	Marcia Swanson, Director 82965 WHITE BIRCH RD Port Wing WI 54865	Home: 715-774-3340 Hall: 715-774-3804	marswan@chegnet.net tnclover@chegnet.net rangermat@wildmail.com laurie@chegnet.net	Volunteer – BLS. Bayfield County First Monday – Herbster Gym
WASHBURN	Dan Clark, Director 119 Washington Ave Washburn WI 54891	Office: 715-373-6120 Home: 715-373-5883 Hall: 715-373-6176	dclark@bayfieldcounty.org	Volunteer – BLS. Bayfield County Last Tuesday – Meeting – 6:30 PM Second Tuesday – Training – 6:30 PM

INSTRUCTIONS FOR USE OF THIS DOCUMENT

This document is divided into several parts. The first section contains the actual protocols, first responder, adult and pediatric, by which specific patient presentations are to be addressed, in a format that delineates care that each level provider is able to provide for a given type of patient. The next section describes the procedures that field providers of the service of Ashland/Bayfield County may use in caring for patients. Following is a list of medication which contains information sheets on all advanced life support medications referred to in the protocols. Following this is the Policies section which sets out general guidelines for patient care and operation of the service. The reference section contains, various scales and scoring mechanisms used in patient evaluation, and transport guidelines. The final section contains the forms used in patient care.

The protocols are subdivided by the interventions available to each level of provider. **Those of more advanced training are expected to ensure that the interventions of the previous levels have been performed.** It is expected that each level will request back-up from more advanced levels as soon as the circumstances become apparent that the patient will benefit from more advanced care.

The orders that constitute each protocol are listed in the general order in which they are to be performed, with full awareness that in any given situation the order in which interventions are performed may change to adapt to the circumstances. All levels of providers may operate under these protocols without on-line medical control. **The orders which require direct physician communication are contained in outlined text boxes**. No provider may exceed the limits of his or her level of certification.

Medications and Procedures are in Bold to assist in highlighting their importance. Each has its own listed procedure or policy regarding its use and administration.

Wisconsin EMS Scope of Practice
First Responder

First Responder

This EMS provider level identifies individuals who have successfully completed a program of training that used as a minimum, the 1996 First Responder National Standard Curriculum with the Wisconsin revised curriculum, and have successfully completed the testing requirements. First Responder certifications expire on June 30th of even-numbered years. Recertification requirements include a state approved 18 hour refresher course, which includes the required Weapons of Mass Destruction training.

Scope of Practice for First Responder

AIRWAY / VENTILATION / OXYGENATION
Airway - Lumen (Non-Visualized)***
Airway - Nasopharyngeal
Airway - Oropharyngeal
Bag - Valve - Mask (BVM)
Cricoid Pressure (Sellick)
Manual Airway Maneuvers
Obstruction - Manual
Oxygen Therapy - Nasal Cannula
Oxygen Therapy - Non-rebreather Mask
Oxygen Therapy - Regulators
Pulse Oximetry **
Suctioning - Upper Airway (Soft & Rigid)

ASSISTED MEDICATIONS – PATIENTS
Auto-Injected Epinephrine ***
Oral Glucose

APPROVED MEDICATION by PROTOCOL
Epinephrine for Anaphylaxis Auto-Injector Only***

CARDIOVASCULAR / CIRCULATION
Cardiopulmonary Resuscitation (CPR)
Defibrillation - Automated / Semi-Automated (AED)
Hemorrhage Control - Direct Pressure
Hemorrhage Control - Pressure Point
Hemorrhage Control - Tourniquet
Trendelenberg Positioning

IMMOBILIZATION
Spinal Immobilization - Manual Stabilization
Spinal Immobilization - Cervical Collar ***
Spinal Immobilization - Long Board***
Spinal Immobilization – Seated Patient (IKED, etc.)
Splinting – Manual
Splinting – Rigid
Splinting – Soft
Splinting – Vacuum

MISCELLANEOUS
Assisted Delivery (childbirth)
Blood Pressure -Manual / Automated
Eye Irrigation
Vital Signs - Obtain/ Monitor/ Document (Pulse, BP, Respiration, Temperature)

** ***Requires documentation of additional training***

*** ***Requires additional training and approval***

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

Wisconsin EMS Scope of Practice
EMT-Basic

Emergency Medical Technician – Basic

This level of EMS provider has successfully completed a program of training based upon the WI EMT-Basic Curriculum, and has successfully completed the department's testing requirements. Individuals must hold a valid WI license with an approved EMS Service to practice at this level.

AIRWAY / VENTILATION / OXYGENATION
Airway – Lumen (Non-visualized)
Airway – Nasal (Nasopharyngeal)
Airway – Oral (Oropharyngeal)
Bag-Valve-Mask (BVM)
End Tidal CO2 monitoring **
CPAP**
Cricoid Pressure (Sellick)
Manual Airway Maneuvers
Obstruction – Forceps & Laryngoscope (Direct Visual)
Obstruction - Manual
Oxygen Therapy – Nebulizer
Oxygen Therapy – Nasal Cannula
Oxygen Therapy –Non-rebreather Mask
Oxygen Therapy – Regulators
Pulse Oximetry *
Suctioning –Upper Airway (Soft & Rigid)

ASSISTED MEDICATIONS – PATIENTS
Auto-Injected Epinephrine
Medicated Inhaler – Prescribed Albuterol
Medicated Inhaler – Prescribed Atrovent**
Nitroglycerin
Oral Glucose

CARDIOVASCULAR / CIRCULATION
ECG Monitor * (non-interpretive)
12-Lead ECG – (acquire but non -interpretive)**
Cardiopulmonary Resuscitation (CPR)
CPR - Mechanical Device **
Defibrillation – Automated / Semi-Automated (AED)
Defibrillation – Manual **
Hemorrhage Control – Direct Pressure
Hemorrhage Control – Pressure Point
Hemorrhage Control - Tourniquet
Trendelenberg Positioning

MEDICATION ADMINISTRATION-ROUTES
Aerosolized/Nebulizer
Auto-Injector
Intramuscular(IM)
Oral
Subcutaneous (SQ)**
Sub-Lingual (SL)

All skills are mandatory unless otherwise indicated and require an approved protocol.

* *Optional use by service*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training as necessary*

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

Bureau of Local Health Support & EMS
10/05

Rev 3/30/2006,

Wisconsin EMS Scope of Practice
EMT-Basic

IMMOBILIZATION
Spinal Immobilization – Cervical Collar
Spinal Immobilization – Long Board
Spinal Immobilization – Manual Stabilization
Spinal Immobilization – Seated Patient (KED, etc.)
Selective Spinal Immobilization **
Splinting – Manual
Splinting – Pelvic Wrap / PASG*
Splinting – Rigid
Splinting – Soft
Splinting – Traction
Splinting – Vacuum*

MEDICATIONS
HFS 110. 05 (4)(d) Administration of additional medications approved by the department based on recommendations of the emergency medical services board under s. 146.58, Stats., the EMS physician advisory committee under s. 146.58 (1), Stats., and the Wisconsin EMS program medical director under s. 146.55 (2m), Stats. with final approval by the State EMS office.

MISCELLANEOUS
Assisted Delivery (Childbirth)
Blood Glucose Monitoring**
Blood Pressure – Automated *
Eye Irrigation
Vital Signs
Patient Physical Restraint Application

APPROVED MEDICATIONS BY PROTOCOL
Activated Charcoal*
Albuterol (Nebulized – Unit Dose)**
Atrovent (Nebulized – Unit Dose)**
Aspirin (ASA) for chest pain**
Epinephrine for Anaphylaxis (unit dose)
Glucagon**
Mark I Auto-Injector (For Self & Crew)
Oral Glucose

All skills are mandatory unless otherwise indicated and require an approved protocol.

* *Optional use by service*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training as necessary*

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

Wisconsin EMS Scope of Practice
Intermediate Technician

This level of EMS provider has successfully completed a program of training based upon the WI EMT-Intermediate Technician Curriculum, and has successfully completed the department's testing requirements. Individuals must hold a valid WI license with an approved EMS Service to practice at this level.

AIRWAY / VENTILATION / OXYGENATION
Airway – Lumen (Non-Visualized)
Airway – Nasal (Nasopharyngeal)
Airway – Oral (Oropharyngeal)
Bag-Valve-Mask (BVM)
End Tidal CO_2 Monitoring**
CPAP**
Cricoid Pressure (Sellick)
Intubation – Endotracheal Lighted Stylet **
Manual Airway Maneuvers
Obstruction – Forceps & Laryngoscope (Direct Visual)
Obstruction - Manual
Oxygen Therapy – Nebulizer
Oxygen Therapy – Nasal Cannula
Oxygen Therapy – Non-rebreather Mask
Oxygen Therapy – Regulators
Pulse Oximetry*
Suctioning – Upper Airway (Soft & Rigid)

MEDICATION ADMINISTRATION-ROUTES
Aerosolized/Nebulizer
Auto-Injector
Intramuscular(IM)
Intravenous (IV) Push
Oral
Subcutaneous (SQ)
Sub-Lingual (SL)

APPROVED MEDICATION BY PROTOCOL
Activated Charcoal
Albuterol (Nebulized – Unit Dose)
Atrovent (Nebulized – Unit Dose)
Epinephrine for Anaphylaxis (unit dose)
Aspirin (ASA) for chest pain
Dextrose 50%
Glucagon*
Mark I Auto Injector (For Self & Crew)
Narcan
Nitroglycerin (SL only)
Oral Glucose

IV INITIATION/MAINTENANCE/FLUIDS
IV Solutions- D5W, Normal Saline, Lactated Ringers
Maintenance – Non-Medicated IV Fluids (D5W, LR, NS)
Peripheral Initiation

All skills are mandatory unless otherwise noted and requires an approved protocol

* *Optional use by service*

** *Optional use by service and requires:*

- *Prior written approval of the Operational Plan By the State EMS Office and*
- *Medical Director approval and*
- *Documentation of additional training*

REMINDER: ***Personnel must be trained & competent in all equipment that is used by the service***

Wisconsin EMS Scope of Practice
Intermediate Technician

CARDIOVASCULAR / CIRCULATION
ECG Monitor ** (non-interpretive)
12-lead ECG (acquire but non-interpretive)**
Cardiopulmonary Resuscitation (CPR)
CPR Mechanical Device **
Defibrillation – Automated / Semi-Automated (AED)
Defibrillation – Manual **
Hemorrhage Control – Direct Pressure
Hemorrhage Control – Pressure Point
Hemorrhage Control - Tourniquet
Trendelenberg Positioning

MEDICATIONS
HFS 110. 05 (4)(d) Administration of additional medications approved by the department based on recommendations of the emergency medical services board under s. 146.58, Stats., the EMS physician advisory committee under s. 146.58 (1), Stats., and the Wisconsin EMS program medical director under s. 146.55 (2m), Stats.

IMMOBILIZATION
Selective Spinal Immobilization **
Spinal Immobilization – Cervical Collar
Spinal Immobilization – Long Board
Spinal Immobilization – Manual Stabilization
Spinal Immobilization – Seated Patient (KED, etc.)
Splinting – Manual
Splinting – Pelvic Wrap / PASG*
Splinting – Rigid
Splinting – Soft
Splinting – Traction
Splinting – Vacuum*

MISCELLANEOUS
Assisted Delivery (Childbirth)
Blood Glucose Monitoring
Blood Pressure – Automated *
Eye Irrigation
Venous Blood Sampling – Obtaining**
Vital Signs
Patient Physical Restraint Application

All skills are mandatory unless otherwise noted and requires an approved protocol

* *Optional use by service*

***Optional use by service and Requires:*

- *Prior written approval of the Operational Plan By the State EMS Office and*
- *Medical Director approval and*
- *Documentation of additional training*

REMINDER: ***Personnel must be trained & competent in all equipment that is used by the service***

Wisconsin EMS Scope of Practice
EMT- Intermediate

This level of EMS provider has successfully completed a program of training based upon the WI EMT-Intermediate Curriculum, and has successfully completed the department's testing requirements. Individuals must hold a valid WI license with an approved EMS Service to practice at this level.

AIRWAY / VENTILATION / OXYGENATION
Airway – Lumen (Non-Visualized)
Airway – Nasal (Nasopharyngeal)
Airway – Oral (Oropharyngeal)
Bag-Valve-Mask (BVM)
Chest Decompression – Needle
CPAP **
Cricoid Pressure (Sellick)
End Tidal CO_2 Monitoring/Capnometry*
Intubation - Lighted Stylet*
Intubation - Orotracheal
Manual Airway Maneuvers
Obstruction – Forceps (Direct Visual)
Obstruction – Manual
Oxygen Therapy - Nebulizer
Oxygen Therapy – Nasal Cannula
Oxygen Therapy – Non-rebreather Mask
Oxygen Therapy – Regulators
Pulse Oximetry*
Suctioning – Tracheobronchial
Suctioning – Upper Airway (Soft & Rigid)

CARDIOVASCULAR / CIRCULATION
ECG Monitor
12 Lead ECG*
Cardiopulmonary Resuscitation (CPR)
Valsalva
CPR Mechanical Device**
Defibrillation – Automated / Semi-Automated(AED)
Defibrillation – Manual*
Hemorrhage Control – Direct Pressure
Hemorrhage Control – Pressure Point
Hemorrhage Control - Tourniquet
Cardioversion (Unstable Patients only)
Transcutaneous Pacing (Unstable Patients only)
Trendelenberg Positioning

IMMOBILIZATION
Selective Spinal Immobilization **
Spinal Immobilization – Cervical Collar
Spinal Immobilization – Long Board
Spinal Immobilization – Manual Stabilization
Spinal Immobilization – Seated Patient (KED, etc.)
Splinting – Manual
Splinting-Pelvic Wrap/PASG*
Splinting – Rigid
Splinting – Soft
Splinting – Traction
Splinting – Vacuum*

All skills are mandatory unless otherwise indicated and requires an approved protocol.

* *Optional use by service with training*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training*

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

Wisconsin EMS Scope of Practice
EMT- Intermediate

IV INITATION / MAINTENANCE / FLUIDS
IV Solutions- D5W, Normal Saline, Lactated Ringers
Intraosseous – Initiation
Peripheral – Initiation
Maintenance – Non-Medicated IV Fluids (D5W, LR, NS)

MEDICATION ADMINISTRATION - Routes
Aerosolized/Nebulized
Auto-Injector
Endotracheal Tube (ET)
Intramuscular (IM)
Intraosseous (IO)
Intravenous (IV) Push
Oral
Rectal
Subcutaneous (SQ)
Sub-lingual (SL)

MEDICATIONS & SKILLS
HFS 111.04(4) (b) 2. "Department approved medications and skills." Administration of additional medications and skills approved by the department based on recommendations of the emergency medical services board under s. 146.58, Stats., the EMS physician advisory committee under s. 146.58 (1), Stats., and the State EMS program medical director under s. 146.55 (2m), Stats. Additional skills shall become effective when approved by the department based on the recommendations of the entities in this subdivision and will be incorporated into the next revision of this chapter.

All skills are mandatory unless otherwise indicated and requires an approved protocol.

* *Optional use by service*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training*

APPROVED MEDICATIONS BY PROTOCOL
Activated Charcoal
Adenosine
Albuterol (Nebulized)
Albuterol & Atrovent - Premix Combined
Amiodarone (Bolus only)
Aspirin (ASA) for chest pain
Ativan (Lorazepam) for Seizures only
Atropine
Atrovent (Nebulized)
Dextrose 50%
Epinephrine Auto-Injector or Manually drawn 1:1000
Epinephrine 1:10,000
Glucagon*
Lasix
Lidocaine (Bolus Only)
Mark I Auto Injector (For Self & Crew)
Morphine
Narcan
Nitroglycerin (SL only)
Valium (Diazepam) for Seizures only
Vasopressin
Oral Glucose

MISCELLANEOUS
Assisted Delivery (childbirth)
Blood Glucose Monitoring
Blood Pressure –Automated
Eye Irrigation
Venous Blood Sampling – Obtaining**
Vital Signs
Patient Physical Restraint Application

Unstable cardiac patients are defined by the AHA under ACLS guidelines

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

Wisconsin EMS Scope of Practice
EMT-Paramedic

This level of EMS provider has successfully completed a program of training based upon the WI EMT-Paramedic Curriculum, and has successfully completed the department's testing requirements. Individuals must hold a valid WI license with an approved EMS Service to practice at this level.

AIRWAY / VENTILATION / OXYGENATION
Airway – Lumen (Non-Visualized)
Airway – Nasal (Nasopharyngeal)
Airway – Oral (Oropharyngeal)
Bag-Valve-Mask (BVM)
Chest Decompression – Needle
CPAP **
Cricoid Pressure (Sellick)
Cricothyrotomy – Surgical/Needle
End Tidal CO_2 Monitoring*
Gastric Decompression – NG Tube
Intubation - Lighted Stylet*
Intubation – Medication Assisted (non-paralytic)*
Intubation – Medication Assisted with paralytics (RSI)** (***Requires 2 Paramedics Patient Side***)
Intubation – Nasotracheal
Intubation - Endotracheal
Manual Airway Maneuvers
Obstruction – Forceps (Direct Visual)
Obstruction – Manual
Oxygen Therapy - Nebulizer
Oxygen Therapy – Nasal Cannula
Oxygen Therapy – Non-rebreather Mask
Oxygen Therapy – Regulators
Pulse Oximetry*
Suctioning – Tracheobronchial
Suctioning – Upper Airway (Soft & Rigid)
Ventilators **

CARDIOVASCULAR / CIRCULATION
ECG Monitor
12 Lead ECG*
Cardiopulmonary Resuscitation (CPR)
CPR Mechanical Device**
Cardioversion – Electrical
Valsalva
Defibrillation – Automated / Semi-Automated (AED)
Defibrillation – Manual
Hemorrhage Control – Direct Pressure
Hemorrhage Control – Pressure Point
Hemorrhage Control – Tourniquet
Transcutaneous Pacing
Trendelenberg Positioning

All skills are mandatory unless otherwise indicated and requires an approved protocol

* *Optional use by service*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training*

REMINDER: ***Personnel must be trained & competent in all equipment that is used by the service***

Wisconsin EMS Scope of Practice
EMT-Paramedic

IMMOBILIZATION
Selective Spinal Immobilization **
Spinal Immobilization – Assessment Based
Spinal Immobilization – Cervical Collar
Spinal Immobilization – Long Board
Spinal Immobilization –Manual Stabilization
Spinal Immobilization – Seated Patient (KED, etc.)
Splinting – Manual
Splinting- Pelvic Wrap/PASG*
Splinting – Rigid
Splinting – Soft
Splinting – Traction
Splinting – Vacuum*

MEDICATIONS
HFS 112.04(4)b2. Administration of additional medications approved by the department based on recommendations of the emergency medical services board under s. 146.58, Stats., the EMS physician advisory committee under s. 148.58 (1), Stats., and the State EMS program medical director under s. 146.55 (2m), Stats.

A sample list of commonly approved medications may be obtained through the Bureau of Local Health Support & EMS

IV INITATION / MAINTENANCE / FLUIDS
Blood/ Blood Products (Maintenance only)**
Colloids **
IV Solutions- D5W, Normal Saline, Lactated Ringers
Intraosseous – Initiation
Peripheral – Initiation
Maintenance – Medicated IV Fluids**

MEDICATION ADMINISTRATION - Routes
Aerosolized/Nebulized
Auto-Injector
Endotracheal Tube (ET)
Intramuscular (IM)
Intraosseous (IO)
Intravenous (IV) Piggyback
Intravenous (IV) Push
Oral
Rectal
Subcutaneous (SQ)
Sub-lingual (SL)

MISCELLANEOUS
Assisted Delivery (childbirth)
Blood Glucose Monitoring
Blood Pressure – Automated*
Eye Irrigation
Initiation of IV at Central Line Port**
Thrombolytic Therapy – Monitoring**
Venous Blood Sampling – Obtaining*
Vital Signs
Patient Physical Restraint Application

All skills are mandatory unless otherwise indicated and requires an approved protocol

* *Optional use by service*

** *Optional use by service and Requires:*

- *Prior written approval of the Operational Plan by the State EMS office and*
- *Medical Director approval and*
- *Documentation of additional training*

REMINDER: *Personnel must be trained & competent in all equipment that is used by the service*

ASHLAND/BAYFIELD COUNTIES

2008

FIRST RESPONDER PROTOCOLS

INTRODUCTION

The following protocols are consistent with the legislated ability of the Wisconsin First Responder and are recommended care to be delivered to all victims of medical and traumatic emergencies. It is critical that a transporting EMS agency be contacted at the earliest possible opportunity to expedite the transfer of the patient to the hospital. Documentation of care rendered must be made on the approved Chippewa Fire District Report form.

All patients are expected to receive standard assessment and evaluation of airway patency, ventilation and CPR when indicated. The following protocols indicate the steps to be taken next. Some protocols indicate attention to airway and oxygen as additional reminders of their importance.

INITIAL MEDICAL CARE

The following initial medical care should be provided to all patients receiving care by Ashland/Bayfield EMS providers:

Priorities	***Assessment Findings***
Chief Complaint	Refer to specific protocols for the kinds of chief complaints patients are likely to make.
LOPQRST	Location, Onset, Provocation/Palliation, Quality, Radiation, Severity, Time (duration, progression) As an alternative: Use "Onset, Duration, Progression and Severity"
AS/PN	Associated Symptoms/Pertinent Negatives
AMPL	Allergies, Medications, Pertinent Past Medical History, Last Meal
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Exam	**Vital Signs:** BP, HR, RR, Temp,
Data	Follow specific protocol. Consider SpO_2

- Scene size-up
- Body-Substance Isolation (BSI)
- Obtain History
- Assess level of consciousness "AVPU"
- Airway Management – Perform the following, if indicated:
  - Head tilt – chin lift
  - Oropharyngeal or nasopharyngeal airway
- Breathing Management – Perform the following, if indicated:
  - Check pulse oximetry (SpO_2)
  - Administer oxygen to keep $SpO_2 > 90\%$
    - Use a nasal cannula at 2 – 6 LPM or
    - Non-rebreather mask at 7 – 15 LPM
  - Ventilate or assist ventilations with a bag-valve-mask connected to high-flow oxygen
- Circulation Management – Perform the following, if indicated:
  - Control external hemorrhage with direct pressure, or pressure points, and bandages
  - Cardiopulmonary resuscitation (CPR); Automated External Defibrillator (AED);
  - Place the patient in Trendelenberg Position
- After checking ABCs, correct any immediate life threats, if indicated:
  - Obstructed airway maneuvers per *American Heart Association Guidelines*
  - Suction the airway using soft or rigid suction devices as needed to remove secretions or foreign material.
- Obtain Vital Signs
  - Blood Pressure (BP), Heart Rate (HR), Respiratory Rate (RR), Temperature (Temp)* and Pulse Oximetry (SpO_2)
  - * Temperature is optional. Use a digital thermometer, if available.

- History of present complaint

- What happened?
- How
- When
- Precipitating factors
- Description of the onset
- Associated symptoms
- Course since the onset
- Treatment so far and response

- Past Medical History

- Known medical problems
- Recent surgery and hospitalization
- Current medications
- Allergies
- Private physicians

- Collect additional information from family or bystanders.
- Initiate other therapy as indicated.
- Perform a Detailed Exam, if time and patient's condition allows.

INITIAL TRAUMA CARE

Pre-hospital management of the trauma patient is best performed by an integrated team focused on minimizing the time from injury to definitive care at an appropriate trauma center. Dispatchers, first responders, law enforcement officials, and ambulance personnel must all take an active role to eliminate unnecessary delays in the delivery of care and transport to definitive care.

Priorities	***Assessment Findings***
Chief Complaint	Various depending on incident.
LOPQRST	Identify specific cause of traumatic injury
AS/PN	Significant mechanism, loss or altered level of consciousness. Evidence of intoxicant use.
AMPL	Identify medical conditions that may have lead to the event (e.g. Alzheimer's, CVA, Diabetes, Seizures,)
Initial Exam – Rapid Trauma Assessment	Check ABC's and correct any immediate life threats. Manual C-spine stabilization. Perform rapid trauma assessment as appropriate.
Focused Physical Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? Discharge from ears or nose? **Lungs:** Signs of respiratory distress, hypoventilation, diminished or absent lung sounds? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Loss of movement and/or sensation in extremities, Unresponsive? Focal deficits?
Data	SpO_2
Goals of Therapy	Maintain ABC's, restore adequate respiratory and circulatory conditions, reduce pain
Monitoring	SpO_2, repeat vitals

Note:

- This protocol may be used as a general guide for trauma in both Adults and Pediatrics. Follow appropriate protocol and/or procedure for specific trauma care.
- While en route to scene, if possible, contact ambulance to relate nature of call as necessary
- Ensure "**Scene Safety**" and Body Substance Isolation (BSI)
- Determine need for additional resources (e.g. helicopters, additional ambulances, heavy rescue).
- Airway: Relieve airway obstruction, if present
    - Open the airway with a jaw-thrust (No head tilt – Chin lift in trauma patients)

  - Remove foreign material, emesis and blood
  - Suction the airway
  - Consider oropharyngeal airway or nasopharyngeal airway (use caution in facial trauma)

- Oxygen
  - High-flow oxygen 10-15 LPM by non-rebreather mask to maintain SpO_2 > 90% or
- Breathing:
  - Assist ventilations with bag-valve-mask and high-flow oxygen, as needed
  - Cover sucking chest wounds with a three-sided flap valve

- Circulation:
  - Control major external hemorrhage with direct pressure or pressure points.
  - If the patient arrests,
    - Re-assess the airway and oxygen delivery
    - Consider initiating the *Cardiac Arrest Guidelines*.
    - Prolonged efforts to restore spontaneous circulation in a traumatic arrest should not be made, unless
      - It is due to a penetrating injury
      - The nearest hospital is < 5 minutes away.
    - CPR should not be attempted if:
      - Blunt trauma caused the arrest
      - There are other injured survivors with urgent needs for help
- C-Spine: Manual stabilization
- Spinal Immobilation
- Splint obvious extremity fractures
- Refer to *Pain Management Guidelines*
- Begin other interventions as needed according to specific protocols

AIRWAY MANAGEMENT

1. Determine if airway is patent.
2. If airway is not patent, open airway with chin lift or jaw thrust while maintaining cervical spine stabilization if indicated.
3. If patient is breathing spontaneously but ventilatory assistance is needed, determine presence or absence of gag reflex.
   a. If gag reflex is present, insert a nasopharyngeal airway.
   b. If gag reflex is absent, insert an oropharyngeal airway.

******Note: An airway SHOULD be attempted in any patient whose ventilations are assisted by a bag-valve-mask.******

Nasopharyngeal Airway

1. Choose the appropriate size. It should be the largest that will fit easily through the external nares.
2. Lubricate the tube.
3. Insert it straight back through the right nostril with the beveled edge of the airway toward the septum.
4. To insert in the left nostril, turn the airway with the bevel toward the septum, then insert straight back through the nostril until you reach the posterior pharynx.
5. **NOTE:** A nasopharyngeal airway is contraindicated in patients with indications of nasal/facial injuries, if cerebrospinal fluid is flowing from the nose or if severe head injury has occurred.

Oropharyngeal Airway

1. Choose the appropriate size.
2. Open the airway using one of the following procedures:
   a. Scissor maneuver
   b. Jaw lift
   c. Tongue blade
3. Insert the airway gently without pushing the tongue back into the pharynx.

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a. Insert the airway upside down and rotate into place. (Do not use this method with children.) Or
b. Insert the airway under direct vision using a tongue blade.

Bag-Valve-Mask

******Note: This skill requires two rescuers to perform.******

1. Stabilize the neck with a suitable device if trauma suspected.
2. Connect the oxygen tubing to the bag-valve system and oxygen cylinder.
3. Attach the oxygen reservoir to the bag-valve-mask.
4. Open the oxygen cylinder and set the flow rate at 12 L/min.
5. Select the proper size mask and attach it to the bag-valve device.
6. Open the airway.
7. Insert either a nasopharyngeal or oropharyngeal airway.
8. Place the mask on the face and have your partner establish and maintain a good seal. Proper bag-valve-mask technique requires two people.
9. Using both hands, ventilate with about 700 cc (3/4 of the volume of the BVM bag) until chest rises.
10. Ventilate at 10-12 breaths per minute
11. Be prepared to suction airway if vomiting occurs
12. If difficult to ventilate reposition the head/jaw, ensure OP airway is properly situated and reposition mask for better seal

ALLERGIC REACTION/ANAPHYLAXIS

Priorities	***Assessment Findings***
Chief Complaint	"Allergic Reaction", "Hives" "Itching Rash"
LOPQRST	What provoked the reaction? Did the patient take diphenhydramine (Benadryl) or use an epinephrine auto-injector (EpiPen), and how did they respond?
AS/PN	Subjective swelling of facial, oral or pharyngeal structures, difficulty breathing, wheezing and light headedness.
AMPL	Does the patient have any environmental, medication, food or other allergies? Is the patient taking an antibiotic? If the patient has angioedema, is he/she taking an ACE inhibitor? Is he/she taking a Beta Blocker? If the patient is taking a Beta Blocker, he/she might not respond to epinephrine.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General:** Identify degree of severity: mild moderate or severe [1]. **Skin:** Urticaria (hives) **HEENT:** Swelling of the lips, tongue or pharynx (angioedema) **Chest:** Use of accessory muscles of respiration, labored breathing **Lungs:** Wheezing **Cardiovascular:** Hypotension, tachycardia (anaphylactic shock) **Neurological:** ALOC
Data	SpO_2
Goals of Therapy	Reverse the allergic reaction, relieve bronchospasm, correct hypotension/shock
Monitoring	Vital signs and cardiac monitoring.

Note:

- Allergic reactions span a continuum from minor to life threatening.
    1. Mild Allergic reaction: localized or generalized urticaria, without swelling of oral or pharyngeal structures, difficulty breathing, hypotension or ALOC;
    2. Moderate Allergic Reaction: oral or pharyngeal swelling is present, mild to moderate difficulty breathing and wheezing are present.
    3. Severe Allergic Reaction (Anaphylaxis): moderate to severe difficulty breathing is present, hypotension is present and ALOC may occur.
- If due to a bee sting, remove stinger by scraping horizontally with tongue depressor or plastic card. Do not squeeze the venom sac.

FIRST RESPONDER

1. Ensure patent airway.
2. O2 100% NRB and/or ventilate as per airway management protocol.
3. Remove sting/injection mechanism.
4. If respiratory distress assist with patient-prescribed medications - Albuterol.
5. Treat for shock.

Epipen or

Epinephrine 0.3 mg 1:1000 solution **IM**

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ALTERED LEVEL OF CONSCIOUSNESS

Priorities	***Assessment Findings***
Chief Complaint	"Confused" "Unresponsive", Not acting themselves"
LOPQRST	Determine onset and duration. Triggering events (e.g. Trauma)
AS/PN	Headache, Weakness, Slurred speech, Aphasia, Incontinent
AMPL	Medication consistent with possible causes. (e.g. Alzheimer's, CVA, Diabetes, Seizures,)
Initial Exam	Check ABC's and correct any immediate life threats
Focused Physical Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? **Lungs:** Wheezes, rales or rhonchi? Signs of respiratory distress or hypoventilation? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Unresponsive? Focal deficits (CVA)?
Data	Blood Glucose, SpO_2,
Goals of Therapy	Restore normal mental status, Maintain ABC's
Monitoring	Cardiac monitoring, repeat vitals

Note:

- Consider reversible causes of ALOC: hypoglycemia, hypoxia, narcotic overdose
- Other causes of ALOC include: Hypovolemia, shock, sepsis, head injury, drug or alcohol intoxication, toxic exposures, syncope, seizures, arrhythmias

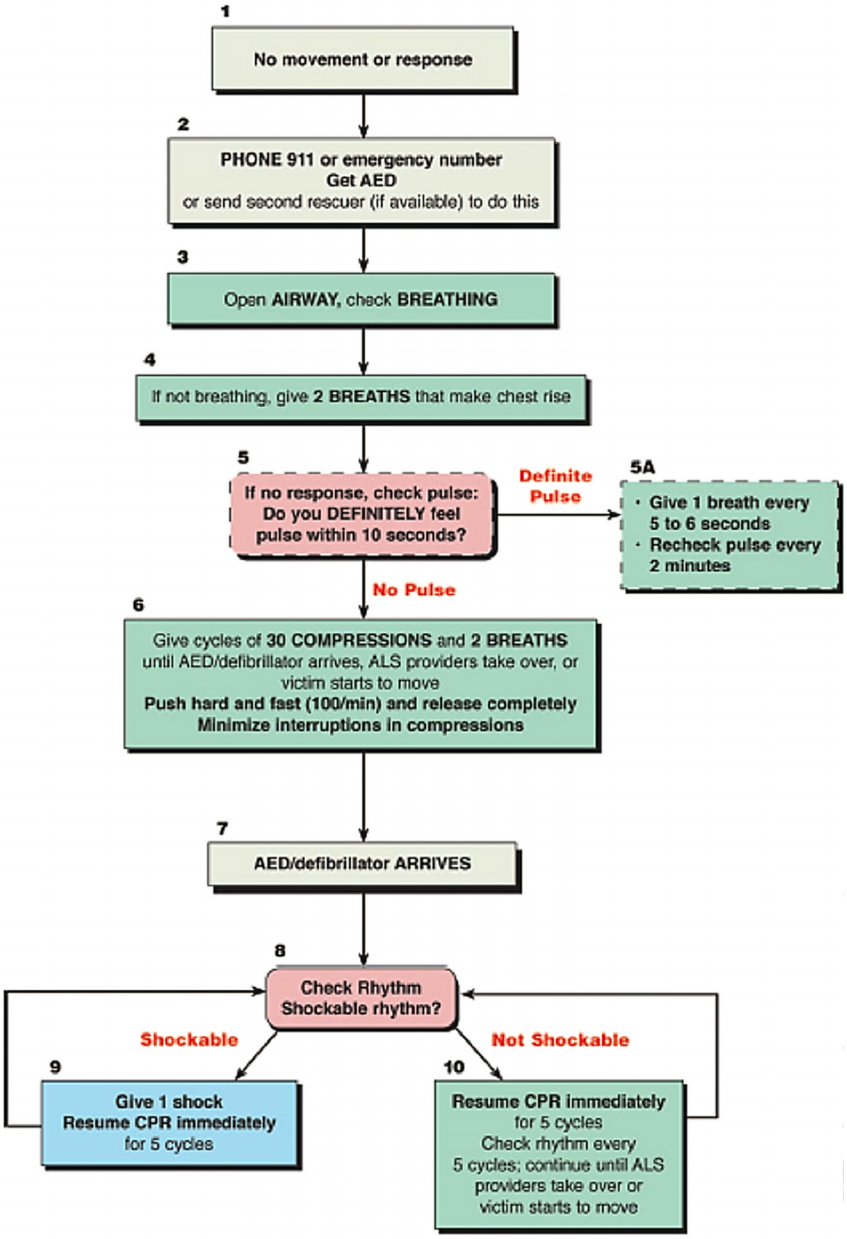
FIRST RESPONDER

1. Assess for trauma, drugs, diabetes, breath odor, or medical alert tags.
2. Spinal immobilization when indicated.
3. Ensure patent airway.
4. O2 100% NRB and/or ventilate as per airway management protocol.

