NEW HAMPSHIRE
Patient Care Protocols

First Responder
EMT-Basic
EMT-Intermediate
EMT-Paramedic

Approved by the Medical Control Board
January 2007

New Hampshire Department of Safety
Division of Fire Standards and Training and Emergency Medical Services

Patient Care Protocols – 2007 Edition

First Responder
EMT – Basic
EMT – Intermediate
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This document is the Patient Care Protocols for New Hampshire Emergency Medical Providers – 2007.

They were developed and drafted by the Protocol Committee of the New Hampshire Emergency Medical Services Medical Control Board.

These protocols are a "living document," and, at the option of the Bureau of EMS and the Medical Control Board, they can be edited and updated at any time. However, they are formally reviewed, edited, and released every two years.

These NH EMS Patient Care Protocols – 2007 were reviewed, edited, and unanimously approved of by the NH EMS Medical Control Board.

These are New Hampshire State Patient Care Protocols; they have been written and approved of by the NH EMS Medical Control Board to establish the standard of EMS patient care. Any deviation from these protocols must be approved of in writing by the NH EMS Medical Control Board and the NH Bureau or EMS.

Questions and Comments should be directed to:

Bureau of Emergency Medical Services
33 Hazen Drive
Concord, New Hampshire 03305
603-271-4568

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www.tmcbooks.com
731 Tasker Hill Road
Conway, NH 03818
603-447-5589

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This revision of the 2007 New Hampshire Patient Care Protocols is an effort that required assistance and expertise from numerous agencies and individuals. Without their dedication and contribution of time, ideas, humor and patience, these protocols could not have been completed. It was their input that helped guide the Medical Control Board in completing and approving these protocols. Congratulations on a job well done!

A special thank you to Dr. Frank Hubbell, S. Peter Lewis, and the staff at TMC Books for the newly formatted protocols.

Protocol Subcommittee Members

Tom D'Aprix, Chairman, Elliott Hospital
Jim Martin, St. Joseph Hospital
Steve Achilles, Portsmouth Fire Department
Donovan Albertson, Portsmouth Regional Hospital
Jeff Allison, Nashua Fire Department
Vicki Blanchard, Bureau of EMS
Stacey Bossie, Linwood Ambulance
Liz Connor, Manchester VA Hospital
Stephanie Dornsife, American Medical Response
Jeanne Erickson, Speare Memorial Hospital
Bette Fredrickson, Sutton Rescue Squad
Janet Houston, EMS for Children
Phylis Manning, Marlharris Ambulance
Doug Martin, Frisbe Memorial Hospital
Clay O'Dell, Bureau of EMS
Michael Pepin, Professional Fire Fighters of NH
Jason Preston, Rockingham Ambulance
Chris Rousseau, Daniel Webster College EMS
Wes Russell, Parkland Hospital
Eric Schelberg, Milford Ambulance
Jeff Stone, Concord Fire Department
David Tauber, ALS Institute
Fred von Reckinghausen, Bureau of EMS
Eric Yaeger, Durham Ambulance

Peer Review

Chris Pankhurst, EMT-B, Sunapee/New London Hospital
Jeanne Erickson, EMT-I, Warren-Wentworth/Plymouth Fire
Greg White, EMT-I Milford Ambulance
Tom Laird, EMT-B Milford Ambulance
Robin Miller, EMT-P, Milford Ambulance
Eric Yeager, EMT-P Durham Ambulance
Jack Webb, EMT-P, Derry Fire
Denise Hanscom, EMT-I, Washington Rescue
Bill Graham, EMT-P, Berlin Ambulance
Patrick Ahearn, EMT-P, Durham Ambulance
Matt Leavitt, EMT-P, Conway Fire/Rescue
Scott Egan, EMT-P, Portsmouth Fire
Ken Chapman, EMT-P Linwood Ambulance
Betts Fredrickson, EMT-B, Sutton Rescue
Paul Luizzi, EMT-P, Exeter Hospital
Rich O'Brien, EMT-P, Rye Fire
Brian Nickleson, EMT-P Dover Fire
Brenda Irwin, EMT-P, Wentworth Douglass
Members of the Medical Control Board

NH EMS MEDICAL CONTROL BOARD - MEMBERS

Donavon Albertson
Portsmouth
donalbertson@comcast.net

Tom D'Aprix
Manchester
tom.daprix@comcast.net

Chris Fore
Concord
cfore@comcast.net

Frank Hubbell
Conway
bearhubbell@aol.com

Jeff Johnson
Lancaster
JJJ@danvillevt.net

Patrick Lanzetta
Rochester
PWLDOC@aol.com

Jim Martin
Nashua
JAmartin@sjh-nh.org

Joseph Mastromarino
Exeter
emergencymd@aol.com

Douglas McVicar
Plymouth
ahpeacefield@cs.com

Sue Prentiss, Bureau Chief
Concord
sprentiss@safety.state.nh.us

William Siegart
Exeter
emmeddoc@aol.com

John Sutton
Lebanon
John.E.Sutton.Jr@Hitchcock.org

Norman Yanofsky
Lebanon
Norman.N.Yanofsky@Hitchcock.org

MESSAGE TO THE NEW HAMPSHIRE EMS COMMUNITY FROM THE CHAIRMAN OF THE MEDICAL CONTROL BOARD

Credit for this 2007-2008 edition of the NH Patient Care Protocols once again belongs to the Protocols Subcommittee and its friends – EMS providers, physicians, and staff of the NH Bureau of EMS who labored mightily over every technicality and complexity to get it right. These heroes – benefactors not just of our patients, but of the EMS community as well – are listed on the acknowledgement page. Other contributors remain anonymous. Many critical points in the protocols rest upon one of their suggestions, a reference they found in the professional literature, a correction, a request for help, a complaint, kudos – in a word, *input*, from every corner of the state.

Changes in the 2007-2008 edition that may be of particular interest include incorporation of the American Heart Association 2005 standards, particularly in the area of neonatal resuscitation, in which we had previously become, perhaps, complacent. Interfacility transfer protocols are improved, based on *input* from stakeholders who do transfers on a daily basis, particularly in the north country. Prehospital heparin administration is now available to meet the needs of more urban areas where EMS can transport directly from scene to cath lab. A great deal of time and effort has been applied to the all-important problem of airway management. New protocols for airway modalities with special attention to difficult and failed airways will, we hope, give each squad a broader range of useful tools to meet all manner of airway challenges.

This edition of the protocols is distinguished not only by its content – but also by its look. This year the Board finally achieved a long-term goal by sending the protocols for a face lift. Once we got the protocols completely updated and corrected, we sent them to the design and editorial team at New Hampshire's award-winning TMC Books. They took the whole formatting hodgepodge left behind by dozens of authors over several editions, and made the arrangement logical and consistent. Each page became more readable. At the same time, TMC gave our protocols an exciting, modern look. I think you will find them a pleasure to behold.

Where will we go in the future? One goal of the Board has not yet been achieved. Individual protocols are based on various sources: national standards, medical literature, the experience of New Hampshire providers, and tradition. Certain protocols – or so some have argued – are based on nothing more than the very real need to respond with action when confronted by a clinical emergency. Over the long term we must all work towards the day when every treatment, in-hospital or prehospital, is proven by solid medical science. For the next two years the Board will do well if we can reveal – so all can reflect upon – the evidence that underpins each NH protocol.

Please let us know what you think of these protocols. More than ever, the Medical Control Board needs your *input*.

Douglas McVicar, MD
Chairman, NH EMS Medical Control Board

DEDICATION

The 2007 – 2008 New Hampshire Patient Care Protocols are dedicated to David F. Dow, NREMT-Paramedic, for his over 25 years of service to the State of New Hampshire, the emergency medical services system and the many providers who have worked this system throughout the years. David retired in November of 2006 and the Medical Control Board along with the Division of Fire Standard Training and Emergency Medical Services wish him the best!

TABLE OF CONTENTS: ALPHABETICAL BY TOPIC

	SECTION	PAGE
2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS		119
2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS		120
ABUSE & NEGLECT – CHILD, ELDER, OR OTHER VULNERABLE INDIVIDUALS	6.2	90
ACUTE CORONARY SYNDROMES – ADULT	3.2	53
ACUTE CORONARY SYNDROMES ALGORITHM	3.2	54
ADULT & PEDIATRIC PATIENT CARE PROCEDURES		126
ADULT PATIENT CARE PROCEDURES MATRIX		122
AIR MEDICAL TRANSPORT	1.2	19
AIRWAY MANAGEMENT	5.0	68
ALLERGIC REACTION/ANAPHYLAXIS – ADULT	2.0	22
ALLERGIC REACTION/ANAPHYLAXIS – PEDIATRIC	2.0P	23
ASTHMA/COPD/RAD[1] – ADULT	2.1	24
ASTHMA/RAD[1] – PEDIATRIC	2.1P	25
BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS AND THREATS – ADULT & PEDIATRIC	2.2	26
BLOODBORNE/AIRBORNE PATHOGENS	6.0	87
BRADYCARDIA (SYMPTOMATIC) – ADULT	3.0	46
BRADYCARDIA (SYMPTOMATIC) – PEDIATRIC	3.0P	47
BRADYCARDIA ALGORITHM	3.0	48
BURNS (THERMAL) – ADULT	4.2	63
BURNS (THERMAL) – PEDIATRIC	4.2P	64
CARDIAC ARREST – ADULT	3.4	56
CARDIAC ARREST – PEDIATRIC	3.4P	58
CARDIAC ARREST ALGORITHM	3.4	60
COMBITUBE	5.5	74
COMMUNICATIONS FAILURE	1.4	21
COMMUNICATIONS	1.3	20
CONGESTIVE HEART FAILURE (PULMONARY EDEMA) – ADULT	3.3	55
CRIME SCENE/PRESERVATION OF EVIDENCE	6.1	89
CYANIDE POISONING MCI – ADULT	8.4	116
CYANIDE POISONING MCI – PEDIATRIC	8.4P	117
DIABETIC EMERGENCIES – ADULT	2.3	28

TABLE OF CONTENTS: ALPHABETICAL BY TOPIC

	SECTION	PAGE
DIABETIC EMERGENCIES – PEDIATRIC	2.3P	29
DO NOT RESUSCITATE (DNR) ORDERS	6.4	94
DROWNING/SUBMERSION INJURIES – ADULT & PEDIATRIC	4.0	61
EYE & DENTAL INJURIES – ADULT & PEDIATRIC	4.1	62
FEVER (>101.5^0 F/38.5^0 C) – ADULT	2.10	37
FEVER (>101.5^0 F/38.5^0 C) – PEDIATRIC	2.10P	38
GUM ELASTIC BOUGIE/FLEXGUIDE	5.1	70
HAZARDOUS MATERIALS EXPOSURE	8.0	106
HYPERTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC	2.5	31
HYPOTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC	2.6	32
IMMUNIZATION	5.15	84
INTERFACILITY TRANSFERS	7.0	102
INTRAOSSEOUS ACCESS	5.12	81
KING LT-D	5.6	75
LARYNGEAL MASK AIRWAY (LMA)	5.7	76
MASS/MULTIPLE CASUALTY TRIAGE	8.1	109
NASOTRACHEAL INTUBATION	5.3	72
NAUSEA/VOMITING – ADULT & PEDIATRIC	2.13	45
NEEDLE CRICOTHYROTOMY	5.8	77
NERVE AGENTS & ORGANOPHOSPHATES MCI – ADULT	8.2	111
NERVE AGENTS & ORGANOPHOSPHATES MCI – PEDIATRIC	8.2P	113
NERVE AGENTS & ORGANOPHOSPHATES MCI – PROVIDER PROTECTION	8.3	115
NEWBORN RESUSCITATION	2.8P	34
OBSTETRICAL EMERGENCIES	2.7	33
ON-SCENE MEDICAL PERSONNEL	6.7	99
OROTRACHEAL INTUBATION	5.2	71
PAIN MANAGEMENT – ADULT & PEDIATRIC	2.9	35
PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS	1.1	18
PEDIATRIC PATIENT CARE PROCEDURES MATRIX	1	24
PEDIATRIC RESTRAINT AND TRANSPORTATION	6.9	101
POISONING/SUBSTANCE ABUSE/OVERDOSE – ADULT	2.11	39

TABLE OF CONTENTS: ALPHABETICAL BY TOPIC

	SECTION	PAGE
POISONING/SUBSTANCE ABUSE/OVERDOSE – PEDIATRIC	2.11P	41
PREFACE		12
RADIATION INJURIES MCI – ADULT AND PEDIATRIC	8.5	118
RAPID SEQUENCE INTUBATION (RSI)	5.4	73
REFUSAL OF CARE	6.8	100
RESPONSE TO DOMESTIC VIOLENCE	6.3	92
ROUTINE PATIENT CARE GUIDELINES	1.0	13
SEIZURES – ADULT	2.12	43
SEIZURES – PEDIATRIC	2.12P	44
SPECIAL RESUSCITATION SITUATIONS AND EXCEPTIONS	6.5	95
SPINAL ASSESSMENT	6.6	97
STROKE – ADULT & PEDIATRIC	2.4	30
SUCTIONING	5.10	79
SURGICAL CRICOTHYROTOMY	5.9	78
TACHYCARDIA – ADULT	3.1	49
TACHYCARDIA – PEDIATRIC	3.1P	51
TACHYCARDIA ALGORITHM	3.1	52
THORACIC INJURIES – ADULT	4.4	66
THORACIC INJURIES – PEDIATRIC	4.4P	67
TRACHEOSTOMY CARE – ADULT AND PEDIATRIC	5.11	80
TRAUMATIC BRAIN INJURY – ADULT & PEDIATRIC	4.3	65
UMBILICAL VEIN CANNULATION	5.13	82
VASCULAR ACCESS VIA CENTRAL CATHETER – ADULT AND PEDIATRIC	5.14	83

TABLE OF CONTENTS: IN ORDER OF APPEARANCE

	SECTION	PAGE
PREFACE		12
ROUTINE PATIENT CARE GUIDELINES	1.0	13
PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS	1.1	18
AIR MEDICAL TRANSPORT	1.2	19
COMMUNICATIONS	1.3	20
COMMUNICATIONS FAILURE	1.4	21
ALLERGIC REACTION/ANAPHYLAXIS – ADULT	2.0	22
ALLERGIC REACTION/ANAPHYLAXIS – PEDIATRIC	2.0P	23
ASTHMA/COPD/RAD[1] – ADULT	2.1	24
ASTHMA/RAD[1] – PEDIATRIC	2.1P	25
BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS AND THREATS – ADULT & PEDIATRIC	2.2	26
DIABETIC EMERGENCIES – ADULT	2.3	28
DIABETIC EMERGENCIES – PEDIATRIC	2.3P	29
STROKE – ADULT & PEDIATRIC	2.4	30
HYPERTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC	2.5	31
HYPOTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC	2.6	32
OBSTETRICAL EMERGENCIES	2.7	33
NEWBORN RESUSCITATION	2.8P	34
PAIN MANAGEMENT – ADULT & PEDIATRIC	2.9	35
FEVER (>101.5^0 F/38.5^0 C) – ADULT	2.10	37
FEVER (>101.5^0 F/38.5^0 C) – PEDIATRIC	2.10P	38
POISONING/SUBSTANCE ABUSE/OVERDOSE – ADULT	2.11	39
POISONING/SUBSTANCE ABUSE/OVERDOSE – PEDIATRIC	2.11P	41
SEIZURES – ADULT	2.12	43
SEIZURES – PEDIATRIC	2.12P	44
NAUSEA/VOMITING – ADULT & PEDIATRIC	2.13	45
BRADYCARDIA (SYMPTOMATIC) – ADULT	3.0	46
BRADYCARDIA (SYMPTOMATIC) – PEDIATRIC	3.0P	47
BRADYCARDIA ALGORITHM	3.0	48
TACHYCARDIA – ADULT	3.1	49
TACHYCARDIA – PEDIATRIC	3.1P	51