******Restrain ONLY if necessary to prevent injury******

CPR-AED

CPR/AED ALGORITHM



General Considerations

- **CPR comes first.** Determine unresponsiveness, open airway and begin CPR.
- Chest compressions at 100/minute, allowing complete chest recoil by not resting any weight of the rescuer on the patient's chest.
- Do not interrupt CPR except when absolutely necessary
- OP or NP airway required during BVM ventilation

- Ventilate at 8 to 10 breaths per minute
- 1 cycle of CPR is 30 compressions and 2 breaths
- Apply defibrillation pads to right upper chest and left lower chest
- All contact with patient must be avoided during analysis of rhythm and/or delivery of shock(s).
- Automated external defibrillation is not used in cardiac arrest in children under 8 years of age and less than 90 lbs **unless** using a device with Pediatric pads and cables.
- Preferred placement of AED pads is sternum of chest and left lateral chest wall
- Call for ALS backup immediately.
- Preparation for transport of patient should begin staffing allows

USE OF THE AUTOMATED EXTERNAL DEFIBRILLATOR

Operational Steps- Multiple Rescuers

1. Stop CPR if in progress
2. Verify pulselessness and apnea
3. **If no by-stander CPR:** Have partner resume CPR, perform 2 minutes of CPR before defibrillation (5 cycles of CPR)
4. Turn on defibrillator power and attach device
5. Stop CPR
6. Clear patient
7. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Immediately perform 5 cycles of CPR
    c. Analyze rhythm
    d. If machine advises shock, deliver second shock
    e. Perform 5 cycles of CPR
    f. Analyze rhythm
    g. If machine advises shock, deliver third shock
    h. Perform 5 cycles of CPR
    i. Analyze rhythm
8. If pulse returns, check breathing and ensure adequate ventilation.
9. If no pulse
    a. Resume CPR for two minutes
    b. Repeat steps 6 - 8. Deliver no more than six shocks without contacting Medical Control for orders.

10. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 6 - 8.
    c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR and transport

Operational Steps - Single rescuer

1. Verify pulselessness and apnea.
2. Turn on defibrillator power and attach device while beginning narrative.
3. Clear patient
4. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Immediately perform 5 cycles of CPR
    c. Analyze rhythm
    d. If machine advises shock, deliver second shock
    e. Perform 5 cycles of CPR
    f. Analyze rhythm
    g. If machine advises shock, deliver third shock
    h. Perform 5 cycles of CPR
    i. Analyze rhythm
5. If pulse returns, check breathing and ensure adequate ventilation.
6. If no pulse returns continue CPR until ALS arrives
7. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 4 and 5
    c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR until help arrives

CHEST PAIN
(Suspected Cardiac Origin)

Priorities	***Assessment Findings***
Chief Complaint	Heavy, vague, squeezing, pressure like, dull or achy, discomfort or pain
LOPQRST	Identify location and radiation, onset, duration progression and severity, presence of intermittent or fluctuating symptoms, factors that provoke (exertion) or palliate (rest) the pain.
AS/PN	Radiation, dyspnea, nausea/vomiting. Pain that is aggravated by breathing and coughing (pleuritic). Cough and fever/chills.
AMPL	History of coronary artery disease or risk factors for it. Use of cardiac medications, including aspirin.
Initial Exam	Check ABCs and correct any immediate life threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Anxious? **Skin:** Cool, pale diaphoretic? **Neck:** JVD? **Chest:** Laboring to breathe? **Lungs:** Wheezes, rales, rhonchi? Decreased breath sounds? **Heart:** Rate, regularity? **Legs:** Pedal Edema? **Neuro:** ALOC?
Data	SpO_2, 12-Lead EKG, Blood Sugar if Diabetic or ALOC
Goals of Therapy	Reduce chest pain; reduce risk of lethal arrhythmias; early identification of myocardial infarction, and early identification of fibrinolytic therapy candidates.
Monitoring	Cardiac monitoring and SpO_2

Note:

- Cardiac chest pain (Angina) is usually vaguely described; whereas, pleuritic chest pain is usually precisely defined by location, quality (sharp).

FIRST RESPONDER

1. O2 100% NRB or 2-4 liters/min nasal cannula.
2. Be calm and reassuring.
3. Treat for shock.
4. Position of comfort.

HYPERTENSION
(If diastolic B/P >90-100 symptomatic or 110-120 asymptomatic)

FIRST RESPONDER

1. Be calm and reassuring.

2. Keep patient quiet with head elevated.

3. Assess the patient for potential causes of the hypertension such as stroke, chest pain, and respiratory distress.

HYPOGLYCEMIA
(Suspected based on history or assessment)

Priorities	*Assessment Findings*
Chief Complaint	"Low blood sugar" "Altered Level of Consciousness"
LOPQRST	Check onset/duration. Identify possible contributing factors [1]. Recent history of frequent episodes.
AS/PN	Fever/Chills. Signs/Symptoms of infection.
AMPL	Medications for diabetes.
Initial Exam	ABCs and correct any immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive? Agitated and combative? **Skin:** Cool, pale, diaphoretic? **Neuro:** ALOC? Focal deficits (CVA)?
Data	Blood Glucose
Goals of Therapy	Restore normal mental status
Monitoring	Repeat blood glucose

FIRST RESPONDER

1. Ensure patent airway.
2. O_2 100% NRB and/or ventilate as per airway management protocol.
3. If patient is conscious, give sugar/glucose.

HYPOTHERMIA

Priorities	***Assessment Findings***
Chief Complaint	"Person found down in a cold environment"
LOPQRST	What led up to this? Where was the patient found?
AS/PN	Associated trauma and MOI? Drug or alcohol use?
AMPL	Check for medications that could be contributory (beta blockers, psychiatric medications, sedatives, narcotics or barbiturates).
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 If possible, obtain a rectal temperature in the field with a digital thermometer. **General Appearance:** Shivering, paradoxical undressing, evidence of trauma? **Skin:** Signs of frostbite (pallor, blisters)? **Lungs:** pulmonary edema? **Heart:** Rate and rhythm? **Neuro:** Loss of coordination, impaired judgment, ALOC?
Data	SpO_2,
Goals of Therapy	Above all, avoid rough handling! Initiate Active and passive external rewarming measures in the field. Support airway, breathing and circulation. Do not attempt to thaw frozen limbs in the field.
Monitoring	SpO_2, Cardiac Monitoring

Note:

- Most cases of accidental hypothermia encountered by EMS involve alcohol and drug abuse.
- In the hypothermic patient, rough handling can precipitate ventricular fibrillation.
- When checking pulses and respiratory rates, check for 60 seconds, because bradycardia and bradypnea are common in moderate to severe hypothermia.
- Look for signs of trauma in all patients with hypothermia.
- Hypothermia may be categorized by mild, moderate and severe. The following table may be used to estimate the degree of hypothermia based on clinical findings.

Severity	**Temperature**	**Clinical Findings**
Mild	> 93 ^{o}F	Shivering, impaired judgment; Tachycardia and hypertension may be present
Moderate	86 – 93 ^{o}F	Consciousness clouded to stuporous; Shivering stops. Blood pressure becomes difficult to obtain.
Severe	< 86 ^{o}F	Bradycardia, hypotension and slow respirations; Arrhythmias may develop; Consciousness is lost.

FIRST RESPONDER

1. Remove all wet clothing from the patient and cover with blankets.
2. Ensure patent airway.
3. O2 100% NRB and/or ventilate per airway management protocol.

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4. Rewarming

Moderately Hypothermic Patient:

Initiate passive rewarming with warm dry clothing and bedding

Alert patients who are not vomiting may be given warm fluids by mouth.

Severely Hypothermic Patient:

Initiate active rewarming with hot packs.

5. **CARDIAC ARREST**

- **AED Use: If AED indicates a shockable rhythm perform defibrillation ONCE only and resume CPR for 2 minutes then check for pulse. Continue CPR if no pulse but don't defibrillate again until BLS/ALS rescuers arrive.**
- **Handle gently! Hypothermia predisposes the patient to ventricular fibrillation, which can be precipitated by rough handling.**
- **Do not initiate CPR on any patient who has a palpable pulse, regardless of pulse rate or other variations in vital signs.**
- **If no pulse then start CPR and ventilate per airway management protocol**

NAUSEA/VOMITING

FIRST RESPONDER

1. Ensure patent airway.
2. If decreased LOC, place in recovery position if c-spine injury is NOT suspected
3. Suction airway if vomiting occurs.

ASHLAND/BAYFIELD COUNTIES

2008

ADULT PATIENT PROTOCOLS

INTRODUCTION

The following protocols are consistent with the legislated ability of the Wisconsin First Responder and are recommended care to be delivered to all victims of medical and traumatic emergencies. It is critical that a transporting EMS agency be contacted at the earliest possible opportunity to expedite the transfer of the patient to the hospital. Documentation of care rendered must be made on the approved Chippewa Fire District Report form.

All patients are expected to receive standard assessment and evaluation of airway patency, ventilation and CPR when indicated. The following protocols indicate the steps to be taken next. Some protocols indicate attention to airway and oxygen as additional reminders of their importance.

INITIAL MEDICAL CARE

The following initial medical care should be provided to all patients receiving care by Ashland/Bayfield County providers:

Complete a primary survey "ABCs".

Ensure adequate oxygenation/ventilation per airway management procedure

Use advanced airway or intubate if indicated.

Cardiac monitor when indicated.

Vital signs, upon initial contact, and repeated at time of transfer of care to another agency, before and after medication administration, and every 5 minutes for seriously ill or injured

Assess level of consciousness "AVPU"

History of present complaint

- What happened?
- How
- When
- Precipitating factors
- Description of the onset
- Associated symptoms
- Course since the onset
- Treatment so far and response

Past Medical History

- Known medical problems
- Recent surgery and hospitalization
- Current medications
- Allergies
- Private physicians

Collect additional information from family or bystanders.

Initiate other therapy as indicated.

Perform a secondary survey, if time and patient condition allows.

Transport in position of comfort, unless contraindicated.

Contact Medical Control and relay the following:

- Nature of call
- Pertinent findings
- Treatment so far and response
- Request additional orders if needed
- Estimated time of arrival

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ALLERGIC REACTION/ANAPHYLAXIS

Priorities	***Assessment Findings***
Chief Complaint	"Allergic Reaction", "Hives" "Itching Rash"
LOPQRST	What provoked the reaction? Did the patient take diphenhydramine (Benadryl) or use an epinephrine auto-injector (EpiPen), and how did they respond?
AS/PN	Subjective swelling of facial, oral or pharyngeal structures, difficulty breathing, wheezing and light headedness.
AMPL	Does the patient have any environmental, medication, food or other allergies? Is the patient taking an antibiotic? If the patient has angioedema, is he/she taking an ACE inhibitor? Is he/she taking a Beta Blocker? If the patient is taking a Beta Blocker, he/she might not respond to epinephrine.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General:** Identify degree of severity: mild moderate or severe [1]. **Skin:** Urticaria (hives) **HEENT:** Swelling of the lips, tongue or pharynx (angioedema) **Chest:** Use of accessory muscles of respiration, labored breathing **Lungs:** Wheezing **Cardiovascular:** Hypotension, tachycardia (anaphylactic shock) **Neurological:** ALOC
Data	SpO_2
Goals of Therapy	Reverse the allergic reaction, relieve bronchospasm, correct hypotension/shock
Monitoring	Vital signs and cardiac monitoring.

Note:

- Allergic reactions span a continuum from minor to life threatening.
    1. Mild Allergic reaction: localized or generalized urticaria, without swelling of oral or pharyngeal structures, difficulty breathing, hypotension or ALOC;
    2. Moderate Allergic Reaction: oral or pharyngeal swelling is present, mild to moderate difficulty breathing and wheezing are present.
    3. Severe Allergic Reaction (Anaphylaxis): moderate to severe difficulty breathing is present, hypotension is present and ALOC may occur.
- If due to a bee sting, remove stinger by scraping horizontally with tongue depressor or plastic card. Do not squeeze the venom sac.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** as per airway management protocol.

==========

- Remove sting/injection mechanism.
- If respiratory distress assist with patient-prescribed medications - **Albuterol**.
- Treat for shock.

Epipen or

Epinephrine 0.3 mg 1:1000 solution **IM**

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- If wheezing, **Albuterol 2.5mg/Atrovent 0.5 mg in 3ml NS via O2 powered nebulizer.** May repeat every 5-10 minutes times 3 if needed
- Remove sting/injection mechanism.
- Monitor **ECG** and **SpO2**.
- May assist with patient's own medications.

Epipen or

Epinephrine 0.3 mg 1:1000 solution **IM**

ALTERED LEVEL OF CONSCIOUSNESS

Priorities	***Assessment Findings***
Chief Complaint	"Confused" "Unresponsive", Not acting themselves"
LOPQRST	Determine onset and duration. Triggering events (e.g. Trauma)
AS/PN	Headache, Weakness, Slurred speech, Aphasia, Incontinent
AMPL	Medication consistent with possible causes. (e.g. Alzheimer's, CVA, Diabetes, Seizures,)
Initial Exam	Check ABC's and correct any immediate life threats
Detailed Physical Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? **Lungs:** Wheezes, rales or rhonchi? Signs of respiratory distress or hypoventilation? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Unresponsive? Focal deficits (CVA)?
Data	Blood Glucose, SpO_2,
Goals of Therapy	Restore normal mental status, Maintain ABC's
Monitoring	Cardiac monitoring, repeat vitals

Note:

- Consider reversible causes of altered LOC: hypoglycemia, hypoxia, narcotic overdose, thiamine deficiency (alcoholics)
- Other causes of altered LOC include: hypovolemia, shock, sepsis, head injury, drug or alcohol intoxication, toxic exposures, syncope, seizures, arrhythmias
- Transport in left lateral recumbent position (recovery position) if possible. If restraints are necessary, refer to Agitated/Combative Patient protocol.

FIRST RESPONDER

- Assess for trauma, drugs, diabetes, breath odor, or medical alert tags.
- Spinal immobilization when indicated.
- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** as per airway management protocol.

BASIC

- Assess for trauma, drugs, diabetes, breath odor, or medical alert tags.
- Spinal immobilization if trauma suspected

==========

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol.
- Monitor **EKG** and **SpO2**.
- **Determine blood glucose** level (see Hypoglycemia Protocol)

CARDIAC CARE

Priorities	*Assessment Findings*
Chief Complaint	Heavy, vague, squeezing, pressure like, dull or achy, discomfort or pain
LOPQRST	Identify location and radiation, onset, duration progression and severity, presence of intermittent or fluctuating symptoms, factors that provoke (exertion) or palliate (rest) the pain.
AS/PN	Radiation, dyspnea, nausea/vomiting. Pain that is aggravated by breathing and coughing (pleuritic). Cough and fever/chills.
AMPL	History of coronary artery disease or risk factors for it. Use of cardiac medications, including aspirin.
Initial Exam	Check ABCs and correct any immediate life threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Anxious? **Skin:** Cool, pale diaphoretic? **Neck:** JVD? **Chest:** Laboring to breathe? **Lungs:** Wheezes, rales, rhonchi? Decreased breath sounds? **Heart:** Rate, regularity? **Legs:** Pedal Edema? **Neuro:** ALOC?
Data	SpO_2, EKG, Blood Sugar if Diabetic or altered LOC
Goals of Therapy	Reduce chest pain; reduce risk of lethal arrhythmias; early identification of myocardial infarction, and early identification of fibrinolytic therapy candidates.
Monitoring	Cardiac monitoring and SpO_2

Note: Certain advances in the treatment of patients with myocardial infarction are time-sensitive. To ensure the maximum benefit for patients with suspected myocardial infarction, treat all patients presenting with chest pain of suspected cardiac origin as expeditiously as possible, with the goal in mind of minimizing delays in transport.

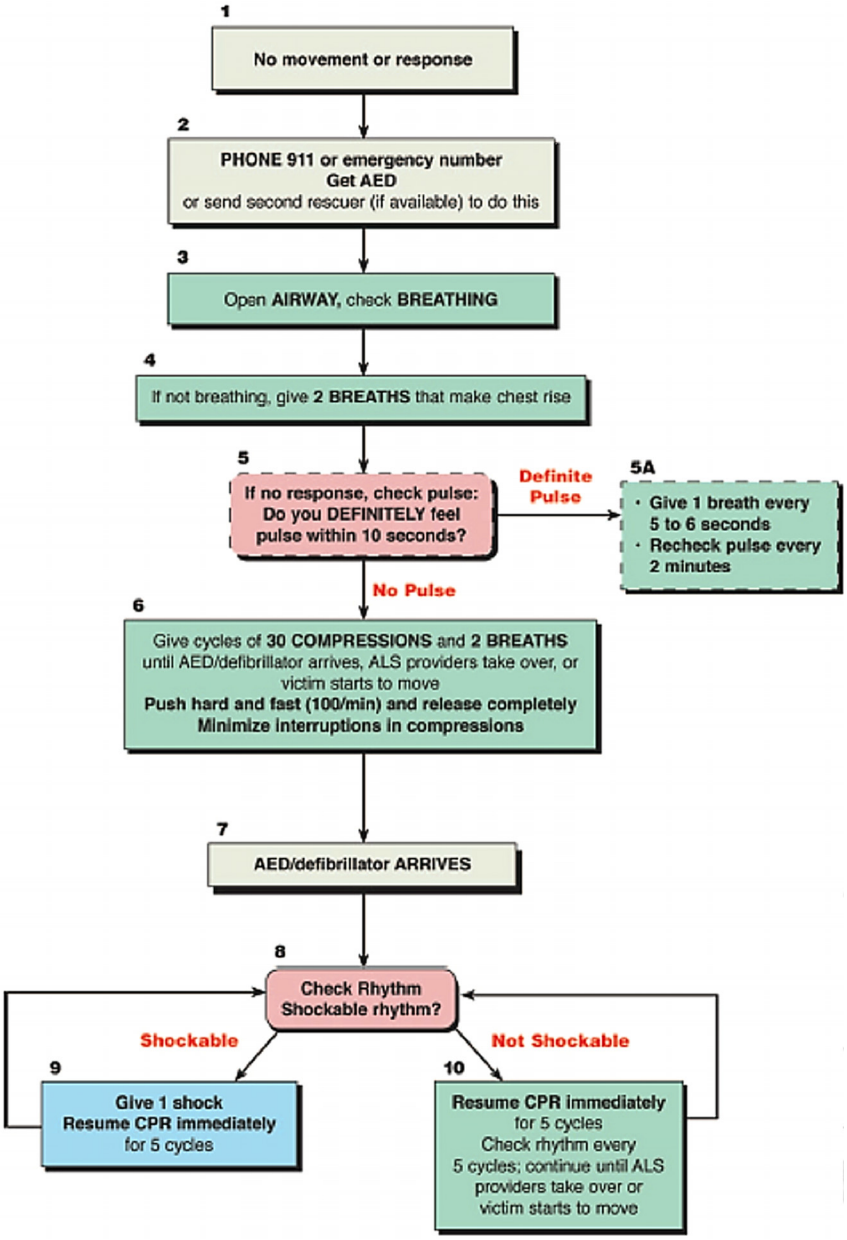
- Cardiac chest pain (Angina) is usually vaguely described; whereas, pleuritic chest pain is usually precisely defined by location, quality (sharp).

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- **Obtain 12-Lead ECG transmit to nearest primary interventional cardiac receiving hospital OR request ALS intercept for interpretation and further care.**
- **Aspirin 324 mg PO** (chewable).
- May assist patient with taking his/her own **Nitroglycerine** if BP>100
- **May repeat every 5 minutes for a total of 3 doses**.
- Monitor **ECG** and **O2** sats

CPR-AED USE

CPR/AED AGLORITHM



General Considerations

1. **CPR comes first.** Determine unresponsiveness, open airway and begin CPR.
2. Chest compressions at 100/minute, allowing complete chest recoil by not resting any weight of the rescuer on the patients chest.
3. Do not interrupt CPR except when absolutely necessary
4. OP or NP airway required during BVM ventilation

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5. Ventilate at no more than 10 breaths per minute
6. 1 cycle of CPR is 30 compressions and 2 breaths until Combitube inserted or patient intubated THEN deliver 1 breath every 10 compressions but do not stop compressions for breath to be delivered.
7. Attach ResQ-Pod to Combitube
8. All contact with patient must be avoided during analysis of rhythm and/or delivery of shock(s).
9. Automated external defibrillation is not used in cardiac arrest in children under 8 years of age and less than 90 lbs **unless** using a device with Pediatric pads and cables.
10. Preferred placement of AED pads is right upper chest and left lower chest wall
11. Call for ALS backup immediately.
12. Preparation for transport of patient should begin staffing allows
13. Assuming no on-scene ALS, the patient should be transported by the time one of the following occurs:
    a. The patient regains a pulse.
    b. Six shocks are delivered.
    c. The machine gives three consecutive messages (separated by two minute of CPR) that no shock is advised.
14. If automated external defibrillators can not analyze rhythm properly when emergency vehicle is in motion, stop vehicle.

Operational Steps- Multiple Rescuers

1. Stop CPR if in progress
2. Verify pulselessness and apnea
3. **If no by-stander CPR:** Have partner resume CPR, perform 2 minutes of CPR before defibrillation
4. Turn on defibrillator power and attach device
5. Stop CPR
6. Clear patient
7. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Perform 2 minutes of CPR
    c. Insert Combitube and attach ResQPOD
    d. Check Pulse
    e. Analyze rhythm
    f. If machine advises shock, deliver second shock
    g. If no pulse perform 2 minutes of CPR
    h. Check Pulse
    i. Analyze rhythm
    j. If machine advises shock, deliver third shock
    k. Perform 2 minutes of CPR
    l. Check pulse

8. If pulse returns, check breathing and ensure adequate ventilation.
9. If no pulse
    a. Resume CPR for two minutes
    b. Repeat steps 6 - 8. Deliver no more than six shocks without contacting Medical Control for orders.
10. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 6 - 8.
    c. If no shock continues to be advised, resume CPR for additional 2 minutes and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR and transport

Operational Steps - Single rescuer

1. Verify pulselessness and apnea.
2. Turn on defibrillator power and attach device while beginning narrative.
3. Clear patient
4. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Perform 2 minutes of CPR
    c. Check pulse
    d. Analyze rhythm
    e. If machine advises shock, deliver second shock
    f. Perform 2 minutes of CPR
    g. Check Pulse
    h. Analyze rhythm
    i. If machine advises shock, deliver third shock
    j. Perform 2 minutes of CPR
    k. Check pulse
5. If pulse returns, check breathing and ensure adequate ventilation.
6. If no pulse returns continue CPR until ALS arrives
7. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 4 and 5
    c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR until help arrives

Protocol: AP-006 Hypertension

HYPERTENSION (Systolic > 160 or Diastolic > 110)

ASYMPTOMATIC: - Hypertension without signs of stroke, renal failure, myocardial injury, or aortic disruption.

FIRST RESPONDER

- Be calm and reassuring.
- Keep patient quiet with head elevated.
- Assess the patient for potential causes of the hypertension such as stroke, chest pain, and respiratory distress.

BASIC

- Reassurance
- Position of comfort
- **Oxygen 2 liters/nasal cannula**

SYMPTOMATIC: - Hypertension as defined above with symptoms of stroke, renal failure, myocardial injury, or aortic disruption. Treatment is guided on the mean arterial pressure (MAP). Adjustments in MAP must be done carefully and recommended at no more than 20% in the first hour

Calculate MAP: (Systolic minus diastolic) / 3 + diastolic

BASIC

- **Oxygen**
- **Consider ALS intercept**

HYPOGLYCEMIA

Priorities	*Assessment Findings*
Chief Complaint	"Low blood sugar" "Altered Level of Consciousness"
LOPQRST	Check onset/duration. Identify possible contributing factors [1]. Recent history of frequent episodes.
AS/PN	Fever/Chills. Signs/Symptoms of infection.
AMPL	Medications for diabetes.
Initial Exam	ABCs and correct any immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive? Agitated and combative? **Skin:** Cool, pale, diaphoretic? **Neuro:** ALOC? Focal deficits (CVA)?
Data	Blood Glucose
Goals of Therapy	Restore normal mental status
Monitoring	Repeat blood glucose

FIRST RESPONDER

- Ensure patent airway.
- **O_2 100% NRB** and/or **ventilate** as per airway management protocol.
- If patient is conscious, give sugar/glucose.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- **Obtain blood glucose** level.
- If patient is conscious, **glucose PO**.
- **Glucagon 1 mg IM** (if no IV) in patient w/altered LOC & blood sugar < 75 mg/dl or unobtainable.
- Monitor **ECG** and **SpO2**.

HYPOTHERMIA

Priorities	*Assessment Findings*
Chief Complaint	"Person found down in a cold environment"
LOPQRST	What led up to this? Where was the patient found?
AS/PN	Associated trauma and MOI? Drug or alcohol use?
AMPL	Check for medications that could be contributory (beta blockers, psychiatric medications, sedatives, narcotics or barbiturates).
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 If possible, obtain a rectal temperature in the field with a digital thermometer. **General Appearance:** Shivering, paradoxical undressing, evidence of trauma? **Skin:** Signs of frostbite (pallor, blisters)? **Lungs:** pulmonary edema? **Heart:** Rate and rhythm? **Neuro:** Loss of coordination, impaired judgment, ALOC?
Data	SpO_2,
Goals of Therapy	Above all, avoid rough handling! Initiate Active and passive external rewarming measures in the field. Support airway, breathing and circulation. Do not attempt to thaw frozen limbs in the field.
Monitoring	SpO_2, Cardiac Monitoring

Note:

- Most cases of accidental hypothermia encountered by EMS involve alcohol and drug abuse.
- In the hypothermic patient, rough handling can precipitate ventricular fibrillation.
- When checking pulses and respiratory rates, check for 60 seconds, because bradycardia and bradypnea are common in moderate to severe hypothermia.
- Look for signs of trauma in all patients with hypothermia.
- Hypothermia may be categorized by mild, moderate and severe. The following table may be used to estimate the degree of hypothermia based on clinical findings.

Severity	Temperature	Clinical Findings
Mild	> 93 ^{o}F	Shivering, impaired judgment; Tachycardia and hypertension may be present
Moderate	86 – 93 ^{o}F	Consciousness clouded to stuporous; Shivering stops. Blood pressure becomes difficult to obtain.
Severe	< 86 ^{o}F	Bradycardia, hypotension and slow respirations; Arrhythmias may develop; Consciousness is lost.

FIRST RESPONDER

- Remove all wet clothing from the patient and cover with blankets.
- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per airway management protocol.

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- Rewarming

BASIC

- Transport expeditiously but gently! Hypothermia predisposes the patient to ventricular fibrillation, which can be precipitated by rough handling.
- Remove all wet clothing from the patient and cover with blankets.
- Do not initiate CPR on any patient who has a palpable pulse, regardless of pulse rate or other variations in vital signs.
- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Monitor **ECG** rhythm **SpO2**.
- **Check blood glucose**
- Rewarming

Mild to Moderately Hypothermic Patient:

  - Initiate passive rewarming as described above.
  - Alert patients who are not vomiting may be given warm fluids by mouth.

Severely Hypothermic Patient:

  - Initiate active rewarming with hot packs.

NAUSEA / VOMITING

Priorities	*Assessment Findings*
Chief Complaint	Nausea and/or vomiting
LOPQRST	Onset, number of episodes of vomiting
AS/PN	Associated diarrhea? Bloody emesis or diarrhea?
AMPL	Recent travel, exposure to others with similar problem, contaminated food? Alcohol excess? Drugs or other toxins?
Initial Exam	ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO2 **General:** Ill appearing? Dehydrated? **Abdomen:** Soft? Tender? Distended? **Neuro:** ALOC?
Data	SpO2
Goals of Therapy	Stop vomiting, relieve nausea, correct dehydration
Monitoring	Response to medications.

Note:

- Think of potential causes
  - Infectious diseases
  - Food borne illness
  - Drug or alcohol intoxication
  - Adverse reaction to medication
  - Head injury
  - Diabetic problems
  - Heart problems (angina, CHF)
  - Abdominal Problems (bowel obstruction, pancreatitis)
  - Vertigo

FIRST RESPONDER and BASIC

- Ensure patent airway.
- If decreased LOC, place in recovery position if c-spine injury is NOT suspected
- Suction airway if vomiting occurs.

SUBMERSION – NEAR DROWNING

Priorities	***Assessment Findings***
Chief Complaint	"Drowning", "Near Drowning"
LOPQRST	Onset. Duration of time under water. Water temperature, if known. Bystander CPR performed? AED Used?
AS/PN	Alcohol involved? Trauma involved?
AMPL	Allergies? Medications?
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 General Appearance: lifeless Skin: pale, cool, mottled Lungs: wet or clear? Heart: Rate and regularity? Absent heart sounds? Neuro: Unresponsive?
Data	Blood sugar, EKG, SpO_2.
Goals of Therapy	Return of spontaneous circulation (ROSC)
Monitoring	BP, HR, RR, EKG, SpO_2.

Notes:

- RESCUER SAFETY IS #1. Many well-intentioned volunteer and professional rescuers have been injured or killed attempting to save a drowning victim.
- If the victim is still in the water dispatch local water rescue resources
- Submersion is a loss of consciousness under water
- Submersion is primarily a respiratory problem
- When delivering ventilations and chest compressions assume the patient will vomit. Be prepared to suction. Secure the patient's airway as soon as possible.
- Any patient successfully resuscitated after a loss of consciousness underwater needs transport to the hospital and physician evaluation

FIRST RESPONDER

- Routine C-spine stabilization of all submersion patients is not indicated.
- When a mechanism of injury (e.g. diving accidents), or obvious signs of trauma, is present:
    - C-spine stabilization is indicated.
    - Open the airway with a jaw-thrust maneuver.
    - Ventilate the patient while maintaining C-spine stabilization.
    - Remove the patient from the water on a long-spine board.
- Always assume that hypothermia is present and follow the *Hypothermia and Frostbite Guidelines*.
- Do NOT start CPR if the patient has been submerged for more than 1 hour

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- If the patient is pulseless and not breathing, follow the *Cardiac Arrest Guidelines*.
    - Remove the patient from standing water
    - Dry the chest with towels
    - Attach an AED and defibrillate if shocks are indicated.
    - If hypothermia is suspected, follow the resuscitation procedure outline in the *Hypothermia Guidelines*.
- If an upper airway obstruction is suspected follow *American Heart Association Guidelines*
    - Routine use of abdominal thrusts and back blows is not indicated in submersions.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or ventilate per protocol.
- Apply **CPAP** if respiratory distress present
- **Full spinal immobilization** if trauma suspected
- Monitor **ECG** and **SpO2**
- Transport in head-down, left lateral recumbent position if decompression injury suspected.
- If SCUBA related, collect all diving gear, gauges, computer and bring to hospital.
- For scuba emergencies, **consider air-medical transport to nearest hyperbaric chamber** (Deluth)

OBSTETRICAL EMERGENCIES

Expectant Mother in Labor

(For **Routine Delivery** procedure refer to Procedures Section)

ALL LEVELS

- Ensure patent airway.
- Obtain brief history
    1. gravida [# of pregnancies]
    2. para [# of live births])
    3. due date
    4. onset of labor
    5. timing of contractions
    6. rupture of membranes (water broke) and if so, note any meconium staining.
    7. Also, note history of pregnancy related complications.
- If delivery is imminent with a normal presentation (crowning noted), deliver baby .
- If abnormal presentation during contraction (breech, arm, leg, or cord noted), contact Medical Control.
- Transport in position of comfort, left lateral recumbent, if tolerated.
- Monitor timing of contractions - minutes in between and duration of contractions.
- Refer to Neonatal Resuscitation protocol following delivery for care of infant.
- Do not delay transport any longer than to assure infant is stable.

Vaginal Bleeding Pre-Delivery

Priorities	*Assessment Findings*
Chief Complaint	"Vaginal bleeding and pregnant"
LOPQRST	Onset. Attempt to quantify the amount of blood lost
AS/PN	Is the patient having severe crampy pains? Has any fetal tissue passed?
AMPL	Has there been any prenatal care? An ultrasound? Was it normal?
Initial Exam	ABCs and correct any immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Pain or anxiety-related distress? External Hemorrhage? **Skin:** Pale, cool, and moist? **Chest:** Labored breathing? **Heart:** Rate and Rhythm? **Abdomen:** Internal hemorrhage? Tender? Distended? GU Blood loss? **Neuro:** Altered LOC?
Data	SpO_2
Goals of Therapy	Identify potentially life-threatening hemorrhage. Treat for shock. Display sensitivity to the emotional needs of the parents. Reduce pain to the "comfortable" range.
Monitoring	Monitor blood pressure, heart rate and mental status for signs of shock.

Note:

- Vaginal bleeding and severe lower abdominal pain in the first trimester of pregnancy should be considered a ruptured ectopic pregnancy until proven otherwise. This is a true medical emergency!
- Bleeding at any point in pregnancy can be associated with loss of the fetus, and parents know this. You must be sensitive to their sense of potential loss.
- After about 20 weeks of pregnancy, when the mother is in a supine position, the gravid uterus can compress the inferior vena cava, which decreases preload and causes hypotension.
- Pregnancy usually lowers a woman's blood pressure. If you get systolic readings between 80 – 100 mmHg, ask the mother what her most recent blood pressure was in her doctor's office.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- Place on left lateral side, recumbent, for transport.
- Treat for hypovolemic shock.

Vaginal Bleeding Post-Delivery

Priorities	***Assessment Findings***
Chief Complaint	"Vaginal bleeding after delivery"
LOPQRST	Onset. Attempt to quantify the amount of blood lost
AS/PN	Is the patient having severe crampy pains? Has any fetal tissue passed?
AMPL	Has there been any prenatal care? An ultrasound? Was it normal?
Initial Exam	ABCs and correct any immediately life-threatening problems.
Detailed Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Pain or anxiety-related distress? External Hemorrhage? **Skin:** Pale, cool, and moist? **Chest:** Labored breathing? **Heart:** Rate and Rhythm? **Abdomen:** Internal hemorrhage? Tender? Distended? GU Blood loss? **Neuro:** Altered LOC?
Data	SpO_2
Goals of Therapy	Identify potentially life-threatening hemorrhage. Treat for shock. Display sensitivity to the emotional needs of the parents. Reduce pain to the "comfortable" range.
Monitoring	Monitor blood pressure, heart rate and mental status for signs of shock.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- Massage fundus vigorously.
- Place baby to breast.
- Transport in head down, left lateral recumbent position.
- Loose bulky dressings in vagina (do not pack).

Eclampsia (seizures)

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- Provide quiet non-stimulating environment.
- Place in left lateral recumbent position.
- **CALL FOR ALS INTERCEPT**

PAIN MANAGEMENT

Priorities	***Assessment Findings***
Chief Complaint	"Pain"
LOPQRST	Location, onset, provocation, palliation, quality, radiation, severity (subjective pain score on a 0-10 scale or mild moderate, severe), time (intermittent or continuous; steady vs. improving or worsening)
AS/PN	Associated symptoms/pertinent negatives
AMPL	Allergies, medications, pertinent past history, last meal
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Writhing in pain, facial grimacing, moaning, screaming or crying? Assess objectively how severe the pain appears to you (mild, moderate or severe). **Skin:** Pale, cool, diaphoretic? **Source of pain (chest, abdomen, back, extremities, etc.):** Swelling, ecchymosis or deformity? Tenderness on palpation? CMS?
Data	SpO_2. EKG for chest pain.
Goals of Therapy	Reduce pain to a tolerable level.
Monitoring	BP, HR, RR, EKG, SpO_2.

FIRST RESPONDER - BASIC

- Display a calm and compassionate attitude
- Acknowledge and assess the patient's pain by obtaining a thorough history
- Identify and treat the cause
    - Musculoskeletal injuries:
        - Realign angulated fractures, if possible, being cautious not to aggravate the injury or pain
        - Reposition (not reduce) dislocated joints to improve comfort, circulation, sensation, and motion
        - Apply a well padded splint that immobilizes the long bone above and below the injury or the joint above and below the injury
            - Do not compromise distal circulation
        - Immobilize joints in mid range position
        - Elevate the injured extremity if no fracture or dislocation is found
        - Apply ice or cold packs to the injured area
        - Apply a compression bandage or ace wrap if a splint is not needed
    - Consider spinal immobilization, if needed
        - Pad the backboard with a blanket(s)

  - Pad voids between the patient and backboard—behind knees, and small of back
  - Pad the straps
  - Keep the patient warm and protected from rain/snow, ambulance exhaust etc.
- Reassure and comfort the patient; Use a calm and soothing voice.
- **Consider ALS intercept for additional pain control**

POISONING/OVERDOSE

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Priorities	***Assessment Findings***
Chief Complaint	"Poisoning" "Overdose" "Chemical Exposure " "Unresponsive"
LOPQRST	Determine time of exposure/ingestion, Determine amount/length of exposure
AS/PN	Dyspnea, nausea/vomiting, abdominal pain, unresponsive; Suicidal ideation or suicide attempt. Accidental or intentional exposure.
AMPL	Psychiatric history and medications, exposure to chemicals
Initial Exam	Check ABC's, and correct any immediate life threats
Detailed Physical Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** level of alertness, signs of agitation, willingness to cooperate with authorities **Skin:** Cool, pale and diaphoretic? Warm, dry and flushed? **HEENT:** Are the pupils constricted or dilated? Nystagmus? **Lungs:** Wheezes, rales or rhonchi? **Heart:** Rate, regularity, BP, peripheral perfusion? **Neuro:** Signs of intoxication? Ataxia? Slurred speech? **Psych:** Depressed affect? Bizarre thoughts? Signs of suicidal ideation or intent?
Data	Blood glucose, Identify possible toxic substances ingested/exposed too.
Goals of Therapy	Reduce amount of substance absorbed into the body; Treat with antidotes if possible; Correct toxic effects on the CNS, cardiovascular and respiratory systems.
Monitoring	Cardiac monitoring

Note:

- Perform scene size-up and ensure crew safety. In a hazardous materials incident, stage up wind of the incident, and do not attempt to treat any patients who have not been decontaminated. Be especially suspicious of scenes in which many people or animals appear to be affected.
- Beware of the potential for the patient to vomit spontaneously. Following any form of cyanide ingestion, emesis may off-gas toxic hydrogen cyanide, placing rescuers and health care workers at risk.
- Beware of the potential for seizures or altered level of consciousness due to toxic exposures.
- Beware of the potential for cardiovascular collapse and respiratory compromise due to toxic exposures
- Do not induce vomiting.

Protocol: AP-013 Poisoning/Overdose

FIRST RESPONDER

- Ensure scene safety. If hazardous material is suspected, notify local Fire Department.
- Protect yourself from contamination (dust, fumes).
- Move patient to safe
- Ensure patent airway. Consider use of oropharyngeal or nasopharyngeal airway
- **O2 100 % NRB** and/or ventilate as per airway management protocol.
- Remove contaminated clothing.
- Decontaminate by brushing off, or rinse substance with copious amounts of water.
- Continuous irrigation with NS if eyes are contaminated with caustics or acids.
- **NOTE: Do not induce vomiting.**
- If the patient is unconscious, place him/her in the recovery position.

BASIC

- Check **blood glucose** if altered level of consciousness
- Monitor **ECG** and **SpO2**.
- **Consider ALS intercept if LOC requires assisted ventilations**

RESPIRATORY DISTRESS
OBRSTRUCTED AIRWAY

BASIC

- Ensure a patent airway. Use the AHA foreign body obstructed airway procedure.
- Direct laryngoscopy and Magill forceps.
- **O2 100% NRB** and/or ventilate per protocol
- Monitor **ECG** and **SpO2**.
- **Note: Do not place Non-Visualized Airway if airway obstruction suspected**
- **Request Paramedic Intercept for surgical airway**

RESPIRATORY DISTRESS
PULMONARY EDEMA

Priorities	***Assessment Findings***
Chief Complaint	"Difficulty breathing"; "Shortness of breath"
LOPQRST	Assess onset, duration, progression, subjective severity, possible triggering events, and response to treatments before EMS arrival.
AS/PN	Chest pain (what kind?), fever/chills, productive (of what?) cough
AMPL	Check for possible exposure to known allergens. Check past history, medications and compliance for clues to cause of present illness.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance**: Tripod positioning; Purse-lipped breathing. Severity of distress [1]? **Neck:** JVD? **Skin:** Cool, moist and pale? Warm, dry and flushed? Urticaria? Cyanosis? **Respiratory Effort:** Using accessory muscles, signs of fatigue; two-word sentences? **Lung Sounds:** Wheezes, rales, rhonchi or stridor? **Heart Sounds:** Rate, regularity. **Lower Extremities:** Pitting edema of the ankles? **Neuro:** Alterd LOC, lethargy, somnolence?
Data	SpO_2, on room air or home O_2 EKG, if an acute coronary syndrome is suspected Blood Sugar, if DKA is suspected or if there is ALOC
Goals of Therapy	Improve oxygenation and ventilation, reduce the work of breathing, and treat underlying conditions.
Monitoring	SPO_2 frequently or continuously. Cardiac rhythm monitoring. Heart Rate and Blood Pressure frequently.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or **SpO2**as per airway management protocol.
- If there is altered level of consciousness and loss of gag reflex, insert an oropharyngeal or nasopharyngeal airway.
- Place patient in position of comfort or sitting position.

BASIC

- May assist patient with own **nitroglycerin** if chest discomfort present
- **CPAP at 5.0 cmH20** (see Procedure section)
- Monitor **ECG** and **SpO2**.
- **Consider ALS Intercept is not improving**

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RESPIRATORY DISTRESS
COPD/EMPHYSEMA

Priorities	***Assessment Findings***
Chief Complaint	"Difficulty breathing"; "Shortness of breath"
LOPQRST	Assess onset, duration, progression, subjective severity, possible triggering events, and response to treatments before EMS arrival.
AS/PN	Chest pain (what kind?), fever/chills, productive (of what?) cough
AMPL	Check for possible exposure to known allergens. Check past history, medications and compliance for clues to cause of present illness.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance**: Tripod positioning; Purse-lipped breathing. Severity of distress [1]? **Neck:** JVD? **Skin:** Cool, moist and pale? Warm, dry and flushed? Urticaria? Cyanosis? **Respiratory Effort:** Using accessory muscles, signs of fatigue; two-word sentences? **Lung Sounds:** Wheezes, rales, rhonchi or stridor? **Heart Sounds:** Rate, regularity. **Lower Extremities:** Pitting edema of the ankles? **Neuro:** Altered LOC, lethargy, somnolence?
Data	SpO_2, on room air or home O_2 EKG, if an acute coronary syndrome is suspected Blood Sugar, if DKA is suspected or if there is ALOC
Goals of Therapy	Improve oxygenation and ventilation, reduce the work of breathing, and treat underlying conditions.
Monitoring	SPO_2 frequently or continuously. Cardiac rhythm monitoring. Heart Rate and Blood Pressure frequently.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or ventilate as per airway management protocol.
- If there is altered level of consciousness and loss of gag reflex, insert an oropharyngeal or nasopharyngeal airway.
- Place patient in position of comfort or sitting position.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- **Albuterol 2.5 mg/Atrovent 0.5 mg in 3ml NS via O2 powered nebulizer.** May repeat every 5-10 minutes times 3 if needed
- **CPAP at 5.0 cm H20** (See procedure section).
- Monitor **ECG** and **SpO2**.

Epinephrine 1:1,000 0.3 mg SQ, may repeat every 5 minutes as instructed by on-line medical control

- **ALS Intercept if not improving**

RESPIRATORY DISTRESS
ASTHMA

Priorities	***Assessment Findings***
Chief Complaint	"Difficulty breathing"; "Shortness of breath"
LOPQRST	Assess onset, duration, progression, subjective severity, possible triggering events, and response to treatments before EMS arrival.
AS/PN	Chest pain (what kind?), fever/chills, productive (of what?) cough
AMPL	Check for possible exposure to known allergens. Check past history, medications and compliance for clues to cause of present illness.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance**: Tripod positioning; Purse-lipped breathing. Severity of distress [1]? **Neck:** JVD? **Skin:** Cool, moist and pale? Warm, dry and flushed? Urticaria? Cyanosis? **Respiratory Effort:** Using accessory muscles, signs of fatigue; two-word sentences? **Lung Sounds:** Wheezes, rales, rhonchi or stridor? **Heart Sounds:** Rate, regularity. **Lower Extremities:** Pitting edema of the ankles? **Neuro:** Altered LOC, lethargy, somnolence?
Data	SpO_2, on room air or home O_2 EKG, if an acute coronary syndrome is suspected Blood Sugar, if DKA is suspected or if there is ALOC
Goals of Therapy	Improve oxygenation and ventilation, reduce the work of breathing, and treat underlying conditions.
Monitoring	SPO_2 frequently or continuously. Cardiac rhythm monitoring. Heart Rate and Blood Pressure frequently.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or ventilate as per airway management protocol.
- If there is altered level of consciousness and loss of gag reflex, insert an oropharyngeal or nasopharyngeal airway.
- Place patient in position of comfort or sitting position.

BASIC

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- **Albuterol 2.5mg/Atrovent 0.5 mg in 3ml NS via O2 powered nebulizer.** May repeat every 5-10 minutes times 3 if needed
- **CPAP** at **5.0 cm H20** (See procedure section).
- Monitor **ECG** and **SpO2**.

Epi-Pen or

Epinephrine 0.3 mg 1:1000 solution **SQ** may repeat every 5 minutes as directed by on-line medical control

AGITATED/COMBATIVE PATIENT

.

Priorities	***Assessment Findings***
Chief Complaint	"Behavioral Disturbance"; "Violent behavior";
LOPQRST	Determine onset, duration and progression, triggering events, perception of severity by bystanders,
AS/PN	Alcohol or drug intoxication, Head trauma
AMPL	Psychiatric medications? Noncompliance? History of schizophrenia or bipolar disorder? History of drug or alcohol abuse?
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	**General Appearance**: Bizarre behavior, violent, aggressive, combative, loud, obnoxious, agitated; partial or complete undressing? Uncooperative (Does not respond to verbal commands to desist)? **Skin:** Diaphoresis? Cool, moist and pale? Warm, dry and flushed? **Respiratory Effort:** Labored breathing? Heavy breathing? **Lung Sounds:** Wheezes, rales, rhonchi or stridor? Decreased lung sounds? **Cardiovascular:** Hypertensive and tachycardic? **Extremities:** Trauma? **Neuro:** Excited, agitated, increased activity and increased intensity of activity **Psych:** Bizarre thoughts and actions; Paranoia, delusional, confused, clouded consciousness?
Data	SpO2 in all patients (continuous or frequent re-checks); 12-Lead EKG as soon as it becomes practical to obtain one; Blood Glucose to rule out hypoglycemia as a cause of the behavioral disturbance.
Goals of Therapy	Physically or chemically restrain the patient to reduce the threat to self and others, especially emergency responders (law enforcement and EMS)
Monitoring	BP, HR, RR, EKG, SpO_2.

Note:

- Ensuring the safety of EMS personnel is of paramount importance. Always summon law enforcement to secure the scene and patient before attempting to provide medical care. Be aware of items at the scene or medical equipment that may become a weapon.
- Physical restraints are only permitted when the patient is potentially dangerous to self or others.
- Never apply physical restraints for punitive reasons, or in a manner that restricts breathing and circulation, or in places that restrict access for monitoring the patient.
- Behavioral disturbances are often the result of underlying medical conditions that require immediate medical attention, including head trauma, alcohol or drug intoxication,

metabolic disease, and psychiatric disorders. Patients in need of medical attention must be transported in an ambulance, not a police vehicle.

- If law enforcement restrains the patient with handcuffs, an officer with a key must accompany the patient during transport.
- Patients most at-risk of dying in police custody are those who violently resist and struggle against restraints
- Restrain a seizing patient only sufficient to prevent injury.

PATIENTS WHO HAVE BEEN TASED WITH DARTS

- All patients who have been restrained by law enforcement through deployment of Taser Darts and for whom law enforcement has requested EMS must be evaluated for signs of agitated delirium and/or serious injury from the Taser.
- Before touching the patient ensure that the wire from the Taser to the darts has been disconnected from either the Taser gun or the darts by law enforcement.
- Determine where the dart or darts have punctured the skin.
- Control bleeding with direct pressure if needed.
- Obtain a full set of vital signs including ECG monitoring, blood glucose level, and oxygen saturation
- Any patient having darts impaled in the following areas must leave dart in place and bandage to protect area. Transport by EMS is mandatory.
  - Face
  - Neck
  - Axilla
  - Groin
- Darts impaled in any other area may be removed with gentle tug, then clean and cover wound. These patients may be transported by law enforcement at their discretion.

BASIC

- When the immediate safety of the patient or EMS personnel is in jeopardy, the patient may be restrained pursuant to the physical restraint policy.
- If personnel safety cannot be assured, retreat to a safe distance and call Law Enforcement and request Paramedics for pharmacologic restraints
- Use of physical restraints will be documented including the reasons for their use and the specific type of restraint used.
- Medical Control will be notified as soon as possible of the use of physical restraints.
- **Consider ALS intercept if additional measures may be required**

SEIZURES

Priorities	***Assessment Findings***
Chief Complaint	"Seizure" "Unresponsive" "Convulsions"
LOPQRST	How long did it last? History of seizures? Possible contributing factors [1]
AS/PN	Unresponsive, Postictal, Incontinent
AMPL	History of seizures, Seizure medications?
Initial Exam	ABC's and correct any immediate life threats
Detailed Physical Exam	**Scene size-up:** Is there a significant mechanism of injury? **General Appearance:** Pt. currently seizing? Unresponsive? Postictal? **Vitals:** BP, HR, RR, Temp, SpO2 **Skin:** Flushed, warm **Neuro:** ALOC?, Focal deficits (CVA)
Data	Blood Glucose, SpO_2
Goals of Therapy	Stop the seizure Treat the underline cause Monitor and maintain airway.
Monitoring	Vitals, Cardiac monitoring, SpO_2

Note:

- Seizures usually last from 1-3 minutes and involve a loss of consciousness and convulsions. Not uncommonly, the patient is incontinent and may bite his tongue or be injured in other ways because of the convulsions.
- Most often when the seizure is over, the patient enters a postictal state, characterized by a gradual return to full consciousness over about 20 – 30 minutes, with initial confusion eventually giving way to normal alertness and orientation.
- Whenever seizures occur, look for an underlying cause and treat it. This is especially important if there is no previous history of epilepsy.
- If the patient is more than 20 weeks pregnant, refer to the *Eclampsia Guidelines*.
- Status epilepticus is defined as a seizure lasting longer than 30 minutes, or frequently recurring seizures without clearing the postictal state or return to baseline neurological status. This is a life-threatening emergency!
- Pseudoseizures look like seizures, but are actually a behavioral disturbance characterized by intermittent spells of non-epileptic convulsions that are usually involuntary. They are frequently misdiagnosed as epilepsy and often treated with anti-epilepsy drugs for a long time, before the true nature of the attacks is revealed.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or ventilate per airway management protocol.

==========

- Place in left lateral recumbent position and protect patient from injury with gentle restraint.
- Spinal immobilization if trauma suspected.

FIRST RESPONDER

- Ensure patent airway.
- **O2 100% NRB** and/or **ventilate** per protocol.
- Place in left lateral recumbent position and protect patient from injury.
- **Spinal immobilization** if trauma suspected.
- **Determine blood glucose** level (see Hypoglycemia Protocol)
- Monitor **ECG** and **SpO2**.

STROKE

Priorities	*Assessment Findings*
Chief Complaint	"Weakness", "Confusion", "Slurred Speech", "Unresponsive"
LOPQRST	When did it start? Was it witnessed?
AS/PN	Headache, weakness, pupil dilation, slurred speech, aphasia, incontinent
AMPL	Medication consistent with history of stroke or TIA
Initial Exam	ABC's and correct any immediate life threats
Focused Exam	**Vital signs:** BP, HR, RR, Temp, SpO2 **General Appearance:** Unresponsive?, noticeable facial droop, drooling, slouched posture **Neuro:** Cincinnati pre-hospital stroke scale (speech, facial symmetry, motor)
Data	Blood Glucose
Goals of Therapy	Maintain ABC's and adequate vital signs
Monitoring	Cardiac rhythm strip Heart rate and blood pressure

FIRST RESPONDER

Evaluate for altered level of consciousness and use appropriate protocol.

- Ensure patent airway
- O2 at 2-4 liters/min nasal cannula if awake, 100% NRB if unconscious
- Reassure patient and protect from injury

BASIC

- Ensure patent airway
- **O2** to maintain **spO2** at no more than **92%.**
- **Check blood glucose** and treat if less than 75
- Determine best estimate of time of symptom onset
- Obtain **Cincinnati stroke scale**
- Perform **Los Angeles Stroke Screen**
- **If symptom onset less than 3 hours: Expeditious transport to closest facility capable of administering thrombolytic agents.**
- Monitor **ECG** and **SPO2**.

SHOCK

Priorities	*Assessment Findings*
Chief Complaint	"Altered Level of Consciousness"
LOPQRST	Identify onset, duration, progression and provocation.
AS/PN	Fever/Chills, Chest Pain (Angina), Trauma
AMPL	Pertinent past history and medications may provide important clues.
Initial Exam	ABCs and correct immediately life-threatening problems.
Detailed Exam	**Vital Signs:** BP, HR, RR, Temp, SpO2 **General Appearance:** Does the patient appear ill? External Hemorrhage? **Skin:** Pale, cool, and moist? Flushed, warm and dry? **Chest:** Labored breathing? **Lungs:** Wheezes, rales or rhonchi? **Heart:** Rate and Rhythm? **Abdomen:** Internal hemorrhage? Tender? Distended? GI Blood loss? **Extremities:** Trauma? Edema? **Neuro:** Altered LOC?
Data	SpO2, 12-Lead EKG, Blood Sugar
Goals of Therapy	Restore volume and support blood pressure
Monitoring	Blood pressure, heart rate and cardiac rhythm

Note:

- Potential causes of hypovolemia and shock include:
  - Infections/sepsis
  - Trauma
  - Hemorrhage (Internal, External)
  - Spinal cord injury
  - Pump Failure
  - Heart Rhythm Disturbances
  - Dehydration
  - Drugs and Toxins
  - Vasovagal Syncope
  - Metabolic Disturbances
  - Anaphylaxis
  - Pulmonary Embolism
- Shock is defined as inadequate perfusion of vital organs, not merely hypotension. Clinical evidence of shock includes altered mental status.

FIRST RESPONDER

- Routine Medical -or- Trauma Care.
- Secure and maintain airway.

==========

- Perform non-visualized airway, if indicated.
- Administer oxygen per non-rebreather mask at 15 LPM.
- Control external hemorrhage
- Keep patient flat with lower extremities elevated (if possible).
- Splint fractures
- Conserve body temperature, and reassure patient.

Traumatic/Hypovolemic Shock

BASIC

- Ensure patent airway.
- **O_2 100% NRB** and/or **ventilate** per protocol.
- Control hemorrhage with direct pressure and pressure points.
- Place patient in Trendelenburg position (legs elevated)
- Consider **MAST**
- **Consider ALS intercept based on trauma triage**

Cardiogenic/Medical(Septic) Shock

BASIC

- Ensure patent airway
- **O_2 100% NRB** and/or **ventilate** per protocol.
- Place patient in position of comfort
- Obtain **12-lead ECG**
- **Consider ALS intercept**

INITIAL TRAUMA CARE

Pre-hospital management of the trauma patient is best performed by an integrated team focused on minimizing the time from injury to definitive care at an appropriate trauma center. Dispatchers, first responders, law enforcement officials, and ambulance personnel must all take an active role to eliminate unnecessary delays in the delivery of care and transport to definitive care.

Priorities	***Assessment Findings***
Chief Complaint	Various depending on incident.
LOPQRST	Identify specific cause of traumatic injury
AS/PN	Significant mechanism, loss or altered level of consciousness. Evidence of intoxicant use.
AMPL	Identify medical conditions that may have lead to the event (e.g. Alzheimer's, CVA, Diabetes, Seizures,)
Initial Exam – Rapid Trauma Assessment	Check ABC's and correct any immediate life threats. Manual C-spine stabilization. Perform rapid trauma assessment as appropriate.
Detailed Focused Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? Discharge from ears or nose? **Lungs:** Signs of respiratory distress, hypoventilation, diminished or absent lung sounds? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Loss of movement and/or sensation in extremities, Unresponsive? Focal deficits?
Data	Blood Glucose, SpO_2, EKG
Goals of Therapy	Maintain ABC's, restore adequate respiratory and circulatory conditions, reduce pain
Monitoring	SpO_2, Cardiac monitoring, repeat vitals

Note:

- This protocol may be used as a general guide for trauma in both Adults and Pediatrics. Follow appropriate protocol and/or procedure for specific trauma care.

ALL LEVELS

1. While en route to scene contact hospital(s) to relate nature of call as necessary. Request additional resources as anticipated such as additional ambulances, air-medical services, fire suppression, hazmat, MCI, extrication, etc. Request additional resources prior to initiating care on scene if situation was not anticipated en route.
2. Survey Scene. Do not approach patient until scene is safe.

3. Perform **primary/initial trauma assessment** utilizing the **CRAMS** score as described in Trauma Triage Protocol below.
    a. Evaluate airway, provide C-spine immobilization, and assess initial LOC.
    b. Evaluate breathing
    c. Evaluate circulation
    d. Briefly evaluate abdomen, pelvis, and extremities if time allows (Do not interrupt primary assessment except for airway obstruction or cardiac arrest)
    e. Determine LOAD and GO status: **CRAMS score of 7 or less**.
4. Perform **critical interventions** while packaging patient for LOAD and GO.
    a. Remove airway obstructions. Secure airway with use of jaw thrust and nasal/oral airway. Provide 10 to 15 liters oxygen via non-rebreather or via BVM.
    b. Stop major bleeding.
    c. Initiate fluid resuscitation once en route unless transport is unavoidably delayed.
    d. See trauma protocols for management of specific injuries.
5. If patient condition is LOAD and GO, initiate immediate transport delaying **secondary/focused trauma assessment** and non-critical interventions until enroute.
    a. Maintain spinal immobilization while quickly securing patient to long back board. Maintain manual immobilization of cervical spine until patient is fully immobilized in appropriate adjunct. Transport immediately.
    b. Do not delay rapid extrication and patient packaging for the arrival of ALS
    c. Continually monitor LOC and A B Cs paying close attention to changes in status.
    d. Notify medical control of patient status as soon as possible.
    e. Perform secondary/focused trauma assessment and non-critical treatments as time permits.

TRAUMA TRIAGE PROTOCOL

Victims of multiple trauma have decreased mortality and morbidity when transported to verified trauma centers. Appropriate triage criteria aid in the identification of multiple trauma and therefore will improve the ability of pre-hospital providers to determine the appropriate destination of multiple trauma victims.

Protocol:

1. The CRAMS score will be used on all trauma victims to determine the potential for serious injury.

		Score
C	**Circulation:**	
	BP > 100 and no clinical signs of shock	2
	BP > 80 <100 with signs of shock	1
	BP < or = to 80 with signs of shock	0
R	**Respiratory:**	
	Normal effort	2
	Distress	1
	No respirations	0
A	**Abdomen/Thorax:**	
	Non-tender	2
	Tender	1
	Rigid abdomen, flail chest, or penetrating wound	0
M	**Motor:**	
	Normal	2
	Abnormal withdrawal or posturing	1
	Flaccid	0
S	**Speech:**	
	Normal	2
	Confused/Disoriented	1
	None	0

2. Adjustments to **CRAMS** scores will be made in the presence of the following mechanisms of injury. **If any of the following apply, subtract 1 point from the CRAMS score:**
   a. Pedestrians struck by vehicle
   b. Death of occupant in the same vehicle as patient
   c. Ejection from vehicle
   d. Penetrating trauma to the head, neck, or thoraco-abdominal region

3. **Destination Hospital:** Any patient with a **CRAMS score of 7 or less** will be transported to the nearest appropriate trauma center pursuant to the Hospital Destination Policy. Patients who have the ability to voice a preference or have responsible family members who request the patient be taken to a hospital other than the trauma center will have the request followed after being informed that such transport is not recommended.

REGIONAL TRAUMA PROTOCOL

Use if an existing regional protocol exits

Criteria List A (Definition of Major Trauma

1. Glasgow Coma Scale of 13 or less
2. Clinical signs of shock: pale, cold, weak pulses, prolonged capillary refill
3. Unstable blood pressure
   a. Adult: Systolic blood pressure <90 mmHg
   b. Pediatric: Infant<6 months: BP <60mmHg
      Child 2 months – 5 years: <70 mmHg
      Child 6-12 years: <80mmHg
4. Respiratory rate
   a. Adult: Less than 10 or greater than 30 breaths per minute
   b. Pediatrics under 12: Infants <6 months: <20 breaths per minute
      6 months-12 years: <16 breaths per minute
      All ages: >60 breaths per minute
5. Penetrating injury to head, neck, torso or proximal extremity
6. Flail chest
7. Trauma in a patient with burns to face or airway or with burns of 15% or greater Of the total body surface are
8. Distended, rigid abdomen
9. Two or more long bone fractures (humerus, femur)
10. Depressed or open skull fracture
11. Unstable pelvic fracture
12. New onset paralysis
13. Amputation above the wrist or ankle

Criteria List B (Indicators of possible major trauma)

1. Accidents in which the patient was ejected from the vehicle
2. Accidents in which another occupant of the vehicle was killed
3. Extrication time in excess of 20 minutes
4. Falls of 20 feet or greater for adults, 10 feet or great for children
5. Victim of a roll-over motor vehicle crash
6. Estimated crash speed was 40 mph or greater for adults, <20 mph for children
7. Passenger compartment intrusion>12 inches is present
8. Auto vs pedestrian or bicycle
9. Accidents involving a pedestrian, motorcyclist or bicyclist struck by a car with significant impact.
10. Motorcycle crashes

Criteria List C: Trauma patients whose injuries may be significantly impacted by other factors

1. Whose age is <5 or >55
2. Who have known cardiac or respiratory disease
3. Who are pregnant
4. Who are immunosuppressed
5. Who have a bleeding disorder

BURNS

Priorities	*Assessment Findings*
Chief Complaint	Burns, pain, burning sensation; electrical/lightning injury; chemical (caustic) exposure
LOPQRST	Identify cause of burn, exposure time and time of burn
AS/PN	Respiratory distress, ulcerous skin in chemical burns, entrance and/or exit wounds with possible cardiac changes in electrical
AMPL	Note previous medical conditions that may affect survival
Initial Exam	Scene safety, ABC's support as necessary
Detailed Physical Exam	**Vitals:** Estimate BSA with "rule of nines", BP, HR, RR, Temp, SpO_2, **General Appearance:** Varies depending on burn; may show signs of extreme pain **Skin:** Depending on the degree on the burn, erythema, blisters, pale leathery appearance, charring, sloughing **HEENT:** Pupils, check nose & mouth for signs of burns (e.g. soot, edema, redness) **Lungs:** Signs of respiratory distress, stridor, diminished or absent lung sounds? **Heart:** Rate and rhythm? Especially in electrical burns **Neuro:** Loss of movement and/or sensation in extremities, focal deficits?
Data	BSA estimate, EKG, SpO_2,
Goals of Therapy	Stop the burn; airway management; fluid resuscitation; pain control; management of associated injuries; (Decontamination in hazmat incidents)
Monitoring	Watch for cardiac dysrhythmias, increasing respiratory distress and signs of shock

Note:

- This protocol applies to thermal burns, chemical burns and electrical burns
- Scene safety is of utmost concern.
- Loosen and remove any clothing and jewelry that can become constricting when tissue swells.
- In cases of cardiac arrest due to electrical contact or burns, aggressive resuscitation should be attempted, as survival rates are good.
- Burns over 10% should not be cooled with water due to possibility of causing hypothermia.
- Even if the patient meets criteria for burn center referral, they do not need to be air-lifted directly to a burn center from the scene.
- In the presence of major trauma (in addition to the burn), stabilizing life-threatening injuries takes precedence over the care of the burn.

- Pain Management should be aggressive. Burn patients may require much higher doses for pain control. See *Pain Management Guidelines*.
- Remember that carbon monoxide poisoning is a common complication of burns suffered in a structure fire.

The following presentations should be considered a LOAD AND GO Consider air-medical evacuation directly to Burn Center if more than 20 miles from nearest available hospital:

1. **Patients with burns to face/head and who have stridor.**
2. **Patients < 10 y.o. or > 50 y.o. who have 2nd or 3rd degree burns >10% BSA**
3. **Patients who have 2nd or 3rd degree burns over 20% of their BSA.**
4. **Patients who have 3rd degree burns over 5% of their BSA.**

Thermal Burns:

Cover burned areas with dry clean dressings.

May pour cool saline onto burn if less than 5% BSA

Chemical Burns:

Brush off dry chemicals.

Flush with copious water.

Tar Burns:

Cool with water, do not remove tar.

FIRST RESPONDER - BASIC

- Move patient to a safe environment.
- Ensure patent airway
- **O2 100% NRB** and/or **ventilate** as needed.
- Maintain patient's body temp.
- Monitor **ECG** and **SpO2**

BASIC

- **Consider ALS intercept for pain control**

EXTREMITY TRAUMA

FIRST RESPONDER

- Assess circulation and sensation in injured extremity
- Apply manual stabilization of injury.
- Immobilize in position of comfort with immobilization extending to joint above and below site injury.
- Reassess circulation and sensation after immobilization applied.
- Wrap amputated parts in dry sterile dressings, seal in plastic bag, and place in ice water.

BASIC

- Assess CMS.
- Apply manual stabilization.
- Immobilize/splint in position of comfort.
- Reassess CMS.
- Wrap amputated parts in dry sterile dressings, seal in plastic bag and place in ice water.
- Traction splint for suspected femur fracture
- **Consider ALS intercept for pain control**

EYE INJURIES

FIRST RESPONDER - BASIC

Blunt and Penetrating:

Cover with rigid eye shield or immobilize impaled objects in place.

Cover unaffected eye.

Chemical:

Flush with copious amounts of NS until arrival at Emergency Department.

HEAD INJURIES

FIRST RESPONDER

- Ensure patent airway and c-spine immobilization.
- **O_2 100% NRB** and/or **ventilate** per airway management protocol
- If possible, keep head elevated.

BASIC

- Monitor **ECG** and **SPO_2**.
- Transport with head elevated 30 degrees, if possible.
- Assess **Glasgow Coma Scale**
- **ALS intercept if LOC requires assisted ventilation**

CHEST TRAUMA

BASIC

- Ensure a patent airway.
- **Oxygenate** and **ventilate** per protocol
- Splint flail chest segment
- Seal sucking chest wound on three sides. Remove if respiratory distress worsens, difficult to ventilate or signs tension pneumothorax occurs.
- Monitor **ECG** and **SpO2**.
- **ALS intercept if sucking chest would or severe respiratory distress**

NOSEBLEED

BASIC

- Ensure proper BSI including face shield for rescuers
- Have patient blow their nose and expel blood and clot into basin
- Pinch the soft fleshy part of the nose firmly between two fingers and do not release pressure unless absolutely necessary
- Suction mouth as needed
- Monitor vital signs closely

ASHLAND/BAYFIELD COUNTIES

2008

PEDIATRIC PATIENT PROTOCOLS

INTRODUCTION

The following protocols are consistent with the legislated ability of the Wisconsin First Responder and are recommended care to be delivered to all victims of medical and traumatic emergencies. It is critical that a transporting EMS agency be contacted at the earliest possible opportunity to expedite the transfer of the patient to the hospital. Documentation of care rendered must be made on the approved Chippewa Fire District Report form.

All patients are expected to receive standard assessment and evaluation of airway patency, ventilation and CPR when indicated. The following protocols indicate the steps to be taken next. Some protocols indicate attention to airway and oxygen as additional reminders of their importance.

PREHOSPITAL CARE GUIDELINES FOR CARE OF PEDIATRIC PATIENTS

INTRODUCTION:

Pediatric emergencies may present a daunting challenge to prehospital care providers for a variety of reasons including:

1. The historical scarceness of primary training materials about the care of pediatric patients
2. The relative infrequency of pediatric emergency calls, and the even more limited occurrence of life-threatening emergencies
3. The variability in size, development, and physiologic responses to illness and injury of pediatric patients, making assessment more challenging than for adults
4. The nature and variety of causes of pediatric emergencies, many differing substantially from those for adult emergencies

ASSESSMENT:

Care of the pediatric patient begins with **assessment**. This is **the most important**, and often the most challenging step. In the pre-hospital setting the key issues are:

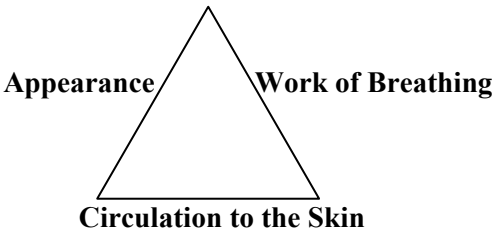
1. What vital physiologic functions are affected?
2. How severe is the physiologic abnormality - stable, unstable, or critical?

Assessment and management should always begin with the Initial Assessment Protocol. The initial assessment can be accomplished rapidly employing the following:

1. Pediatric Assessment Triangle
2. Primary Survey (ABCDEs)
3. Vital Signs

THE PEDIATRIC ASSESSMENT TRIANGLE (PAT)

The Pediatric Assessment Triangle is a rapid, accurate, easily learned tool for initial assessment (see figure below). It establishes a level of severity and urgency for life support, and identifies a general category of physiologic problem. Based primarily on visual observation without stethoscope, blood pressure cuff, or any equipment or test, it integrates three key features of the overall pediatric cardiopulmonary and neurologic assessment: **appearance, work of breathing, and circulation to the skin**.



The Pediatric Assessment Triangle

APPEARANCE: The general appearance is the **single most useful indicator** of serious illness or injury. It can usually be judged from across the room. Assess by:

Indicator	Normal	Abnormal
Tone	Normal	Limp, listless, or flaccid
Interactiveness - the most important characteristic to note. Regardless of cause, if the appearance is abnormal, perform the pediatric primary survey and begin life support to optimize oxygenation, ventilation, and perfusion	Alert (for newborns, responds to voice or touch)	Agitated / lethargic
Consolability	Can be comforted	Inconsolable
Look / Gaze	Can fix and follow (newborns will not fix or follow, but will blink to light)	Glassy-eyed stare
Speech / Cry	Strong	Weak, muffled, or hoarse

WORK OF BREATHING:

Assess by: Examining the respiratory effort, chest wall, and lung sounds

Indicator	Normal	Abnormal
Abnormal breath sounds	None	Stridor, grunting, or wheezing
Abnormal positioning	None	Tripoding, refusing to lie down
Retractions	None	Present
Nasal flaring	None	Present

CIRCULATION TO THE SKIN: Indicates perfusion of vital organs.