TABLE OF CONTENTS: IN ORDER OF APPEARANCE

	SECTION	PAGE
TACHYCARDIA ALGORITHM	3.1	52
ACUTE CORONARY SYNDROMES – ADULT	3.2	53
ACUTE CORONARY SYNDROMES ALGORITHM	3.2	54
CONGESTIVE HEART FAILURE (PULMONARY EDEMA) – ADULT	3.3	55
CARDIAC ARREST – ADULT	3.4	56
CARDIAC ARREST – PEDIATRIC	3.4P	58
CARDIAC ARREST ALGORITHM	3.4	60
DROWNING/SUBMERSION INJURIES – ADULT & PEDIATRIC	4.0	61
EYE & DENTAL INJURIES – ADULT & PEDIATRIC	4.1	62
BURNS (THERMAL) – ADULT	4.2	63
BURNS (THERMAL) – PEDIATRIC	4.2P	64
TRAUMATIC BRAIN INJURY – ADULT & PEDIATRIC	4.3	65
THORACIC INJURIES – ADULT	4.4	66
THORACIC INJURIES – PEDIATRIC	4.4P	67
AIRWAY MANAGEMENT	5.0	68
GUM ELASTIC BOUGIE/FLEXGUIDE	5.1	70
OROTRACHEAL INTUBATION	5.2	71
NASOTRACHEAL INTUBATION	5.3	72
RAPID SEQUENCE INTUBATION (RSI)	5.4	73
COMBITUBE	5.5	74
KING LT-D	5.6	75
LARYNGEAL MASK AIRWAY (LMA)	5.7	76
NEEDLE CRICOTHYROTOMY	5.8	77
SURGICAL CRICOTHYROTOMY	5.9	78
SUCTIONING	5.10	79
TRACHEOSTOMY CARE – ADULT AND PEDIATRIC	5.11	80
INTRAOSSEOUS ACCESS	5.12	81
UMBILICAL VEIN CANNULATION	5.13	82
VASCULAR ACCESS VIA CENTRAL CATHETER – ADULT AND PEDIATRIC	5.14	83
IMMUNIZATION	5.15	84
BLOODBORNE/AIRBORNE PATHOGENS	6.0	87

TABLE OF CONTENTS: IN ORDER OF APPEARANCE

	SECTION	PAGE
CRIME SCENE/PRESERVATION OF EVIDENCE	6.1	89
ABUSE & NEGLECT – CHILD, ELDER, OR OTHER VULNERABLE INDIVIDUALS	6.2	90
RESPONSE TO DOMESTIC VIOLENCE	6.3	92
DO NOT RESUSCITATE (DNR) ORDERS	6.4	94
SPECIAL RESUSCITATION SITUATIONS AND EXCEPTIONS	6.5	95
SPINAL ASSESSMENT	6.6	97
ON-SCENE MEDICAL PERSONNEL	6.7	99
REFUSAL OF CARE	6.8	100
PEDIATRIC RESTRAINT AND TRANSPORTATION	6.9	101
INTERFACILITY TRANSFERS	7.0	102
HAZARDOUS MATERIALS EXPOSURE	8.0	106
MASS/MULTIPLE CASUALTY TRIAGE	8.1	109
NERVE AGENTS & ORGANOPHOSPHATES MCI – ADULT	8.2	111
NERVE AGENTS & ORGANOPHOSPHATES MCI – PEDIATRIC	8.2P	113
NERVE AGENTS & ORGANOPHOSPHATES MCI – PROVIDER PROTECTION	8.3	115
CYANIDE POISONING MCI – ADULT	8.4	116
CYANIDE POISONING MCI – PEDIATRIC	8.4P	117
RADIATION INJURIES MCI – ADULT AND PEDIATRIC	8.5	118
2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS		119
2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS		120
ADULT PATIENT CARE PROCEDURES MATRIX		122
PEDIATRIC PATIENT CARE PROCEDURES MATRIX		124
ADULT & PEDIATRIC PATIENT CARE PROCEDURES		126

PREFACE

All licensed EMS providers functioning within the New Hampshire EMS system will be required to be familiar with the contents of this document pertinent to their level of training.

It is understood that First Responders will function under the EMT-B standing orders up to the training outlined by the United States Department of Transportation (DOT) First Responder curriculum and American Heart Association guidelines for Healthcare Provider CPR training as defined in Saf-C 5901.31 unless authorized by the Department of Safety to provide "enhanced modules" (including ONLY oxygen therapy, obtaining vital signs, providing extremity splinting and spinal immobilization). It is assumed that the EMT-I standing orders include those listed as EMT-B standing orders, and EMT-P standing orders include those listed as EMT-B and EMT-I standing orders. The sequence of orders in these protocols is not necessarily the order in which they might be executed.

It is also important to note that the standing orders listed in this document are not orders that must be carried out. They are orders that may be carried out at the discretion of the EMT without the need for on-line Medical Control. EMTs at any level of training are encouraged to contact on-line Medical Control in cases where they feel that additional treatment is warranted beyond standing orders, cases where there is uncertainty regarding treatment (e.g. age or size appropriateness for pediatric patient procedure), medicolegal or jurisdictional issues.

First Responders, EMT-Bs & EMT-Is are encouraged to consider timely ALS or Paramedic involvement. All providers are urged to consider the appropriate use of air medical transport and transportation to definitive care when indicated.

The revisions to the protocols for 2007 attempted to take into consideration local preferences and subtle nuances in the application of certain therapies. With this in mind, the protocol review subcommittee of the MCB attempted to provide a variety of options to meet the needs of local medical directors when selecting medications for their catchment area. For example, the seizure protocols reads as follows:

IF GENERALIZED SEIZURE ACTIVITY IS PRESENT, CONSIDER:

- Lorazepam 1-2 mg IV or IM repeated every 5 minutes to a total of 8 mg, **or**
- Diazepam 5 mg IV (then 2.5 mg IV every 5 minutes to total of 10 mg), **or**
- Midazolam 1 – 2.5 mg IV repeated every 5 minutes or until seizure activity is abolished.

This use of "**or**" was employed to allow medical directors, MRH's and their pharmacies to collaboratively determine what benzodiazepine would be practical for use by providers in that catchment area – not to imply that one service would need to carry all of those agents.

It is understood that emergency care begins when a patient accesses the system. This means that the telecommunicators at the Bureau of Emergency Communications are integral to effective care by timely notification of the appropriate local dispatcher as well as by initial instructions offered via Emergency Medical Dispatch algorithms. Information will be offered via the EMD priority reference system including dispatch determinant descriptors to local dispatch operators for use by field units as local authorities deem appropriate.

Section 6 of the Protocols is offered in the hopes of being helpful in specific clinical circumstances, challenging or dangerous situations as well as in areas of expanding EMS activity. They are intended as "teaching" materials to expand on areas that the MCB believed additional detail was beneficial.

The January 2007 edition of Protocols includes multiple revisions prompted by evolving science and our aspiration to be guided by evidence-based medicine grounded in the practical wisdom of field experience. Evaluation of the data collected from the TEMSIS project will also help guide the next series of revisions.

ROUTINE PATIENT CARE GUIDELINES 1.0

All levels of provider will complete an initial & focused assessment on every patient, and as standing order, use necessary and appropriate skills and procedures for which the provider has been trained and certified or approved to perform in order to maintain the patient's airway, breathing, and circulation.

INITIAL ASSESSMENT

Scene Size-Up

- Assess the scene for safety, mechanism of injury, and number of patients.
- Notify the receiving facility as early as possible.
- Request additional resources as needed: e.g. ALS intercepts, air medical transport, additional ambulances, extrication, hazardous materials team, etc.
- Use Incident Management/Command System (IM/CS) when possible.

Level of Consciousness

- Manually stabilize the patient's cervical spine if trauma is involved or suspected.
- Assess level of consciousness using the AVPU scale.
- Apply and use AED and initiate cardiopulmonary resuscitation in accordance with current guidelines, as trained and credentialed, if indicated.

Airway

- Assess the patient for a patent airway.
- Open the airway using a head-tilt/chin-lift, or a jaw thrust if suspicious of cervical spine injury.
- Suction the airway as needed.
- Consider an oropharyngeal or nasopharyngeal airway.
- Consider advanced airway interventions as appropriate and if trained in use.

Breathing

- Assess patient's breathing taking note of rate, rhythm, and quality of the respirations. Assess lung sounds.
- Look for nasal flaring or accessory muscle usage.
- Assess the chest for symmetrical chest rise, intercostal or supraclavicular retractions, instability, open pneumothorax, tension pneumothorax, or other signs of trauma.
- Treat foreign body airway obstruction in accordance with current guidelines.
- Assist ventilations when outside the ventilation guideline for pediatrics, and when the respiratory rate is less than 10 per minute or greater than 40 for adults, or when the patient exhibits signs of impending respiratory failure.

Circulation

- Assess the patient's pulse taking note of rate, rhythm, and quality.
- Look for and control any obvious gross bleeding.
- Assess patient's skin color, temperature, and moisture.
- IV access and fluid resuscitation as appropriate for the patient's condition per appropriate protocol An IV for the purposes of these protocols is a saline lock or IV line with 0.9% NaCl (Normal Saline) and an attempt to obtain a blood sample. After IV is established, administer fluids to maintain systolic blood pressure >90 mmHg for adults and at age specific range for pediatric per chart "Pediatric Vital Signs by Age." Routes of medication administration when written as "IV" can also include "IO".
- Intranasal medication administration through an aerolizer

Make Transport Decisions Early

- Which hospital?
- Normal priority or "Load and Go"?
- Is an ALS or paramedic intercept indicated?
- Is the patient a candidate for air medical transport?

Focused Assessment & Treatment

- Obtain chief complaint, history of present illness and prior medical history.
- All patients will receive a physical assessment as is appropriate for their presentation.
- Provide oxygen therapy as appropriate for the patient's condition.
- Determine level of pain.
- Consider treating anxiety to facilitate patient care (see Behavioral Emergencies Protocol – 2.2).
- Apply cardiac monitor when available and appropriate. (Basic and Intermediate providers may obtain EKG printout).
- Control active bleeding using direct pressure, elevation, pressure bandages, and pressure points.
- Fully immobilize spine as indicated. (See Advanced Spinal Assessment protocol 6.6)
- Splint, elevate, and apply cold packs to swollen deformed extremities. Apply a traction splint for suspected femur fracture. Assess and document CSMs before and after immobilization. If major pelvis fracture suspected apply circumferential binding device (commercial device or sheet)
- Bandage lacerations and abrasions.
- Cover evisceration with an occlusive dressing and cover to prevent heat loss.
- Stabilize impaled objects. Do not remove impaled object unless it interferes with CPR or your ability to maintain the patient's airway.
- Perform serial exams and monitor patient en route to the hospital.

Obtain Vital Signs

- Monitor vital signs a minimum of every 15 minutes (5 minutes if the patient is unstable).
- Include
  - Level of Consciousness
  - Skin color, temperature, and moisture
  - Respiratory rate, pulse rate, blood pressure
  - SpO_2
  - Capnography if trained and available
  - Blood glucose sample if indicated
  - Temperature if fever, environmental hyperthermia or hypothermia is suspected

Refer to the appropriate protocol(s) for further treatment options.

DNR Order

- If DNR Order is presented, or a DNR Identification (bracelet or necklace) is present, see DNR Protocol 6.4

PEDIATRIC ASSESSMENT

Pediatric Definitions

- Assessment of pediatric patients must take into account the characteristics of a child's anatomy and physiology at each stage of development.

Medical

- For the purposes of the protocol, a "pediatric patient" is defined as a child who fits on the length-based resuscitation tape (36 kg or 145 cm). If longer than the length-base resuscitation tape, they are considered an adult. Use of a length-based resuscitation tape is recommended if administering medications or performing other invasive procedures on all pediatric patients.
- While this recommendation does not address some emotional and developmental issues, for most therapies, the use of length-based determination of equipment and medications is evidence based. Use of the length-based resuscitation tape is particularly helpful in a situation where there is no confirmed weight or age (e.g. in a disaster setting).
- The legal definition of a child is one who has not yet reached his/her eighteenth birthday and is not emancipated.
- With the exception of life-threatening emergencies, EMS personnel are to attempt to contact the child's parent or legal guardian and obtain the guardian's informed consent to treat and transport the child.

Apparent Life-Threatening Event (ALTE)

- Formerly known as a "near-miss SIDS" occurring in children < 2 years old, ALTE is a frightening episode and observers may think the infant has died. The child will exhibit some combination of apnea (central or obstructive), color change (cyanosis, pallor or erythema caused by distension of blood vessels), marked change in muscle tone (limpness), and choking or gagging. Although the children may have a normal physical exam when assessed by responding EMS providers, a significant number of these children have a life-threatening condition requiring ongoing medical treatment.
- EMS providers should assume the history given is accurate and complete a full history and examination including a glucose analysis, treat any identifiable causes, and transport to hospital. Contact Medical Control if the parent/guardian is refusing medical care and/or transport, prior to completing a Refusal of Care form.

Pediatric Vital Signs

- Interpreting children's vital signs and symptoms as though they were an adult may result in an inaccurate assessment and incorrect treatment.