Assess visually by noting skin or mucous membrane color:

Indicator	Normal	Abnormal
Pallor, mottling, cyanosis	None	Present

*****The three elements of the triangle are interdependent, and together provide a rapid assessment of SEVERITY, of PHYSIOLOGIC ABNORMALITY (**Table 1 on following page**) and CATEGORY OF ABNORMALITY (**Table 2 on following page**)*****

TABLE 1 - SEVERITY OF PHYSIOLOGIC ABNORMALITY DETERMINED USING THE PEDIATRIC ASSESSMENT TRIANGLE

SEVERITY OF ABNORMALITY			
OBSERVATION	**STABLE**	**UNSTABLE**	**CRITICAL**
Tone	Normal	↑↑	↓↓
Interactiveness	Appropriate	Agitated	Depressed
Consolability	Comforts	Won't Comfort	Unresponsive
Look / Gaze	Regards	Won't Regard	Glassy-eyed Stare
Speech / Cry	Normal	Weak	None
Work of Breathing	↑	↑↑	↑↑↑ or ↓↓↓
Skin Color	Normal	Dusky	Cyanotic on O2

TABLE 2 - CATEGORY OF PHYSIOLOGIC ABNORMALITY DETERMINED USING THE PEDIATRIC ASSESSMENT TRIANGLE

APPEARANCE	WORK OF BREATHING	CIRCULATION TO THE SKIN	ILLNESS/ INJURY CATEGORY
Normal	Normal	Normal	**Normal**
Normal	Abnormal	Normal	**Respiratory Distress**
Abnormal	Abnormal	Normal	**Respiratory Failure**
Abnormal	Normal	Normal	**Systemic Failure or CNS Injury**
Abnormal	Normal	Abnormal	**Shock**
Abnormal	Abnormal	Abnormal	**Multiple Organ Failure**

TYPICAL NORMAL VITAL SIGNS FOR INFANTS AND CHILDREN				
Age	**Normal Heart Rate**	**Minimal Systolic Blood Pressure (mmHg)**	**Respiratory Rate (Breaths/min)**	**Typical Weight (kg/lb)**
Infant (< 1yr)	100-160	>60	30-60	3-10 / 6.6-22
Toddler (1-3 yr)	90-120	>70	20-40	10-14 / 22-30
Preschooler (4-5 yr)	80-120	>75	22-34	15 / 33
School Age (6-12 yr)	70-100	>80	18-30	20-40 / 44-90
Adolescent (>13 yr)	60-90	>90	12-16	40-70 / 90-155

PEDIATRIC AIRWAY MANAGEMENT INFORMATION									
PARAMETER	**AGE**								
	<1yr	**1mo**	**6mo**	**1yr**	**2yr**	**3yr**	**6yr**	**10yr**	**Teen**
Spontaneous Tidal Volume	20	30	50	70	85	100	150	250	300-500
ET tube size (mm)	3-3.5	3.5	3.5-4	4	4.5	4.5	5-5.5	6-6.5	7-8
ETT length: teeth/gum to mid trachea (cm)	10	11	12	13	14	15	15	17	19-22

PEDIATRIC FLUID MANAGEMENT INFORMATION									
PARAMETER	**AGE**								
	<1yr	**1mo**	**6mo**	**1yr**	**2yr**	**3yr**	**6yr**	**10yr**	**Teen**
Blood Volume (ml)	240	320	560	800	1000	1100	1600	2800	3200-5600
Usual maintenance fluid rate (ml/hr)	12	15	30	40	45	50	60	75	80-100

PEDIATRIC BURN SURFACE AREA PERCENTAGES				
AREA OF BODY	**AGE**			
	INFANT	**1-4YR**	**5-9YR**	**10-14YR**
Head + Neck (front + back)	21	19	15	13
Anterior Trunk	16	16	17	17
Posterior Trunk	16	16	17	17
Each Arm (front + back)	9	9	9	9
Each Leg (front + back)	14	15	16	17
Genitalia	1	1	1	1

APGAR SCORE			
SIGN	**0**	**1**	**2**
Appearance (Skin color)	Blue, pale	Body pink, extremities blue	Completely pink
Pulse Rate (Heart Rate)	Absent	Below 100	Above 100
Grimace (Irritability)	No response	Grimaces	Cries
Activity (Muscle Tone)	Limp	Some flexion of extremities	Active motion
Respiratory (Effort)	Absent	Slow and Irregular	Strong cry
Total Score			

PEDIATRIC INITIAL ASSESSMENT PROTOCOL

PRE-ARRIVAL PREPARATION:

1. Plan scene size-up
2. Prepare pediatric equipment, based on dispatch information
3. Determine if this involves a child with special needs. If so, review "Child Alert" information in the ambulance or dispatch center.

SCENE SIZE-UP: ASSESS:

1. Safety hazards to patient, caregiver, EMT
2. Mechanism of injury / illness
3. Environment
4. Universal precautions assured

INITIAL PATIENT ASSESSMENT:

1. Pediatric Assessment Triangle
   a. Appearance
   b. Work of breathing
   c. Circulation to the skin
2. Primary Survey
   a. **A**irway
   b. **B**reathing
   c. **C**irculation
   d. **D**isability (AVPU)
   e. **E**xposure (children cool quickly)
3. Vital Signs (Refer to Typical Normal Vital Signs Table on PP3)
4. Determine severity of physiologic abnormality (Refer to Table 1 on PP3)
   a. If "Stable" or "None"
      1) Perform detailed physical exam
      2) Obtain focused history utilizing SAMPLE:
         a) **S**= signs/symptoms
         b) **A**= allergies
         c) **M**= medications
         d) **P**= past pertinent medical history
         e) **L**= last oral intake
         f) **E**= events leading to call
         g) Refer to appropriate protocol
   b. If "Unstable" or "Critical" refer to appropriate protocols
5. Document:
   a. Clinical assessment and vital signs
   b. Key historical features

Protocol: PP-003 Allergic Reaction/Anaphylaxis

ALLERGIC REACTION / ANAPHYLAXIS

Priorities	***Assessment Findings***
Chief Complaint	"Allergic Reaction", "Hives" "Itching Rash"
LOPQRST	What provoked the reaction? Has the patient taken or been given diphenhydramine (Benadryl) or used an epinephrine auto-injector (EpiPen), and how did they respond?
AS/PN	Subjective swelling of facial, oral or pharyngeal structures, difficulty breathing, wheezing and light headedness.
AMPL	Does the patient have any environmental, medication, food or other allergies? Is the patient taking an antibiotic or other medication? Has the patient had a reaction in the past? If so, how severe?
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General:** Identify degree of severity: mild moderate or severe [1]. **Skin:** Urticaria (hives), Cyanosis? **HEENT:** Swelling of the lips, tongue or pharynx (angioedema) **Chest:** Sternal, subcostal or intercostal retractions? Use of accessory muscles of respiration, labored breathing? **Lungs:** Wheezing **Cardiovascular:** Hypotension, tachycardia (anaphylactic shock) **Neurological:** ALOC
Data	SpO_2
Goals of Therapy	Reverse the allergic reaction, relieve bronchospasm, correct hypotension/shock
Monitoring	Vital signs and cardiac monitoring.

Note:

- Allergic reactions span a continuum from minor to life threatening.
    1. Mild Allergic reaction: localized or generalized urticaria, without swelling of oral or pharyngeal structures, difficulty breathing, hypotension or ALOC;
    2. Moderate Allergic Reaction: oral or pharyngeal swelling is present, mild to moderate difficulty breathing and wheezing are present.
    3. Severe Allergic Reaction (Anaphylaxis): moderate to severe difficulty breathing is present, hypotension is present and ALOC may occur.
- If anaphylactic shock is present, treat for shock and maintain warmth.

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Remove sting/injection mechanism.
- Monitor **ECG** and **SpO2**
- May assist with patient's own medications

Epipen Junior if weight <50kg. If weight >50kg, **Epinephrine 0.01 mg/kg SQ**(max 0.3 mg)

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Adopted: 3/08
Reviewed:
Revised:

ALTERED LEVEL OF CONSCIOUSNESS

Priorities	***Assessment Findings***
Chief Complaint	"Confused" "Unresponsive", Not acting themselves"
LOPQRST	Determine onset and duration. Triggering events (e.g. Trauma)
AS/PN	Headache, Weakness, Slurred speech, Aphasia, Incontinent
AMPL	Medication consistent with possible causes. (e.g. Alzheimer's, CVA, Diabetes, Seizures,)
Initial Exam	Check ABC's and correct any immediate life threats
Detailed Physical Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? **Lungs:** Wheezes, rales or rhonchi? Signs of respiratory distress or hypoventilation? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Unresponsive? Focal deficits (CVA)?
Data	Blood Glucose, SpO_2,
Goals of Therapy	Restore normal mental status, Maintain ABC's
Monitoring	Cardiac monitoring, repeat vitals

NOTE: Transport in left lateral recumbent position if possible. If restraints are necessary, refer to Restraints Policy.

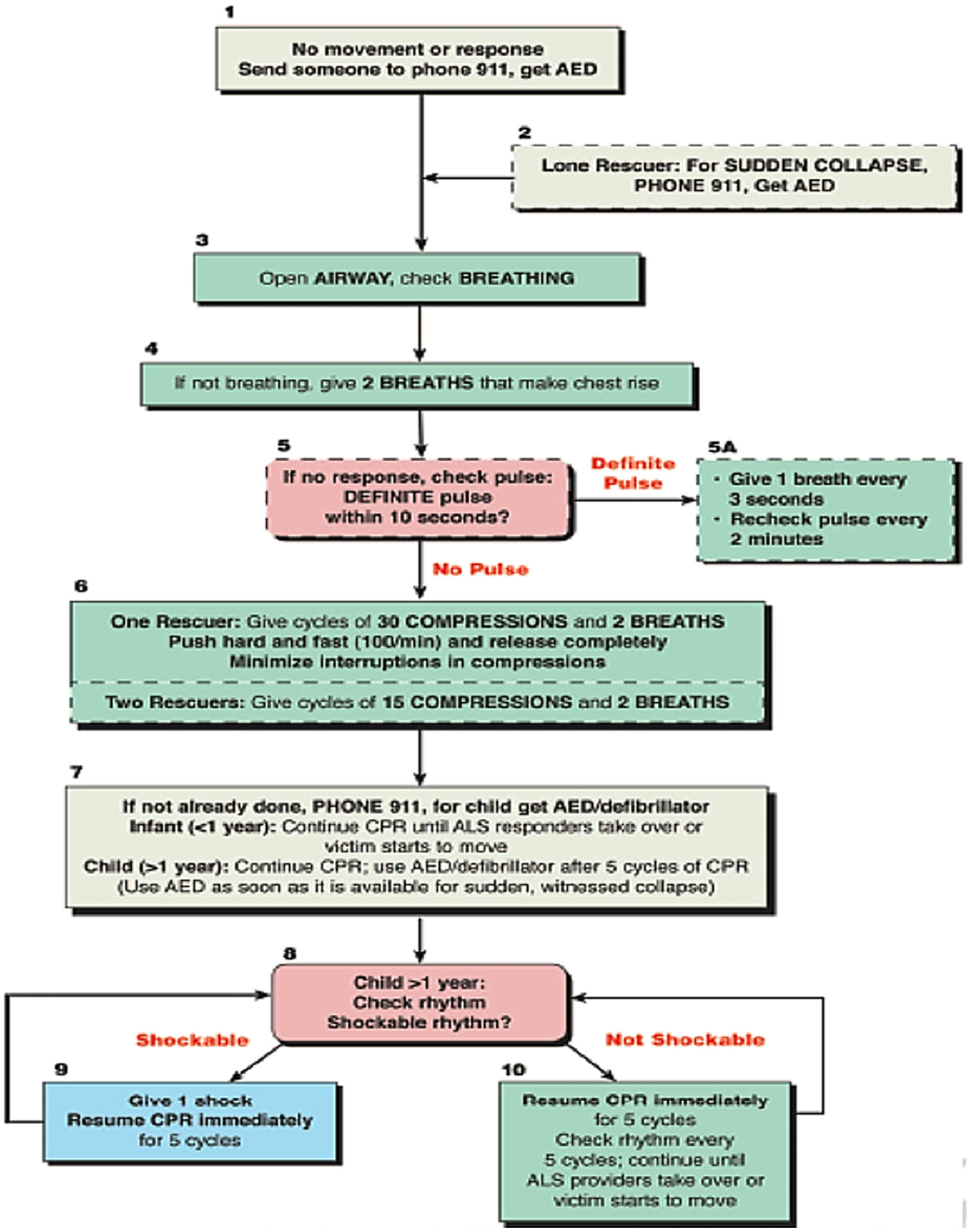
Remember: One of the most common causes of decreased LOC in kids is hypoxia!

BASIC

- Spinal immobilization when indicated.
- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- **Check Blood Glucose** and treat if less than 75
- Monitor **ECG** and **SpO2**

CARDIAC ARREST

CPR/AED ALGORITHM



Protocol: PP-005 Cardiac Arrest

CPR-AED

Priorities	*Assessment Findings*
Chief Complaint	Collapsed, unresponsive, no pulse, not breathing
LOPQRST	Witnessed or unwitnessed? Estimated time of onset. Circumstances/trauma. Location of patient. Antecedent symptoms/signs (difficulty breathing, serious illness) and their duration.
AS/PN	Bystander-initiated CPR. Pre-arrival CPR instructions from dispatch? Public access AED use.
AMPL	Does the patient have any allergies to medications? History of heart disease? Current cardiac medications?
Initial Exam	Establish Unresponsiveness. Check ABCs. Open and reposition airway.
Detailed Physical Exam	**Vitals Signs:** Pulseless and non-breathing (or agonal respirations) **General:** Identify unresponsiveness. Look for rigor mortis, dependent lividity, or unsurvivable trauma. Look for a valid Wisconsin Do-not-resuscitate bracelet. **Skin:** Mottled, Warm/cold, dependent lividity, rash, ecchymosis? **HEENT:** Airway patient, foreign bodies, dry mucus membranes, furrowed lips? **Chest:** Spontaneous respirations? **Lungs:** Equal breath sounds, difficulty bagging or ventilating? **Cardiovascular:** Absence of heart sounds, carotid or femoral pulses? **Abdomen:** Distended? **Extremities:** Rigor mortis, edema, deformity? **Neurological:** Unresponsive to verbal and painful stimulation?
Data	Cardiac rhythm analysis, blood sugar, SpO_2
Goals of Therapy	Return of spontaneous circulation (ROSC)
Monitoring	Cardiac Monitoring, Vital Signs, and SpO_2

Note:

- Unlike adult cardiac arrest, which is usually due to a primary cardiac abnormality, pediatric cardiac arrest most often occurs as a result of asphyxia. The most common reasons for this include progressive respiratory failure and shock.

General Considerations

1. **CPR comes first.** Determine unresponsiveness, open airway and begin CPR.
2. Chest compressions at 100/minute, allowing complete chest recoil by not resting any weight of the rescuer on the patients chest.
3. Do not interrupt CPR except when absolutely necessary
4. OP or NP airway required during BVM ventilation
5. Ventilate at no more than 10 breaths per minute
6. Compression/ventilation ratio is 30:2 until advanced airway in place then 15:2 with minimal pause to allow ventilation
7. All contact with patient must be avoided during analysis of rhythm and/or delivery of shock(s).
8. Automated external defibrillation is not used in cardiac arrest in children under 8 years of age and less than 90 lbs **unless** using a device with Pediatric pads and cables.

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9. Preferred placement of AED pads is sternum of chest and left lateral chest wall
10. Call for ALS backup immediately.
11. Preparation for transport of patient should begin staffing allows

USE OF THE AUTOMATED EXTERNAL DEFIBRILLATOR

Operational Steps- Multiple Rescuers

1. Stop CPR if in progress
2. Verify pulselessness and apnea
3. **If no by-stander CPR:** Have partner resume CPR, perform 2 minutes of CPR before defibrillation
4. Turn on defibrillator power and attach device
5. Stop CPR
6. Clear patient
7. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Perform 2 minutes of CPR
    c. Check Pulse
    d. Analyze rhythm
    e. If machine advises shock, deliver second shock
    f. Perform 2 minutes of CPR
    g. Check Pulse
    h. Analyze rhythm
    i. If machine advises shock, deliver third shock
    j. Perform 2 minutes of CPR
    k. Check pulse
8. If pulse returns, check breathing and ensure adequate ventilation.
9. If no pulse
    a. Resume CPR for two minutes
    b. Repeat steps 6 - 8. Deliver no more than six shocks without contacting Medical Control for orders.
10. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 6 - 8.
    c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR and transport

Operational Steps - Single rescuer

1. Verify pulselessness and apnea.
2. Turn on defibrillator power and attach device while beginning narrative.
3. Clear patient
4. Initiate analysis of rhythm. If AED advises shock:
    a. Deliver shock
    b. Analyze rhythm
    c. If machine advises shock, deliver second shock
    d. Perform 2 minutes of CPR
    e. Check Pulse
    f. Analyze rhythm
    g. If machine advises shock, deliver third shock
    h. Perform 2 minutes of CPR
    i. Check pulse
5. If pulse returns, check breathing and ensure adequate ventilation.
6. If no pulse returns continue CPR until ALS arrives
7. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 4 and 5
    c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR until help arrives

BASIC

- Insert **non-visualized airway** if able
- **Request ALS Intercept**

TACHYCARDIA

Priorities	***Assessment Findings***
Chief Complaint	Palpitations, fast heart rate, shortness of breath, chest pain, weakness, syncope, cardiac arrest/pulseless non-breather
LOPQRST	Onset and duration, precipitating factors and circumstances, associated symptoms, stroke symptoms, nausea vomiting
AS/PN	Chest pain, shortness of breath, weakness, anxiety, leg swelling
AMPL	• Previous history, history of thyroid disease, CAD, Cardiac Medications • Obtain history of previous episodes of tachycardia, including diagnoses if known. Pay particular attention to whether there is an underlying history of pre-excitation, including the Wolff-Parkinson-White (WPW) Syndrome. • Obtain history of what medications have been used to treat previous arrhythmias, if known. • Obtain history of any previous complications from previous arrhythmia treatments, if known. • Obtain history of the duration of the current episode of tachycardia, if known.
Initial Exam	Check ABCs and correct any immediate life threatening problems.
Focused Physical Exam	Vitals Signs:BP, HR, RR, Temp, SpO_2 General Appearance: Skin: Cool, pale diaphoretic Neck: JVD? Chest: Labored breathing Lungs: Wheezes, rales, rhonchi? Decreased breath sounds? Heart: Regular, rate fast or slow, murmur Legs: Edema Neuro: ALOC?
Data	SpO_2, 12-Lead EKG, Blood Sugar if Diabetic or ALOC
Goals of Therapy	Decrease Rate, treat chest pain, treat CHF
Monitoring	Cardiac Monitoring and SpO_2

BASIC

- Ensure patent airway
- **Oxygenate** and **ventilate** per protocol
- **Check blood sugar**
- **Request ALS intercept if signs of shock**

BRADYCARDIA

Priorities	*Assessment Findings*
Chief Complaint	Weakness, unresponsiveness, signs of inadequate perfusion
LOPQRST	Determine onset of symptoms along with possible causes.
AS/PN	Respiratory distress, chest pain, nausea, vomiting
AMPL	Patient with past respiratory or cardiac event history, current medications and compliance.
Initial Exam	Assess ABC's. Check for/relieve foreign body obstruction, support airway and breathing as necessary.
Focused Physical Exam	**General Appearance**: Somnolent, flaccid or poor muscle tone. Look for signs of poisoning. **Skin:** Cool, pale, gray, mottled, or cyanotic? **Respiratory Effort:** May be normal or signs of distress, ie: subcostal and intercostal retractions, sternal retraction, nasal flaring, etc. **Lung Sounds:** May be diminished or sound "wet" **Heart Sounds:** Normal, except in some cases of cardiac disease **Extremities:** Poor muscle tone, weak or no pulses, poor capillary refill **Neuro:** ALOC, unresponsive
Data	SpO_2, EKG in all cases, core temperature, blood glucose and capillary refill checks, B/P in older children
Goals of Therapy	Increase heart rate and restore normal perfusion, oxygenation and ventilation
Monitoring	Closely watch heart and respiratory rates, SpO_2, EKG

Note:

- Hypoxia is the # 1 cause of bradycardia in children primarily < 8 years of age. Maintain adequate oxygenation and ventilation
- Bradycardia may also be caused by allergic reactions, hypothermia, and medication ingestion or poisoning.

BASIC

- Ensure patent airway
- **Oxygenate** and **ventilate** per protocol
- **Check blood sugar**
- **Request ALS intercept if signs of shock**

HYPOGLYCEMIA

Priorities	*Assessment Findings*
Chief Complaint	"Low blood sugar" "Altered Level of Consciousness"
LOPQRST	Check onset/duration. Identify possible contributing factors [1]. Recent history of frequent episodes, Last Meal.
AS/PN	Fever/Chills. Signs/Symptoms of infection, Possible Ingestions, Nausea/Vomiting.
AMPL	Medications for diabetes, Time and dose of last Insulin, received .
Initial Exam	ABCs and correct any immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 , Patient's Weight **General Appearance:** Unresponsive? Agitated and combative? **Skin:** Cool, pale, diaphoretic? **Neuro:** ALOC? Focal deficits (CVA)?
Data	Blood Glucose, obtain Medications
Goals of Therapy	Restore normal mental status
Monitoring	Repeat blood glucose

Note:

- The patient may be an unreliable historian. Parents or older siblings may provide a better history.
- In the pediatric population, diabetes is most likely due to failure of insulin production by the pancreas (a.k.a. Type I Diabetes Mellitus or Insulin Dependent Diabetes Mellitus or Juvenile Onset Diabetes Mellitus).

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol.
- If patient is conscious, **glucose PO**.
- **Determine glucose level**

  *****Calculate all dosages using Broslow Tape*****
- In patient with altered LOC and BS<75 mg/dl or unobtainable:
- If no IV, **Glucagon 0.1 mg/kg IM (maximum 1 mg)**

HYPOTHERMIA

Note:

- Most cases of accidental hypothermia encountered by EMS involve alcohol and drug abuse.
- In the hypothermic patient, rough handling can precipitate ventricular fibrillation.
- When checking pulses and respiratory rates, check for 60 seconds, because bradycardia and bradypnea are common in moderate to severe hypothermia.
- Look for signs of trauma in all patients with hypothermia.
- Hypothermia may be categorized by mild, moderate and severe. The following table may be used to estimate the degree of hypothermia based on clinical findings.

Regardless of etiology, hypothermic patients can be graded into three categories:

Severity	Temperature	Clinical Findings
Mild	> 93 ^{o}F	Shivering, impaired judgment; Tachycardia and hypertension may be present
Moderate	86 – 93 ^{o}F	Consciousness clouded to stuporous; Shivering stops. Blood pressure becomes difficult to obtain.
Severe	< 86 ^{o}F	Bradycardia, hypotension and slow respirations; Arrhythmias may develop; Consciousness is lost.

BASIC

- Transport expeditiously but gently! Hypothermia predisposes the patient to ventricular fibrillation, which can be precipitated by rough handling.
- Remove all wet clothing from the patient and cover with blankets.
- Do not initiate CPR on any patient who has a palpable pulse, regardless of pulse rate or other variations in vital signs.
- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Monitor **ECG** rhythm **spO2**.
- **Check blood glucose**
- Rewarming

Mild to Moderately Hypothermic Patient:

Initiate passive rewarming as described above.

Alert patients who are not vomiting may be given warm fluids by mouth.

Severely Hypothermic Patient:

Initiate active rewarming with hot packs.

Protocol: PP-010 Near Drowning

SUBMERSION – NEAR DROWNING

Priorities	***Assessment Findings***
Chief Complaint	"Drowning", "Near Drowning"
LOPQRST	Onset. Duration of time under water. Water temperature, if known. Bystander CPR performed? AED Used?
AS/PN	Alcohol involved? Trauma involved?
AMPL	Allergies? Medications?
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 General Appearance: lifeless Skin: pale, cool, mottled Lungs: wet or clear? Heart: Rate and regularity? Absent heart sounds? Neuro: Unresponsive?
Data	Blood sugar, EKG, SpO_2.
Goals of Therapy	Return of spontaneous circulation (ROSC)
Monitoring	BP, HR, RR, EKG, SpO_2.

Notes:

- RESCUER SAFETY IS #1. Many well-intentioned volunteer and professional rescuers have been injured or killed attempting to save a drowning victim.
- If the victim is still in the water dispatch local water rescue resources
- Submersion is a loss of consciousness under water
- Submersion is primarily a respiratory problem
- When delivering ventilations and chest compressions assume the patient will vomit. Be prepared to suction. Secure the patient's airway as soon as possible.
- Any patient successfully resuscitated after a loss of consciousness underwater needs transport to the hospital and physician evaluation

BAASIC

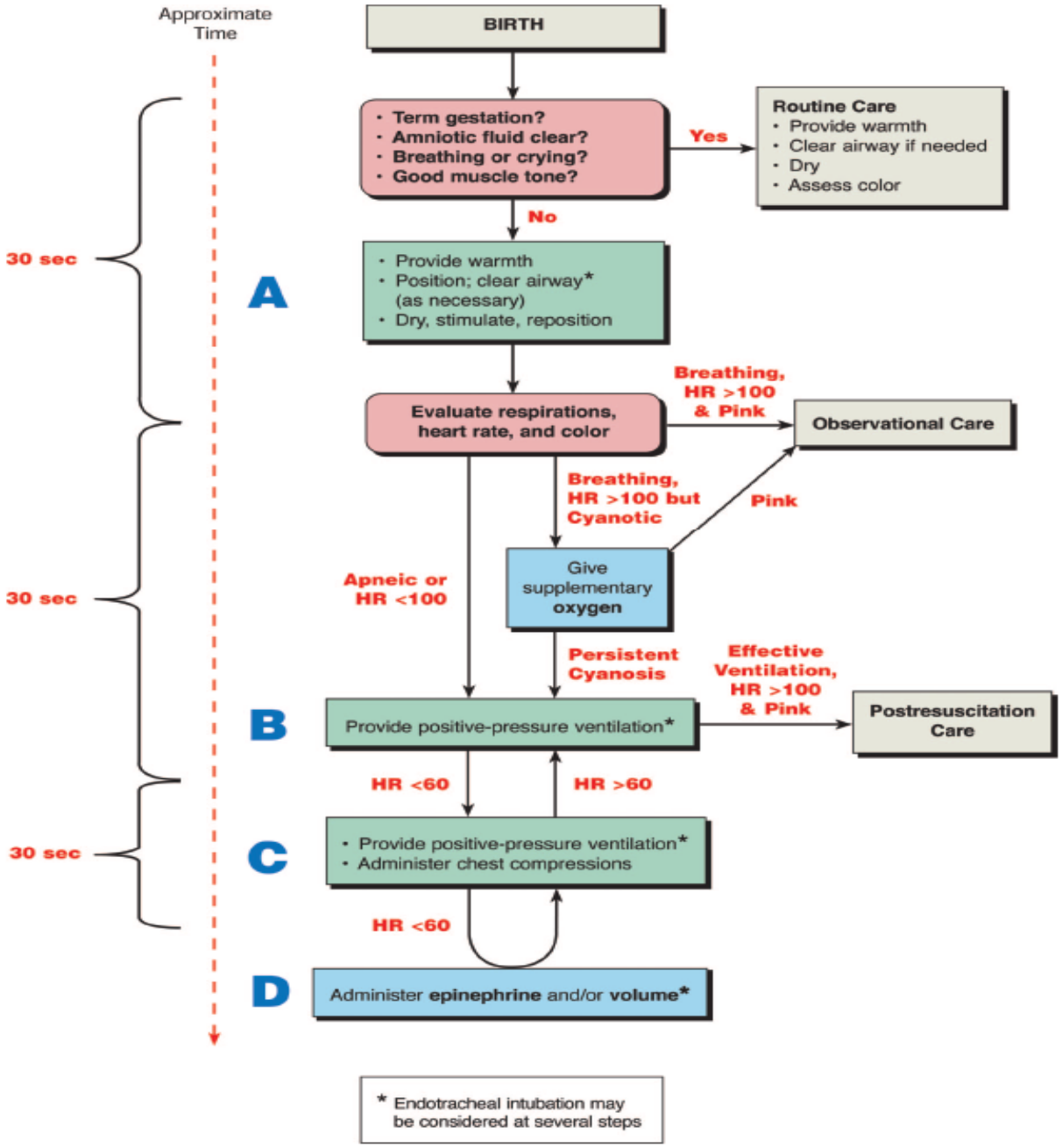
- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Full spinal immobilization PRN.
- Monitor **ECG** and **SpO2**.
- Transport in head-down, left lateral recumbent position.

NEONATAL RESUSCITATION

BASIC

- **Request ALS if preterm labor.**
- Suction airway (mouth, oropharynx, and then nose) before drying infant.
- Dry the infant to provide tactile stimulation and prevent chilling. Keep infant warm.
- Clamp and cut cord between clamps.

NEONATAL RESUSCITATION ALGORITHM



PAIN MANAGEMENT

Priorities	***Assessment Findings***
Chief Complaint	"Pain"
LOPQRST	Location, onset, provocation, palliation, quality, radiation, severity (subjective pain score on a 0-10 scale or mild moderate, severe), time (intermittent or continuous; steady vs. improving or worsening)
AS/PN	Associated symptoms/pertinent negatives
AMPL	Allergies, medications, pertinent past history, last meal
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Focused Physical Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Writhing in pain, facial grimacing, moaning, screaming or crying? Assess objectively how severe the pain appears to you (mild, moderate or severe). **Skin:** Pale, cool, diaphoretic? **Source of pain (chest, abdomen, back, extremities, etc.):** Swelling, ecchymosis or deformity? Tenderness on palpation? CMS?
Data	SpO_2. EKG for chest pain.
Goals of Therapy	Reduce pain to a tolerable level.
Monitoring	BP, HR, RR, EKG, SpO_2.

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Be calm and reassuring.
- Splint and elevate injuries
- Apply ice packs over padding to injuries.
- **Consider ALS intercept for pain control**

POISONING / OVERDOSE

BASIC

- Ensure scene safety. If Haz Mat suspected, notify local Fire Department.
- Protect yourself from contamination (dust, fumes).
- Move patient to safe environment.
- Ensure patent airway
- **Oxygenate** and **ventilate** per protocol
- Remove contaminated clothing.
- Decontaminate by brushing off, or rinse substance with copious amounts of water PRN.
- Continuous irrigation with NS if eyes are contaminated with caustics or acids.
- Monitor **ECG** and **SpO2**.
- **Determine blood glucose** level treat if appropriate

RESPIRATORY DISTRESS
OBSTRUCTED AIRWAY

BASIC

- Ensure a patent airway. Use the AHA foreign body obstructed airway procedure PRN.
- Direct laryngoscopy and Magill forceps as needed to remove obstruction
- **Oxygenate** and **ventilate** per protocol
- Monitor **ECG** and **SpO2**.

RESPIRATORY DISTRESS
(Epiglottitis, Croup, Bronchiolitis, Asthma)

Priorities	***Assessment Findings***
Chief Complaint	"Difficulty breathing"; "Shortness of breath"
LOPQRST	Assess onset, duration, progression, subjective severity, possible triggering events, and response to treatments before EMS arrival.
AS/PN	Chest pain (what kind?), fever/chills, productive (of what?) cough
AMPL	Check for possible exposure to known allergens. Check past history, medications and compliance for clues to cause of present illness.
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	**Vital Signs:** BP, HR, RR, Temp, SpO_2 **General Appearance**: Severity of distress [1]? Lethargic? **Skin:** Cool, moist and pale? Warm, dry and flushed? Urticaria? Cyanosis? **HEENT:** Nasal flaring? **Chest:** Sternal, subcostal or intercostal retractions? **Respiratory Effort:** Using accessory muscles, signs of fatigue; reduced or no verbal response (age appropriate)? **Lung Sounds:** Wheezes, rales, rhonchi or stridor? **Heart Sounds:** Rate, regularity. **Lower Extremities:** Pale, mottled? **Neuro:** ALOC, lethargy, somnolence?
Data	SpO_2 Blood Sugar, if DKA is suspected or if there is ALOC
Goals of Therapy	Improve oxygenation and ventilation, reduce the work of breathing, and treat underlying conditions.
Monitoring	SPO_2 frequently or continuously. Heart Rate and Blood Pressure frequently.

Note:

- This protocol may apply to the following conditions:
  - Asthma/Bronchospasm/Reactive Airways Disease
  - Allergy/Anaphylaxis
  - Pulmonary Infections
  - Spontaneous Pneumothorax
  - Upper Airway Obstruction
  - Anxiety and Hyperventilation Syndrome

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- If adequate ventilation, let child assume position of comfort.
- If inadequate ventilation and foreign body suspected, follow AHA obstructed airway procedure.
- **If child has croupy cough or epiglottitis suspected, do not attempt any procedure/maneuver (including examination of oropharynx) which may increase child's anxiety and thereby raise chances of laryngospasm unless absolutely necessary to preserve airway.**

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- Constantly monitor airway for patency in any unconscious child.
- Monitor **ECG** and **SpO2**.
- **If wheezing may assist with patient's own medication – Bronchodilator, EpiPen**
- Administer via **Nebulizer**
    - **Mix ½ the adult dose of 2.5mg Albuterol and 0.5 mg of Atrovent into nebulizer and administer to each patient under the age of 6**
    - **IF USING PREMICED COMBATION of Albuterol and Atrovent (Duo Neb) you may administer ½ of the combination premix to children under 6 without concern for side effects**.

Hyperventilation:

- Coaching/reassurance. Remove patient from causative environment.
- Do not use paper bag
- Place patient on **NRB mask at 100%** .

SEIZURES

Priorities	*Assessment Findings*
Chief Complaint	"Seizure" "Unresponsive" "Convulsions" "Passed Out" "Fever"
LOPQRST	How long did it last? History of seizures? Fever? Possible contributing factors [1]
AS/PN	Unresponsive, Postictal, Incontinent
AMPL	History of seizures, Seizure medications?
Initial Exam	ABC's and correct any immediate life threats
Detailed Physical Exam	**Scene size-up:** Is there a significant mechanism of injury? **General Appearance:** Pt. currently seizing? Unresponsive? Postictal? **Vitals:** BP, HR, RR, Temp, SpO2, Patient's Weight **Skin:** Flushed, warm, Rash, Petechiae **HEENT:** Neck Stiff **Resp:** Airway Patent? Breathing? **Neuro:** ALOC?, Focal deficits (CVA)
Data	Rectal Temperature, Blood Glucose, SpO_2
Goals of Therapy	Stop the seizure Treat the underline cause Monitor and maintain airway.
Monitoring	Vitals, Cardiac monitoring, SpO_2

Note:

- Seizures usually last from 1-3 minutes and involve a loss of consciousness and convulsions. Not uncommonly, the patient is incontinent and may bite his tongue or be injured in other ways because of the convulsions.
- When the seizure is over, the patient enters a postictal state, characterized by a gradual return to full consciousness over about 20 – 30 minutes, with initial confusion eventually giving way to normal alertness and orientation.
- Whenever seizures occur, look for an underlying cause and treat it especially fever in pediatrics. This is especially important if there is no previous history of epilepsy.
- Febrile Seizure is defined as a seizure with a fever >100.6 °F rectal.
- Status epilepticus is defined as a seizure lasting longer than 30 minutes, or frequently recurring seizures without clearing the postictal state or return to baseline neurological status. This is a life-threatening emergency!

BASIC

Ensure patent airway.

Oxygenate and **ventilate** per protocol

Place in left lateral recumbent position and protect patient from injury.

Spinal immobilization if indicated.

Monitor **ECG** and **SpO2**

Determine blood glucose level and treat if appropriate

Activate ALS intercept for > 3 seizures or seizures lasting > 5 minutes.

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Protocol: PP-017 Shock

SHOCK

Priorities	***Assessment Findings***
Chief Complaint	"Altered Level of Consciousness", Weakness, Pale
LOPQRST	Identify onset, duration, progression and provocation.
AS/PN	Fever/Chills, Nausea/Vomiting, Trauma, New Medications
AMPL	Pertinent past history and medications may provide important clues.
Initial Exam	ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	**Vital Signs:** BP, HR, RR, Temp, SpO2, Patient's Weight **General Appearance:** Does the patient appear ill? External Hemorrhage? **Skin:** Pale, cool, and moist? Flushed, warm and dry?, Cyanosis, Rash? Petechiae, Purpura, Brusing?, Insected bite or sting? **Chest:** Labored breathing? **Lungs:** Wheezes, rales or rhonchi? **Heart:** Rate and Rhythm? **Abdomen:** Internal hemorrhage? Tender? Distended? GI Blood loss? **Extremities:** Trauma? Edema? **Neuro:** ALOC?
Data	SpO2, 12-Lead EKG, Blood Sugar
Goals of Therapy	Restore volume and support blood pressure
Monitoring	Blood pressure, heart rate and cardiac rhythm

Note:

- Potential causes of hypovolemia and shock include:
  - Infections/sepsis
  - Trauma/Burns
  - Hemorrhage (Internal, External)
  - Spinal cord injury
  - Pump Failure
  - Heart Rhythm Disturbances
  - Dehydration/Heat emergencies
  - Drugs and Toxins
  - Vasovagal Syncope
  - Metabolic Disturbances
  - Anaphylaxis
  - Pulmonary Embolism
- Shock is defined as inadequate perfusion of vital organs, not merely hypotension. Clinical evidence of shock includes altered mental status.

BASIC

- Ensure patent airway.
- **Oxygenate** and **ventilate** per protocol
- Assess LOC, peripheral pulses, and capillary refill.
- Control hemorrhage as needed
- Monitor **ECG** and **SpO2**
- **ALS Intercept if continues signs of shock**

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Protocol: PP-018 Trauma

INITIAL TRAUMA CARE

Priorities	***Assessment Findings***
Chief Complaint	Various depending on incident.
LOPQRST	Identify specific cause of traumatic injury
AS/PN	Significant mechanism, loss or altered level of consciousness.
AMPL	Identify medical conditions that may have lead to the event (e.g. Diabetes, Seizures,)
Initial Exam – Rapid Trauma Assessment	Check ABC's and correct any immediate life threats. Manual C-spine stabilization. Perform rapid trauma assessment as appropriate.
Detailed Focused Exam	**Vitals:** BP, HR, RR, Temp, SpO_2 **General Appearance:** Unresponsive, pale, diaphoretic? Signs of trauma? **HEENT:** PERRL? Pupils constricted or dilated? Discharge from ears or nose? **Lungs:** Signs of respiratory distress, hypoventilation, diminished or absent lung sounds? **Heart:** Rate and rhythm? Signs of hypoperfusion? **Neuro:** Loss of movement and/or sensation in extremities, Unresponsive? Focal deficits?
Data	Blood Glucose, SpO_2, EKG
Goals of Therapy	Maintain ABC's, restore adequate respiratory and circulatory conditions, reduce pain
Monitoring	SpO_2, Cardiac monitoring, repeat vitals

Pre-hospital management of the trauma patient is best performed by an integrated team focused on minimizing the time from injury to definitive care at an appropriate trauma center. Dispatchers, first responders, law enforcement officials, and ambulance personnel must all take an active role to eliminate unnecessary delays in the delivery of care and transport to definitive care.

Note:

- This protocol may be used as a general guide for trauma in both Adults and Pediatrics. Follow appropriate protocol and/or procedure for specific trauma care.

ALL PROVIDERS

1. While en route to scene contact hospital(s) to relate nature of call as necessary. Request additional resources as anticipated such as additional ambulances, air-medical services, fire suppression, hazmat, MCI, extrication, etc. Request additional resources prior to initiating care on scene if situation was not anticipated en route.
2. Survey Scene. Do not approach patient until scene is safe.
3. Perform **primary/initial trauma assessment** utilizing the **CRAMS** score as described in Trauma Triage Protocol below.
    a. Evaluate airway, provide C-spine immobilization, and assess initial LOC.
    b. Evaluate breathing
    c. Evaluate circulation
    d. Briefly evaluate abdomen, pelvis, and extremities if time allows (Do not interrupt primary assessment except for airway obstruction or cardiac arrest)
    e. Determine LOAD and GO status: **CRAMS score of 7 or less**.

4. Perform **critical interventions** while packaging patient for LOAD and GO.
    a. Remove airway obstructions. Secure airway with use of jaw thrust and nasal/oral airway. Provide 10 to 15 liters oxygen via non-rebreather or via BVM.
    b. Stop major bleeding.
    c. Initiate fluid resuscitation once en route unless transport is unavoidably delayed.
    d. See trauma protocols for management of specific injuries.
5. If patient condition is LOAD and GO, initiate immediate transport delaying **secondary/focused trauma assessment** and non-critical interventions until enroute.
    a. Maintain spinal immobilization while quickly securing patient to long back board. Maintain manual immobilization of cervical spine until patient is fully immobilized in appropriate adjunct. Transport immediately.
    b. Do not delay rapid extrication and patient packaging for the arrival of ALS
    c. Continually monitor LOC and A B Cs paying close attention to changes in status.
    d. Notify medical control of patient status as soon as possible.
    e. Perform secondary/focused trauma assessment and non-critical treatments as time permits.

TRAUMA TRIAGE PROTOCOL

Appropriate triage criteria aid in the identification of multiple trauma and therefore will improve the ability of pre-hospital providers to determine the appropriate destination of multiple trauma victims.

The CRAMS score will be used on all trauma victims to determine the potential for serious injury.

C	**Circulation:**	**Score**
	BP > 100 and no clinical signs of shock	2
	BP > 80 <100 with signs of shock	1
	BP < or = to 80 with signs of shock	0
R	**Respiratory:**	
	Normal effort	2
	Distress	1
	No respirations	0
A	**Abdomen/Thorax:**	
	Non-tender	2
	Tender	1
	Rigid abdomen, flail chest, or penetrating wound	0
M	**Motor:**	
	Normal	2
	Abnormal withdrawal or posturing	1
	Flaccid	0
S	**Speech:**	
	Normal	2
	Confused/Disoriented	1
	None	0

2. Adjustments to **CRAMS** scores will be made in the presence of the following mechanisms of injury. **If any of the following apply, subtract 1 point from the CRAMS score:**
    a. Pedestrians struck by vehicle
    b. Death of occupant in the same vehicle as patient
    c. Ejection from vehicle
    d. Penetrating trauma to the head, neck, or thoraco-abdominal region

3. **Destination Hospital:** Any patient with a **CRAMS score of 7 or less** will be transported to the nearest appropriate trauma center pursuant to the Hospital Destination Policy. Patients who have the ability to voice a preference or have responsible family members who request the patient be taken to a hospital other than the trauma center will have the request followed after being informed that such transport is not recommended.

REGIONAL TRAUMA PROTOCOL

Use if an existing regional protocol exits

Criteria List A (Definition of Major Trauma

1. Glasgow Coma Scale of 13 or less
2. Clinical signs of shock: pale, cold, weak pulses, prolonged capillary refill
3. Unstable blood pressure
    a. Adult: Systolic blood pressure <90 mmHg
    b. Pediatric: Infant<6 months: BP <60mmHg
    Child 2 months – 5 years: <70 mmHg
    Child 6-12 years: <80mmHg
4. Respiratory rate
    a. Adult: Less than 10 or greater than 30 breaths per minute
    b. Pediatrics under 12: Infants <6 months: <20 breaths per minute
    6 months-12 years: <16 breaths per minute
    All ages: >60 breaths per minute
5. Penetrating injury to head, neck, torso or proximal extremity
6. Flail chest
7. Trauma in a patient with burns to face or airway or with burns of 15% or greater Of the total body surface are
8. Distended, rigid abdomen
9. Two or more long bone fractures (humerus, femur)
10. Depressed or open skull fracture

11. Unstable pelvic fracture
12. New onset paralysis
13. Amputation above the wrist or ankle

Criteria List B (Indicators of possible major trauma)

1. Accidents in which the patient was ejected from the vehicle
2. Accidents in which another occupant of the vehicle was killed
3. Extrication time in excess of 20 minutes
4. Falls of 20 feet or greater for adults, 10 feet or great for children
5. Victim of a roll-over motor vehicle crash
6. Estimated crash speed was 40 mph or greater for adults, <20 mph for children
7. Passenger compartment intrusion>12 inches is present
8. Auto vs pedestrian or bicycle
9. Accidents involving a pedestrian, motorcyclist or bicyclist struck by a car with significant impact.
10. Motorcycle crashes

Criteria List C: Trauma patients whose injuries may be significantly impacted by other factors

1. Whose age is <5 or >55
2. Who have known cardiac or respiratory disease
3. Who are pregnant
4. Who are immunosuppressed
5. Who have a bleeding disorder

ASHLAND/BAYFIELD COUNTY

EMGERGENCY PROCEDURES

Procedure: 001 Patient's Bronchodilator Administration

PROCEDURE FOR ASSISTING PATIENT IN USE OF OWN BRONCHODILATOR

Introduction:

For the use by EMT-Basics to assist patients in using their own prescribed inhaled bronchodilator for the relief of bronchospasm.

Procedure:

1. Determine if patient has available a hand held/measured dose bronchodilator inhaler prescribed for asthma. Verify that inhaler is the patient's own medication, and has not expired.
2. Contact medical control - specifically request implementation of asthma protocol, reporting assessment findings including any possible contraindications.
3. Obtain voice authorization, including dosage; repeat order back to physician.
4. Describe procedure to patient; obtain consent, and assist in administration.
5. Record actions, transport and continue to monitor.
6. Doses may be repeated with physician authorization.

Special Notes:

This procedure only applies to EMT-Basics. Voice authorization is not required of other levels of training.

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PROCEDURE FOR ASSISTING PATIENT IN USE OF OWN EPINEPHRINE AUTO-INJECTOR

Indications:

This procedure applies only to EMT-Basics assisting patient in the use of their own prescribed EpiPen for the relief of allergic reactions and/or bronchospasm.

Procedure:

1. Determine if patient has prescribed preloaded epinephrine auto-injector available. Verify that device is the patient's own medication, that the medication has not expired, and is clear and not discolored.
2. Describe procedure to patient and obtain consent. Assist the patient in administration of medication and properly dispose of injector.
3. Pull off safety cap.
4. Wipe injection site with alcohol.
5. Place tip of EpiPen on exposed thigh (anterior/lateral) at right angle to the leg. Apply in this area regardless of what area of the body has been stung.
6. Press hard into thigh until autoinjector mechanism triggers, and hold in place for several seconds. Remove the EpiPen and discard into sharps container.
7. Massage injection site for 10 seconds to enhance absorption.
8. Record actions and reassess patient in two minutes.
9. Transport immediately.
10. Dose may be repeated in 10 - 20 minutes with physician authorization.

Procedure: 003 Service EpiPen Administration

PROCEDURE FOR USE OF AMBULANCE SERVICE EPINEPHRINE AUTO-INJECTOR

Indications:

This procedure is for the use of EMT-Basics for the administration of service owned EpiPen for the relief of allergic reactions and/or bronchospasm.

Procedure:

1. Contact medical control - report assessment findings including any contraindications specifically request implementation of epinephrine protocol.
2. Obtain voice authorization for injection, including dosage; repeat order back to physician.
3. If epinephrine protocol approved, verify medication is correct dosage, has not expired, and is clear and not discolored.
4. Describe procedure to patient and obtain consent if possible.
5. Pull off safety cap.
6. Wipe injection site with alcohol.
7. Place tip of EpiPen on exposed thigh (anterior/lateral) at right angle to the leg. Apply in this area regardless of what area of the body has been stung.
8. Press hard into thigh until autoinjector mechanism triggers, and hold in place for several seconds. Remove the EpiPen and discard into sharps container.
9. Massage injection site for 10 seconds to enhance absorption.
10. Record actions and reassess patient in two minutes.
11. Transport immediately; continue to reassess and monitor patient.
12. Dose may be repeated in 10 - 20 minutes with physician authorization.

Dosages:

* Adults: (>60 pounds) 0.3 mg epinephrine 1:1000 IM (one Epipen Adult)
* Children: (<60 pounds) 0.15 mg epinephrine 1:2000 IM (one Epipen Junior)

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BASIC AIRWAY MANAGEMENT

1. Determine if airway is patent.
2. If airway is not patent, open airway with chin lift or jaw thrust while maintaining cervical spine stabilization if indicated.
3. If patient is breathing spontaneously but ventilatory assistance is needed, determine presence or absence of gag reflex.
   a. If gag reflex is present, insert a nasopharyngeal airway.
   b. If gag reflex is absent, insert an oropharyngeal airway.

******Note: An airway MUST be inserted in any patient whose ventilations are assisted by a bag-valve-mask.******

Nasopharyngeal Airway

1. Choose the appropriate size. It should be the largest that will fit easily through the external nares.
2. Lubricate the tube.
3. Insert it straight back through the right nostril with the beveled edge of the airway toward the septum.
4. To insert in the left nostril, turn the airway with the bevel toward the septum, then insert straight back through the nostril until you reach the posterior pharynx.
5. **NOTE:** A nasopharyngeal airway is contraindicated in patients with indications of nasal/facial injuries, if cerebrospinal fluid is flowing from the nose or if severe head injury has occurred.

Oropharyngeal Airway

1. Choose the appropriate size.
2. Open the airway using one of the following procedures:
   a. Scissor maneuver
   b. Jaw lift
   c. Tongue blade
3. Insert the airway gently without pushing the tongue back into the pharynx.
   a. Insert the airway upside down and rotate into place. (Do not use this method with children.)

   Or

   b. Insert the airway under direct vision using a tongue blade.

Bag-Valve-Mask

******Note: This skill optimally requires two rescuers to perform******

1. Stabilize the neck with a suitable device if trauma suspected.
2. Connect the oxygen tubing to the bag-valve system and oxygen cylinder.
3. Attach the oxygen reservoir to the bag-valve-mask.
4. Open the oxygen cylinder and set the flow rate at 12 L/min.

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5. Select the proper size mask and attach it to the bag-valve device.
6. Open the airway.
7. Insert either a nasopharyngeal or oropharyngeal airway.
8. Place the mask on the face and have your partner establish and maintain a good seal. Proper bag-valve-mask technique requires two people.
9. Using both hands, ventilate with about 700 cc (3/4 of the volume of the BVM bag) until chest rises.
10. Ventilate at 10 breaths per minute
11. Be prepared to suction airway if vomiting occurs
12. If difficult to ventilate reposition the head/jaw, ensure OP airway is properly situated and reposition mask for better seal.

ADVANCED AIRWAY MANAGEMENT

Note: The following advanced airway techniques may be performed only by EMTs certified and approved by DHFS and the system medical director to do so.

Preparations

1. Wear appropriate personal protective equipment. Gloves and goggles are required. A face mask is required if there is a possibility of blood being encountered in the airway.
2. Ventilate patient with high-flow oxygen and bag-valve-mask for at least 30 seconds prior to each attempt.
3. Determine the most appropriate airway management technique. If circumstances indicate that intubation may be difficult and unsuccessful it is appropriate to use another form. The goal is to provide the patient a protected airway as quickly and safely as possible.
4. Check all equipment immediately prior to use.
5. Ensure that suction is available and functional.
6. If possible, an assistant should be available to help with procedure.

Combitube Placement

Indications:

1. Cardiac arrest
2. Respiratory arrest
3. Unresponsive patient without adequate respirations and gag reflex

Contraindications - **Do Not Use Combitube in These Circumstances**:

1. Patient less than five feet in height for standard Combitube, less than 4 feet for Combitube SA (small adult)
2. Patient less than sixteen years of age
3. Patient has an adequate gag reflex
4. Patient has known or suspected esophageal disease
5. Patient has ingested a caustic substance (acid, lye, drain cleaner, etc.)

Procedure:

1. Having prepared the equipment as described above, position the patient's head in a neutral position and ventilate with 100% O2 for thirty seconds.
2. Grasp the tongue and lower jaw between the index finger and thumb and lift upward (jaw-thrust maneuver).
3. Insert the Combitube gently but firmly, following the same direction as the natural curvature of the oropharynx, until the black rings on the tube are positioned slightly beyond the patient's teeth. DO NOT USE FORCE! If the tube does not insert easily, withdraw it and repeat procedure.

NOTE: The Laryngoscope may be used to facilitate the insertion of the Combitube bydisplacing the tongue out of the way

4. Once the tube is in place, inflate the pharyngeal cuff (blue line, labeled #1) with 100 ccs of air, and then the distal cuff (white line, labeled #2) with 15 ccs of air. The tube should rise out of the mouth placing the teeth between the two black lines.
5. Ventilate through the primary (blue) tube, auscultating for breath sounds in the high axillary position on both sides of the chest, as well as over the epigastrum.
    a. If breath sounds are heard bilaterally, and no sounds are heard over the epigastrum, then the Combitube is placed in the esophagus. Continue to ventilate the primary (blue) tube.
    b. If no breath sound can be heard in the chest, and sounds can be heard in the epigastrum, then the Combitube is placed in the trachea. Attempt to ventilate through the secondary (clear) tube, again auscultating the chest and epigastrum. If breath sounds are heard bilaterally, and no sounds are heard over the epigastrum, continue to ventilate through the secondary (clear) tube.
    c. If no sounds are heard in either the chest or epigastrum, immediately deflate both cuffs (blue, then white), withdraw the tube 2 - 3 cms, reinflate the cuffs (blue, then white) and repeat procedure of confirming placement. If breath and epigastric sounds remain absent, remove the tube and ventilate with bag-valve-mask.
6. Secure tube and recheck placement.
7. Apply a C-collar to prevent head movement and tube dislodgment.

Combitube Removal

In general it is not appropriate to remove a properly placed Combitube. It may be more appropriate to calm the patient and assist their ventilations. Premature removal of the Combitube may leave the patient with an unprotected airway in the event that their level of consciousness decreases. The return of the patient's gag is not sufficient reason to remove the Combitube. The patient's level of consciousness must be sufficient to spontaneously protect their airway.

Indications:

1. The patient regains consciousness AND their protective gag reflex returns

OR

2. Spontaneous ventilation is inadequate with the Combitube in place.

Procedure:

1. Position patient on side, using spinal injury precautions when indicated.
2. Have suction equipment readily available.
3. Deflate cuffs (blue, then white) and withdraw device in smooth steady motion.
4. Suction as needed, monitoring airway and respirations closely.

King LT-D Placement

Indications:

1. Cardiac arrest
2. Respiratory arrest with no gag reflex
3. Unresponsive patient with no gag reflex

Containdications:

1. Patient with gag reflex (unless using Drug Facilitated Airway Management)
2. Patient under 4 ft. tall
3. Suspected corrosive substance ingestion
4. Known esophageal disease

Procedure:

1. While maintaining ventilation with OP airway and BVM, assemble the equipment to be used.
2. Choose correct size of airway based on patient's height.
    a. #5 for over 6 feet
    b. #4 for 5-6 ft
    c. #3 for 4-5 ft
3. Don protective eyewear, mask, and gloves
4. Test the cuff inflation system by injecting the maximum volume of air recommended into the cuff (size 3 = 60 ml, size 4 = 80 ml, size 5 = 90 ml). Remove all air from cuffs before inserting.
5. Apply a water based lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilator openings.
6. Remove potential airway obstructions such as dentures
7. Pre-oxygenate the patient
8. Place patient's head in neutral position
9. Hold the King LT-D at the connector with the dominant hand. With the non-dominant hand, grasp the patients tongue and lower jaw and lift upward.
10. Rotate the airway laterally 45-90 degrees such that the blue orientation line is touching the corner of the mouth, introduce the tip into the mouth and advance behind the base of the tongue.
11. As the tube tip passes over the tongue, rotate the tube back to the midline so that the blue

orientation line faces the patient's chin.

12. Without exerting excessive force, advance the airway until the based of the connector is aligned with the teeth or gums.
13. Inflate the cuff using the pressure gauge to 60 cm H20. If a cuff pressure gauge is not available, use a syringe to inflate the cuff with the minimum volume necessary to seal the airway at peak ventilator pressure.
14. Gently ventilate the patient to assess compliance while simultaneously withdrawing the airway until ventilation is easy and free flowing.
15. Confirm proper position by auscultation, chest rise, and capnography.
16. If tube placement misplacement is suspected remove the airway and resume ventilation with BVM
17. Readjust cuff inflation pressure to 60 cm H20 or to seal airway.
18. Secure King LT-D to patient using commercial holder.l
19. If using King LT-DS, decompress the stomach by inserting a nasogastric tube though the gastric outlet on the airway.

King LT-D Removal

1. Removal of the airway is indicated IF the patient has a return of gag reflex AND ability to protect own airway OR if ventilation is inadequate.
2. Don protective eyewear, mask, and gloves
3. Vomiting is likely, have suction ready with yankauer tip.
4. If not contraindicated by suspected spinal injury, turn the patient to the side.
5. Insert the syringe into the pilot bulb and withdraw all air from the cuff.
6. Carefully remove the tube staying alert for vomiting.
7. Oxygenate and ventilate as needed.

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

Introduction:

Continuous Positive Airway Pressure has been shown to rapidly improve vital signs, gas exchange, the work of breathing, decrease the sense of dyspnea, and decrease the need for endotracheal intubation in patients who suffer from shortness of breath from asthma, COPD, pulmonary edema, CHF, and pneumonia. In patients with CHF, CPAP improves hemodynamics by reducing preload and afterload.

Indications:

Any patient who is complaining of shortness of breath for reasons other than trauma and:

a) Is awake and alert
b) Is over 12 years old and is able to fit the CPAP mask
c) Has the ability to maintain an open airway (GCS > 10)
d) A respiratory rate greater than 25 breaths per minute
e) Has a systolic blood pressure above 90 mmHg
f) Uses accessory muscles during respirations
g) Sign and Symptoms consistent with asthma, COPD, pulmonary edema, CHF, or pneumonia

Contraindications:

1. Patient is in respiratory arrest
2. Patient is suspected of having a pneumothorax
3. Patient has a tracheostomy
4. Patient is vomiting

Precautions:

Use care if patient:

a) Has impaired mental status and is not able to cooperate with the procedure
b) Has failed at past attempts at noninvasive ventilation
c) Has active upper GI bleeding or history of recent gastric surgery
d) Complains of nausea or vomiting
e) Has inadequate respiratory effort
f) Has excessive secretions
g) Has a facial deformity that prevents the use of CPAP

Procedure: 006 CPAP

Procedure:

1. **EXPLAIN THE PROCEDURE TO THE PATIENT**
2. Ensure adequate oxygen supply to ventilation device
3. Place the patient on continuous pulse oximetry and cardiac monitoring
4. Place the delivery device over the mouth and nose
5. Secure the mask with provided straps or other provided devices
6. Use **5.0 cm H2O of PEEP** (pressure may be titrated upwards by paramedics)
7. Check for air leaks
8. Monitor and document the patient's respiratory response to treatment
9. Monitor vital signs at least every 5 minutes. CPAP can cause BP to drop.
10. Continue to coach patient to keep mask in place and readjust as needed
11. If respiratory status deteriorates, remove device and consider intermittent positive pressure ventilation with or without endotracheal intubation.

Removal Procedure:

1. CPAP therapy needs to be continuous and should not be removed unless the patient can not tolerate the mask or experiences continued or worsening respiratory failure.
2. Intermittent positive pressure ventilation and/or intubation should be considered if the patient is removed from CPAP therapy.

Pediatric Considerations:

CPAP should not be used in children under 12 years of age

Special Notes:

1. Place continuous bronchodilator nebulizer in-line with CPAP circuit.
2. Do not remove CPAP until hospital therapy is ready to be placed on patient.
3. Most patients will improve in 5-10 minutes. If no improvement within this time, consider intermittent positive pressure ventilation.
4. Watch patient for gastric distention.
5. May be the treatment of choice in a patient with a DNI order.

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C-SPINE IMMOBILIZATION

Indication:

To provide stabilization of cervical spine in cases of accident or injury, a rigid cervical collar will be placed and patient strapped to KED or long board.

Procedure:

As dictated and prescribed in EMT Basic national standard curriculum.

Exclusions:

Cervical collar and long board immobilization may be omitted in cases where **ALL** of the following exist:

1. Clear sensorioum without loss of consciousness or suspicions of intoxication.
2. Lack of complaints of neck pain
3. Lack of pain on palpation of spinous process of cervical spine
4. Absence of neurological symptoms.
5. Absence of other significant or distracting injuries which would mask the presence of neck pain.
6. Absence of significant mechanism of injury.

Special Note:

No trauma patient is to be transported with a c-collar in place without also being fully immobilized on a long board.

WHEN IN DOUBT TAKE FULL C-SPINE PRECAUTIONS!!!!

MAST

Indications:

1. Stabilization of pelvic or lower extremity fractures
2. Compression of external bleeding
3. Intra-abdominal bleeding, suspected ruptured aortic abdominal aneurysm
4. Other causes of shock for which MAST may be helpful:
   a. spinal shock
   b. overdose
   c. septic shock
   d. anaphylaxis

Contraindications:

Absolute:

1. Pulmonary edema
2. Congestive heart failure

Relative:

1. Abdominal injuries with protruding abdominal contents
2. Cardiogenic shock
3. Impaled objects to the leg or abdomen
4. Lumbar spine instability - use lower extremity compartments only
5. Penetrating thoracic injuries
6. Pregnancy - use lower extremity compartments only during third trimester
7. Isolated head trauma
8. Use legs only with pediatric patients
9. When a patient's respiratory condition becomes markedly worse after inflation, consider diaphragmatic rupture or tension pneumothorax. Deflation under Medical Direction should be considered.

Equipment:

* MAST trousers with pop-off valves or pressure gauges for monitoring suit pressure

Procedure:

Application and inflation:

Logroll method - most commonly used when a spinal injury is suspected and at least 3 team members are available to properly logroll the patient.

* Fanfold the garment and place it next to the patient.
* One member supports the cervical and head area while a minimum of two others support the body and roll the patient onto the rescuer's knees.
* Slide the garment into place under the patient just inferior to the 12th rib.
* Roll the patient onto the garment and secure the velcro, aligning carefully.

Diaper method

* Place the garment flat in the open position at the feet of the supine patient.
* Two team members simultaneously lift the legs, slide the garment up under the

patient and lower the legs onto the garment.
* Lift the hips and slide the garment up just inferior to the 12th rib.
* Wrap the garment around the patient and secure the velcro.

Trouser method

* Open the trousers and attach the velcro in the wide open position, creating a very large pair of pants.
* One team member places an arm up each leg of the garment or two team members can place one arm each up the respective leg of the garment.
* Place a hand over the patient's foot, lift the legs, and slide the garment off onto the patients extremities.
* Lower the legs and move up to the pelvis. Lift the pelvis slightly and slide the abdominal section up over the torso, just inferior to the 12th rib and secure the velcro.

Regardless of Method:

1. Consideration should be given to placing the patient on a backboard, both for immobilization as well as ease of moving the patient.
2. Once the garment is secured, attach the tubing - foot pump apparatus to the trousers.
3. Open all stopcock valves so all 3 compartments can be inflated simultaneously.
4. Inflate the garment, using the foot pump, until the velcro crackles, air exhausts through the pop-off valves, and/or the patient's blood pressure exceeds a 100mmHg systolic.
5. Close all stopcocks, leaving the foot pump attached.
6. Monitor the patient for hemodynamic and respiratory changes, as well as air leakage from the garment.

Deflation and Removal:

Occasionally, deflation in the field must be considered when a patient develops respiratory distress following inflation of the garment. If time permits, you should consult Medical Control for advice. However, if distress is severe and the patient is decompensating, take immediate action. Deflate the abdominal section of the garmentand monitor the patient closely.

1. Evaluate the patient's vital signs and verify the patient's stability.
2. Ensure that IV lines are accessible, and that the patient has received proper fluid replacement.
3. Ensure that the foot pump is still attached (in case the need arises to rapidly re-inflate) and that all stopcocks are in the closed position.
4. Remove the abdominal hose and open the stopcock for approximately 2 seconds, releasing about 1/3 of the pressure in the abdominal section, then close the stopcock.
5. Reevaluate vital signs and if no significant change occurs, continue the procedure until deflated. A rise in heart rate of 5 beats per minute or a drop in blood pressure of 5 mm Hg represents a significant change.
6. Repeat steps 4 and 5 with each leg until the garment is fully deflated.

ROUTINE OBSTETRICAL DELIVERY

A side view as the baby's head is born. The face is pointed posteriorly and to one side. Note the position of the hands for a right handed EMT. A left-handed EMT would have the hands reversed. The hands support and exert gentle pressure to prevent rapid delivery of baby.

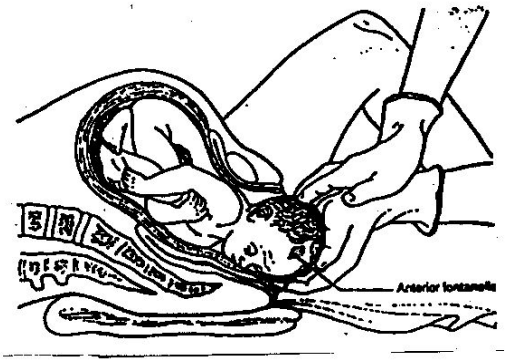

Figure 1

If the umbilical cord is wrapped tightly around the baby's neck, you must free, clamp, and cut it.

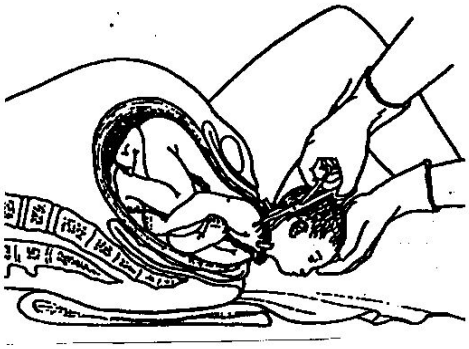

Figure 2

Once delivery of the head is complete, you should suction the baby's mouth and nostrils for the first time, using the bulb syringe.

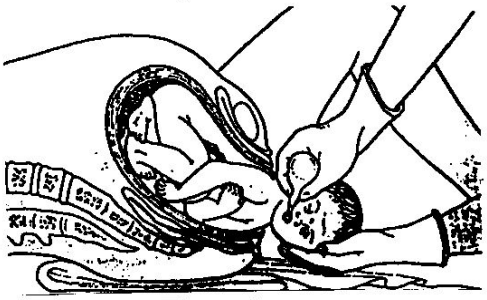

Figure 3

Support the baby's head with one hand, its trunk with your other hand. Remember that the baby is slippery, and you must hold it firmly but gently.

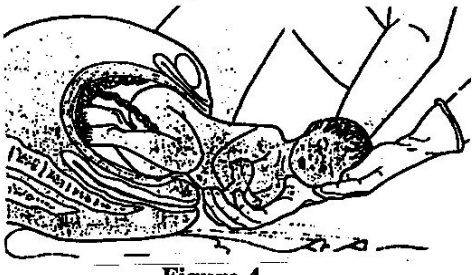

Figure 4

Figure 5

After delivery, place the baby at the level of the vagina, with its head lowered slightly. Clear the airway with the bulb syringe a second time.

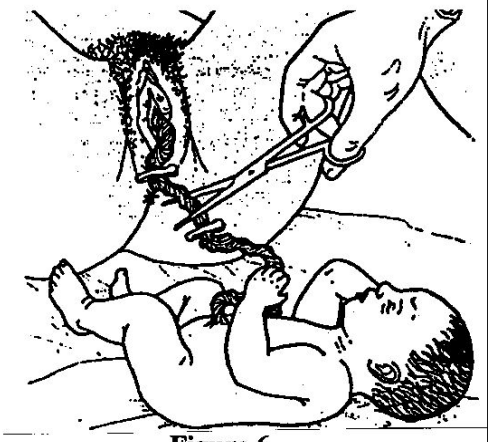

Figure 6

Clamp the umbilical cord with two sterile clamps, about 3 inches apart, placed halfway between the baby and the mother's vagina. Cut the cord between the 2 clamps. As an extra safeguard, tie the cord near the baby's navel with the special umbilical tape. Leave the clamps on the cord.

12 LEAD ECG MONITORING

Indications:

1. Conscious, stable patients presenting with presumed signs and symptoms of cardiac origin
2. Chest pain or pressure of presumed cardiac etiology, and/or
3. Shortness of breath of presumed cardiac etiology

Contraindications:

1. Patients who have been subjected to trauma
2. Cardiac arrest (on-going)
3. Sustained paced rhythm

Precautions:

1. Do not significantly delay transport to conduct test.
2. On female patients, always place leads V3 – V6 under the breast rather than on the breast.
3. A "normal" ECG does not definitively rule out a MI nor should it be justification for nontransport.
4. Women, the elderly, and persons with diabetes may present with atypical S&S of AMI.

Procedure:

1. Whenever possible, attempt to obtain 12-lead with patient in supine position. If patient does not tolerate, place in semi-reclining or sitting position. Document the patient's position.
2. Document patient name, sex, and age.
3. Prep the skin and shave hair as necessary.
4. Apply electrodes as follows and attach the appropriate lead to an electrode:

Limb (extremity) Leads:	Precordial (chest) Leads:
Right arm (RA) – Right forearm	V1 – Fourth intercostal space to the right of the sternum
Right leg (RL) – Right calf	V2 – Fourth intercostal space to the left of the sternum
Left arm (LA) – Left forearm	V3 – Directly between leads V2 and V4
Left leg (LL) – Left calf	V4 – Fifth intercostal space at midclavicular line
	V5 – Level with V4 at left anterior auxiliary line
	V6 – Level with V5 at left midaxillary line

5. Attempt to obtain the 12-lead while the vehicle is not moving. Ask the patient to remain motionless for 10 seconds (it is okay to breathe). Acquire and print two copies of the report.
6. If the monitor detects signal noise (such as patient motion or a disconnected electrode), the 12-lead acquisition is interrupted until noise is removed. Take appropriate action as required (such as reconnecting leads).
7. Interpretation should be relayed to receiving hospital during patient report. Document "Obtained 12-lead ECG." On patient run report and attach one copy to run report.
8. Notify receiving hospital personnel immediately upon arrival at hospital that 12-lead has been performed and leave one copy for receiving physician.

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Special Notes:

1. Locating the V1 position (fourth intercostal space) is critically important because it is the reference point for locating the placement of remaining V leads. To locate the V1 position:
   a. Place your finger at the notch in the top of the sternum.
   b. Move your finger slowly downward about 1.5 inches until you feel a slight horizontal ridge or elevation. This is the "angle of Louis" where the manubrium joins the body of the sternum.
   c. Locate second intercostal space on the right side, lateral to and just below the angle of Louis.

ResQPod

Introduction:

The ResQPOD Circulatory Enhancer creates a negative intrathoracic pressure during CPR which significantly increases venous return to the heart.

Indications:

1. Cardiac arrest only

Contraindications:

1. Chest trauma
2. Flail chest
3. Age < 12

Precautions:

1. Use only if trained in the proper use of the device.
2. Discontinue use when spontaneous pulse returns

Procedure:

1. Select airway adjunct (mask, Combitube or King LT).
2. Turn timing lights on with an advanced airway.
3. Continue CPR allowing complete chest re-coil after each compression.
4. Place ResQPOD between adjunct and resuscitation bag with supplemental oxygen and ensure the mask has a continuous tight seal.
5. Attach end-tidal CO2 detector between ResQPod resuscitation bag
5. Ensure ET/Combitube is properly placed and secured with mechanical tube holder. Patient must be placed in C-collar. Use caution so additional weight of ResQPOD does not move ET/Combitube.
6. Ventilate with one squeeze of the resuscitation bag when timing lights emit light.

Special Notes:

1. If ResQPod becomes filled with secretions remove it and force air through it by squeezing resuscitation bag forcibly.

ASHLAND/BAYFIELD COUNTY

EMGERGENCY MEDICATIONS

ALBUTEROL (PROVENTIL)

Drug Classification: Beta Agonist

INDICATIONS:

1. For relief of acute bronchospasm

CONTRAINDICATION:

1. Allergy or known hypersensitivity to albuterol

PRECAUTIONS:

1. May produce paradoxical bronchospasm, which can be life-threatening. Discontinue treatment immediately if this occurs.
2. Immediate allergic reactions may occur.
3. Beta receptor blocking agents and albuterol inhibit the effect of each other.
4. **Use with caution in patients with cardiovascular disorders**, or in patients being treated with antidepressants.

ADMINISTRATION:

1. Pour contents of one unit dose bottle (2.5 mg = 3 ml of 0.083% solution) into nebulizer reservoir.
2. Connect nebulizer to oxygen source at 6 liters per minute.
3. Have patient breathe as calmly, deeply, and evenly as possible until no more mist is found in the nebulizer chamber (5-15 minutes). Routine nebulizer therapy should be accomplished using the nebulizer unit and instructing the patient to close his/her lips tightly around the mouthpiece. An acceptable alternative to using the mouthpiece would be to attach the nebulizer reservoir to an oxygen mask, i.e. remove the bag from a non-rebreather nebulizer reservoir and do not use the T-piece or the mouth piece.
4. Restart patient on oxygen at appropriate concentration.
5. Treatments may be repeated as needed.
6. Notify medical control that Albuterol has been given.

PEDIATRIC CONSIDERATIONS:

May be administered by blow-by method if child is too young to keep nebulizer in their mouth

SPECIAL NOTES:

1. May begin treatment prior to IV therapy. This may decrease anxiety in the patient.
2. Whenever possible, nebulizer treatment should be administered enroute rather than delaying transport, however nebulizer treatments for the patient with active tuberculosis should be performed in well-ventilated areas (outside patient compartment).
3. Solution should be clear and colorless to light yellow.
4. Store between 36 and 77 degrees F.

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ASPIRIN

Drug Classification: Anti-platelet

INDICATIONS:

1. Suspected cardiac ischemia.

CONTRAINDICATIONS:

1. Allergy to aspirin or other non-steroidal anti-inflammatory agents, this includes many non-aspirin/non-tylenol pain relievers such as Advil and Aleve.
2. Patients currently taking anticoagulant agents.

PRECAUTIONS:

1. Recent internal bleeding (within last 3 months).
2. Known bleeding diseases.
3. Recent surgery.
4. Possibility of pregnancy.