PEDIATRIC VENTILATION GUIDELINES			
	Respiratory Rate		Ventilation
Age	Too Slow	Too Fast	Breaths/Minute
Newborn	< 30	>80	40-60
Infant	<20	>70	30-40
1-6 Years	<16	>40	20-30
6-12 Years	<12	>30	16-20
12-16 Years	<10	>24	12-16

PEDIATRIC VITAL SIGNS BY AGE					
Age	Heart Rate Avg.	Range	Respiratory Range	Systolic BP Avg.	Range
Newborn	140	110-180	40 - 60	72	52-92
1 month	135	90-170	30 - 50	82	60-104
1 year	120	80-160	20 - 30	94	70-118
2 years	110	80-130	20 - 30	95	73-117
4 years	105	80-120	20 - 30	96	65-117
6 years	100	75-115	18 - 24	97	76-116
8 years	90	70-110	18 - 22	99	79-119
10 years	90	70-110	16 - 20	102	82-122
12 years	85	60-110	16 - 20	106	84-128
14 years	80	60-105	16 - 20	110	84-136

APGAR SCORE				
		0 Points	**1 Point**	**2 Points**
A	**Activity** Muscle tone	Limp Flaccid	Some flexion of extremities	Active movement of extremeties
P	**Pulse** Heart rate	Absent	Below 100 beats/min.	Above 100 beats/min.
G	**Grimace** Reflex irritability	No response	Grimace or weak cry	Good cry
A	**Appearance** Color	Blue or pale	Peripheral discoloration	Completely pink
R	**Respiration**	Absent	Slow, Irregular	Normal, Strong cry

PEDIATRIC GLASGOW COMA SCALE			
	Infants		**Children**
M	Moves Spontaneously	6	Obeys Commands
O	Withdraws from Touch	5	Localizes Painful Stimuli
T	Withdraws from Pain	4	Withdraws from Pain
O	Abnormal Flexion	3	Abnormal Flexion
R	Abnormal Extension	2	Abnormal Extension
	No Response	1	No Response
V	Coos and Babbles	5	Oriented
E	Irritable Cry	4	Confused
R	Cries to Pain	3	Inappropriate Words
B	Moans to Pain	2	Incomprehensible
A	No Response	1	No Response
L			
E	Spontaneous	4	Spontaneous
Y	To Speech/Sound	3	To Speech/Sound
E	To Pain	2	To Pain
	No Response	1	No Response

PEDIATRIC TRAUMA TRIAGE CRITERIA			
Component	+2	+1	-1
Weight	> 20 kg	10-20 kg	< 10 kg
Airway	Normal	oxygen adjunct: mask, cannula, oral or nasal airway	Assisted/Intubated bag-valve-mask/ETT Cricothyrotomy
Level of Consciousness	Awake	Altered or history of loss of consciousness	Coma Unresponsive
Circulation	Peripheral pulses good SBP > 90 mmHg	Brachial / Femoral pulses palpable SBP 90-50 mmHg	Weak or no peripheral pulses SBP < 50 mmHg
Fracture	None seen or suspected	Single closed fracture	Any open or multiple fractures
Cutaneous	No visible injury	Contusion, abrasion or laceration < 7cm, not through fascia	Tissue loss laceration > 7cm Penetrating injury

A child is considered to have incurred serious trauma if any one of the following is met

- A numerical triage score ≤ 9 using the **Glasgow Coma Scale**
- A color triage score of one black box or two gray boxes using the **Pediatric Trauma Triage Criteria**
- Penetrating wounds to the head, neck, torso, or extremities proximal to the elbow or knee
- Two or more long bone fractures, pelvic fracture, or flail chest
- Open or depressed skull fracture
- Full thickness (3°) burns, partial thickness (2°) burns > 10% BSA or burns combined with trauma
- Paralysis
- Amputation proximal to the wrist or ankle

PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS 1.1

STATUS I (CRITICAL)

- Cardiac arrest
- Respiratory arrest
- Patient requires assisted ventilations and/or advanced airway management.
- Potential surgical emergency, i.e. suspected internal hemorrhage.
- Consider transporting patients classified as Status I trauma patients by air medical transport from the scene of an emergency to the closest Level I or Level II Trauma Center and ALS or paramedic intercept.
- Transport to closest appropriate hospital.

STATUS II (UNSTABLE)

- Patient unresponsive or responsive to painful stimuli only
- Severe and/or deteriorating respiratory condition
- Significant hypotension
- Transport to closest appropriate hospital.
- Consider appropriate air medical utilization and/or ALS or paramedic intercept.

STATUS III (POTENTIALLY UNSTABLE)

- Patient alert, vitals stable with simple uncomplicated injuries
- Most medical complaints
- Transport to closest appropriate hospital.

STATUS IV (STABLE- TRANSPORT FOR DIAGNOSTIC TESTS)

- Patients being transported to undergo non-emergent diagnostic tests that will not be seen in the emergency department or evaluated by a physician in the emergency department
- Transport to designated hospital.

NOTES OF CLARIFICATION

- Should a patient deteriorate to Status I while en route to a hospital, the EMS unit may divert to the nearest hospital after consultation with medical control and notification of both the hospital of original destination and the new destination hospital.
- In cases where the patient's status is uncertain, consult with medical control and proceed as directed.
- Status IV patients should be transported to their previously arranged destination unless their condition deteriorates to status III, II, or I.
- The destination hospital is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.

AIR MEDICAL TRANSPORT *1.2*

The purpose of these guidelines is to establish a clinical framework for prehospital personnel to make decisions regarding when to access air medical transport services. The following constitute the foundation for these guidelines.

EMS personnel may request air medical transport (AMT) when operational conditions exist and/or the indicated clinical conditions are present

- Patients with an uncontrolled airway or uncontrollable hemorrhage should be brought to the nearest hospital unless advanced life support (ALS) service (by ground or air) can intercept in a more timely fashion.
- AMT is **not** indicated for patients in cardiac arrest.
- AMT is **not** indicated for contaminated patient until **after** decontamination.
- Request AMT as soon as practical after initial assessment. Consider placing AMT on standby based on dispatch information. Communication with local medical control should be established as soon as practical to advise that AMT is responding, however **these guidelines have been established so that air medical transport does not require on-line medical control approval.**

OPERATIONAL CONDITIONS

- When a patient meets defined clinical criteria and the ground transport time to the closest Level I trauma hospital exceeds the ETA of air medical transport, or
- Patient location, weather or road conditions preclude the use of ambulance; or
- Multiple patients are present which will exceed the capabilities of local hospital and agencies.

CLINICAL CONDITIONS

Physiologic Criteria

- Severe respiratory compromise with respiratory arrest or abnormal respiratory rate
- Circulatory insufficiency: sustained systolic blood pressure < 90 or other signs of shock
- Severe traumatic brain injury: AVPU scale P or U, GCS < 9, or motor component of GCS < 5

Anatomic Criteria

- Penetrating or severe blunt trauma to the chest or abdomen
- Multi-system trauma

ADDITIONAL NOTES

- AMT may be indicated in a wide range of conditions other than those listed above. In cases where the patient's status is uncertain, consult with medical control and proceed as directed.
- If extrication time, plus ground transport time to local hospital is less than air transport arrival time to scene, consider initiating ground transportation and diverting helicopter to local hospital.
- The destination hospital is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.
- Transfers from ground ambulance to air ambulance shall occur at the closest appropriate landing site, including hospital heliports, airports, or unimproved landing site deemed safe per pilot discretion. In cases where a hospital heliport is used strictly as the ground to air ambulance transfer point, no transfer of care to the hospital is implied or should be assumed by hospital personnel, unless specifically requested by the EMS providers.

COMMUNICATIONS 1.3

EMTs transporting status I, II, or III patients (see Patient Status Determination - Protocol 1.1) should advise the receiving hospital, in a timely manner, of patients en route to that Emergency Department (except in cases of Mass Casualty Incident during which routine communications cease).

An EMT may establish contact with a medical control physician via VHF radio on one of the assigned medical frequencies, via telephone direct to each Emergency Department's recorded EMS line, or via telephone patch through the Resource Coordination Center. If a medical control physician is needed for consultation, request before giving patient information. It is recommended that all medical communications be recorded.

VHF MEDICAL FREQUENCIES

Initiate call to the appropriate hospital and identify

- destination hospital
- ambulance unit calling
- status of patient

TELEPHONE

- To contact the destination hospital via telephone, use the direct-recorded line to the Emergency Department.
- Request medical control, if needed, give the name of patient, age, status and complaint, e.g.

Upon establishing voice communication with the destination hospital/medical control physician (if needed), present the following information in a concise and clear manner

- Emergency response unit and level of care: paramedic/Intermediate/Basic with ETA
- Patient's age, sex, and status level
- Patient's chief complaint
- Patient's present medical condition
- Patient's vital signs, including level of consciousness
- Patient's physical signs of illness or injury
- Patient's electrocardiogram rhythm, if indicated
- Patient's relevant medical history
- Pre-hospital treatment rendered

Give a list of medications and allergies only if requested by the destination hospital, or if it is anticipated that a medication order would be given by medical control.

COMMUNICATIONS FAILURE *1.4*

In case of a communications failure with medical control due to equipment (cell phone, landline, IHERN) malfunction or due to incident location, the following will apply

- EMS personnel may, within the limits of their certifications, perform necessary ALS procedures that would require a direct physician order under normal circumstances.
- These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition.
- All procedures performed under this order and the conditions that created the communications failure need to be thoroughly documented.
- Attempts must be made to establish contact with medical control as soon as possible.

ALLERGIC REACTION/ANAPHYLAXIS – ADULT *2.0*

Definition: Anaphylaxis is suspected exposure to an allergen **and** one or more of the following

- Severe respiratory distress
- Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness)
- Signs of shock (including systolic BP <90)

BASIC STANDING ORDERS

B

- Routine Patient Care
- Caution needed when administering epinephrine to patients with history of Coronary Artery Disease, Hypertension, etc.
- If patient has signs/symptoms of an allergic reaction (hives, itch, anxiety) but is otherwise hemodynamically stable, contact medical control for further direction.
- If trained to do so, administer adult epinephrine auto-injector (Epi-Pen) 0.3 mg IM for patient with signs/symptoms of anaphylaxis.
- Do not delay transport, except for epinephrine administration.
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- Consider albuterol 2.5 mg in 3 ml of NS via nebulizer every 5 minutes X 4 total doses.
- Establish IV of 0.9% NaCl (normal saline) at KVO. Consider 250-500cc bolus to maintain systolic blood pressure greater than 90 mm Hg.
- **For anaphylaxis**, administer epinephrine (1:1,000 strength) 0.3 mg (0.3 ml) SQ or IM. Consider repeating x 2 every 5 minutes if no improvement.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- For allergic reaction, consider diphenhydramine 25-50 mg PO, IM or IV.
- Consider methylprednisolone 125 mg IV.
- **For anaphylaxis**, consider epinephrine (1:10,000 strength) 0.1 mg (1 ml) increments IV every 2 minutes. Consider IV epinephrine infusion of 1- 4 micrograms/minute (**pump required**).

ALLERGIC REACTION/ANAPHYLAXIS – PEDIATRIC 2.0P

Anaphylaxis is determined by suspected exposure to an allergen **and** one or more of the following

- Severe respiratory distress
- Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness), or
- Signs of shock

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- If patient has signs/symptoms of an allergic reaction (hives, itch, anxiety) but is otherwise hemodynamically stable, then contact medical control for further direction.
- For anaphylaxis, administer pediatric epinephrine auto-injector (Epi-Pen Jr) 0.15 mg IM for patients greater than 10kg and fit on a pediatric length based resuscitation tape.
- Do not delay transport, except for epinephrine administration.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- Consider albuterol 2.5mg in 3 ml of normal saline via nebulizer. May repeat x 2 prn.
- IV access, obtain blood sample.
- Consider epinephrine (1:1,000 strength) 0.01mg/kg (0.01 ml/kg) SQ/IM every 5 minutes to a maximum dose of 0.3mg (0.3 ml).
- If hypotensive, infuse 0.9% NaCl (normal saline) 20ml/kg to maintain hemodynamic status.
- Consider diphenhydramine 1mg/kg IV/IM.
- Consider diphenhydramine for children greater than 1 year of age, 1.25 mg/kg PO
- For **anaphylaxis**, consider epinephrine (1:10,000 strength) 0.01mg/kg (0.1ml/kg) IV.
- Consider methylprednisolone 1mg/kg IV.

ASTHMA/COPD/RAD[1] – ADULT 2.1

BASIC STANDING ORDERS

B

- Routine Patient Care
- Wear N95 mask if bioterrorism related event or highly infectious agent suspected.
- Administer oxygen at the appropriate rate for the patient's condition and medical history.
- Patients with COPD who are on home oxygen, increase their rate by 1-2 liters per minute.
- Attempt to keep oxygen saturation above 90%; increase the rate with caution and observe for fatigue, decreased mentation, and respiratory failure.
- If available, request ALS intercept/intervention ASAP.
- Assist patient with his/her own MDI, if appropriate; only MDIs containing beta adrenergic bronchodilators (e.g. albuterol, Ventolin, Proventil, Combivent) may be used: 2 puffs; repeat every 5 minutes as needed while transporting; contact medical control if delayed.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider albuterol 2.5mg in 3 ml normal saline via nebulizer prn every 5 minutes x 4 total doses.
- If available, request paramedic intercept/intervention.
- For patients exhibiting signs/symptoms consistent with CHF, see Congestive Heart Failure/ Pulmonary Edema Protocol 3.3.

PARAMEDIC STANDING ORDERS

P

- If available, measure peak flow pre-/post-treatment
- Consider ipratropium 0.5mg with albuterol 2.5mg, mixed in 3ml normal saline, via nebulizer x 1.
- Consider repeat albuterol 2.5mg, mixed in 3ml normal saline, via nebulizer every 5 minutes.
- Consider levalbuterol 1.25 mg via nebulizer.
- Consider methylprednisolone 125 mg IV.
- For patients who do not respond to nebulizer treatments or for impending respiratory failure, consider:
- Epinephrine (1:1,000) 0.3mg (0.3ml) SQ or IM
- Magnesium sulfate 2 grams in 100 ml 0.9% NaCl (normal saline) IV over 10 minutes
- For COPD patients, CPAP*, if available and trained to use; maximum 10 cmH2O pressure support
- Advanced Airway Management as indicated and trained to perform, see Airway Management Protocol 5.0

([1]RAD = Reactive Airway Disease)

* Continuous Positive Airway Pressure (CPAP) has been shown to be effective in preventing intubation and decreasing mortality in patients with acute respiratory failure in properly selected patients in acute respiratory failure.

Indications: Respiratory distress in the conscious patient suffering from presumed pulmonary edema who is non-responsive to simple oxygenation via non-rebreather mask

ASTHMA/RAD[1] – PEDIATRIC 2.1P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Wear N95 mask if bioterrorism related event or highly infectious agent suspected.
- If suspected epiglottitis, limit evaluation/interventions to only those necessary.
- If available, request ALS intercept/intervention ASAP
- Assist patient with his/her own MDI, if appropriate; only MDIs containing beta adrenergic bronchodilators (e.g. albuterol, Ventolin, Proventil) may be used: 2 puffs; repeat every 5 minutes as needed while transporting; contact medical control if delayed.
- For patients with croup, provide humidified oxygen.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- If croup suspected, consider nebulized epinephrine
  - Less than 1 year of age: 2.5 mg (2.5 ml of 1:1000) in 3ml normal saline; may repeat in 15 minutes x 1.
  - Greater than 1 year of age: 5 mg (5 ml of 1:1000) in 3ml normal saline; may repeat in 15 minutes x 1.
- IV access, obtain blood sample and administer fluids to maintain hemodynamic status.
- Consider ipratropium 0.25mg (1.25ml of 0.02% solution) with albuterol 2.5mg (0.5ml of 0.5% solution), mixed in 3ml normal saline, via nebulizer x 1
- Consider albuterol 2.5mg (0.5ml of 0.5% solution) in 3 ml normal saline solution via nebulizer every 5 minutes x 4 total doses.
- Consider levalbuterol 0.63 mg via nebulizer.
- Consider epinephrine (**1:1,000**) 0.01mg/kg SQ (maximum 0.3mg = 0.3ml) for patients unable to inhale nebulized albuterol.
- Consider methylprednisolone 1 mg/kg IV for severe exacerbation or patient who does not respond after first nebulizer treatment.