ADMINISTRATION:

1. Review PRECAUTIONS and CONTRAINDICATIONS.
2. Administer chewable aspirin (324 mg) orally.

ATROVENT (IPRATROPIUM)

Drug Classification: Parasympatholytic

INDICATIONS:

1. Bronchospasm associated with chronic bronchitis, bronchial asthma, and emphysema.

CONTRAINDICATIONS:

1. Allergy to peanuts, soybeans, or known hypersensitivity to atrovent.
2. Acute treatment of bronchospasm where rapid response is required.
3. Hypersensitivity to atropine (chemically related).

PRECAUTIONS:

1. Use with caution in patients with heart disease, hypertension, glaucoma, and the elderly.
2. May worsen the condition of glaucoma if it gets in the eyes. Having the patient close their eyes during nebulization may prevent this.
3. Common side effects include cough, dry mouth, or unpleasant taste.
4. Less common side effects include vision changes, eye burning or pain, dizziness, headache, nausea, nervousness, palpitations, sweating, trembling, increased wheezing or dyspnea, chest tightness, rash, hives, or facial swelling.

ADMINISTRATION:

1. For bronchospasm that has already begun, atrovent is used only in combination with albuterol.
2. Dosage for adults: Pour one unit dose bottle (500mcg = 2.5ml of 0.02% solution) into nebulizer reservoir with one unit dose of albuterol.
3. Connect nebulizer to oxygen source at 6 liters per minute.
4. Have patient breathe as calmly, deeply, and evenly as possible until no more mist is found in the nebulizer chamber (5-15 minutes). An acceptable alternative to using the mouthpiece would be to attach the nebulizer reservoir to an oxygen mask, i.e. remove the bag from a non-rebreather nebulizer reservoir and do not use the T-piece or the mouthpiece. If a mask is used, adjust the mask to prevent mist from getting into the patient's eyes.
5. Restart patient on oxygen at appropriate concentration.

PEDIATRIC CONSIDERATIONS:

1. One Atrovent/albuterol neb treatment at adult strength may be given to children prior to contact with medical control. If further nebulization is indicated, albuterol-only nebs should be given.

SPECIAL NOTES:

1. Nebulizer treatments for patients with active tuberculosis should be performed in well-ventilated areas (outside patient compartment if possible).

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DEXTROSE ORAL (GLUTOSE)

Drug Classification: Anti-hypoglycemic

INDICATION:

1. Suspected or known hypoglycemia.

PRECAUTION:

1. Airway must be carefully maintained.

ADMINISTRATION:

1. Perform blood glucose measurement.
2. Administer 1 tube (Glutose = 25 gm per tube, Insta-Glucose = 31 gm per tube) in downside cheek of log-rolled patient.
3. Administer slowly, monitoring absorption. Maintain adequate airway.
4. Repeat blood glucose measurement.
5. Notify medical control that oral glucose has been given.

PEDIATRIC CONSIDERATIONS:

1. The initial dosage is usually one half of the adult dose.

SPECIAL NOTES:

1. Consultation with the monitoring physician is mandatory if considering non-transport after oral glucose administration. All patients whose hypoglycemia is due to oral hypoglycemic agents (such as Orinase or Tolinase), should be transported.

EPINEPHRINE 1:1000

Drug Classification: Alpha agonist

INDICATIONS:

1. Severe allergic reaction from stings, and ingested, inhaled, injected, or absorbed allergens.
2. Anaphylaxis with evidence of severe respiratory distress, increased heart rate, hives, and/or decreased blood pressure.

PRECAUTIONS:

1. **Requires on-line medical control authorization**

ADMINISTRATION:

1. Epinephrine 0.3 mg (0.3 cc of 1:1000 solution) subcutaneously may be given. Pediatric dose is 0.01 mg/kg to a maximum of 0.5 mg/kg SQ, repeated every 15 minutes for allergic reaction, 0.3 mg SQ, repeated every 15 minutes for anaphylaxis.

EpiPen

Drug Classification: Alpha Agonist

INDICATIONS:

1. Patients experiencing a severe allergic reaction from stings or other allergens

CONTRAINDICATIONS:

1. There are no absolute contraindications to the use of epinephrine in a life-threatening situation.

PRECAUTIONS:

1. Patients who have known allergic reactions to insect bites or other allergens will often have epinephrine prescribed in the form of an EpiPen® (or other similar device) that delivers an injection of pre-measured epinephrine.
2. Use with caution in patients > 40 years.
3. At the time when a request to deliver or assist a patient with their epinephrine is made, any suspected complicating conditions, such as the following, should be reported:

    • Heart disease • Age > 40 years • Pulmonary edema

    • Psychosis • COPD • Hyperthyroidism

    • Hypertension history • Glaucoma • Pregnancy

ADMINISTRATION:

1. Pull off safety cap.
2. Wipe injection site with alcohol.
3. Place tip of EpiPen on exposed thigh (anterior/lateral) at right angle to the leg. Apply in this area regardless of what area of the body has been stung.
4. Press hard into thigh until autoinjector mechanism triggers, and hold in place for several seconds. Remove the EpiPen and discard into sharps container.
5. Massage injection site for 10 seconds to enhance absorption.
6. With persistent severe anaphylaxis, additional injections may be necessary. Consult with medical control if a second dose is indicated.

PEDIATRIC CONSIDERATIONS:

1. Do not give to patients < 12 years without physician order.
2. The EpiPen comes in two available dosing options:
    a. EpiPen delivers 0.3 mg (in 0.3 cc) of 1:1,000 epinephrine IM.
    b. EpiPen Jr. delivers 0.15 mg (in 0.3 cc) of 1:2,000 epinephrine IM and is intended for use in patients < 60 lbs.

GLUCAGON

Drug Classification: Other endocrine & metabolic

INDICATION:

1. Suspected or known hypoglycemia in diabetic patients when IV access is not available.

CONTRAINDICATION:

1. Allergy or known hypersensitivity to glucagon.

PRECAUTIONS:

1. Relatively free of adverse reactions.
2. Occasional nausea and vomiting.
3. May cause transient increase in blood pressure and pulse rate.

ADMINISTRATION:

1. Obtain blood glucose measurement.
2. When no IV access is available, an initial dose of glucagon may be given.
3. Glucagon is provided as one unit (1 mg) of powdered glucagon with a vial containing 1 ml of diluting solution.
4. Inject diluting solution into powdered glucagon vial. Shake gently until solution is clear.
5. Inject IM into abdomen, buttocks, thigh, or upper arm.
6. Turn patient to one side in case vomiting should occur.
7. If the patient wakes up and is able to swallow, give a fast acting carbohydrate such as orange juice immediately.
8. Repeat blood glucose measurement.

SPECIAL NOTES:

1. For severe hypoglycemia (blood sugar <40 mg/dL), 50 % dextrose IV is treatment of choice.
2. For conscious patients, simple, oral carbohydrates are most effective.
3. If patient has already been given glucagon by the family, a dose administered by paramedics may be given if still unconscious after 15 minutes.
4. Data shows that in an unconscious patient without IV access, glucagon is the best option.
5. If patients are comatose from diabetic ketoacidosis or very high blood sugars, glucagon will not worsen this situation to any significant degree.
6. Consultation with the monitoring physician is mandatory if considering non-transport after SQ or IM administration of glucagon. All patients whose hypoglycemia is due to oral hypoglycemic agents (such as Orinase or Tolinase), should be transported.

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NITROGLYCERIN

Drug Classification: Anti anginal / smooth muscle relaxant

INDICATIONS:

1. Chest pain of suspected cardiac origin.
2. Pulmonary edema.
3. Hypertensive crisis.

CONTRAINDICATION:

1. Allergy or known hypersensitivity to nitroglycerin.
2. Do not give to patient who has taken Viagra, Cialis, or Levitra within 48 hours

PRECAUTIONS:

1. Headache and hypotension may occur after nitroglycerin (NTG) administration. Do not administer if blood pressure is <90 systolic.
2. Do not give to patients <12 years without a physician order.

ADMINISTRATION:

1. Give 0.4 mg (gr.1/150) NTG tablet or one metered dose NTG spray sublingually.
2. May repeat tablet or spray sublingually every 5 minutes if pain persists and patient is not hypotensive.

SPECIAL NOTES:

1. NTG is effective in relieving angina pectoris. Other conditions such as esophageal spasm can also respond well.

OXYGEN

Drug Classification: Other metabolic

INDICATIONS: LOW CONCENTRATION (24 - 44%):

1. History of chronic obstructive pulmonary disease (emphysema, chronic bronchitis, asthma in adult, heavy smoker [40pack years or more]) with history or chronic low concentration oxygen use.
2. Patients with SaO2 readings ≥ 92%

INDICATIONS: HIGH CONCENTRATION (60 - ≈ 100%):

1. Smoke, carbon monoxide, or toxic gas inhalation
2. Trauma or suspected significant blood loss
3. Hypoxia (Sa02 < 92%) from any cause
4. Respiratory distress, cyanosis or other indications of poor oxygenation
5. Unresponsive patient
6. Obstetric patients with known or suspected complications

CONTRAINDICATIONS:

1. None in the prehospital setting

PRECAUTIONS:

1. This guideline refers to spontaneously breathing and adequately ventilating patients only.
2. High concentration 02 in some cases (emphysema and asthma) may depress respiratory drive; be prepared to assist ventilation, but don't allow patients to become hypoxic for fear of respiratory arrest.
3. Do not use in the presence of open flames.

ADMINISTRATION:

1. Deliver low concentrations via nasal cannula @ 1 - 6 lpm.
2. Deliver high concentrations via non-rebreather mask @ 6 - 15 lpm.
3. Attempt to obtain and document pulse oximetry readings before and during oxygen therapy.

PEDIATRIC CONSIDERATIONS:

1. Use pediatric mask or blow-by if mask is not tolerated.

SPECIAL NOTES:

1. If oximetry is unavailable, patients should receive high concentration oxygen unless low concentration is indicated.

ASHLAND/BAYFIELD COUNTY EMS

POLICIES

ALS vs. BLS TRANSPORTATION GUIDELINE

PURPOSE

The decision to request ALS intercept must weigh the potential benefits against any delays in delivering the patient to definitive care.

This guideline is intended for services that provide ALS and BLS transport. It defines which patients are appropriate for BLS transport and which patients may benefit from ALS transport. For the purposes of this policy, BLS is defined as EMT-Basic, while ALS is defined as Intermediate Technician, EMT-Intermediate, and EMT-Paramedic.

Patients presenting with the following conditions should be assessed for the potential benefit of receiving ALS care through either the request for an ALS crew from the service or an ALS intercept from the closest available ALS service.

GUIDELINE

I. Patients with the following presentations should considered for ALS transport:
   A. Accident/assault victim with multiple trauma or significant mechanism of injury (when ALS transport is immediately available), including but not limited to:
      1. Falls from a distance of > 20 feet
      2. Ejection from a vehicle
      3. Death in the same passenger compartment
      4. Extrication time > 20 minutes
      5. Rollover
      6. High speed auto crash with:
         a. Initial speed > 40 mph,
         b. Major auto deformity > 20 inches,
         c. Passenger compartment intrusion > 12 inches,
         d. Or steering wheel deformity
      7. Auto-pedestrian/auto-bicycle injury with significant (> 5mph) impact
      8. Pedestrian thrown or run over
      9. Motorcycle crash > 20mph or with separation of rider
   B. Airway compromise
   C. Altered level of consciousness: persistent, alternating, unknown etiology, or GCS < 13
   D. Anaphylaxis

E. Breathing distress

F. Burns: major partial or full thickness, hydrofluoric acid or fluorine gas exposure, respiratory or facial, or when pain control is indicated

G. Chest pain and/or heart problems

H. Cardiac or respiratory arrest

I. Cerebrovascular accident or stroke symptoms

J. Near drowning

K. Electrical injury

L. Fractures: bilateral femur, pelvic, or open fractures (suspected or known), or when pain control is indicated

M. Heatstroke with altered level of consciousness

N. Hemorrhage: internal or external, with evidence of shock

O. Obstetrical: known or suspected complications, including, but not limited to, breech, prematurity, multiple births, or pre-eclampsia

P. Overdoses, drug reactions, and poisonings associated with GCS < 13

Q. Penetrating trauma to head, neck, or torso

R. Seizures: prolonged or repetitive, initial episode or unknown etiology

S. Paramedic, EMT, or physician discretion

T. Any patient whose vital signs fall within these ranges should considered for ALS transport

Age	Blood Pressure	Pulse	Respirations
>11 Yrs	<90 or >200 systolic or >120 diastolic	<50 or >150	<10 or >30
3-11 Yrs	<80 systolic	<60 or >150	<15 or >30
3mo-2Yrs	<70 systolic	<80 or >160	<20 or >40
Birth-2 Mos	<50 systolic	<100 or >180	<30 or >50

II. Patients with the following presentations may be transported BLS as long as they do not fit any of the above criteria:

A. Accident/assault victims with minor trauma

B. Altered level of consciousness: brief and improving, and GCS of 14 or 15

C. Burns: minor (<20% total body surface area (TBSA) in adults, <10% TBSA if <12 or >60 years)
D. Fractures: simple
E. Lacerations : minor
F. Obstetrical: uncomplicated
G. Psychiatric or suicidal patients
H. Seizure: febrile or with known history and improving LOC
I. Uncomplicated diabetic emergencies responding rapidly to oral glucose or Glucagon

CONTINUING EDUCATION

The State of Wisconsin requires the medical director of his/her designee to attest to the competency of all First Responders with Advanced Skills and all EMT-Basics, Intermediate Technicians, Intermediates and Paramedics. To facilitate this service in the Ashland/Bayfield counties will to the following.

First Responders:
The Service training officer shall be responsible for certifying all First Responders annually in CPR/AED use and attest to their completion of bi-annual refresher training.

EMT-Basics:
All EMT-Basics shall demonstrate competency in CPR/AED in the presence of the medical director annually. The Service training officer shall act as the medical director's designee and shall be responsible for attesting to their competency in all other advanced skills and successful completion of required bi-annual refresher training.

HOSPITAL DESTINATION

General:

It is the belief of the Service that individual patients and their families have the right to request the hospital destination of their choice when being transported by ambulance during an emergency.

Policy:

I. All patients will be asked their preference of hospital destination.

   A. If protocol specifies that the patient should be transported to a different facility, the EMT will:

      1. Explain to the patient that Service protocol indicates that a particular hospital is designated to receive them. Obtain informed refusal from the patient. This informed refusal should be the result of a professional attempt to educate the patient and not coerce their decision. It should include the potential adverse outcomes from not going to the designated facility.

      2. Transport the patient to the hospital of their choice.

      3. Document any disagreement in writing using the AMA form and have it signed by the patient or their representative.

   B. If the patient has no choice, the EMT will:

      1. Transport to the nearest appropriate facility.

II. The only exception to the above is the following:

   A. The requested hospital is on by-pass for the patient's condition. In this instance the patient will be transported to the next nearest available hospital.

III. No attempt shall be made to unduly influence patient choice of hospitals except where that influence is in the best interest of the patient.

IV. The service has no responsibility to transport a patient to a hospital not included in its operational plan as a primary receiving hospital unless so approved by the service director.

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DUE PROCESS

I. FOUNDATION FOR PROTOCOL

A. It is the responsibility of the EMS Medical Director to:

1. Assure that the EMS Provider's initial training meets the standards established by the State of Wisconsin and the EMS medical community.
2. Provide continuing education to maintain knowledge and the skill levels of the EMS provider.
3. Establish Standards of Care, Medical Procedures, Standards for Practical Skills, and Administrative Policies to define and guide professional practice.
4. Supervise and evaluate individuals licensed with the EMS service.
5. Provide access to additional training or other support services as needed.
6. Actively seek solutions to issues identified through the Quality Improvement process.
7. Take appropriate corrective actions upon identification of activities by EMS provider that negatively impact the EMS service and/or patient care.

B. It is the responsibility of the individual EMS Provider to:

1. Attain and maintain knowledge and skills necessary to safely practice as a licensed EMS Provider in the EMS Service.
2. Provide medical care within their scope of practice with the needs of the patient as the primary concern.
3. Accept personal responsibility for maintenance of professional standards.
4. Provide emergency medical services as outlined in Standards of Care, Medical Protocols, Standards for Practical Skills, and Administrative Policies of the EMS Service.
5. Conduct his/her practice in a manner that reflects positively on self, peers, and the EMS Service.

II. PURPOSE OF PROTOCOL

A. Upon identification of a potential problem or upon receipt of a complaint regarding provision of pre-hospital care or the action of any individual(s) licensed within the EMS Service, it is the responsibility of the Medical Director and/or his/her designee to investigate the allegations impartially and completely. Such investigation will adhere to due process and consist of the following phases:

1. FACT FINDING PHASE

a. All complaints or allegations must involve a specific incident or series of incidences and may be lodged by any individual or organization. Any individual named in a complaint has the right to all information obtained by the Medical Director, including the source of the complaint.

b. Fact finding activities will begin within two (2) working days of the receipt of the complaint and should be complete within 14 days of the initial notification of the incident. The Medical Director or his/her designee is responsible for the initial contacts and collection of information.

c. Fact finding activities will include contact with the complainant for additional information as necessary and telephone or personal contact with EMS Provider involved.

d. The EMS Provider will be informed of the specific complaint and the individual or organization that brought the problem to the attention of the Medical Director.

e. The EMS Provider will respond verbally, providing such information as necessary to clarify or resolve the issues. Written replies may be requested by the Medical Director or his/her designee and must be completed and submitted within 9 calendar days.

f. The Medical Director or his/her designee will then review the information and a report generated.

g. All reports will be classified as either **Educational** or **Disciplinary** issue.

1) An **Educational Issue** is one in which it is determined that the complaint/problem was created by a lack of understanding of academic foundation, Standard of Care, Medical Protocol(s), or System Policy(ies).

2) A **Disciplinary Issue** is one in which there is willful or repeated violation of a Standard of Care, Medical Protocol, or System Policy where the EMS Provider has the appropriate academic foundation and/or has received remedial education regarding the Standard, Protocol, or Policy.

2. RECONCILIATION PHASE

a. For **Educational Issues**, the EMS Provider involved will be notified by letter of the results of the fact-finding.

1) The letter will be sent to the Provider's home address.

2) The EMS Provider will be instructed to contact the Medical Director to arrange a meeting date and time.

3) If the EMS Provider fails to contact the Medical Director or his/her designee within five (5) days from the date the letter was mailed, the EMS Provider will be contacted by phone to verify receipt of the letter and to schedule the educational session.

4) The Medical Director or his/her designee will conduct the educational session within five days of the call.

5) Failure to respond to the letter and telephone contact or refusal to attend a scheduled educational session will be reported, verbally and in writing, to the EMS Provider's EMS Service Administrative Officer accompanied by a request for formal action by the EMS Service. This report will contain the

details of the complaint, the results of the fact-finding, and the documentation of contact with the EMS Provider.

b. In **Disciplinary Issues**, the Provider involved will be notified by letter of the results of the fact-finding.

1) The letter will be sent to the Provider's home address. A copy of that letter will be sent to the Provider's EMS Service Administrative Officer with a cover letter from the Medical Director requesting disciplinary action.

2) If a potential risk to public safety is alleged, the Medical Director retains the right to impose sanctions on the practice of any individual EMS Provider including limits on patient contact from the start of the fact-finding phase through the disciplinary action of the EMS Service.

c. Actions requested of the EMS Service Administrative Officer by the Medical Director may include but are not limited to:

1) No disciplinary action indicated.

2) Monitoring of performance for a specified period of time including specifics of who will do the monitoring and the evaluation tools that will be employed to monitor progress.

3) Counseling, including specific issues of concern, improvement expected and the evaluation process to be used to determine progress.

4) Written reprimand to the individual with copies to the EMS Service and the EMS Provider's file.

5) Probation with the specifics of the conditional terms under which the EMS Provider may continue to practice, the time of reviews, and the behavioral changes expected along with the evaluation tools to be used to monitor progress.

6) Suspension of particular EMS duties, the period of time suspension is to be enforced and the conditions for removal of suspension.

7) Withdrawal of Medical Control with notification to the EMS Service and the State of Wisconsin Bureau of EMS & Injury Prevention, EMS Section, that the Medical Director will no longer accept any medical responsibility for the actions of the individual.

3. CONSEQUENCES AND CONFIDENTIALITY

a. No action by the Medical Director and/or his/her designee is to be construed, implied, or meant to affect the individual EMS Provider's employment status, hourly wage, or future employability. The results of all phases are limited to the extent to which medical control will be extended to the EMS Provider. The consequences, as they relate to the EMS Provider's employment status are to be handled by the Provider's employer through established policy.

b. The Medical Director, maintaining the confidentiality of patient information and

that of the EMS Provider, will retain on file, records of complaints, results of the investigations, and the actions taken.

4. RIGHT TO APPEAL

   a. The decision of the Medical Director is final as far as his/her rights are concerned regarding provision of Medical Control to the EMS Provider. However, appeal of any decision may be handled through local policy and protocol if such procedures are established.

PHYSICIAN ON SCENE

(Other than Medical Control Physician at the scene)

In the event that a physician should be present at the scene, he or she may direct the EMT provided he or she accepts the following restrictions:

A. He or she must be a physician licensed to practice in the State of WI.

B. He or she must be willing to accept responsibility for the care of the patient until arrival at the hospital (i.e., must accompany the patient in the ambulance to the hospital).

C. He or she must be willing to accept the limitations of interventions which EMTs may perform, as outlined in Wisconsin Administrative Code, EMT-B Chapter HSS 110, EMT-1 Chapter HSS 111EMT-P Chapter HSS 112, and HSS 113 as modified by local protocols.

If these criteria are not acceptable to the physician on the scene, the EMT must seek medical control from one of the two Medical Control hospitals.

In the specific case of the patient who is being cared for by a specific physician in a nursing home, the EMT may accept orders conveyed to him or her directly by that physician via a telephone, again provided the physician is willing to accept the restrictions listed above, with the exception of provision in number B (i.e., must accompany the patient in the ambulance to the ER). These orders may cover directives regarding destinations on transfer and may also include orders to discontinue or withhold resuscitation. Any other orders that cover the spectrum of activities preformed by the EMT may only be given or approved by on-line medical control. Such incidents must be carefully documented in the ambulance run report form by the EMT, and all orders should subsequently be signed by that physician.

Further medical control may be obtained, if needed, from the Medical Control Physician at the Medical Control hospital.

MULTIPLE CASUALTY INCIDENT

GENERAL:

In the event that the service responds to the scene of multiple casualties (more than the service is able to care for, or as the result of a mutual aid response to another services request during an MCI event) each responding squad shall follow these general guidelines. Because every MCI event is unique, flexibility is required but overall the MCI command structure will be the guiding force behind deployment and patient care.

FIRST AMBULANCE TO ARRIVE ON SCENE:

1. Strategically park vehicle and stay in one place.
2. Establish command .
3. Size up and secure the scene.
4. Advise incoming units of:
   * Location, and type of incident.
   * Any hazardous conditions.
   * The command post location.
   * All routes of access to the scene.
   * The estimated number of patients.
5. **Establish and maintain communication with Medical Control Hospitals**.
6. Designate an EMT to perform **START** triage, tag and number multiple patients (immediate, delayed).
7. Order resources (fire, police, ambulances, air, buses, cranes, etc.).
8. Set up staging areas.
9. Coordinate access of responding units to the scene.
10. Assign patients to incoming ambulances.
11. Keep patient log indicating patient number, severity, treating and transporting units, and destination hospitals.
12. All protocols become standing orders.

Establish the following sectors and assign personnel to each or report to the appropriate sector if previously estalished:

TRIAGE SECTOR OFFICER

* START, Simple Triage and Rapid Treatment
* Estimates number and severity of patients
* Establishes tagging and extrication teams

* Reports progress & needs to command
* Move patients by priority to treatment sector

TREATMENT SECTOR OFFICER

* Limits access of non-essential personnel
* Establishes close to incident - if possible
* Triages patients on arrival
* Groups patients by priority (immediate and delayed)
* Limits medical care to urgent needs

TRANSPORTATION SECTOR OFFICER

* Establishes patient loading zone
* Establishes and operates a helicopter landing zone
* Requests personnel to function as a Medical Resource with the hospitals for the purpose of:
    * Ongoing identification of receiving hospitals' available resources
    * Assigning patients in treatment areas to transporting units by priority
    * Directing transporting units to the appropriate hospital based on available resource information
    * Communicating with the receiving hospital a brief description of transporting units, numbers of patients, brief patient report, and ETA
    * Maintaining a patient log and tracking patients
    * Maintaining a communications link with receiving hospitals
* Communicates with Medical Resource to identify receiving hospitals and tracks status
* Reports to command and hospitals when last patient has been transported

STAGING SECTOR OFFICER

* Establishes sector at a site remote from the incident to avoid "gridlocking" units
* Coordinates with police to block streets and other access routes
* Maintains log of units and inventory of all specialized equipment and medical supplies

PROTOCOL REVIEW

PURPOSE

The EMS Protocols under which the EMT and Service operates require regular review and modification to maintain currency with accepted standards of practice and to improve patient care. The following policy and procedure addresses the manner in which protocol changes are addressed and implemented.

POLICY

The patient care protocols will be reviewed at regular intervals with updates being published semi-annually. Protocols requiring immediate implementation will be published as determined by the Policy & Practice Committee. This committee is comprised of the Medical Director of the Service, the Service District and other designted personnel.

PROCEDURE

1. Any person may request a protocol review and suggest changes to it.
2. Protocol review requests will be made by submitting a written request for such review to the Policy & Practice Committee.
3. The protocol will first be reviewed by the Medical Director who will submit a recommendation(s) to the Policy & Practice Committee.
4. The protocol will then be reviewed at the next regularly scheduled Policy & Practice Committee where any changes, deletions, or modifications will be acted upon.
5. The protocol will then be given to the Medical Director for final approval.
6. If the protocol is not approved by the Medical Director it will return to the Policy & Practice Committee for further review.
7. If the protocol is approved by the Medical Director it will be implemented in the following manner:
    a. If it is determined that dissemination of the new protocol is time critical it will be made available to all EMTs via their regular mail. The protocol will be reviewed at the next regularly scheduled in-house training session. The protocol will become effective on the date of the in-house training session.
    b. If dissemination is not time critical it will be kept on file until the next semi-annual protocol update publication. It will be reviewed by the Policy & Practice Committee and will become effective at the time of publication.

LIGHTS AND SIREN TRANSPORTS

POLICY RECOMMENDATION

The emergency medical services (EMS) crew is responsible for the safe operation of an ambulance. There is a documented risk of crashes involving emergency vehicles resulting in excess injury and death to emergency personnel, patients, and bystanders. Because of this increased risk, it is recommended that the use of red lights and siren during transport should be minimized. Use of lights and siren transport (also referred to as "Code 3" or "Hot response") should be reserved for unstable medical conditions.

PATIENT CARE GOALS

- Identify patients for whom safe use of emergency lights and siren during transport can potentially reduce patient morbidity and mortality.
- Eliminate unnecessary use of emergency lights and siren during transport to improve patient comfort, reduce anxiety, and to enhance safety for the patient, the team and the community.

PROCEDURE

1. **Lights and Siren transport does <u>not</u> mandate traveling at dangerous or excessive speeds, or speeds above the legal posted speed limit**.
2. **Road type, traffic conditions, and weather conditions all must be considered when using lights and siren**. (For example, when driving on a highway, it may be safer to drive with the flow of traffic at normal highway speeds without lights and siren, instead of stimulating possibly erratic lane changes by using lights and siren.).
3. When using lights and sirens extreme caution must be taken when approaching an intersection even if a priority light control system is being used. **Ambulance must come to complete stop** before proceeding through an intersection when there is a possibility that cross traffic have a green light.
4. At the discretion of the ambulance crew, driving with lights and siren **<u>may be considered</u>** if the following clinical conditions or circumstances **exist if such use will significantly shorten delays associated in delivering the patient to definitive care**.
   a. Difficulty in sustaining the ABC's including (but not limited to):
      - Inability to establish an adequate airway or ventilation.
      - Severe respiratory distress or respiratory injury not responsive to available field treatment.
      - Acute coronary syndrome , impending or progressing cardiac event or a cardiac dysrhythmia which are unresponsive to available field treatment.

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- Severe, uncontrolled hemorrhage.
- Shock with altered mental status

b. Severe trauma including(but not limited to):

- Penetrating wounds to head, neck, and torso.
- Two or more proximal long bone fractures.
- Major amputations (proximal to wrist or ankle).
- Neurovascular compromise of an extremity.
- Multi-system trauma.

c. Severe neurological conditions including (but not limited to):

- Status epilepticus.
- Substantial or rapidly deteriorating level of consciousness.
- Rapid deterioration due to a suspected life threatening cerebral vascular accident (CVA/stroke).
- For a suspected CVA where a significant reduction of time to receive thrombolytic therapy can be achieved and the patient meets treatment inclusion criteria.

d. Obstetrical emergencies including (but not limited to):

- Prolapsed cord.
- Labor complications that threaten survival of the mother or fetus.
- Breech presentation.
- Arrested delivery (inability to complete delivery of a baby that is partially born).
- Suspected ruptured ectopic pregnancy.

e. Patients who pose a safety threat to themselves or the crew after reasonable attempts to control the situation have failed.

4. For any long distance transport (greater than 25 miles), where reducing time to definitive care is clinically indicated, consider options other than emergent driving. In these cases, an alternative mode of transportation or higher level of care (such as air-medical or critical care transfer) should be considered, if available, appropriate, and if it will not delay the arrival of the patient.
5. **Critical-care level interfacility patient transports should <u>not</u> automatically be handled as lights and siren events**. Clinical judgment and the patient criteria listed above should be applied on transfers to determine the level of urgency and transport mode.
6. When a physician or nurse attempts to order lights and siren transport for a patient, when it is believed by the crew to be contraindicated , attempt to resolve the issue with the ordering physician/nurse. If necessary, contact medical control to assist in resolving the issue.

7. Transport with lights and siren should be **avoided** in the following circumstances:
   a. Patients who present with a written and valid "Do Not Resuscitate" (DNR) order, confirmed by the patient's wishes and/or medical authority orders to withhold treatment.
   b. Interfacility transfers when the patient is being transported to a lower level of care.
   c. Transport of human organs, blood, or organ transplant teams. The possible exception would be a long distance inter-city transport of an organ or organ recipient , where the time frame for successful reimplantation is in jeopardy, and use of lights and siren would save a significant amount of time.
   d. Transport of an unsalvageable patient (including cardio-pulmonary arrests) even if treatment procedures are continued en route.
   e. Situations where the crew is requested to respond to another call while currently transporting a patient who does not warrant emergent transport.

8. Use of lights and sirens during transport must be documented in the patient care report and must indluce the patient's condition, case circumstances, and the rationale for choosing emergent transport.

REFUSAL OF TREATMENT

PURPOSE:

The guiding philosophy by the service is that all calls for assistance will have as their basic goal to provide immediate life saving care, stabilization, treatment, and transport of the patient. In the event that a patient refuses this care the following procedure will be followed. Such refusal may occur in one of three manners

1. Refusal of any or all care/transport in which the EMT and patient believe that a life threatening condition does not exist. This is known as refusal of care. (ROC)
2. Refusal of any or all care/transport in which the EMT believes that a significant potential exists for a life threatening condition. This is known as refusing against medical advice (AMA).
3. Refusal of transport after treatment has been rendered in which both patient and EMT believe that a life threat does not exist and that the patient does not require transport. This is known as treat and release (T&R)

Note: Never advise against seeking medical evaluation

PROCEDURE:

1. All patients will be approached and offered EMS assistance.
2. In the event that at some time during the encounter the patient refuses treatment the following information must be documented
   a. Name and basic demographic information (DOB, address) regarding the patient
   b. The mechanism of injury or nature of the patient's complaint (if any)
   b. Any form of treatment that has been rendered.
   c. One set of Vital Signs to include BP, pulse, RR, Oxygen saturations, LOC (or documentation of patient's refusal to allow such evaluation.

Refusal of Care (ROC)

1. The Refusal of Care form will be used to document the refusal of care of the patient who is felt by the EMT and the patient not to have a life threatening condition or need for transport.
2. The patient must sign the ROC form and it must be witnessed and signed by the EMT.
3. A copy of the form must be provided to the patient.

Against Medical Advice (AMA)

1. Any patient whom the EMT suspects may have a potentially life threatening condition for which the patient refuses care must be deemed competent to make such a decision.
2. The AMA medical clearance form must be completed.
3. Medical Control must be contacted for consultation regarding any patient who is deemed

not competent to refuse care. Medical control may give permission to release the patient or request Law Enforcement intervention.

4. Any patient for whom any of the following apply who refuses care must have law enforcement involved.
   a. Danger to self or others.
   b. Deranged thought processes leading to letter (a) above.
   c. All suicide gestures or attempts.
   d. Any minor who has suffered a battery.
5. Informed refusal must be accomplished. This means the EMT or on-line medical control physician has fully outlined the possible risks and consequences of refusing further treatment or transport
6. The AMA form must be signed and witnessed by the signature of any of the following (in order or preference) and a copy of the form provided to the patient.
   a. A Law Enforcement Officer.
   b. A family member.
   c. Crew member.
7. The patient care report must be completed and the AMA form attached to it. Documentation must be made regarding all facets of the patient's condition including suspected injury/illness, reasons given for signing AMA, determination of competency, details of informed refusal and possible consequences of such refusal, offer of further assistance if desired, disposition of patient (into who's custody).

Treat and Release (T&R)

1. The Treat and Release form must be completed for all patients provided care/treatment at the scene and felt by both the patient and the EMT not to require transportation to the hospital. It must include
   a. Summary of the event, injury, illness
   b. Treatment rendered
   c. Aftercare instructions, if any, given to the patient
2. Any vital signs which fall outside the normal range require Medical Control contact for consultation.
3. The Treat and Release form must be signed by the patient or their representative and witnessed by the EMT. A copy of the form must be given to the patient.

Minors

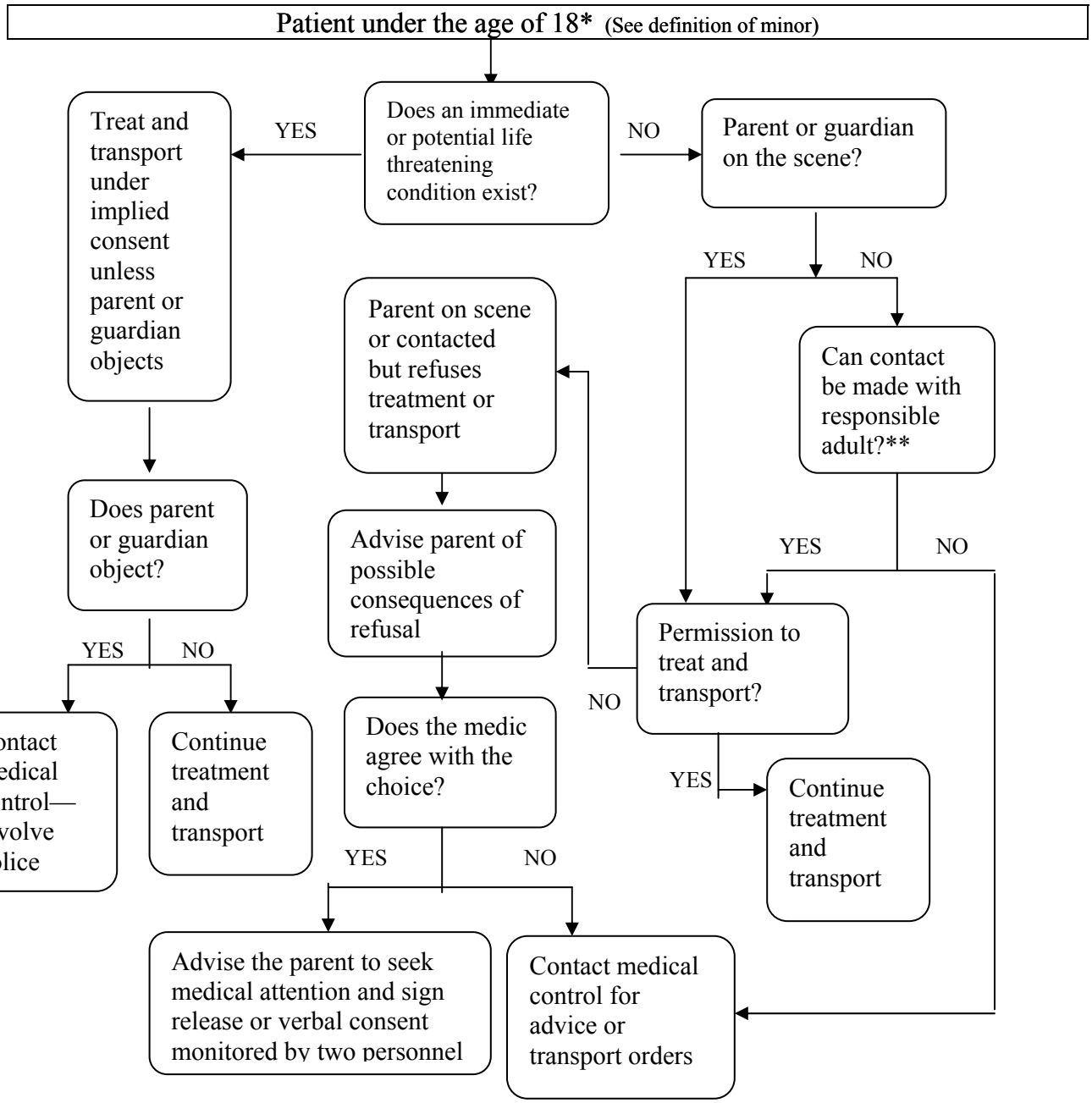
1. Strictly speaking, persons under the age of 18 are not considered legally capable, and therefore cannot refuse care. Clear legal exception include;
   a. Minor is emancipated

b. Minor is married

c. Minor is in armed forces

2. However, common sense must be used when dealing with minors who appear to be reasonable and competent.
3. The minor encounter decision tree will be used to determine whether it is prudent to release the minor from care.
4. It is reasonable to make contact by phone with the minors legal guardian to obtain permission to release the minor. The name, phone number, and address of the person contacted must be documented in the Refusal of Care, Treat and Release, and/or Patient Care report.