([1]RAD = Reactive Airway Disease)

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS AND THREATS – ADULT & PEDIATRIC 2.2

SCENE SAFETY

- Consider waiting for law enforcement to secure the scene.
- Avoid the use of lights and sirens on approach.
- Secure the area and move bystanders away.
- Approach in teams of two, with one rescuer focusing on patient and the other on scene control
- Approach in a calm, supportive manner
- Offer reassurance: Let them know you can help them/get them help
- Respect the dignity and privacy of the individual
- Keep distance from patient if rescuer's presence increases patient's agitation.
- Avoid caring for an agitated patient in a room with only a single entrance/exit, if possible.
- Position yourself to allow easy egress for either yourself or the patient
- Never leave a rescuer alone with a potentially violent or dangerous patient!
- Do not leave an at-risk or potentially dangerous patient unattended or unsupervised even briefly.
- Talk in a conversational tone, reflect back to them what they said (ensures accuracy)
- Respond to hallucinations or delusions by talking about the patient's feelings rather than what he/she is saying, ("It sounds like you are really frightened that people are out to get you").
- Give firm, clear directions; one person should talk to the patient
- Explain clearly what will happen next and allow patient choice when possible

Implement **SAFER** model

S Stabilize the situation by lowering stimuli including voice.
A Assess and acknowledge the crisis by validating patient's feelings and not minimizing them
F Facilitate the identification and activation of resources, (clergy, family, friends or police).
E Encourage patient to use resources and take actions in his or her best interest
R Recovery or referral: leave patient in care of responsible person or professional, or transport to appropriate medical facility. Do not leave patient alone when EMS clears the scene.

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Observe and record patient's behavior.
- Determine if patient is under the care of mental health professional and record contact information
- Assess for risk to self and others
  - Ask directly, "Are you thinking about killing yourself, or killing someone else, or hurting yourself, or hurting others?"
  - If yes, ask directly "Have you thought about how you would do this?"
  - If yes, find out if he or she has the means available, or is attempting to procure the means to carry out his/her thoughts. Ask directly, "Do you have, or know where you can get, (gun, pills, rope, car, etc.)?"
  - If yes, "Have you planned out where and when you would do it?"

Behavioral Emergencies Basic & Intermediate Standing Orders continued on next page ⇨

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS AND THREATS – ADULT & PEDIATRIC cont. 2.2

⇦*Behavioral Emergencies Basic & Intermediate Standing Orders continued from previous page*

B/I

- ◆ If yes, "Does anyone else know about your plans?" (Teens and young adults sometimes engage in a suicide pact with another person. Getting the information—who the other person is, and names and numbers for how he or she can be contacted—can be critical).

▶ If patient is a risk for suicide or violence toward others
- ◆ Transport to hospital for evaluation by mental health professional
- ◆ If patient refuses transport, contact law enforcement for assistance

▶ If patient is not an immediate threat to self or others and refuses transport
- ◆ Encourage patient to seek mental health treatment
- ◆ Provide patient with mental health center emergency services number (800-852-3388)
- ◆ Avoid leaving patient alone. Assist in contacting responsible family/friend.

▶ Encourage family to remove all firearms or other lethal means from the home as availability in the home dramatically increases the chances that an individual will act.

▶ Restrain **if necessary** and **only** for the safety of the patient and crew.
- ◆ Use only soft restraints and monitor distal circulation.
- ◆ Consider paramedic intercept.
- ◆ Restraint Notes
  - ◊ Use the minimum force necessary. Restraint is never for punitive reasons.
  - ◊ Frequent airway monitoring
  - ◊ Do not restrain patient
    - ✦ face down,
    - ✦ with hands behind back,
    - ✦ with both hands over the head to the top bar of stretcher (one hand is acceptable),
    - ✦ with straps over lower thorax or upper abdomen,
    - ✦ using a "sandwich" restraint with scoop or backboard.

PARAMEDIC STANDING ORDERS-ADULT

P

Consider

▶ Haloperidol 2 mg IV or 5 mg IM, may repeat every 5 minutes to a maximum dose of 10 mg **or** any one of the following

▶ Lorazepam 1 mg IV or 2 mg IM, may repeat once in 5 minutes, **or**

▶ Midazolam 2.5 mg IV, IM, IN may repeat once in 5 minutes, **or**

▶ Diazepam 2 mg IV or 5 mg deep IM, may repeat once in 5 minutes.

Antidotes

▶ Flumazenil 0.2 mg IV over 30 seconds to reverse the effects of benzodiazepines that were administered by EMS personnel

▶ Diphenhydramine 50 mg IV/IM for acute dystonic reaction to haloperidol

DIABETIC EMERGENCIES – ADULT 2.3

Definition: Hypoglycemia is glucose level < 80mg/dl with associated altered mental status.

BASIC STANDING ORDERS

B

- Routine Patient Care
- Obtain glucose reading via glucometer.
- If the patient can swallow and hypoglycemia is present, administer oral glucose.
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- If glucose level is <80mg/dl with associated signs and symptoms, administer dextrose (D50) 25 gm IV. Re-check glucose 5 minutes after administration of dextrose (D50). Repeat dextrose (D50) 25 gm IV if glucose level is less than 80mg/dL.
- If available and indicated, consider assisting family in administration of patient's glucagon 1 mg IM.
- In the presence of chronic alcoholism, alcohol intoxication, or malnourishment, administer thiamine 100 mg IV or IM.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- If unable to obtain IV access, administer glucagon 1mg IM or SQ.

DIABETIC EMERGENCIES – PEDIATRIC *2.3P*

Definition: Hypoglycemia is glucose level < 60mg/dl with associated altered mental status.

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Obtain glucose reading via glucometer.
- If the patient can swallow and hypoglycemia is present, administer oral glucose.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- IV access, obtain blood sample and administer fluids to maintain hemodynamic status.
- **Age < 30 Days**: administer dextrose 0.25 gm/kg IVP (2.5 ml/kg) of D10 (or D25 diluted 1:1)
- **Age > 30 Days and < 2 Years**: administer dextrose (D25) 0.25 gm/kg (1ml/kg) IVP (dextrose diluted 1:1 for a 25% solution).
- **2 Years or more**: administer dextrose (D50) 0.25 gm/kg (0.5ml/kg) IVP (maximum 25 gms).
- If unable to obtain IV or IO access: administer glucagon 1mg IM or SQfor > 30 Days

STROKE – ADULT & PEDIATRIC 2.4

BASIC STANDING ORDERS

B

- Routine Patient Care
- Obtain glucose reading via glucometer.
- Perform Prehospital Stroke Scale.
- Determine time of onset of the symptoms.
- Early notification of emergency department
- Elevate head of the stretcher 30 degrees.
- Check blood pressure bilaterally.
- Consider ALS intercept.
- Minimize on scene time.

INTERMEDIATE (ADULTS ONLY) & PARAMEDIC (ADULTS & PEDIATRICS) STANDING ORDERS

I/P

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider underlying causes.
- Consider paramedic intercept if advanced airway control is required.

PREHOSPITAL STROKE SCALE

Abnormal findings on any part of the exam may indicate an acute stroke.

FACIAL DROOP		
	Normal:	Both sides of face move equally well.
	Abnormal:	One side of face does not move as well as other side.
ARM DRIFT		
	Normal:	Both arms move the same or both arms don't move at all.
	Abnormal:	One arm doesn't move or one arm drifts down compared to the other.
SPEECH		
	Normal:	Patient says correct words without slurring. Ask patient to repeat a phrase such as, "You can't teach an old dog new tricks.
	Abnormal:	Patient slurs words, says wrong words, or is unable to speak.

HYPERTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC 2.5

Mental status changes in the heat-challenged victim signal the onset of potentially severe heat illness and heat stroke. Mortality and morbidity are directly related to the length of time the victim is subject to the heat stress. Consider pharmacological causes as well.

BASIC STANDING ORDERS

B

- Routine Patient Care
- Move victim to a cool area and shield from the sun or any external heat source.
- Remove as much clothing as is practical and loosen any restrictive garment remaining.
- If alert and oriented, give small sips of cool liquids.
- Monitor and record vital signs and level of consciousness
- If temperature >104F(40C) or if altered mental status: begin active cooling by
  - Continually mist the exposed skin with tepid water while fanning the victim
  - Truncal ice packs may be used, but are less effective than evaporation
  - Discontinue active cooling if shivering occurs and notify medical control

INTERMEDIATE STANDING ORDERS- ADULT

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- IV bolus of 250 ml 0.9% NaCl (normal saline); may repeat if systolic pressure <90 mm/hg

PARAMEDIC STANDING ORDERS - ADULT

P

- If uncontrolled shivering occurs during cooling, lorazepam 0.5 – 1mg IV/IM or diazepam 2 mg IV or 5 mg deep IM.

PARAMEDIC STANDING ORDERS - PEDIATRIC

P

- Bolus with 20 ml/kg 0.9% NaCl (normal saline) to maintain hemodynamic status

HYPOTHERMIA (ENVIRONMENTAL) – ADULT & PEDIATRIC 2.6

BASIC STANDING ORDERS

B

- Routine Patient Care
- Avoid rough movement and excess activity.
- Prevent further heat loss
  - Insulate from the ground and shield from wind/water.
  - Move to a warm environment.
  - Gently remove any wet clothing.
  - Cover with warm blankets. Cover the head and neck.
- Obtain temperature – (rectal temperature preferred as appropriate).
- Maintain horizontal position.
- Truncal warm packs.
- Consider covering the patient's mouth and nose with a surgical mask to prevent respiratory heat loss.
- A minimum of 45 – 60 second assessment of respiration and pulse is necessary to confirm respiratory arrest or pulseless cardiac arrest.
- Apply cardiac monitor/AED if available; shock once. If core temperature > 30°C (86°F) may repeat shock per AED after two minutes of CPR.
- If unsuccessful, perform CPR. CPR is performed with both the rate of chest compressions and the rate of ventilations at 1/2 to 1/3 the usual rate. Do not initiate compressions if any palpable pulse is present.
- Consider ALS intercept.

INTERMEDIATE (ADULTS ONLY) & PARAMEDIC (ADULTS & PEDIATRICS) STANDING ORDERS

I/P

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.

If core temperature <30°C (86°F)

- Continue CPR.
- Withhold IV medications.
- Attempt defibrillation once (use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators).

If core temperature >30°C (86°F)

- Continue CPR.
- Give IV medications based on dysrhythmia (but at longer intervals).
- Repeat defibrillation for ventricular fibrillation/ventricular tachycardia as core temperature rises.

SEVERITY LEVELS OF HYPOTHERMIA AND ASSOCIATED SYMPTOMS

MILD	97°F – 95°F (36.1°C – 35°C)	cold sensation, shivering, unable to perform complex tasks with hands
MODERATE	95°F – 93°F (35°C - 33.9°C)	intense shivering, clumsy and uncoordinated, mild confusion, slow and labored movements
	93°F –90°F (33.9°C – 32.2°C)	violent shivering, difficulty with speech, sluggish thinking, mild amnesia, may appear drunk
SEVERE	90°F –86°F (32.2°C - 30°C)	shivering stops, unable to walk, incoherent, irrational
	<86°F (30°C)	progressive stupor to unconsciousness, loss of awareness
	<82°F (27.8°C)	unconscious, respiration and heartbeat erratic, pulse not palpable, pulmonary edema, cardiac and respiratory arrest, death

OBSTETRICAL EMERGENCIES 2.7

BASIC STANDING ORDERS

B

- Routine Patient Care
- Gather specific information
  - Length of pregnancy, number of previous pregnancies, number of previous live births, last menstrual period, due date, pre-natal care, number of expected babies, drug use.
  - Signs of near delivery: membrane rupture ("water broke") or bloody show, contractions, urge to move bowels, urge to push, etc.
  - Signs of pre-eclampsia: hypertension, swelling of face and/or extremities
- Oxygen at high concentration to benefit mother and fetus
- Expose as necessary to assess for bleeding, crowning, prolapsed cord, etc.
- Do not digitally examine or insert anything into vagina. Exceptions: to manage baby's airway in breech presentation or to treat prolapsed cord as below, you may insert a hand.
- Contact medical control if
  - Active labor and delivery is imminent
  - Post-partum hemorrhage
  - Breech presentation
  - Prolapsed cord
- Place mother in left-lateral recumbent position except as noted.
- Prolapsed cord: knee-chest position or Trendelenberg position; immediately and continuously support infant head or body with your hand to permit blood flow through cord. Transport at once to closest hospital.
- Consider ALS intercept

INTERMEDIATE STANDING ORDERS

I

- For third-trimester bleeding, pre-eclampsia, placenta previa, breech presentation, post-partum hemorrhage: initiate IV - 0.9% NaCl (normal saline) @ KVO and consider fluid bolus of 250 ml for active bleeding
- Consider paramedic intercept

PARAMEDIC STANDING ORDERS

P

- Fluid resuscitation to maintain appropriate hemodynamic status
- Treat active seizures - see Seizures 2.12
- Consider oxytocin 10 – 20 units in 1000ml 0.9% NaCl (normal saline) infused over 20 minutes for post-partum hemorrhage

NEWBORN RESUSCITATION 2.8P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Assess the following
  - Gestational age
  - Clarity of amniotic fluid
  - Respiratory effort (clear airway as needed)
  - Muscle tone
  - Evaluate for adequate respirations, heart rate, and color
- Rapidly warm and dry the neonate and provide tactile stimulation by flicking the soles of the feet and/or rubbing the back.
- Wrap the infant in dry linens and cover head.
- Consider blow-by oxygen for newborn with rib retractions, nasal flaring, grunting, mild cyanosis or other signs of increased respiratory effort.
  - Use positive pressure ventilation (bag-valve mask) if newborn is: apneic or gasping, HR < 100 bpm after initial resuscitation steps, or for persistent central cyanosis despite supplemental oxygen at a rate of 40 – 60 breaths per minute.
  - Use only enough tidal volume to see the chest rise
  - Chest compressions if heart rate is less than 60 bpm.
- Leave at least 6 inches of newborn's umbilical cord when cutting the cord.
- Note the 1-minute and 5-minute APGAR scores (see APGAR chart). Continue to assign scores every five minutes hereafter as long as the APGAR score is less than 7.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- Suction the nose and oropharynx as needed.
- If meconium is present **and** the newborn is not vigorous (poor muscle tone, weak respiratory effort, or HR < 100 bpm), then perform direct endotracheal suctioning.
- Endotracheal intubation is also indicated if bag-mask ventilation is inadequate or when chest compressions are indicated.
- If, despite adequate assisted ventilation for 30 seconds, the heart rate is < 60 beats per minute continue assisted ventilation and begin chest compressions interposed with ventilation in a 3:1 ratio (for a rate of 90 compressions/minute and 30 ventilations/minute).
- **Intubate** using a 3.0 - 4.0 ETT tube (2.5 for preemie) and a straight laryngoscope blade.
- If the heart rate remains < 60/minute despite warming, stimulation, adequate ventilation with 100% oxygen, consider
  - Establish IV/UVC access - 0.9% NaCl (normal saline) 10 ml/kg bolus – Obtain blood sample, if possible
  - Epinephrine (1:10,000) 0.01 – 0.03 mg/kg IV/UVC (0.1 – 0.3 ml/kg), **or**
  - IV is preferred route for epinephrine, however may consider ETT administration of 0.3 to 1.0 ml/kg of 1:10,000 solution.
  - If hypovolemia is suspected, consider 0.9% normal saline 10 ml/kg bolus over 5 – 10 minutes.
  - If hypoglycemia suspected consider dextrose 0.25 gm/kg IVP/UVC (2.5 gm/kg) D10 (or D25 diluted 1:1).

ALS Notes: Flush all meds with 0.5 to 1.0 ml NaCl (normal saline) or follow all ETT meds with positive pressure ventilation.

PAIN MANAGEMENT – ADULT & PEDIATRIC 2.9

BASIC STANDING ORDERS

B

- Routine Patient Care
- Place the patient in a position of comfort if possible.
- Give reassurance, psychological support, and distraction.
- Use ample padding for long and short spinal immobilization devices.
- Use ample padding when splinting possible fractures, dislocations, sprains and strains. Elevate injured extremities if possible. Consider application of cold pack for 30 minutes.
- Have the patient rate their pain on a 0 to 10 (or similar) scale*.
- Reassess the patient's pain level and vital signs every 5 minutes.
  - *0-10 Scale: Avoid coaching the patient, simply ask them to rate their pain on a scale from 0-10, where 0 is no pain at all and 10 is the worst pain ever experienced by the patient.
  - *Wong-Baker "faces" scale: The faces correspond to numeric values from 0-10. The scale can be documented with the numeric value or the textual pain description.
- Consider paramedic intercept if needed for pain management.

*

0 NO HURT | 2 HURTS A LITTLE | 4 HURTS LITTE MORE | 6 HURTS EVEN MORE | 8 HURTS WHOLE LOT | 10 HURTS WORST

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.

Pain Management - Adult & Pediatric Paramedic Standing Orders on next page ⇨

PAIN MANAGEMENT – ADULT & PEDIATRIC cont. 2.9

⇦Pain Management - Adult & Pediatric from previous page

PARAMEDIC ADULT STANDING ORDERS

P

- Unless the patient has altered mental status, multi-systems trauma or abdominal pain, the paramedic may consider
- Ketorolac: 15 – 30 mg IVP or 30 – 60 mg IM (no repeat)
  [Consider as first line in renal colic. Avoid Ketorolac in patients with NSAID allergy, aspirin sensitive asthma, or known peptic ulcer disease.]
- Morphine: 1-5 mg IV/IM every 10 minutes to a total of 15 mg titrated to pain and SBP >90.
- Fentanyl: 25-50 mcg slow IV every 5 minutes up to a total of 150 mcg.
- Nitronox: (Patient must be able to self-administer this medication) (Contraindicated in abdominal pain, pneumothorax, head injured, or diving emergency patients).
  - For hypoventilation from opiate administration by EMS personnel, administer naloxone 0.4 mg IV/IM prn.
- Nausea: Refer to Nausea Protocol 2.13.

PARAMEDIC PEDIATRIC STANDING ORDERS

P

- Fentanyl 0.5 mcg/kg IV every 5 minutes. May be repeated up to three doses, **or**
- Morphine 0.1 mg/kg IV every 10 minutes. May be repeated up to two doses.

Contact medical control for guidance with all patients with altered mental status, multi-systems trauma, or abdominal pain, or for requests to provide additional doses of a medication.

FEVER (>101.5⁰ F/38.5⁰ C) – ADULT **2.10**

This protocol is **not** intended for patients suffering from environmental hyperthermia (Hyperthermia Protocol 2.5).

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Wear N95 mask if bioterrorism related event or highly infectious agent suspected.
- Obtain temperature.
- Passive cooling; remove excessive clothing/bundling
- Do not cool to induce shivering.

PARAMEDIC STANDING ORDERS

P

- For temperatures of 101.5°F (38.5°C) or greater and no acetaminophen in last 4 hours, consider administering acetaminophen 500 - 1000mg PO in absence of signs/symptoms of nausea & vomiting.
- If acetaminophen has been administered within last 4 hours and temperature is still >101.5, then consider administering ibuprofen 400 – 800 mg PO if no contraindications (e.g. age > 65, known GI intolerance, known ulcer) and is without signs/symptoms of nausea & vomiting.

FEVER (>101.5⁰ F/38.5⁰ C) – PEDIATRIC *2.10P*

This protocol is **not** intended for patients suffering from environmental hyperthermia (Hyperthermia Protocol 2.5).

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Wear N95 mask if bioterrorism related event or highly infectious agent suspected.
- Obtain temperature – (rectal temperature preferred as appropriate).
- Passive cooling; remove excessive clothing/bundling
- Do not cool to induce shivering.

PARAMEDIC STANDING ORDERS

P

For temperatures of 101.5°F (38.5°C) or greater

- If child has had acetaminophen more than 4 hours ago, then consider administer of acetaminophen 15 mg/kg PO/PR.
- If last dose of acetaminophen was given less than 4 hours ago, but was less than 15 mg/kg, then consider administrating a "make-up" dose to bring total dose up to 15 mg/kg.
- If child has had maximum dose of acetaminophen less than 4 hours ago and still has temperature greater than 101.5°F (38.5°C), then consider ibuprofen 10 mg/kg PO (contraindicated in children under 6 months of age).
- If child has had ibuprofen within the last 6 hours and dose was less than 10 mg/kg, then administer "make-up" dose to bring total dose up to 10 mg/kg (contraindicated in children less than 6 months of age).

POISONING/SUBSTANCE ABUSE/OVERDOSE – ADULT 2.11

BASIC STANDING ORDERS

B

- Consider waiting for law enforcement to secure the scene.
- Remove patient from additional exposure.
- Routine Patient Care
- Absorbed poison
  - Remove clothing and fully decontaminate.
  - If eye is involved, irrigate at least 20 minutes without delaying transport.
- Inhaled/injected poison:
  - Administer high-flow oxygen.
  - **Note**: Pulse oximetry may not be accurate for toxic inhalation patients.
- Ingested poison:
  - Contact Poison Control at (800) 222-1222 as soon as practicable.
  - Consider activated charcoal 25 - 50 gm PO.
  - Bring container to receiving hospital.
- Envenomations:
  - Immobilize extremity in dependent position. Consider ice pack for bee stings.
- For MCI related to organophosphate exposure see Nerve Agents & Organophosphates Adult Protocol 8.2
- For suspected isolated cyanide poisoning see Cyanide Adult Protocol 8.4
- Consider ALS intercept/Air Medical Transport.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Suggested Narcotic Antidotes: Naloxone 0.4–2 mg IV push, IM, SQ, IN or ETT. If no response, may repeat initial dose every 5 minutes to a total of 10 mg.
- Consider paramedic intercept.

Poisoning/Substance Abuse/Overdose - Adult Paramedic Standing Orders on next page ⇨

POISONING/SUBSTANCE ABUSE/OVERDOSE – ADULT cont. 2.11

⇦ Poisoning/Substance Abuse/Overdose - Adult from previous page

PARAMEDIC STANDING ORDERS

P

Suggested Antidotes

▶ Tricyclic	Sodium bicarbonate 1 mEq/kg IV.
▶ Beta-Blocker	Glucagon 2 – 5 mg IV, IM, SQ.
▶ Ca Channel Blocker	Calcium Chloride 1-2 g IV bolus followed by 20-40 mg/kg/hr infusion Glucagon 2– 5 mg IV, IM, SQ.
▶ Dystonic Reaction	Diphenhydramine 25 – 50 mg IVP for dystonic reactions induced by antipsychotics, such as haloperidol, or anti-emetics such as prochlorperazine, promethazine, or metoclopramide
▶ Hydrogen Cyanide	Sodium nitrite: 300 mg IV over 5 minutes or more (10 ml of a 3 percent solution). Repeat half dose if symptoms persist after 20 minutes. Sodium thiosulfate*: 12.5 g IV over 15 minutes (50 ml of a 25 percent solution). Repeat half dose if symptoms persist after 20 minutes.
▶ Organophosphates	Atropine: 2 mg IV every 5 minutes as needed and Pralidoxime: 1-2 gram IV over 30–60 minutes.

* Note: Sodium thiosulfate may be considered as a single agent for treatment of cyanide poisoning, especially in suspected cases that have not been confirmed, or in a situation where they may be concurrent CO poisoning. In the case of CO poisoning, it is reasonable to administer sodium thiosulfate first, and reserve the sodium nitrite for refractory cases.

POISONING/SUBSTANCE ABUSE/OVERDOSE – PEDIATRIC 2.11P

BASIC STANDING ORDERS

B

- Consider waiting for law enforcement to secure the scene.
- Remove patient from additional exposure.
- Routine Patient Care
- Absorbed poison
  - Remove clothing and fully decontaminate.
  - If eye is involved, irrigate at least 20 minutes without delaying transport.
- Inhaled/injected poison
  - Administer high-flow oxygen.
  - **Note**: Pulse oximetry may not be accurate for toxic inhalation patients.
- Ingested poison
  - Contact Poison Control at (800) 222-1222 as soon as practicable.
  - Consider activated charcoal 25 - 50 gm PO.
  - Bring container to receiving hospital.
- Envenomations
  - Immobilize extremity in dependent position. Consider ice pack for bee stings.
- For MCI related to organophosphate exposure see Nerve Agents & Organophosphates Pediatric Protocol 8.2P
- For suspected isolated cyanide poisoning
  - Administer amyl nitrite inhalant from cyanide antidote kit
    - Crush 1-2 ampules into gauze, continue every 5 minutes
    - Have patient inhale amyl nitrite through gauze or place gauze within facemask, over intake valve of bag-valve-mask device during assisted ventilation
    - Alternate amyl nitrite every 30 seconds with 100 percent oxygen.
- For MCI related to cyanide poisoning see Cyanide Pediatric Protocol 8.4P
- Consider ALS intercept/Air Medical Transport.

INTERMEDIATE STANDING ORDERS

I

- Administer amyl nitrite, sodium nitrite, and sodium thiosulfate for cyanide poisoning if available (For MCI see Cyanide Pediatric Protocol 8.4P).

Poisoning/Substance Abuse/Overdose- Pediatric Paramedic Standing Orders on next page ⇨

POISONING/SUBSTANCE ABUSE/OVERDOSE – PEDIATRIC cont. 2.11P

⇦ Poisoning/Substance Abuse/Overdose - Pediatric from previous page

PARAMEDIC STANDING ORDERS

P

Suggested Antidote

▶ Narcotic	Nalaxone 0.1 mg/kg up to 2 mg, IV push, IM, SQ, IN, or ETT.
▶ Tricyclic	Sodium bicarbonate 1 mEq/kg IV.
▶ Beta-Blocker:	Glucagon 0.025-0.05mg/kg IV.
▶ Ca Channel Blocker	Calcium Chloride 20 mg/kg/dose IV over 5 minutes, repeat if necessary. Glucagon 0.025-0.05mg/kg IV.
▶ Hydrogen Cyanide	Sodium nitrite 0.2-0.4 ml/kg of a 3 percent solution IV. Repeat half dose if symptoms persist after 5-10 minutes. Sodium thiosulfate: 1.65 ml/kg IV of a 25 percent solution. Repeat half dose if symptoms persist after 5-10 minutes.
▶ Organophosphates	Atropine: 0.05 - 0.1 mg/kg IV or IM (minimum dose of 0.1 mg, maximum dose 5 mg), repeat 2-5 minutes as needed. Pralidoxime: 25 - 50 mg/kg/dose IV for maximum dose 1gm or IM for maximum dose of 2 gm, repeat within 30-60 minutes as needed, and every hour for 1–2 doses as needed.

SEIZURES – ADULT 2.12

BASIC STANDING ORDERS

B

- Routine Patient Care
- Do not attempt to restrain the patient; protect the patient from injury.
- History preceding seizure is very important. Find out what precipitated seizure (e.g. medication non-compliance, active infection, trauma, hypoglycemia, substance abuse, third-trimester pregnancy, etc.).
  - Has diazepam rectal gel been prescribed by patient's physician? If yes, advise caregiver to administer according to patient's prescribed treatment
  - Determine if emergency is related to implanted vagus nerve stimulator. Ascertain when vagus nerve stimulator was implanted, when last checked by physician, current settings, history of magnet use, changes in seizure intensity.
- Request ALS intercept for ongoing or recurrent seizure activity.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- If blood glucose reading less than 80 mg/dl, see Diabetic Emergencies Adult Protocol 2.3.
- Request paramedic intercept for ongoing or recurrent seizure activity.

PARAMEDIC STANDING ORDERS

P

- Saline lock or IV - 0.9% NaCl (normal saline) @ rate to maintain appropriate hemodynamic status
- If generalized seizure activity is present, consider
  - Lorazepam 1-2 mg IV or IM repeated every 5 minutes to a total of 8 mg, **or**
  - Diazepam 5 mg IV (then 2.5 mg IV every 5 minutes to total of 10 mg), **or**
  - Midazolam 1 – 2.5 mg IV/IM/IN repeated every 5 minutes or until seizure activity is abolished.
- Consider Magnesium Sulfate 4 grams IV over 5 minutes in presence of seizure in 3rd trimester of pregnancy.
- Flumazenil 0.2 mg IV over 30 seconds to reverse the effects of benzodiazepines that were administered by EMS personnel

SEIZURES – PEDIATRIC 2.12P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Do not attempt to restrain the patient; protect the patient from injury.
- History preceding seizure very important. Find out what precipitated seizure (e.g. medication non-compliance, active infection, trauma, substance abuse, fever, etc.).
  - Has diazepam rectal gel been prescribed by patient's physician? If yes, advise caregiver to administer according to patient's prescribed treatment
  - Determine if emergency is related to implanted vagus nerve stimulator. Ascertain when vagus nerve stimulator was implanted, when last checked by physician, current settings, history of magnet use, changes in seizure intensity.
- Obtain patient's temperature (rectal route preferred as appropriate).
- Request paramedic intercept for ongoing or recurrent seizure activity.

PARAMEDIC STANDING ORDER

P

- IV access, obtain blood sample and administer fluids to maintain hemodynamic status.
- If blood glucose reading less than 60 mg/dl, see Diabetic Emergencies Pediatric Protocol 2.3P.
- If generalized seizure activity is present, consider
  - lorazepam 0.1 mg/kg IV or IM (single maximum dose 2 mg) **or**
  - midazolam 0.1 mg/kg IV, IN or IM (single maximum dose 6 mg) **or**
  - diazepam 0.2 mg/kg IV or 0.5 mg/kg PR (single maximum dose 5mg IV or 10 mg PR).
- Any of the above may be repeated in 5 minutes, once.
- Flumazenil 0.01mg/kg IV/IM (maximum dose 0.2mg) over 30 seconds to reverse the effects of benzodiazepines that were administered by EMS personnel.

NAUSEA/VOMITING – ADULT & PEDIATRIC 2.13

BASIC STANDING ORDERS

B

- Routine Patient Care

INTERMEDIATE STANDING ORDERS - ADULT

I

- Consider IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.