DECISION TREE FOR THE TRANSPORT OF MINORS BY EMS



*A minor is any person under the age of 18 unless:

1. Minor is married.
2. The minor has been legally emancipated by the court and can provide documentation of such.
3. Minor is in the armed forces.
4. The above circumstances are a simplification of the laws concerning emancipated minors. When in doubt concerning the ability of a minor to consent for care, contact a medical control physician.

**A babysitter or relative can consent for emergency medical care if he/she was entrusted with the minor's care by the parent or guardian.	For any doubt about the refusal or permission to transport, contact medical control for advice.

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Adopted: 3/08
Reviewed:
Revised:

RESTRAINT USE

PURPOSE:

To provide guidance and criteria for the use of physical restraint of patients during care and transport.

DEFINITION:

Any mechanism used to physically confine a patient. This includes, but is not limited to: soft composite dressing, tape, leathers or hand cuffs wrapped and secured at the wrist and/or ankles and/or chest or lower extremities.

POLICY / PROCEDURE

A. If EMS personnel judge it necessary to restrain a patient to protect him/her self from injury, or to protect others (bystanders or EMS personnel) from injury:
   1. Document the events leading up to the need for restraint use in the patient record.
   2. Document the method of restraint and the position of restraint in the patient record.
   3. Document the reason for restraining the patient.
   4. In the event that the patient spits, the rescuer may place over the patient's mouth and nose a surgical mask or an oxygen mask that is connected to high flow oxygen.

B. Inform patient of the reason for restraint.

C. Restrain patients in a manner that does not impair circulation or cause choking or aspiration. **DO NOT restrain patients in the prone position (face down)**. Prone restraint has the potential to impair the patient's ability to breathe adequately. Police officers are trained in restraining violent individuals safely. Utilize the police on the scene in deciding the appropriate restraint technique to maximize the safety of the rescuers and the patient.

D. As soon as possible, attempt to remove any potentially dangerous items (belts, shoes, sharp objects, weapons) prior to restraint. Any weapons or contraband (drugs, drug paraphernalia) shall be turned over to a Law Enforcement Officer.

E. Assess the patient's circulation (checking pulses in the feet and wrists) every 5-10 minutes while the patient is restrained. If circulation is impaired, adjust or loosen restraints as needed. Document the presence of pulses in each extremity and the patient's ability to breathe after restraint is accomplished. Be prepared to turn the patient to facilitate clearance of the airway while also having suction devices readily available.

F. Inform hospital personnel who assume responsibility for the patient's care at the hospital of the reason for restraining the patient.

G. The EMT at his discretion may request that law enforcement accompany and or follow the patient to the hospital. **Any patient restrained in handcuffs shall have law enforcement accompany the patient in the patient compartment or follow the ambulance.**

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TERMINATION OF RESUSCITATION

PURPOSE

Cardio-respiratory arrest has a low survival rate in the best of circumstances. This policy provides guidance for termination of or withholding resuscitation.

GUIDELINES

1. Most pulseless nonbreathing patients should have full resuscitative efforts, consisting of CPR, defibrillation when applicable, Advanced Life Support, and transport to the hospital.
2.. Emergency Medical Technicians will not withhold or terminate resuscitation without a direct order from a Medical Control physician, the patient's private physician, or other recognized physician. The ordering physician must assume responsibility for this order.
3. Situations when withholding or discontinuing resuscitation should be considered are listed below:
   A. The patient's personal physician is available in person or by telephone, and personally directs the rescuers to withhold or terminate resuscitation, based on his or her knowledge of the patient's medical condition.
   B The patient has an unwitnessed cardiac arrest with suspected downtime >15 minutes, and the presenting rhythm is asystole, regardless of presence of CPR or air management**.**
   C. Patients who after an airway has been established and have received a full round of ACLS therapy remain in asystole regardless of the presenting rhythm.
   D. The patient has cardiac arrest due to severe blunt trauma and has no clinical signs of life.
   E. Other conditions as determined by a Medical Control physician.
   F. Circumstances during which performance of CPR is not physically possible or could result in injury to rescuers.
4. Resuscitation attempts may be withheld (or discontinued if started) without direct communication with a physician in any of the following situations:
   A. A patient with obvious signs of death such as rigor mortis, dependent lividity, decomposition, decapitation, or a transected torso.
   B. Provision of written documentation, by either the family, guardian, or attendant staff, that the patient, or his or her appropriate legal representative, has indicated that the patient does not wish to be resuscitated in the event of cardiopulmonary arrest. Such documentation may include:
      1) A signed order from a physician.
      2) A properly executed “Living Will”.

3) A properly executed "Durable Power of Attorney for Health Care". In this case, only the individual named as holding Power of Attorney may request discontinuation of resuscitation.

4) Any other form or device for conveying the patient's advance directive that has been recognized by the State of Wisconsin and that has been properly executed.

PROCEDURE

1. Upon arrival at the scene of a patient in cardiac arrest, the crew should begin CPR. (This is not necessary in cases of obvious death such as decomposition, decapitation, or transected torso.)
2. Obtain history from the family or bystanders.
3. Perform physical assessment of the patient including the documentation of asystole. This step may be omitted in cases of obvious death as listed in step 1.
4. The EMT in charge of the case should contact Medical Control, describing the facts of the case and the cardiac rhythm. After evaluating the patient's history and assessment information, the physician may decide to order the resuscitation stopped.
5. If resuscitative efforts are stopped, request the Communications Center to notify law enforcement and/or the Coroner. At lease one crew member should remain at the scene until relieved by a law enforcement officer or the Coroner.
6. Leave all supplies used, electrodes, and airway devices on patient unless instructed by coroner to do otherwise.
7. Provide support to family members as needed until law enforcement or others can assume this role.
8. Document fully in the Patient Care Record the events leading to the decision to withhold or terminate resuscitation.

INTER-FACILITY TRANSPORT

PURPOSE

This policy sets the scope of practice for interfacility transports provided by the service. It also sets the crewmember composition for various anticipated patient scenarios. It is ultimately the responsibility of the referring and receiving physicians, in consultation with the service medical director (when appropriate), to assess the transport needs of each patient and utilize the most appropriate means available to provide quality patient care..

GUIDELINES

1. The inter-facility transport of an acutely ill or injured patient is the ultimate responsibility of the transferring physician and facility.
2. They must assure that the transporting staffs are well informed as to the procedures, dosages of medications and precautions necessary for each patient they are transporting.
3. It must be assured that the transporting staff is not being asked to exceed their capabilities, scope of practice or put into a transfer situation in which they do not feel comfortable or lack the training to handle.
4. The transport staff has the right to decline any such transport so that more appropriate staffing methods can be arranged.
5. There is no responsibility by EMS to affect an interfacility transport if in so doing their primary coverage area would suffer from lack of resources.

PATIENT CARE

1. Each patent should receive special attention to their comfort issues such as sensitivity to hot/cold, extremity support, torso support, privacy and other issues as they might arise.
2. Each patient should be treated with the utmost respect and accommodation. Patients often request something to drink; Beverages such as water or soft drink may be administered to the patient but only with the prior approval of the transferring facility.
3. If any situation were to occur that does not fit the specified procedures or the standard protocols, contact will be made with the transferring facility/physician or the medical director
4. Each patient shall have a full assessment made prior to initiating transport. This assessment shall include
    a. The reason for transport
    b. Pertinent history and physical including vital signs
    c. Standing orders provided by the transferring physician
    d. Repeat vital signs at regular intervals dependent on the patient's conditions
5. Medications and therapies may only be performed that are within the scope of practice of the attendant EMTs as prescribed by the state of Wisconsin.

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6. In the event that the patient is receiving a medication not listed in these protocols appropriate education regarding this medication must be obtained prior to transport.
7. The Medical Director or his designee will provide this education and documentation of the same provided to DHFS upon their request and the Medical Director made aware of the occurrence.
8. Crews should have the pertinent information as to dosage, indications, contra-indications and action clearly specified.

MEDICAL CONTROL

1. All transfers must establish the physician who is accepting medical control for each transferred patient prior to transport.
2. If the transferring physician is unwilling to be readily available during the duration of the transport, then the transferring physician may agree to transfer this responsibility to the receiving physician. If this occurs the receiving physician shall be contacted prior to commencing the transport.
3. Documentation of medical control authority will be made in the Patient Care Record.

SCOPE OF PRACTICE

Once a request is made of the service to provide an interfacility transport a checklist will be used to determine the patient's condition, medications being administered, medical equipment required, and anticipated needs of the patient. The crew will then use the following scope of practice to determine;

1. Can care of the patient be provided by service within this scope of practice?

2. What crew composition is required to facilitate this transport?

In addition to the standard scope of practice of each provider as approved by state statute the following skills and medications may be provided for the given providers upon approval of the service medical director, the successful completion of additional training and education, and the approval of the state.

Prohibited Procedures and Patients

- Intracranial monitoring device
- Fibrinolytic initiation
- Intra-aortic balloon pumps or other ventricular assist device
- Neonates requiring isolet transport – unless neonatal resuscitation team is in patient compartment.
- Barriatric patients who can not be safely restrained in the patient compartment
- Orthopedic hardware which prohibits safely restraining the patient during transport
- High Risk OB patients where breech presentation is suspected

Section 1: Basic Life Support Interfacility Transport

I. Required minimum staffing is 1 EMT Basic in patient compartment.

- All patients with stable vital signs. The need for advanced life support is not anticipated.
- Patient is breathing spontaneously with airway management limited to supplemental oxygen and suctioning.
- May have saline lock but no running I.V. fluids

Section 2: Advanced Life Support Interfacility Transport

I. Required minimum staffing is **1 EMT-Paramedic in patient compartment**.

- CPAP
- Patient on home ventilator
- Any of the following medications begun at the transferring facility
    - Insulin infusion
    - Heparin infusion
    - Manitol infusion
    - Blood, blood products, Hetastarch, albumin, or other volume expanders (may only continue what is hanging. May NOT hang new blood or products)
    - PCA pumps
    - Antibiotics
    - Potassium infusion
- Central line maintenance and fluid administration
- Arterial line maintenance with pressure bag (no monitoring)
- No more than 1 vasoactive drip medication*

II. Required minimum staffing **2 EMT-Paramedics in patient compartment** (a CCEN or TNCC certified nurse may be substituted for 1 EMT-Paramedic by the transferring facility and upon approval of the service medical director).

- Intubated patient (includes non-visualized airways)
    - If hospital ventilator used then respiratory therapist must accompany patient
- External pacing
- Chest tube maintenance
- ACLS medications anticipated (high risk for arrest)
- TPA administration or administered within 1 hour of transport
- 2 or more vasoactive drip medications*

*Vasoactive medications include but are not limited to the following

- Nitroglycerin
- Nitroprusside
- Dopamine
- Dobutamine
- Isoproterenol
- Procainamide
- Magnesium Sulfate

III. Required minimum staffing is **1 EMT-Paramedic and OB Nurse (from transferring facility with capability to perform constant fetal monitoring).** The transferring physician must be of the opinion that fetal delivery is not imminent.
- High Risk OB. This includes but is not limited to OB patients greater than 20 weeks gestation with
    - Eclampsia
    - Pre-eclampsia
    - Placenta abruption
    - Placenta previa (with bleeding).
- Fetal Monitoring
- Administration of Tocolytics (to prevent labor)

DOCUMENTATION STANDARDS

PURPOSE:

To establish minimum documentation requirements so that each run report accurately reflects a patient's assessment, history, and the emergency medical care given to that patient.

POLICY:

Every run report will contain the following information:

1. **General Information**: Name of the provider, responding unit, call number, crew members' last names, call date, reason for call, location, destination, first responding units, monitoring MD/medical control operator, receiving RN/MD signature, patient (or parent/guardian) signature if treatment or transportation is refused.
2. **Patient Information**: Patient name, address, age, birth date, sex, and personal physician
3. **Times**: Initial call, enroute, at scene, leave scene, and at destination.
4. **Chief Complaint**: Ideally in the patient's own words, what is their primary complaint? If the patient has none, write "none". If patient cannot give one, describe what the major problem appears to be, such as "unresponsive" or "cardiac arrest."
5. **History of Present Illness**: What events led up to the request for assistance? When did symptoms begin? What was the patient doing when they began? Has anything the patient taken or done changed the complaint? If pain, describe severity, location, type, and radiation. Have there been any previous episodes? Has there been any loss of consciousness? If pregnant, include pregnancy number and due date. Use direct quotes when documenting drug or alcohol use.

   (or)

   History of Present Injury: What events led up to the request for assistance? What is the mechanism of injury? When did it occur? Include information on speed, accident type, vehicle damage, ejection, entrapment or loss of consciousness. Was safety equipment such as seatbelts, helmets, air bags, or car seats used? Attach instamatic photo if available.
6. **Past Medical History**: List pertinent history, especially heart and lung disease, diabetes, stroke, seizures, recent surgeries, psychological problems, communicable diseases, and DNR/DNI status.
7. **Allergies**: List allergies; especially drug, and food or insect if pertinent to call.
8. **Medications**: Document all current medications and when last taken, if pertinent. *If patient denies any of the above, write "none" or if unknown, write "unknown".* It is permissible to document "see list" if the list of medications is attached to the chart and contains a patient identifying sticker.
9. **Physical Exam**: How was the patient found (positioning/obvious distress)? What was initial level of consciousness (AVPU)? Was patient oriented to person, place, and time? Document assessment of airway, breathing (dyspnea, lung sounds, JVD, 02 sats), and circulation (pulses, skin color/temp, bleeding, capillary refill). Document findings of head-to-toe exam, including wounds, deformity, tenderness, edema, pupils, incontinence, and CMS findings

before and after treatment. Include pertinent negatives. Include Glasgow Coma Scale (GCS). If chart is not on form, then document: GCS=12 (E-3, V-4, M-5). If newborn, include one and five-minute APGARs.

10. **Treatment**: Document all treatment administered. The following treatments/assessments have specific documentation requirements:

    A Oxygen: liter flow and route. Example: "NRB mask at 15 lpm".

    B. I.V.: time, fluid type and size, needle gauge, location, drip rate, amount infused. Example: "16:04 - IV 500 cc NS, 18 g. to ® antecubital, 250 cc fluid challenge, then TKO".

    C. ECG -3 and 12 lead (ALS): rhythm interpretation, rate, ectopy, and injury patterns. Example: "ECG - sinus tach at 120/min w/ 1-2 unifocal PVCs/min. with inferior injury". Attach ECG sample to run report and leave with patient in ER. ECG -3 and 12 lead (BLS): attach strip only, do not interpret rhythms.

    D. Medications: time, name, dosage, route, initials of person who administered, and SO (standing order) or VO (verbal order). Example: "15:48 - lidocaine 75 mg IV (SO

    E. Advanced airway: type, size, and evaluation. Example: "Intubated with Combitube, ventilated through #1 port, good bilateral chest rise/lung sounds, absent stomach sounds, passed NG tube through port #2 with release of stomach air". Confirm and document airway placement before entering ED.

    F. Defibrillation: time and joules. Example: "18:10 - Defib at 200 J."

    G. MAST: time and sections inflated. Example: "4:26 – MAST applied, both legs inflated".

    H. For signs/symptoms suggestive of stroke, complete the Cincinnati Prehospital Stroke Scale and document the findings and time of onset on the run sheet.

11. **Response/Transport**: How did the patient respond to any treatment given? Were there any changes in the patient's condition enroute? How was the patient transported to the hospital (routinely or RLS, and whether stretcher was used)?

12. **Vital signs**: One complete set of vital signs every 15 minutes on each patient, including time, BP, pulse, respirations, and O2 sats. More are required if patient is unstable (q. 5 min.), or receives medication or treatment that indicates the need to reassess more frequently. Most patients should have two complete sets of vital signs obtained on them before arrival to the hospital unless patient contact is < 10 min. If unable to obtain, document why.

13. **Rationale for allowing the patient to be transported BLS, if first evaluated by ALS.**

14. **Impression**: What is the provider's impression of what is wrong with the patient?

15. **Signatures**: Each run report must be signed by the person who wrote it. An EMT or paramedic may write BLS run reports. A paramedic or EMT-Intermediate must write ALS run reports. If the patient is transported, the receiving RN or MD must sign the form. If the patient refuses treatment or transport, they must sign a refusal statement. Document any instructions given to the patient. If patient is a minor, a parent or guardian must sign the form. If the patient refuses treatment/transport and also refuses to sign, then write "refused" in the box and have someone who witnessed the refusal co-sign the form.

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SPECIAL NOTES:

1. All information obtained during the course of patient care delivery is confidential.
2. A run report must be filled out each time an EMS provider offers or provides service to a patient. The only exception to this is a mass casualty incident.
3. Complete one run report for each patient; e.g. mothers and newborns must each have separate run reports.
4. In severe trauma, where scene times are delayed longer than 10 minutes, document reasons for extended scene times, i.e. extrication or unsecured scene.
5. All reports should be written in black or typed/printed.
6. Correct errors by drawing one line through the incorrect item and initialing by it. Example: "Administered 4 mg ~~morphine~~TG Narcan IV push."
7. Any suspicious situation regarding child/elder neglect/abuse must be reported, according to Wisconsin State Law, to a licensed peace officer or child protection officer.

ASHLAND/BAYFIELD COUNTY

QUALITY IMPROVEMENT

RUN REVIEW

PURPOSE:

High acuity runs shall be reviewed by the Medical Director and discussed at regularly scheduled audit and review sessions. Discrepancies in care will be reviewed with the crew involved pursuant to the Due Process Policy.

PROCEDURE:

The following run types will have their associated Patient Care Record provided to the Medical Director within 24 hour of their occurrence.

1. Cardiac Arrest
2. Termination of Resuscitation
3. Basic and Advanced Airway Management
4. CPAP use
5. Level One Trauma
6. Intercepts requested
7. Treat and Release
8. Against Medical Advice
9. Interfacility Transports
10. Any call of concern by the EMT requesting review

AUDIT AND REVIEW

PURPOSE:

To enhance the education of the service EMTs selected runs will be reviewed in a general session of the squad by the medical director or his designee on a regular basis.

PROCEDURE:

1. The mandatory reporting runs from run review will be discussed
2. Selected cases will be reviewed
3. A summary of the audit and review session will be produced by the medical director to include specific guidance to the squad for the care of similar patients in the future.

QUALITY IMPROVEMENT REPORTING

PURPOSE

To ensure quality patient care the following procedure will be followed to track the acuity level and performance of the service and its personnel.

PROCEDURE

The following information, provided by the administration of the Chippewa Fire District will be reviewed on an ongoing basis by the services Medical Director. Reports will be provided to the Chippewa Fire District's Board of Director's on a quarterly and annual basis.

Service Acuity

This report will track the activity level of the service in general and will consist of;

Demographics
This will tabulate the types of patients transported and will be broken down as follows with subtotals by station:

D1: Age
- <5 years
- 5-15 years
- 16-21 years
- 22-55 years
- 56-75 years
- 76> years

D2: Sex
- Number of Males
- Number of Females
- 0ther/Unknown

D3: Race
- Number of White
- Number of Black
- Number of Hispanic
- Number of Other

V1: Total number of calls for the service.

V2: Time of day calls occurred by total number and percentage of overall number
- 0001-0400
- 0401-0800
- 0801-1200
- 1201-1600
- 1601-2000

2001-2400

V3: Call Types (Use those listed in WARDS)
a. Response to scene (911)
b. Treat and Release
c. Treatment Refused
d. Against Medical Advice
e. Interficility Transport

V5: Times - reported as average, 90% fractile, subtotaled by each call type
Dispatch Time: 911 call receipt to dispatch
Response Time: Tone out to scene arrival
Scene Time: Patient contact to transport from scene
Transport Time: Transport from scene to destination

Provider Impression (Based on latest version of WARDS)
Total numbers of each type of call

T1: Trauma
Total Number
Breakdown by Cause of Injury List

T2: Medical
Total Number
Breakdown by Provider Impression List

Skills Performed (Based on latest version of WARDS)
Total number of times the following skills are utilized

Medications Usage (Based on latest version of WARDS)
Total number of administrations of each medication

EMT Focused Reporting

Types of Calls/EMT
Total numbers of each type listed above in Call Types
Listed by provider impression.

Skills/EMT (Use latest list of procedures in WARDS)
Total number of times each skill (listed above) is utilized by each EMT
Success rate for each EMT for the following skills:
Non-visualized Airway
Endotracheal Intubation
Nasotracheal Intubation

Peripheral IV
External Jugular IV
Intraosseous Infusion

Medications/EMT
Total number of times each medication (listed above) is administered by each EMT

ASHLAND/BAYFIELD COUNTY

REFERENCE SECTION

Reference 001 — Pediatric Drug Dosages

PEDIATRIC ALS CARE GUIDELINES: GENERAL DATA

APPROXIMATE NORMAL VALUES AND AIRWAY ADJUNCTS(Blood pressure, respiratory rate and heart rate usually increase with anxiety)

	Age[1]								
	< 1 wk	1 mo	6 mo	1 yr	2yr	3 yr	6 yr	10 yr	Teen
Weight (kg/lb)	3/6.6	4/9	7/15	10/22	12/26	14/30	20/44	35/77	40-70/90-155
Resp.rate/min	30–60	30–60	25–50	20–40	20–40	20–35	18–30	15–20	12–16
Spontaneous tidal volume (ml)	20	30	50	70	85	100	150	250	300-500
Heart rate/min	100–160	100–160	100–160	90–120	90–120	80–120	70–100	70–100	60–90
Minimum systolic blood pressure (mmHg)	> 50	> 60	> 60	> 70	> 70	> 75	> 80	> 85	> 90
Blood volume(ml)	240	320	560	800	1000	1100	1600	2800	3200-5600
Usual maintenance fluid rate (ml/hr)	12	15	30	40	45	50	60	75	80-100
ET tube size (mm)	3-3.5	3.5	3.5-4.0	4.0	4.5	4.5	5.0-5.5	6.0-6.5	7.0-8.0
ETT length: teeth/gum to mid trachea (cm)	10	11	12	13	14	15	15	17	19-22

MEDICATION DOSES FOR INFANTS AND CHILDREN (All drugs specified for the IV route can also be given IO)

Drug Category / Generic/Trade Name	Dose	Route	Dose range: 3 kg infant	Dose range: Maximum	Notes
Analgesics/Narcotics					
Morphine sulfate	0.05 mg/kg < 6 mo. Old	IV	0.15 mg		Do not give IM
	0.1 mg/kg ≥ 6 mo. old	IV		5 mg	Do not give IM
Anesthetics/sedatives					
Diazepam/Valium	0.1 mg/kg	IV	0.3 mg	10 mg	May repeat Q 10-15 min X 3 PRN
Anticonvulsants					
Diazepam/Valium	0.2 mg/kg	IV	0.6 mg	10 mg	Rapid infusion may cause respiratory depression. repeat Q 10-15 min X 3 PRN
	0.5 mg/kg	PR	1.5 mg	20 mg	Repeat in 10-15 min X 1 PRN
Lorazepam/Ativan	0.1 mg/kg	IV/PR	0.3 mg	4 mg	Repeat 0.05 mg/kg X 1 PRN
Bronchodilators					
Nebulizers:					
Albuterol (0.5%) /Ventolin	2.5 mg (0.5 ml)	inhalation			Mix with 3ml of normal saline in nebulizer
Epinephrine (1:1000)	3.0 mg (3 ml)	inhalation			Use undiluted in nebulizer
Ipratropium (0.02%)/Atrovent	0.5 mg (1 ml)	inhalation			Use undiluted in nebulizer
Subcutaneous:					
Epinephrine (1:1000)	0.01mg/kg (0.01ml/kg)	SQ	0.03 mg (0.03 ml)	0.5 mg (0.5 ml)	
Diuretics					
Bumetanide/Bumex	0.015 mg/kg	IV	0.045 mg	2 mg	
Furosemide/lasix	1 mg/kg	IV	3 mg	80 mg	
Mannitol (20% solution)	0. 5-1 g/kg (2.5-5 ml/kg)	IV	1.5-3 g (7.5-15 ml)	100 g (500 ml)	
Inotrope/Vasopressor infusions					
Dopamine (0.8 mg/ml solution)	2.5-20 mcg/kg/min	IV	Infusing at 3 ml/hr = 13.3 mcg/kg/min		To mix, see Note 2 below.
Epinephrine	0.05-2.0 mcg/kg/min	IV	1.8 mg in 100 ml NS @ 1 ml/hr = 0.1 mcg/kg/min		To mix, see Note 3 below.
Norepinephrine	0.05-1.0 mcg/kg/min	IV	1.8 mg in 100 ml NS @ 1 ml/hr = 0.1 mcg/kg/min		To mix, see Note 3 below.
Muscle relaxants (intubation)					
Rocuronium/Zemuron	0.6-1.2 mg/kg	IV	1.8-3.6 mg	100 mg	
Succinylcholine/Anectine	1.0-2.0 mg/kg	IV	6 mg	100 mg	Pretreat with atropine for possible bradycardia
Vecuronium/Norcuron	0.1-0.2 mg/kg	IV	0.3-0.6 mg	10 mg	
Narcotic reversal					
Naloxone/Narcan(full reversal)	0.1 mg/kg dose	IV	0.3 mg	2 mg	May titrate to respiratory rate with frequent doses of 1 mcg/kg (0.003 mg for 3 kg infant)
Resuscitation					
Emergency drugs:					
Atropine	0.02 mg/kg	IV	0.1 mg	1.0 mg	Minimum dose 0.1 mg
Calcium chloride (10%)	10-20 mg/kg (0.1-0.2 ml/kg)	IV	30-60 mg (0.3-0.6 ml)	1000 mg	Give slowly to avoid bradycardia
Dextrose (50%)	0.5 g/kg (1ml/kg)	IV	1.5 g	50 g	See note4 below.
Defibrillation	2 J/kg (1st shock)		6 J	200 J	2nd + addit'l shocks 4 J/kg
Epinephrine:					
1st dose (1:10,000)	0.01mg/kg (0.1 ml/kg)	IV	0.03 mg (0.3 ml)	1.0 mg (10 ml)	
1st ET dose (1:1000)	0.1 mg/kg (0.1 ml/kg)	ET	0.3 mg (0.1 ml)	10 mg (10 ml)	Dilute with 2 ml NS for instillation
2nd + addit'l doses (1:1000)	0.1 mg/kg (0.1 ml/kg)	IV	0.3 mg (0.1 ml)	10 mg (10 ml)	
Glucagon	0.1 mg/kg	IM,SQ,IV	0.3 mg	1 mg	
Sodium bicarbonate (1 meq/ml)	1 meq/kg (1 ml/kg)	IV	3 meq (3 ml)	50 mg (50 ml)	Infuse slowly
Anti-arrhythmics:					
Adenosine	0.1 mg/kg	IV	0.3 mg	6 mg	Rapid bolus. May repeat at 0.2 mg/kg (max 12 mg)
Amiodarone	5 mg/kg	IV	15 mg		Rapid bolus for VF, pulseless VT. Give slowly over 25-60 min for perfusing arrhythmias.
Lidocaine	1 mg/kg	IV	3 mg		Rapid bolus. May repeat at 0.5 mg/kg.

NOTES:

1. Color coding corresponds to the length-based Broselow™ Pediatric Emergency Tape, Rainbow Edition
2. Dopamine infusion using 0.8 mg/ml solution:
   Drug dose(mcg/kg/min) =13.3 x drip rate(ml/hr) / Wt(kg)
3. For epinephrine or norepinephrine infusion:
   Add 1 mg of drug to 100 ml of NS, then:
   Drug dose(mcg/kg/min) = 0.166 x drip rate(ml/hr) / Wt(kg)
4. $D_{50}W$: 1 ml/kg for children > 2 yr.
   $D_{25}W$: 2 ml/kg for infants, children < 2 yr.
   (dilute $D_{50}W$ 1:1 with sterile water)
   $D_{12.5}W$: 4 ml/kg for neonates < 28 days
   (dilute $D_{50}W$ 1:3 with sterile water)

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Adopted: 1/06
Reviewed: 3/08
Revised:

COMA SCALES

GLASGOW COMA SCALE	
Eye Opening Response	**Score**
Spontaneous - Already open with blinking	4
To Speech - Not necessary to request eye opening	3
To Pain - Stimulus should not be to the face	2
None - Make note if eyes are swollen shut	1
Verbal Response	
Oriented - Knows name, age, etc.	5
Confused conversation - Still answers all questions	4
Inappropriate Words - Speech is either exclamatory or at random	3
Incomprehensible sounds - Do not confuse with partial respiratory obstruction	2
None - Make note if patient is intubated	1
Best Upper Limb Motor Response (Pain applied to nailbed)	
Obeys - Moves limb to command; Pain is not required	6
Localizes - Changing the location of the painful stimulus causes the limb to follow	5
Withdraws - Pulls away from painful stimulus	4
Abnormal flexion - Decorticate posturing	3
Extensor response - Decerebrate posturing	2
No response	1

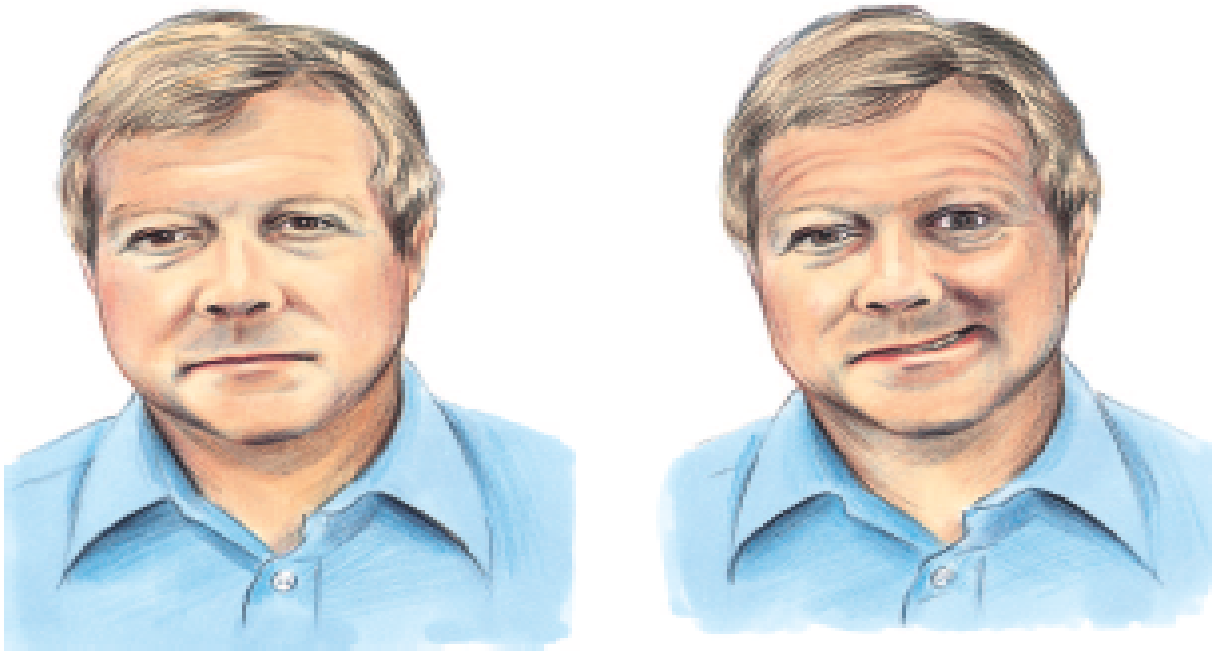
PEDIATRIC COMA SCALE	
Eye Opening Response	**Score**
ontaneous	4
To Speech	3
To Pain	2
No response	1
Choose one of the following 2 verbal responses based on age	
Best Response to Auditory/Visual Stimulus - Age < 2 years only	
Social smile to sound, follows object	5
Cries**,** consolable	4
Inappropriate, persistent cry	3
Agitated, restless	2
Best Verbal Response - Age > 2 years only	
Oriented	5
Confused	4
Inappropriate	3
Incomprehensible	2
None	1
Best Motor Response	
Spontaneous	6
Localizes pain	5
Withdraws to pain	4
Flexion to pain	3
Extension to pain	2
No response	1

TABLE 1. The Cincinnati Prehospital Stroke Scale

Facial Droop (have patient show teeth or smile):

- Normal—both sides of face move equally
- Abnormal—one side of face does not move as well as the other side

Left: normal. Right: stroke patient with facial droop (right side of face).
Kothari R, et al. *Acad Emerg Med.* 1997;4:986–990.



Arm Drift (patient closes eyes and holds both arms straight out for 10 seconds):

- Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful)
- Abnormal—one arm does not move or one arm drifts down compared with the other

Abnormal Speech (have the patient say "you can't teach an old dog new tricks"):

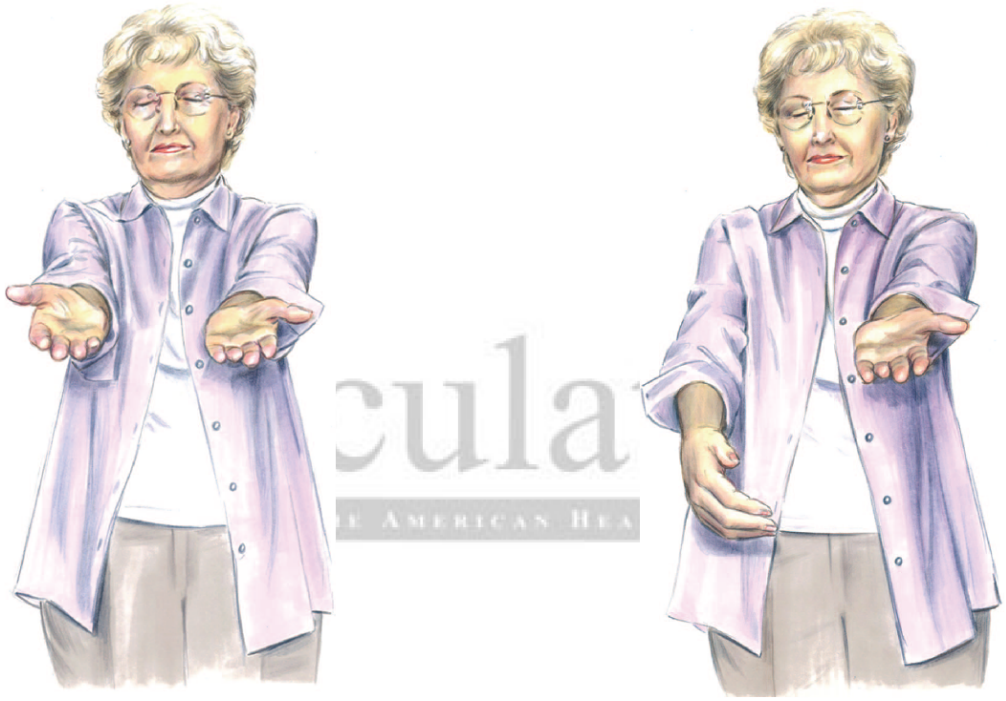
- Normal—patient uses correct words with no slurring
- Abnormal—patient slurs words, uses the wrong words, or is unable to speak

Interpretation: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.