PARAMEDIC STANDING ORDERS - ADULT

P

- Prochlorperazine 2.5mg IV or 5mg IM, **or**
- Promethazine 6.25mg IV diluted in 10 ml of normal saline, which is administered over 2 minutes via the furthest port from the vein, **or**
- Ondansetron 4mg IV or IM, **or**
- Metoclopramide 0.1mg/kg IV/IM to max of 5 mg, or
- May repeat any of the above medications once after 10 minutes if nausea persists
- Granisetron HCL 0.1mg - 1 mg IV one-time dose.
- Dolasetron 12.5 mg IV one-time dose.
- For dystonic reactions caused by EMS administration of prochlorperazine, promethazine or metoclopramide administer diphenhydramine 50 mg IV/IM.

PARAMEDIC STANDING ORDERS- PEDIATRIC

P

- IV access, obtain blood sample and administer fluids to maintain hemodynamic status.
- For patients greater then 2 years of age: Promethazine 0.25mg/kg IV (maximum dose 6.25mg) diluted in 10 ml normal saline, which is administered over 2 minutes via the furthest port from the vein, **or**
- Ondansetron 0.1 mg//kg (maximum single dose 4 mg)
- Granisetron 10 mcg/kg
- For dystonic reactions caused by EMS administration of prochlorperazine, promethazine, or metoclopramide, administer diphenhydramine 0.5 mg/kg IV/IM

BRADYCARDIA (SYMPTOMATIC) – ADULT 3.0

BASIC STANDING ORDERS

B

- Routine Patient Care
- 12 Lead ECG if available and does not delay transport.
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- If available, perform 12-lead EKG.
- Consider atropine 0.5 mg IVP (1 mg via ETT) every 3-5 minutes to total of 0.04mg/kg.
- Consider transcutaneous pacing if available. Attempt capture at 80 bpm at minimum output and increase until capture achieved.
- Consider procedural sedation prior to pacing
  - Lorazepam 1 mg IV or 2 mg IM, may repeat once in 5 minutes, **or**
  - Midazolam 2.5 mg IV, IM, IN may repeat once in 5 minutes, **or**
  - Diazepam 2 mg IV or 5 mg deep IM, may repeat once in 5 minutes.
- Consider dopamine* infusion 5-20mcg/kg/minute for pressure support.
- Consider glucagon 2-5 mg IV, IM SQ over 2-5 minutes in adults for suspected overdose of a beta-blocker or calcium channel blocker.
- Flumazenil 0.2 mg IV over 30 seconds to reverse the effects of benzodiazepines that were administered by EMS personnel

*Note: An infusion pump is required for the use of this pressor agent.

BRADYCARDIA (SYMPTOMATIC) – PEDIATRIC 3.0P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Consider underlying causes of bradycardia (e.g. hypoxia).
- Provide high-flow oxygen and consider assisting ventilations.
- Begin/continue CPR in child if HR < 60bpm and hypoperfusion.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

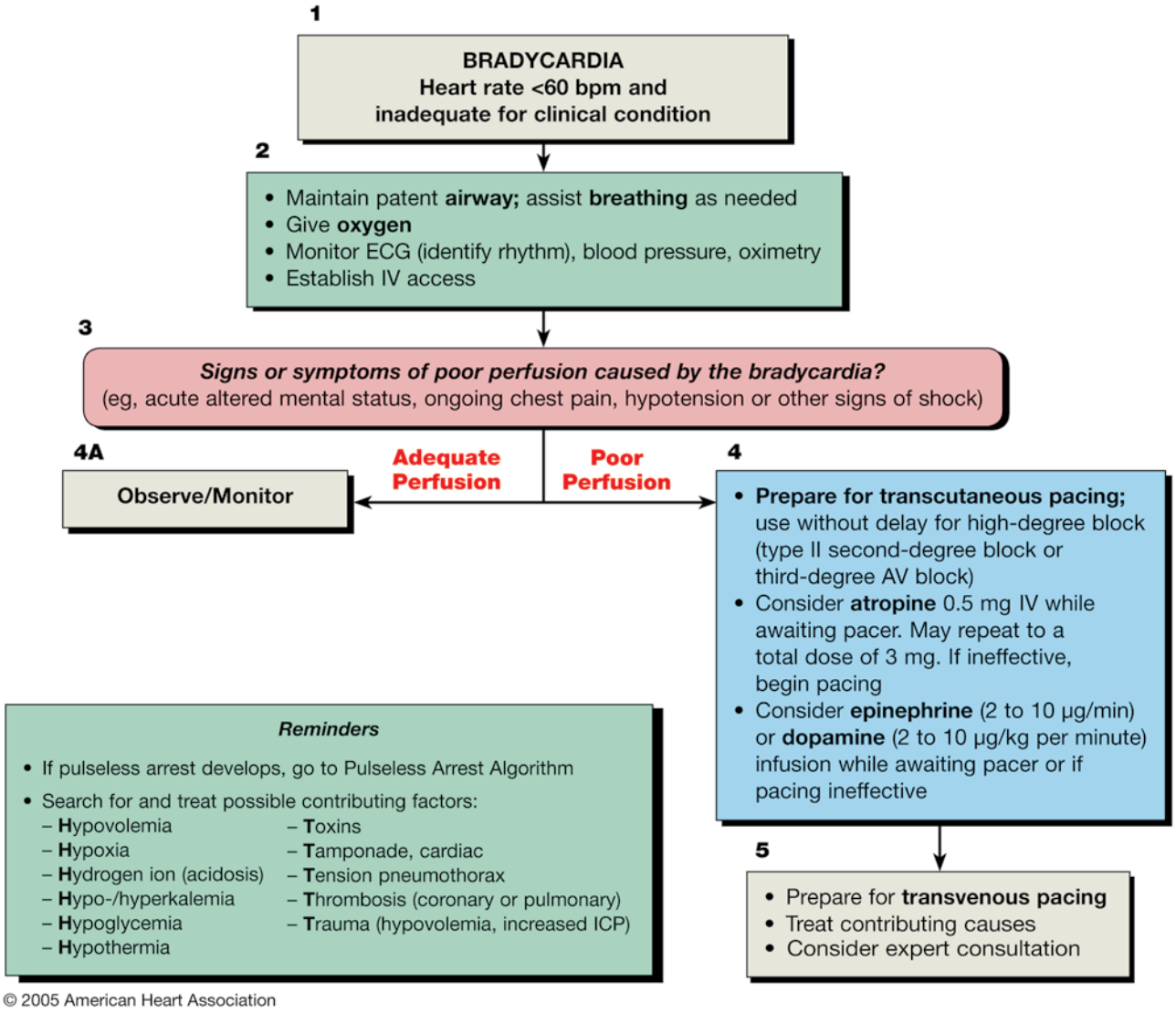
P

- IV access, obtain blood sample and administer fluids to maintain hemodynamic status.
- Epinephrine 0.01 mg/kg IV (0.1 ml/kg of **1:10,000**) every 3-5 minutes, **or**
- Epinephrine 0.1 mg/kg ETT (0.1 ml/kg of **1:1000**) every 3-5 minutes.
- Consider atropine 0.02mg/kg IV (min single dose 0.1mg, - total max dose 0.04mg/kg).
- Consider transcutaneous pacing at minimum output and increase until capture achieved for rate appropriate to age.
- Consider procedural sedation prior to pacing
  - midazolam 0.05 mg/kg IV, **or**
  - diazepam 0.05 mg/kg IV
- Consider glucose if hypoglycemia suspected.

PEDIATRIC VITAL SIGNS BY AGE

Age	Heart Rate Avg.	Respiratory Range		Systolic BP Avg.	Range
Newborn	140	110-180	40 - 60	72	52-92
1 month	135	90-170	30 - 50	82	60-104
1 year	120	80-160	20 - 30	94	70-118
2 years	110	80-130	20 - 30	95	73-117
4 years	105	80-120	20 - 30	96	65-117
6 years	100	75-115	18 - 24	97	76-116
8 years	90	70-110	18 - 22	99	79-119
10 years	90	70-110	16 - 20	102	82-122
12 years	85	60-110	16 - 20	106	84-128
14 years	80	60-105	16 - 20	110	84-136

BRADYCARDIA ALGORITHM 3.0



TACHYCARDIA – ADULT 3.1

BASIC STANDING ORDERS

B

- Routine Patient Care
- 12 Lead ECG if available and does not delay transport.
- Consider ALS intercept.

INTERMEDIATE ADULT STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider paramedic intercept.

Tachycardia - Adult Paramedic Standing Orders on next page ⇨

TACHYCARDIA - ADULT cont. 3.1

⇦ Tachycardia - Adult from previous page

PARAMEDIC ADULT STANDING ORDERS

- For heart rate greater than 150 bpm, consider vagal maneuvers.

If symptomatic and hemodynamically unstable

- Consider procedural sedation if practicable
  - midazolam 2.5 mg IV or diazepam 5 mg IV
- Synchronized cardioversion
  - For V-Tach, A-fib, PSVT: 100J, 200J, 300J, 360J*
  - For A-flutter: 50J, 100J, 200J, 300J, 360J*
  - For Polymorphic V-Tach: 200J, 300J, 360J*
    * or biphasic equivalents

If symptomatic, but hemodynamically stable

- For atrial fib, atrial flutter, consider
  - diltiazem 0.25mg/kg IV over 2 minutes.
    Repeat dose at 15 minutes if necessary at 0.35mg/kg.
    Note contraindication: WPW

For WPW, consider

- amiodarone 150mg IV over 10 minutes, **or**
- procainamide 20mg/minute IV up to 17 mg/kg.

For PSVT or narrow complex tachycardia

- Consider vagal maneuvers (avoiding carotid sinus massage in the elderly)
- If vagal maneuvers fail, give adenosine 6 mg rapid IVP; repeat dose of 12 mg X 2 as needed.
- Patients who do not respond to adenosine consider
  - diltiazem 0.25mg/kg IV over 2 minutes, **or**
  - amiodarone 150 mg IV **or**
  - verapamil 2.5mg-5mg IV

For uncertain wide complex tachycardia, consider

- amiodarone 150mg IV over 10 minutes, **or**
- if cardiac function not impaired, procainamide 20 mg/minute up to 17 mg/kg.

For VT, consider

- lidocaine 1 – 1.5 mg/kg followed by repeat bolus of 0.5 – 0.75 mg/kg IV, **or**
- amiodarone 150mg IV over 10 minutes, **or**
- procainamide 20 mg/minute (maximum does 17 mg/kg).

If polymorphic/torsades, consider

- magnesium sulfate 2-4g IV over 5 minutes

TACHYCARDIA – PEDIATRIC 3.1P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- 12-lead ECG if available and does not delay transport.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Vagal maneuvers.
- Consider treatable causes.

Consider procedural sedation prior to cardioversion

- midazolam 0.05 mg/kg IV, **or**
- diazepam 0.05 mg/kg IV.

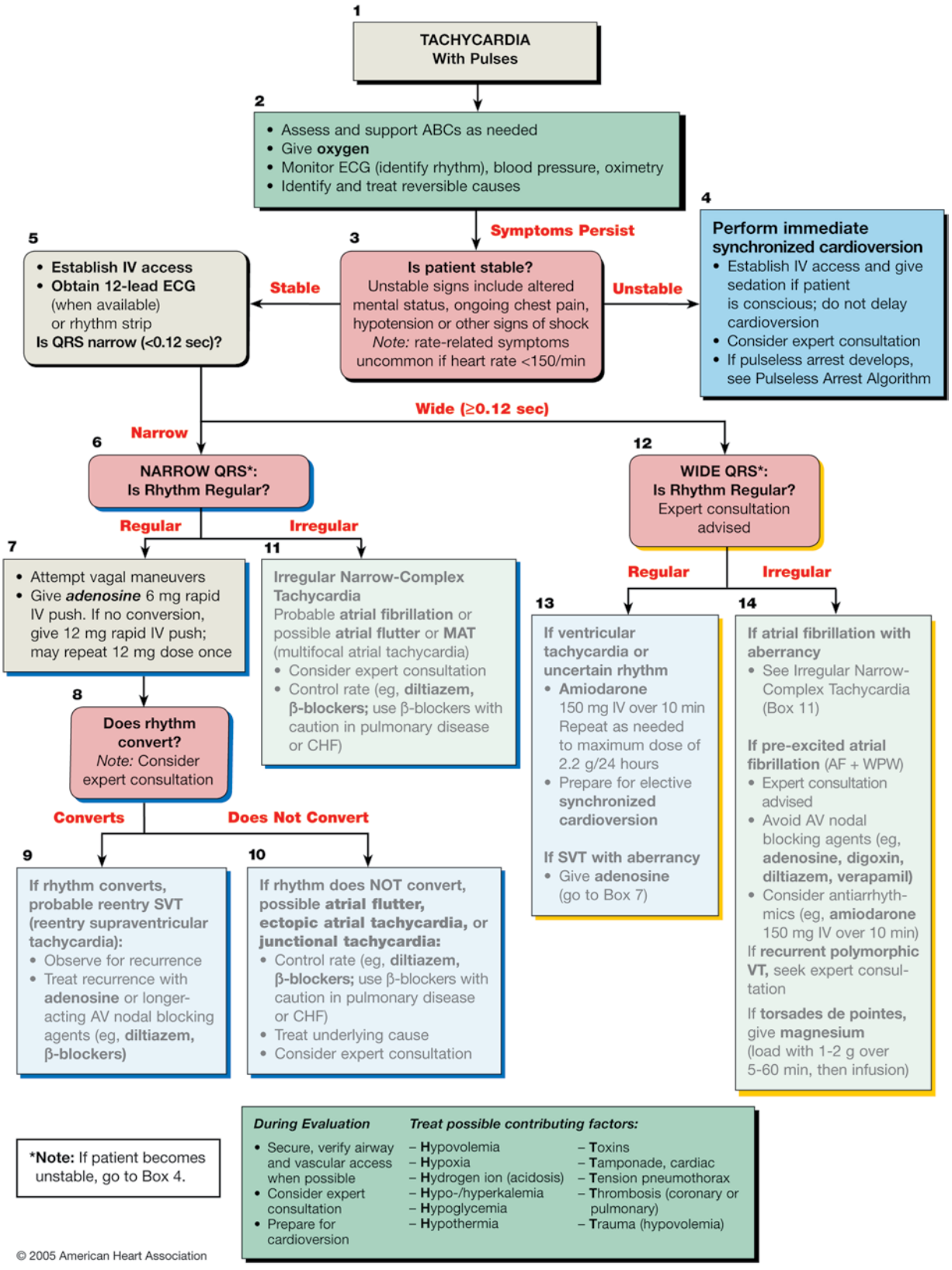
For suspected VT, consider

- Amiodarone 5 mg/kg (maximum dose 300mg) IV over 20 to 60 minutes, **or**
- Procainamide 15mg/kg IV over 30 to 60 minutes, **or**
- Lidocaine 1mg/kg (maximum dose 100 mg) IV bolus
- If unstable, synchronized cardioversion 0.5 to 1 J/kg

For PSVT or narrow complex tachycardia, consider

- Adenosine 0.1mg/kg IV not to exceed 6 mg (first dose)
- May repeat once at 0.2mg/kg IV not to exceed 12mg (subsequent dose)
- If unstable, synchronized cardioversion 0.5 to 1 J/kg

TACHYCARDIA ALGORITHM 3.1



ACUTE CORONARY SYNDROMES – ADULT 3.2

BASIC STANDING ORDERS

B

- Routine Patient Care
- Aspirin 324 mg PO (chewable) If patient states they cannot take ASA due to "stomach problems" or "doctors orders", call medical control for guidance
- Facilitate administration of patient's own nitroglycerin if SBP > 90, every 5 minutes up to 3
- Obtain a 12 lead EKG and transmit to the ED (if possible)
- Complete the following fibrinolytic questionnaire (below)
- Minimize scene time
- Consider ALS intercept

FIBRINOLYTIC QUESTIONNAIRE

- ✓ No trauma, surgery, head injury within last month
- ✓ No current or recent active bleeding within last month
- ✓ No LP, spinal anesthesia, or stroke within last month
- ✓ No known bleeding disorder or clinical suspicion of aortic dissection
- ✓ SBP <180 at baseline or after Rx with NTG and/or metoprolol

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure > 90 mmHg
- Consider paramedic intercept

PARAMEDIC STANDING ORDERS

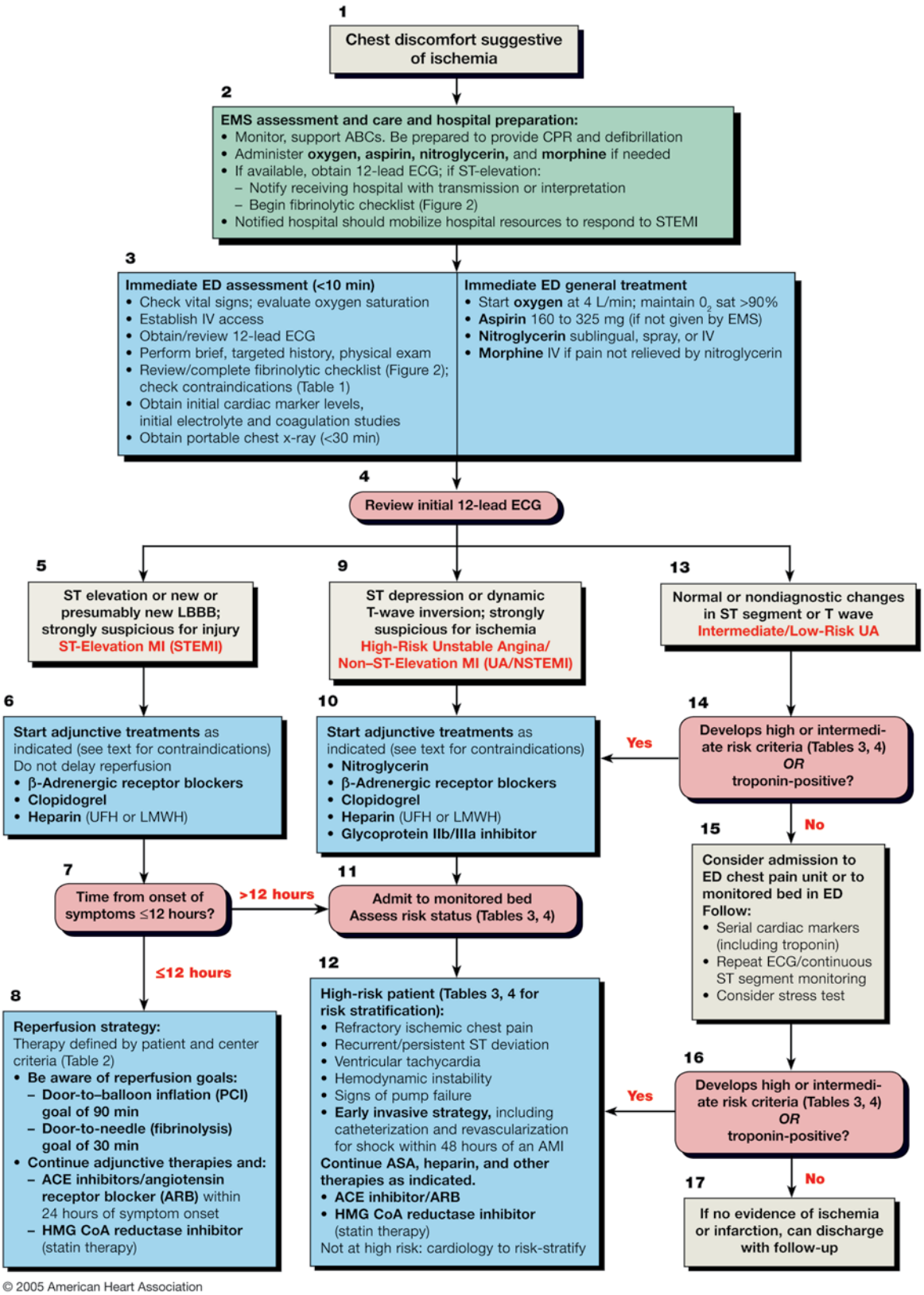
P

- Nitroglycerin 0.4mg SL every 5 minutes while symptoms persist if SBP > 90 mmHg
- Consider IV Nitroglycerin at 10mcg/minute if symptoms persist after 3rd SL nitroglycerin. (There must be two (2) IV lines or a Twin Cath in place and the IV nitroglycerin must be on an infusion pump.)
- Increase IV nitroglycerin by 10 mcg/minute every 5 minutes while symptoms persist and SBP >90
- If IV nitroglycerin is not available, then apply nitroglycerin paste 1-2 inches transdermal.
- Consider morphine, 2mg IVP every 5 minutes up to 10 mg if pain persists and SBP > 90.
- Consider Fentanyl 25-50 mcg for patients with a morphine allergy or known right ventricular infarct.
- Consider Metoprolol: 5mg IVP over 2-5 minutes. Repeat the dose every 5 minutes for a total of 15 mg as long as the patient SBP > 100 and HR > 60.
- Treat dysrhythmias PRN; refer to appropriate protocol

CONTACT RECEIVING FACILITY AND ACTIVATE CATH LAB TEAM

- ✓ Transport time greater than 15 minutes
- ✓ In collaboration with Medical Control MD Consider:
- ✓ Heparin 5000u IV bolus with evidence of STEMI in two or more contiguous leads or new Left Bundle Branch Block and no finding from fibrinolytic questionnaire (above)

ACUTE CORONARY SYNDROMES ALGORITHM 3.2



CONGESTIVE HEART FAILURE (PULMONARY EDEMA) – ADULT 3.3

BASIC STANDING ORDERS

B

- Routine Patient Care
- Place patient in semi-sitting or full sitting position.
- Administer oxygen at a rate to keep oxygen saturation above 90%.
- Facilitate administration of patient's own nitroglycerin - if SBP > 90 every 5 minutes as needed.
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- Consider nitroglycerin 0.4 mg SL every 5 minutes prn if SBP > 90 mmHg.
- Consider furosemide 0.5 mg – 1 mg/kg IV or bumetanide 1 mg IV.
- Consider morphine sulfate 1 mg – 5 mg slow IV x 1.
- If not improving with above measures and systolic BP remains above 90 mm Hg, consider
  - IV nitroglycerin infusion beginning at 10 mcg/minute, via infusion pump titrated to effect and SBP greater than 90 mm Hg. or nitroglycerin paste 1" – 2" transdermally.
  - Consider CPAP* if available and trained to use.

*Continuous Positive Airway Pressure (CPAP) with maximum 10 cm H2O pressure support

Indications for CPAP: Respiratory distress in the conscious patient suffering from presumed pulmonary edema who is non-responsive to simple oxygenation via non-rebreather mask

CARDIAC ARREST – ADULT 3.4

BASIC STANDING ORDERS

B

- Routine Patient Care – with focus on CPR.
- Apply and use AED if available.
- For Trauma
  - Minimize on scene time **or**
  - Consider termination of efforts or not attempting resuscitation (see DNR Orders Protocol 6.4 and/or Special Resuscitation Situations and Exceptions Protocol 6.5).
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- Document presenting cardiac rhythm in two separate leads, if possible
- Consider treatable causes: overdose/poisoning, hypothermia; treat as per specific protocol.
- IV access and administer fluids at wide open.
- Airway management as appropriate and trained
- For Trauma, do not delay transport for IV, advanced airway, or medications.
- Consider Paramedic intercept.

For Ventricular Fibrillation (VF)/Pulseless Ventricular Tachycardia (VT)

- CPR for 5 cycles/2 min.; then defibrillation (use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators); then CPR for 5 cycles/2 min.; then rhythm check; then
  - Consider (if trained and certified) Epinephrine (1:10,000) 1 mg IV; repeat every 3 -5 minutes.
- Continue CPR for 5 cycles/2 min. between interventions; stop only for defibrillation, rhythm check, or return of circulation.

For ASYSTOLE or Pulseless Electrical Activity (PEA)

- Continue CPR for 5 cycles/2 min.
- Consider (if trained and certified)
  - Epinephrine (1:10,000) 1 mg IV; repeat every 3 -5 minutes.
  - Atropine 1 mg IV for asystole or slow PEA; repeat every 3 -5 minutes up to 3 doses.
- Continue CPR for 5 cycles/2 min. between interventions; stop only for rhythm check or return of circulation.
- Consider paramedic intercept.

Cardiac Arrest- Adult Paramedic Standing Orders on next page ⇨

CARDIAC ARREST – ADULT cont. 3.4

⇦ Cardiac Arrest - Adult from previous page

PARAMEDIC STANDING ORDERS

P

- Advanced airway management
- Follow ACLS Guidelines as trained and credentialed.
- NOTE: IV/IO administration of medications is preferred to administration via ETT.
- For Trauma Arrest– consider bilateral needle chest decompression.
- Consider a nasogastric or orogastric tube to decompress the stomach of an intubated patient.
- For excessive downtime, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1 mEq/kg IVP.

For Post-resuscitation hypotension

- IV Normal Saline at wide open and/or
- Consider
  - *Dopamine infusion 5 – 20 mcg/kg/min, **or**
  - *Norepinephrine infusion 1 – 30 mcg/min, **or**
  - *Phenylephrine 100 – 180 mcg loading dose followed by infusion 40 – 60 mcg/min.

*Note: An infusion pump is required for the use of these pressor agents.

CARDIAC ARREST – PEDIATRIC 3.4P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care – with focus on CPR
- If age – appropriate AED is available on scene, providers may use/continue to use it.
  - Use age–appropriate pads
  - Follow manufacturer's instructions
- If age – appropriate AED is not available, may use adult pads if patient > 1 year of age.

For Trauma

- Minimize on scene time
- Consider termination of efforts or not attempting resuscitation (see DNR Orders Protocol 6.4 and/or Special Resuscitation Situations and Exceptions Protocol 6.5).
- Consider ALS intercept.
- Consider treatable causes: overdose/poisoning, hypothermia; treat as per specific protocol.
- Consider paramedic intercept.

Cardiac Arrest- Pediatric Paramedic Standing Orders on next page ⇨

CARDIAC ARREST – PEDIATRIC cont. 3.4P

⇦ Cardiac Arrest - Pediatric from previous page

PARAMEDIC STANDING ORDERS

- Advanced airway management
- Consider intraosseous access.
- IV/IO administration of medications is preferred over administration via ETT.
- Consider nasogastric or orogastric tube to decompress the stomach of intubated patients

For ASYSTOLE or PEA

- Give Epinephrine (1:10,000) 0.01 mg/kg (0.1 ml/kg) IV **or** 0.1 mg/kg (1:1000; 0.1 ml/kg) via ETT, repeat every 3 - 5 minutes
- Give 5 cycles of CPR, then check rhythm
- If no rhythm, continue Epinephrine and 5 cycles of CPR until
  - pulse obtained,
  - shockable rhythm obtained, or
  - decision made to discontinue further efforts.
- If rhythm noted, determine if it is shockable if so, go to VF/Pulseless VT; if not, continue Epinephrine and 5 cycles of CPR until
  - pulse obtained,
  - shockable rhythm obtained, or
  - decision made to discontinue further efforts.

For VF/Pulseless VT

- Defibrillate at 2 J/kg; deliver 5 cycles of CPR and recheck rhythm; if still a shockable rhythm, defibrillate at 4 J/kg; deliver 5 cycles of CPR; give Epinephrine (1:10,000) 0.01 mg/kg (0.1 ml/kg) IV/IO **or** 0.1 mg/kg (1:1000; 0.1 ml/kg) via ETT.
  - repeat every 3 - 5 minutes
- If still a shockable rhythm, defibrillate at 4 J/kg; deliver 5 cycles of CPR; consider
  - Amiodarone 5 mg/kg (maximum 300 mg) IV **or**
  - Lidocaine 1 mg/kg (maximum 100 mg) IV
  - Magnesium sulfate 25 – 50 mg/kg (max. 2 grams) IV/IO over 1 – 2 minutes for torsades de pointes
- If pulse obtained, begin post-resuscitation care.