TABLE 2. Los Angeles Prehospital Stroke Screen (LAPSS)

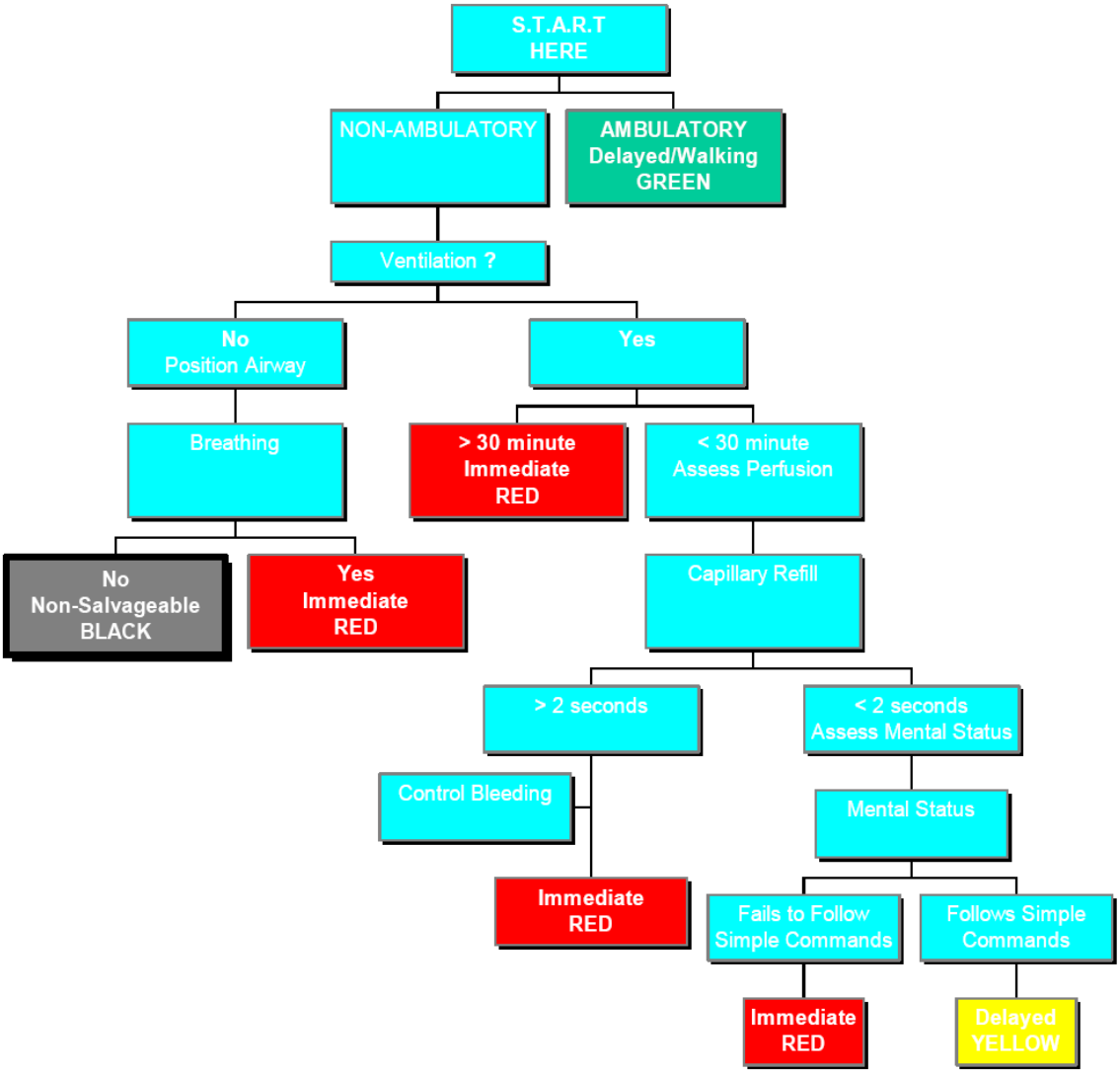
For evaluation of acute, noncomatose, nontraumatic neurologic complaint. If items 1 through 6 are all checked "Yes" (or "Unknown"), provide prearrival notification to hospital of potential stroke patient. If any item is checked "No," return to appropriate treatment protocol.
Interpretation: 93% of patients with stroke will have a positive LAPSS score (sensitivity=93%), and 97% of those with a positive LAPSS score will have a stroke (specificity=97%). Note that the patient may still be experiencing a stroke if LAPSS criteria are not met.

Criteria	Yes	Unknown	No
1. Age >45 years	☐	☐	☐
2. History of seizures or epilepsy absent	☐	☐	☐
3. Symptom duration <24 hours	☐	☐	☐
4. At baseline, patient is not wheelchair bound or bedridden	☐	☐	☐
5. Blood glucose between 60 and 400	☐	☐	☐
6. Obvious asymmetry (right vs left) in any of the following 3 exam categories (must be unilateral):	☐	☐	☐
	Equal	**R Weak**	**L Weak**
Facial smile/grimace	☐	☐ Droop	☐ Droop
Grip	☐	☐ Weak grip ☐ No grip	☐ Weak grip ☐ No grip
Arm strength	☐	☐ Drifts down ☐ Falls rapidly	☐ Drifts down ☐ Falls rapidly



One-sided motor weakness (right arm).

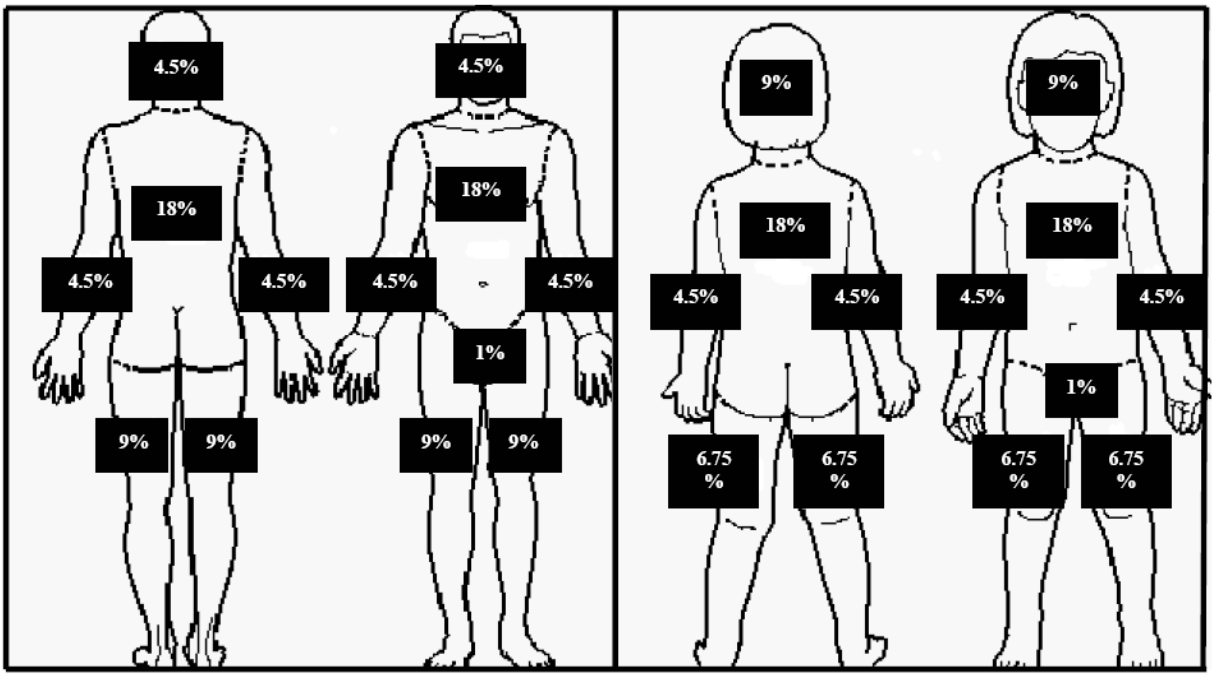
Reference 004 Start Triage



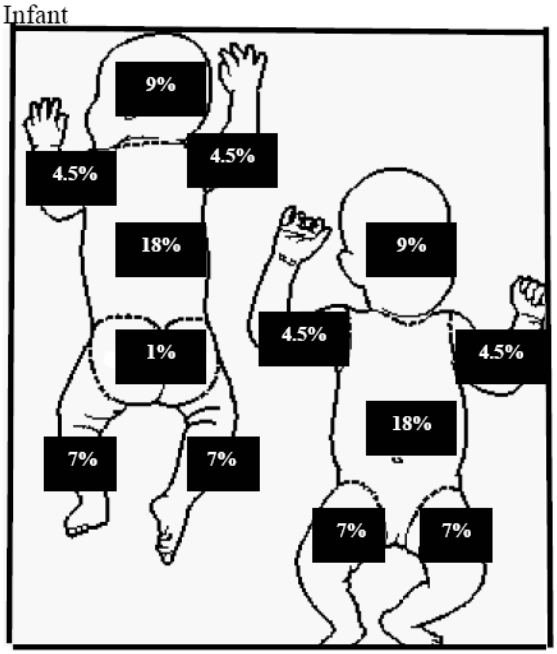
BURN CHART

(Note: only 2° & 3° burns are counted)

Adult **Child**



Infant



PARKLAND FORMULA*
(IV fluids for first 8 hours)

$$\frac{\text{\% Burn Area x Pt Wt. in Kg}}{4} = \text{cc/hr}$$

Example: 20% TBSA; patient weight - 70 kg:

$$\frac{20 \times 70}{4} = \frac{1400}{4} = 350 \text{ cc/hr NS}$$

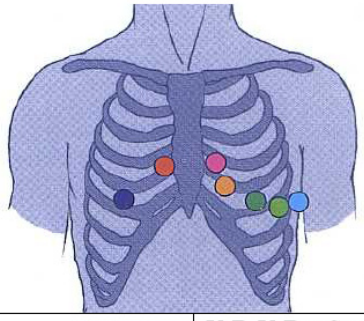
This formula does not apply to patients in shock. The patient in shock needs more aggressive IV fluid replacement.

THE PATIENT'S PALM EQUALS APPROXIMATELY 1% OF THEIR TOTAL BODY SURFACE AREA.

12 Lead ECG

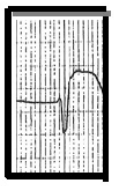
SYSTEMATIC APPROACH

1) RATE, RHYTHM, R TO R
2) PLACE ELECTRODES

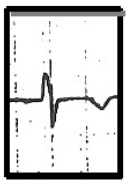


V_1 = 4th ICS right of sternum	**V_4R-V_6R** = Same positioning as V_4-V_6 only **RIGHT** side
V2 = 4th ICS left of sternum	**LIMB LEADS:**
V3 = Between V2 and V4	**Right Arm (RA)** = Right forearm
V4 = 5th ICS at left midclavicular line	**Right Leg (RL)** = Right calf
V5 = Level with V4 at left anterior axillary line	**Left Arm (LA)** = Left forearm
V6 = Level with V4 at left midaxillary line	**Left Leg (LL)** = Left calf

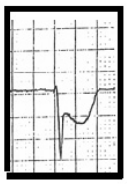
3) FIND INJURY PATTERNS



ST Elevation

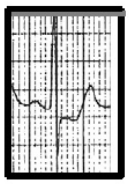


Flipped T



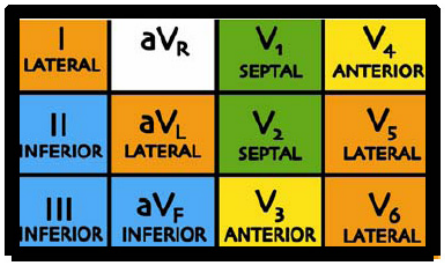
ST Depression

Q-wave



Posterior in V_1-V_2

4) IDENTIFY LOCATION



5) ARE THERE RECIPROCAL CHANGES?

Location	Arterial Supply	Injury / Ischemia changes in:	Reciprocal
Septal	LAD	$V_1 - V_2$	None
Anterior	LCA/LAD	V_3-V_4	Ll, lll, & AV_F
Inferior	RCA	ll, lll, AV_F	l, AV_L
Lateral	Circumflex	l, AV_L, V_5, V_6	V_1-V_3
Right Ventricle	RCA	V_4R, V_5R, V_6R	V_2-V_4
Posterior	RCA/Circumflex	None	V_1-V_2

6) IF INFERIOR MI-IS IT RIGHT SIDED?

Right Side MI:

A. Inferior MI on standard 12-Lead ECG
B. ST ↑ > in lead lll than in ll
C. ST ↑ in V_1 (could go through V_6)
D. ST ↓ in V_2 (less than ½ ↑ in AVF)
E. ST ↑ in V_4R –V_6R

7) **IF INFERIOR MI- IS IT POSTERIOR?**

Posterior MI:

A. Inferior MI on Standard 12-Lead ECG
B. Tall & wide R-wave in V_1 & V_2
C. ST↓ with upright T wave in V_1 & V_2

ACCEPTED ABBREVIATIONS

↑	increase(d)
Ø	None
↓	decrease(d)
≈	approximately
#	pound
Δ	Change
♂	Male
♀	Female
(L)	Left
@	At
(R)	Right
a	Before
1°, 2°, 3°	first degree, second degree, third degree
2x, 3x	2 times, 3 times, etc.
AAA	abdominal aortic aneurysm
A & O x 3	alert and oriented to person, place, time
A-fib	atrial fibrillation
A-flut	atrial flutter
A-tach	atrial tachycardia
AB	abortion, miscarriage
ABCs	airway, breathing, and circulation
ABD	Abdomen
AED	automatic external defibrillator
AMA	against medical advice
AMI	acute myocardial infarction
Amb	ambulance
amt.	Amount
ant.	Anterior
approx.	approximately
ASA	acetylsalicylic acid (aspirin)
ASAP	as soon as possible
ASHD	arteriosclerotic heart disease
ATV	automatic transport ventilator
AV	atrioventricular
BBB	bundle branch block
Bicarb	Bicarbonate
bilat.	Bilateral
BM	bowel movement
BP	blood pressure
brady	bradycardia
BS	blood sugar, breath sounds
BSI	body substance isolation
BVM	bag-valve mask
c	With

C-1, etc.	first cervical vertebrae
C/O	complaining of
Ca	Cancer
CC	chief complaint
cc	cubic centimeter
CHF	congestive heart failure
CHI	closed head injury
CMS	Circulation, movement, sensation
CNS	central nervous system
CO	carbon monoxide
c/o	complains of
CO2	carbon dioxide
COPD	chronic obstructive pulmonary disease
CPAP	Continuous positive airway pressure
CPR	cardiopulmonary resuscitation
CSF	cerebrospinal fluid
CVA	cerebrovascular accident (stroke)
D50W	50% dextrose in water
D5W	5% dextrose in water
DC	Discontinue
DNR	do not resuscitate
DOA	dead on arrival
DOB	date of birth
DTs	delirium tremens
Dx	Diagnosis
ECG	electrocardiogram
ED	emergency department
eg	for example
ENT	ear, nose and throat
ETT	endotracheal tube
ETOH	ethyl alcohol
exp.	Expiratory
extr.	Extremities
FBAO	foreign body airway obstruction
Fx	Fracture
G	gravida
GCS	glasgow coma scale
GI	gastrointestinal
GSW	gunshot wound
gtt	drops
Gyn	Gynecology
h/o	history of
H&P	history physical
HA	headache
HEENT	head, eyes, ears, nose and throat
Hep A	hepatitis A

Hep B	hepatitis B
Hep C	hepatitis C
HIV	human immunodeficiency virus
HPI	history of present illness/injury
HR	heart rate
HTN	Hypertension
Hx	History
IM	Intramuscular
ICD	intracardiac defibrillator
IM	intramuscular
IO	Intraosseous
IV	Intravenous
JVD	jugular vein distention
L-1, etc.	first lumbar vertebrae
Lac	Laceration
LLQ	left lower quadrant
LMP	last menstrual period
LOC	loss/level of consciousness
LS	lung sounds
LUQ	left upper quadrant
MAE	moves all extremities
MCA	motorcycle accident
Mcg	Microgram
MDI	metered dose inhaler
Meq	Milliequivalent
Mg	Milligram
MI	myocardial infarction
Mid	Middle
mg	1 mg (no trailing 0) 0.1 mg
ml	Milliliter
mm	Millimeter
mod	Moderate
MgSO4	Do not use – write Magnesium Sulfate
MS/MSO4	Do not use- write morphine sulfate
MVC	motor vehicle crash
N & V	nausea and vomiting
NAD	no acute distress
NaHCO3	sodium bicarbonate
neg./-	Negative
NGT	Nasogastric tube
NKA	no known allergies
NRB	non-rebreather mask
NS	normal saline
NSR	normal sinus rhythm
Ntg	Nitroglycerin
O2	Oxygen

O2 sat	oxygen saturation
OB	obstetrical
occ.	occasional
OD	overdose
p	after
P	pulse
p.o.	by mouth, orally
p.r.n.	as needed
PAC	premature atrial contraction
palp.	palpated, palpation
PCT	pneumatic compression trousers
PAT	paroxysmal atrial tachycardia
PE	physical exam, pulmonary embolism
ped.	pediatric
PEEP	positive end expiratory pressure
PERRL	pupils equal, round, react to light
PG	pregnant, pregnancy
PID	pelvic inflammatory disease
PMH	past medical history
PNB	pulseless, not breathing
pos./+	Positive
post.	Posterior
PSVT	paroxysmal supraventricular tachycardia
Pt.	Patient
PTCA	percutaneous transvenous coronary angioplasty
PVC	premature ventricular contraction
q.	Every
R	Respirations
R/O	rule out
RLQ	right lower quadrant
RLS	red lights and siren
ROM	range of motion
RR	respiratory rate
RSI	rapid sequence induction
RUQ	right upper quadrant
Rx	Treatment
s	Without
SBP	systolic blood pressure
SC	subcutaneous
S-brady	sinus bradycardia
S-tach	sinus tachycardia
SIDS	sudden infant death syndrome
SL	Sublingual
SO	standing order
SOB	shortness of breath
SPO2	oxygen saturation via pulse oximeter

SVT	supraventricular tachycardia
Sx	Symptoms
T	temperature
tach.	Tachycardia
TB	Tuberculosis
TBSA	total body surface area
TIA	transient ischemic attack
TKO	to keep open
TTA	trauma team activation
Tx	treatment
URI	upper respiratory infection
UTI	urinary tract infection
V-fib	ventricular fibrillation
V-tach	ventricular tachycardia
VO	verbal order
VS	vital signs
w/c	wheelchair
WNL	within normal limits
Y/O	year old

COMMONLY PRESCRIBED MEDICATIONS

(UPPER CASE = brand name; lower case = generic name)

Generic	Brand	Use
Acetaminophen; Butalbital; Caffeine	Americet	Analgesics, non-narcotic
Acetaminophen; Codeine	Tylenol with Codeine	Analgesics, narcotic
Acetaminophen; Hydrocodone	Anexsia	Analgesics, narcotic
Acetaminophen; Oxycodone	Endocet; Percocet-10/325	Analgesics, narcotic
Acetaminophen; Oxycodone	Oxycocet	Analgesics, narcotic
Acetaminophen; Propoxyphene-N	Darvocet A500	Analgesics, narcotic
Acetaminophen; Tramadol	Ultracet	Analgesics, non-narcotic
Acyclovir	Zovirax; Zovirax Topical	Antivirals,Herpes genitalis
Albuterol Aerosol	Proventil; Ventolin; Volmax; Vospire	Adrenergic agonists; Bronchodilators
Albuterol; Ipratropium	Combivent	Anticholinergics; Bronchodilators
Alendronate	Fosamax	Bisphosphonates,Osteoporosis
Allopurinol	Aloprim; Zyloprim	Antigout agents
Alprazolam	Xanax	Anxiety disorder
Amitriptyline	Elavil; Vanatrip	Depression
Amlodipine	Norvasc	Hypertension, Angina
Amlodipine; Benazepril	Lotrel	Hypertension
Amoxicillin	Amoxicot	Antibiotics, penicillins
Amoxicillin	Trimox	Antibiotics, penicillins
Amoxicillin	Amoxicot	Antibiotics, penicillins
Amoxicillin; Potassium Clavulanate	Augmentin	Anitbiotics, penicillins
Amphetamine; Dextroamphetamine	Adderall	Adrenergic agonists; Amphetamines;
Aspirin; Enteric-Coated	Entaprin	Analgesics, non-narcotic; Antipyretics
Atenolol	Tenormin	Antiadrenergics, beta blocking, HTN
Atomoxetine	Strattera	ADHD
Atorvastatin	Lipitor	Antihyperlipidemics
Azithromycin	Zithromax, Z-Pak	Antibiotics
Benazepril	Benazepril Hydrochloride	Antihypertension
Benzonatate	Tessalon	Cough
Bisoprolol; Hydrochlorothiazide	Ziac	Hypertension
Budesonide Nasal	Rhinocort	Rhinitis, allergic; Asthma
Buproprion Sustained-Release	Wellbutrin	Depression; Smoking cessation
Buspirone HCl	BuSpar	Anxiety disorder
Captopril	Capoten	Hypertension, Heart failure
Carisoprodol	Soma	Pain, musculoskeletal
Carvediol	Coreg	Hypertension, Heart failure
Cefdinir	Omnicef	Infection
Cefprozil	Cefzil	Infection
Celecoxib	Celebrex	Arthritis, osteoarthritis; Pain
Cephalexin	Keflex	Infection
Cetirizine	Zyrtec	Rhinitis, allergic; Urticaria

Chlorpheniramine Maleate; Hydrocodone	S-T Forte 2	Cough; Common cold
Ciprofloxacin	Cipro	Pneumonia; Infection
Ciprofloxacin HCl	Cipro	Pneumonia; Infection
Citalopram	Celexa	Depression
Clarithromycin Extended-Release	Biaxin	Pneumonia; Infection
Clindamycin Systemic	Cleocin HCl	Pneumonia; Acne vulgaris
Clonazepam	Klonopin	Seizures, absence; Panic disorder
Clonidine	Catapres	Hypertension; Pain, cancer
Clopidogrel	Plavix	Stroke; Myocardial infarction
Clotrimazole; Betamethasone	Lotrisone	Antifungals
Codeine; Promethazine	Codeine	Cough; Common cold
Cyclobenzaprine	Flexeril	Pain, musculoskeletal
Desloratadine	Clarinex	Rhinitis, allergic
Desogestrel; Ethinyl Estradiol	Apri	Contraception
Diazepam	Valium	Anxiety disorder
Diclofenac Sodium	Cataflam	Arthritis, osteoarthritis
Digoxin	Lanoxin	Heart failure; Fibrillation, atrial
Diltiazem CD	Cardizem	Hypertension
Divalproex Sodium	Depakote	Seizures
Donepezil	Aricept	Alzheimer's disease
Doxazosin	Cardura	Hypertension
Doxycycline	Adoxa	Acne vulgaris; Infection
Drospirenone; Ethinyl Estradiol	Yasmin	Contraception
Enalapril	Vasotec	Hypertension; Heart failure
Escitalopram	Lexapro	Depression
Esomeprazole	Nexium	Ulcer; Esophagitis
Estradiol Oral	Alora; Climara	Carcinoma, breast; Menopause
Estrogens; Conjugated	Cenestin	Menopause; Carcinoma, prostate
Estrogens; conjugated; Medroxyprogesterone	Premphase; Prempro	Menopause
Ethinyl Estradiol; Levonorgestrel	Alesse; Aviane	Contraception
Ethinyl Estradiol; Norelgestromin	Ortho Evra	Contraception
Ethinyl Estradiol; Norgestimate	Mononessa	Acne vulgaris; Contraception
Ezetimibe	Zetia	Hypercholesterolemia
Famotidine	Pepcid	Ulcer
Fenofibrate	Lipidil Supra	Hypercholesterolemia
Fentanyl Transdermal	Actiq	Anesthesia
Ferrous Sulfate	N/A	Anemia
Fexofenadine	Allegra	Rhinitis, allergic
Fluconazole	Diflucan	Candidiasis; Meningitis
Fluoxetine	Prozac	Panic disorder; Depression
Fluticasone	Flonase; Flovent	Rhinitis, allergic; Asthma
Fluticasone; Salmeterol	Advair Diskus	Asthma; COPD
Folic Acid	N/A	Anemia
Fosinopril	Monopril	Hypertension
Furosemide Oral	Lasix	

Gabapentin	Neurontin	Seizures
Gemfibrozil	Lopid	Hypercholesterolemia
Glimepiride	Amaryl	Diabetes mellitus
Glipizide	Glucotrol	Diabetes mellitus
Glyburide	DiaBeta; Glycron	Diabetes mellitus
Glyburide; Metformin	Glucovance	Diabetes mellitus
Human Insulin Isophane	Humulin R	Diabetes mellitus
Hydrochlorothiazide	Aquazide H	Hypertension
Hydroxyzine	Atarax; Hyzine	Anxiety; Urticaria
Ibuprofen	Advil; Motrin	Arthritis, osteoarthritis
Insulin Glargine	N/A	Diabetes mellitus
Insulin Lispro	Humalog	Diabetes mellitus
Irbesartan	Avapro	Hypertension
Isosorbide Mononitrate	Imdur	Angina pectoris
Lansoprazole	Prevacid	Ulcer; Esophagitis
Latanoprost	Xalatan	Glaucoma
Levofloxacin	Levaquin	Pneumonia
Levothyroxine	Eltroxin	Carcinoma
Lisinopril	Prinivil; Zestril	Hypertension
Lisinopril; Hydrochlorothiazide	Prinzide	Hypertension
Lorazepam	Ativan	Anxiety disorder
Losartan	Cozaar	Hypertension
Losartan; Hydrochlorothiazide	Hyzaar	Hypertension
Lovastatin	Altocor	Hypercholesterolemia
Meclizine HCl	Antivert	Motion sickness; Vertigo
Medroxyprogesterone Tablets	Depo-Provera	Carcinoma, renal; Contraception
Metaxalone	Skelaxin	Pain
Metformin	Glucophage	Diabetes mellitus
Methylphenidate	Ritalin	
Methylprednisolone Tablets	Solu-Medrol	Corticosteroids
Metoclopramide	Reglan	
Metoprolol Succinate	Lopressor	Hypertension; MI
Metronidazole Tablets	Flagyl	Pneumonia; Infection, bone
Minocycline	Arestin	Acne vulgaris; Infection
Mometasone Nasal	Nasonex	Rhinitis
Montelukast	Singulair	Rhinitis; Asthma
Mupirocin	Bactroban	Impetigo
Naproxen	Aflaxen; Anaprox	Arthritis, osteoarthritis; Pain
Nifedipine Extended-Release	Procardia	Hypertension; Angina
Nitrofurantoin	Macrobid	Infection, urinary tract
Nortriptyline	Aventyl HCl; Pamelor	Depression
Olanzapine	Zyprexa	Schizophrenia; Bipolar; Mania
Olopatadine	Patanol	Conjunctivitis
Omeprazole	Prilosec	Ulcer
Oxybutynin Chloride Extend-Release	Ditropan	Dysuria
Oxycodone	OxyContin	Pain
Pantoprazole	Protonix	Esophagitis

Paroxetine	Paxil	Anxiety
Penicillin VK		Infection
Phenazopyridine HCl	Eridium	Dysuria
Phenytoin Sodium Extended	Dilantin	Seizures
Pimecrolimus	Elidel	Dermatitis
Pioglitazone	Actos	Diabetes mellitus
Polyethylene Glycol 3350	N/A	Constipation
Potassium Chloride	Cena K	Hypokalemia
Pravastatin	Pravachol	Stroke; Hypercholesterolemia
Prednisone Oral	Deltasone	Arthritis
Promethazine Tablets	Adgan	Rhinitis
Propranolol HCl	Inderal	Hypertension
Quetiapine	Seroquel	Schizophrenia
Quinapril	Accupril	Hypertension
Rabeprazole	Aciphex	Ulcer; Esophagitis
Raloxifene	Evista	Osteoporosis
Ramipril	Altace	Hypertension; CHF
Ranitidine HCl	Zantac	Ulcer; Esophagitis
Risedronate	Actonel	Paget's disease
Risperidone	Risperdal	Schizophrenia; Bipolar; Mania
Rofecoxib	Vioxx	Arthritis, osteoarthritis
Rosiglitazone	Avandia	Diabetes mellitus
Sertraline	Zoloft	Panic disorder; Depression
Sildenafil	Viagra	Erectile dysfunction
Simvastatin	Zocor	Stroke; Hypercholesterolemia
Spironolactone	Aldactone	Hypertension
Sumatriptan Oral	Imitrex	Migraine
Tamsulosin	Flomax	Hyperplasia, benign prostatic
Temazepam	Restoril	Insomnia
Terazosin	Hytrin	Hypertension
Tizanidine HCl	Zanaflex	Spasticity
Tolterodine long-acting	Detrol	Incontinence
Topiramate	Topamax	Seizures
Tramadol	Ultram	Pain
Trazodone HCl	Desyrel	Depression
Triamcinolone Acetonide Nasal	Aristocort A	Rhinitis
Triamterene; Hydrochlorothiazide	Dyazide	Hypertension
Trimethoprim/Sulfa	Bactrim	UTI; Ear Infection
Valacyclovir	Valtrex	Herpes genitalis
Valdecoxib	Bextra	osteoarthritis
Valsartan	Diovan	Hypertension; CHF
Venlafaxine Extended-Release	Effexor	Anxiety disorder; Depression
Verapamil Sustained-Release	Calan	Arrhythmia, ventricular; HTN
Warfarin	Coumadin	Embolism, pulmonary; Arrhythmia
Zolpidem	Ambien	Insomnia

ASHLAND/BAYFIELD COUNTY EMS

FORMS

ASHLAND/BAYFIELD COUNTY
Against Medical Advice Form

Date:	DOB:	Sex: Male Female	Soc. Sec #
Pt. Name (Last, First, I)	Address		Phone #

Is the patient alert and oriented, answering questions appropriately?	**YES**	**NO**	***If no, contact MCP****
Has the patient been advised that refusal of treatment/transport may result in potential threat to life/limb?	**YES**	**NO**	***If no, advise the patient of such***
Does the patient express understanding of the risk of refusal of treatment and/or transport by EMS?	**YES**	**NO**	***If no, contact MCP****
Has the patient been offered the opportunity to call back at any time should he/she reconsider his/her refusal or if his/her condition changes?	**YES**	**NO**	***If no, advise the patient he/she may call back at any time***
Has the patient been consuming alcohol or using illegal drugs?	**YES**	**NO**	***If yes, contact MCP****
Has or does any potentially life/limb threatening condition exist (e.g. chest pain, shortness of breath, major trauma, large wounds, severe weakness, etc.)?	**YES**	**NO**	***If yes, contact MCP****
Is the patient a minor (<18 years of age)?	**YES**	**NO**	***If yes, see minor patient refusal decision tree***
Has the patient expressed suicidal or homicidal ideation or made a suicidal gesture or attempt?	**YES**	**NO**	***If yes, contact MCP* for restraint and/or Transport orders***

***MCP= Medical Control Physician**

I, _____(or guardian of minor) herby attest that I have been offered treatment and transportation to the hospital by NAME OF SERVICE; and that I voluntarily refuse such treatment and/or transportation.

Furthermore, I have been advised that, although trained professionals, evaluation by NAME OF SERVICE Service personnel is not a substitute for evaluation by a doctor and that such refusal may result in death or serious medical problems. I have been advised that medical attention is necessary; nevertheless, I refuse to accept treatment or transport and assume all risks and consequences of my decision. **I hereby understand that I may request assistance or transportation at any time in the future should I reconsider or should my condition change.**

The undersigned hereby agrees to release, save and hold harmless the NAME OF SERVICE and their Officers, employees and agents from and against any and all liability for the foreseeable consequences arising from my decision not to seek further medical care for my possible or suspected injuries.

_____	_____	_____
Patient/Relative Signature	Patient's Printed Name Relationship to Patient if Relative	Date/Time
_____	_____	_____
EMT Signature	EMT Printed Name	Date/Time
_____	_____	_____
Witness/Interpreter Signature	Witness/Interpreter Printed Name	Date/Time

Call 911 for Emergency Ambulance
Memorial Medical Center: 1615 Maple Lane, Ashland, WI **715-685-5500**

ASHLAND/BAYFIELD COUNTY EMS
Refusal of Care Form

On this date _____,

I, the undersigned do hereby declare that I did not request nor do I desire medical treatment or transport by NAME OF SERVICE. I further acknowledge that I was not coerced into signing this form and that I have been informed that should I later decide to seek medical attention I may call 911 for emergency medical assistance.

Name (printed)	Signature	Address	Phone number

Instructions to EMS: Have each person at scene who may have been the reason for EMS response to complete above information. Draw a line diagonally down the form through the unused portion. Attach this form to the incident report form and file.

ASHLAND/BAYFIELD COUNTY EMS
Treat and Release Clearance Form

Date:	DOB:	Sex: Male Female	Soc. Sec. #
Pt. Name (Last, First, I)	Address		Phone #

Narrative:_____

_____

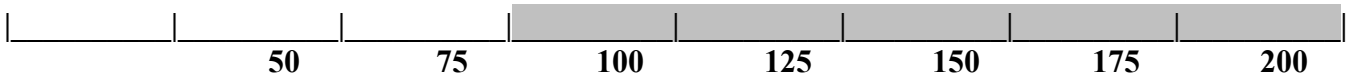
_____

Treatment:_____

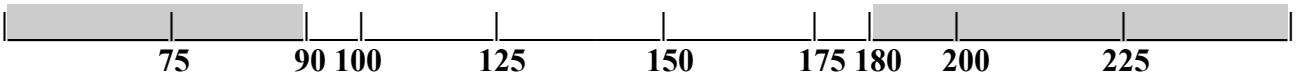
_____

Instruction Sheet Given Head Injury Seizure Motor Vehicle Crash Choking Low Blood Sugar
Sprains/Contusions Wounds/Lacerations Fainting/Dizziness Blood/Body Fluid Exp.

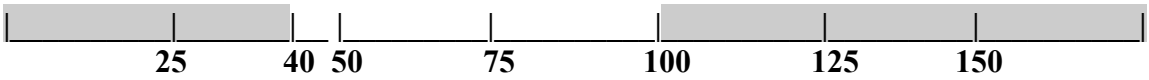
Pulse



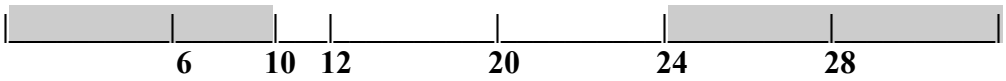
SBP



DBP



RESP



Any vital signs in the gray areas require MCP notification

I, _____(or guardian of minor) herby attest that I have been offered treatment and transportation to the hospital by NAME OF SERVICE; and that I voluntarily refuse such treatment and/or transportation.

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_____	_____	_____
Patient/Relative Signature Relationship to Patient if Relative	Patient's Printed Name	Date/Time
_____	_____	_____
EMT Signature	EMT Printed Name	Date/Time
_____	_____	_____
Interpreter Signature	Interpreter Printed Name	Date/Time

Call 911 for Emergency Ambulance
Memorial Medical Center: 1615 Maple Lane, Ashland, WI **715-685-5500**