For TRAUMA

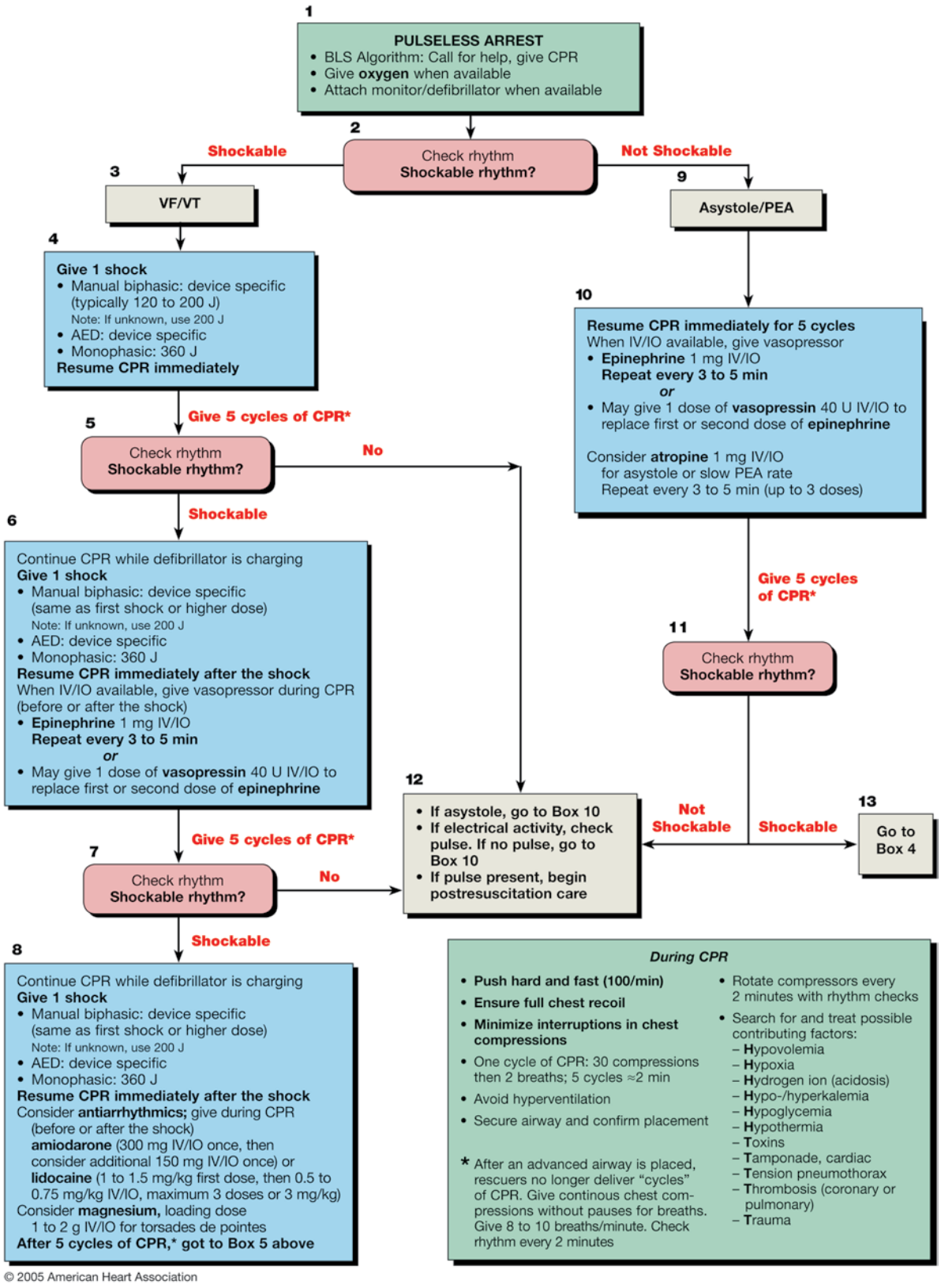
- Do not delay transport for IV/IO access, advanced airway, or medications.
- Consider 1 or 2 large bore IV's en route, bolus 0.9% NaCl (normal saline) 20 ml/kg.
- Consider bilateral needle chest decompressions
- For excessive downtime, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1 mEq/kg IVP

For Post-resuscitation hypotension

- IV Normal Saline 20 ml/kg and/or
- Consider
  - *Dopamine infusion 5 – 20 mcg/kg/min, **or**
  - *Norepinephrine infusion 0.1 – 2 mcg/kg/min titrated to effect; max 2 mcg/kg/min.

* Note: An infusion pump is required for the use of these pressor agents.

CARDIAC ARREST ALGORITHM 3.4



DROWNING/SUBMERSION INJURIES – ADULT & PEDIATRIC 4.0

BASIC STANDING ORDERS

B

- Routine Patient Care
- Assume c-spine injury and stabilize c-spine.
- Obtain specific history: time, temperature, associated trauma, etc.
- Begin resuscitation efforts while removing the patient from the water.
- Consider hypothermia.
- Conscious patients with submersion injuries should be transported to the hospital.
- If patient submerged for
  - Less than 1 hour - perform ALS measures
  - 1 - 2 hours - contact medical control for guidance
  - Greater than 2 hours - Consider termination of efforts (see Special Resuscitation Situations and Exceptions Protocol 6.5).
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- Consider CPAP to supplement patient's own respiratory effort.

EYE & DENTAL INJURIES – ADULT & PEDIATRIC 4.1

EYE

BASIC STANDING ORDERS

B

- Routine Patient Care
- Obtain visual history (use of corrective lenses, surgeries, use of protective equipment).
- Obtain visual acuity, if able.
- Chemical irritants: flush with copious amounts of water, or normal saline.
- Thermal burns to eyelids: patch both eyes with cool saline compress.
- Impaled object: immobilize object and patch both eyes.
- Puncture wound: place protective device over both eyes (e.g. eye shield). Do not apply pressure.
- Foreign body: patch both eyes.
- In the event patient is unable to close eyelids, keep eye moist with sterile saline compress.
- Consider ALS intercept.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- Proparacaine 2 drops to affected eye, repeat every 5 minutes as needed. Consider use of Morgan lens for irrigation.
- Refer to the Pain Management Protocol 2.9.
- Refer to the Nausea Protocol 2.13.

DENTAL AVULSIONS

BASIC & INTERMEDIATE & PARAMEDIC STANDING ORDERS

B/I/P

- Routine Patient Care
- Dental avulsions should be placed in an obviously labeled container with saline or cell-culture medium.

BURNS (THERMAL) – ADULT 4.2

BASIC STANDING ORDERS

B

- Routine Patient Care
- Stop the burning process.
- Remove jewelry.
- Decontaminate patient as appropriate.
- Assess patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- Maintain patent airway.
- Determine extent of the burn using Rule of Nines (see below).
- Determine depth of injury.
- If the partial thickness burn (2^0) is less than 10% body surface area, apply cool water or cool, wet towels for a maximum of 15 minutes to burned area. Prolonged cooling may result in hypothermia.
- Maintain body heat.
- Cover burns with dry, sterile sheets or dry, sterile dressings.
- Do not apply any ointments, creams, or gels to burn area.
- Consider ALS intercept.
- Consider air medical transportation directly to a burn center.

INTERMEDIATE STANDING ORDERS

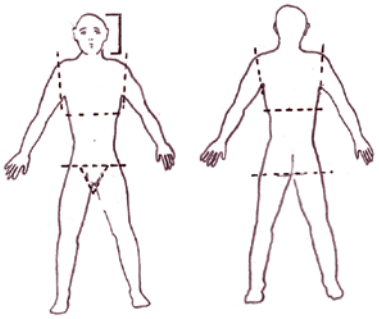
I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- If partial thickness (2^0) or full thickness (3^0) degree burn >10% body surface area, consider 250 ml fluid bolus.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- If the patient has respiratory difficulty, burns about the mouth or neck, or carbonaceous sputum production, consider advanced airway management. See Airway Management Protocol 5.0.
- Consider IV 0.9% NaCl (normal saline) at rate to maintain hemodynamic status.
- Refer to Pain Management Protocol 2.9.



The Rule of Nines - Adult

Head and neck	*9%*	*Lower back*	*9%*
Left arm	*9%*	*Front of left leg*	*9%*
Right arm	*9%*	*Front of right leg*	*9%*
Chest	*9%*	*Back of left leg*	*9%*
Abdomen	*9%*	*Back of right leg*	*9%*
Upper back	*9%*	*Genital region*	*1%*

BURNS (THERMAL) – PEDIATRIC 4.2P

BASIC & INTERMEDIATE STANDING ORDERS

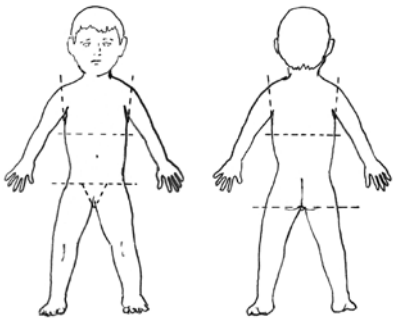
B/I

- Routine Patient Care
- Stop the burning process.
- Remove jewelry.
- Decontaminate patient as appropriate.
- Assess patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- Maintain patent airway.
- Determine percent extent of the burn using Rule of Nines, and determine the depth of the burn. Remember to use the Pediatric Rule of Nines (see below).
- If the partial thickness (2^0) burn is less than 10% body surface area, apply cool water or cool, wet towels for a maximum of 15 minutes to burned area. Prolonged cooling may result in hypothermia. Children are more susceptible to heat loss.
- Maintain body heat.
- Cover burns with dry, sterile sheets or dry, sterile dressings.
- Do not apply any ointments, creams, or gels to burn area.
- Consider requesting ALS/paramedic intercept.
- Consider air medical transportation directly to a burn center.

PARAMEDIC STANDING ORDERS

P

- If the patient has respiratory difficulty, burns about the mouth or neck, or carbonaceous sputum production, consider advanced airway management. See Airway Management Protocol 5.0.
- Consider IV 0.9% NaCl (normal saline) at rate to maintain hemodynamic status.
- Refer to Pain Management Protocol 2.9.



The Rule of Nines - Pediatric

Head and neck	*18%*	*Upper back*	*9%*
Left arm	*9%*	*Lower back*	*9%*
Right arm	*9%*	*left leg*	*13.5%*
Chest	*9%*	*right leg*	*13.5%*
Abdomen	*9%*	*Genital region*	*1%*

TRAUMATIC BRAIN INJURY – ADULT & PEDIATRIC 4.3

BASIC STANDING ORDERS

B

- Routine Patient Care
- If breathing is inadequate, ventilate with 100% oxygen utilizing normal ventilation parameters, maintaining SPO_2 > 90%
- Avoid hyperventilation unless clear signs of cerebral herniation are present.
- If signs of cerebral herniation are present, ventilate at the following rates
  - Adult: 20 bpm
  - Child: 30 bpm
  - Infant: 35 bpm
- Discontinue hyperventilation when signs/symptoms improve.
- Continuously monitor SBP.
- Assess and document pupillary response and Glasgow Coma Scale every 5 minutes.
- Consider ALS intercept/air medical transport.

SIGNS OF HERNIATION

- ✓ Extensor posturing, lack of motor response to noxious stimuli
- ✓ Asymmetric, dilated, or non-reactive pupils
- ✓ Progressive neurologic deterioration:

  Decrease in the GCS > 2points from a patient's best prior score, in a patient with an initial GCS < 9

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids for adults to maintain systolic blood pressure >90 mmHg.
- If EtCO2 is available, ventilate to maintain an EtCO2 of 28 – 30 mmHg only if signs of herniation present.
- Check blood glucose, if hypoglycemic see Diabetic Emergencies Protocol 2.3.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- **Child**: Administer fluid bolus 20 ml/kg, may repeat X 2, (maximum total 60ml/kg) to maintain SBP above
  - 12-16 years: 90 mmHg
  - 5-12 years: 80 mmHg*
  - 1-5 years: 75 mmHg*
  - <1 years: 65 mmHg*
- If intubation required, consider administration of lidocaine 1.5mg/kg IV prior to intubation.

*Administer fluid in children with normal SBP and who have other signs of decreased perfusion including tachycardia, loss of central pulses, increased capillary filling time of >2 seconds.

THORACIC INJURIES – ADULT 4.4

BASIC STANDING ORDERS

B

- Routine Patient Care
- Open chest wound
  - Cover with an occlusive dressing, sealed on 3 sides or commercial device; if condition deteriorates, remove the dressing momentarily then reapply.
- In the case of a flail segment with paradoxical movement
  - Use positive pressure ventilation.
- Consider ALS intercept.
- Consider air medical transport.

INTERMEDIATE STANDING ORDERS

I

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- Do not delay transport for IV access.
- Consider paramedic intercept.

PARAMEDIC STANDING ORDERS

P

- In presence of tension pneumothorax*, perform needle decompression.
- Consider pain management (refer to Pain Management Protocol 2.9).

* Tension pneumothorax is defined as respiratory distress, with asymmetric or absent unilateral breath sounds and associated hypotension.

THORACIC INJURIES – PEDIATRIC 4.4P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Open chest wound
  - Cover with an occlusive dressing, sealed on 3 sides or commercial device; if condition deteriorates, remove the dressing momentarily then reapply.
- In the case of a flail segment with paradoxical movement
  - Use positive pressure ventilation.
- Consider paramedic intercept.
- Consider air medical transport.

PARAMEDIC STANDING ORDERS

P

- IV access, obtain blood sample and administer fluids to maintain systolic blood pressure >90 mmHg.
- In presence of tension pneumothorax*, perform needle decompression.
- Consider pain management (refer to Pain Management Protocol 2.9).

* Tension pneumothorax is defined as respiratory distress, with asymmetric or absent unilateral breath sounds and associated hypotension.

AIRWAY MANAGEMENT *5.0*

ASSESSMENT

Each patient presents unique problems that cannot be fully outlined in any algorithm. As such, the provider must rely on thorough assessment techniques and consider each of the following:

1. **Airway Patency:** Assess for airway obstruction or risk of impending obstruction due to facial injuries, mass, foreign body, swelling, etc. Assess for presence/absence of gag reflex.
2. **Ventilatory Status:** Assess for adequate respiratory effort and impending fatigue/failure/apnea. Assess for accessory muscle use, tripod positioning, and ability of patient to speak in full sentences. If available, assess endtidal CO_2.
3. **Oxygenation:** Any oxygen saturation less than 90% represents relatively severe hypoxia and should be considered an important warning sign. In addition to oxygen saturation assess for cyanosis.
4. **Airway Anatomy:** Before attempting airway maneuvers or endotracheal intubation, especially with the use of medications, assess patient anatomy to predict probability of success and the need for back up device or technique. First, assess for difficulty of mask seal. Patients with facial hair, facial fractures, obesity, extremes of age and pathologically stiff lungs (COPD, ARDS, etc) may require special mask techniques or alternatives. Next, assess for difficulty of intubation. Patients with short neck, inability to open mouth at least three finger widths (or other oral issue such as large tongue or teeth), less than three finger widths of thyro-mental distance (or receding jaw), reduced atlanto-occiptal movement (such as suspected c-spine injury), obesity or evidence of obstruction (such as drooling or stridor) are some of the indicators of possible difficult intubation. Assessment of difficulty to place surgical airways includes surgery or airway disruption (trauma), hematoma, obesity, radiation, and tumors.

DEVISE PLAN

1. Each patient will present unique challenges to airway management, therefore before any intervention is attempted, the provider should contemplate a plan of action that addresses the needs of the patient as well as anticipate complications and how to manage those complications, should the need arise.
2. Airway management is a continuum of interventions, not an "all or none" treatment. Some patients may only need airway positioning or a nasal or oral airway to achieve adequate ventilation and oxygenation. Others will require more invasive procedures. The provider should choose the **least** invasive method that can be employed to achieve adequate ventilation and oxygenation.
3. Continually reassess efficacy of plan and change plan of action as patient needs dictate.

BASIC SKILLS

Mastery of basic airway skills is paramount to the successful management of a patient with respiratory compromise.

- Ensure a patent airway with the use of
  - Chin Lift/Jaw Thrust
  - Nasal Airway
  - Oral Airway
  - Suction
  - Removal of foreign body
- Provide ventilation with a bag-valve-mask: Proper use of the BVM includes appropriate mask selection and positioning to ensure a good seal. If possible, BVM is best accomplished with two people: one person using both hands to seal the mask and position the airway, while the other person provides ventilation. If the patient has some respiratory effort, synchronize bagging with the patient's own inhalation effort.

AIRWAY MANAGEMENT cont. *5.0*

ADVANCED AIRWAY SKILLS

Only after basic procedures are deemed either inappropriate or have proved to be inadequate should more advanced methods be used. Procedures documenting the use of each device/technique listed below are found elsewhere in this manual.

- **ETT**: The endotracheal tube was once considered the optimal method of managing the airway during cardiac arrest. It is now clear, however, that the incidence of complications is unacceptably high when intubation is performed by inexperienced providers or monitoring of tube placement is inadequate. The optimal method of managing the airway during cardiac arrest will vary based on provider experience, emergency medical services (EMS) or healthcare system characteristics, and the patient's condition.

  2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (Circulation. 2005;112:IV-51 – IV-57)

- **Bougie**: All providers who attempt ETT placement should become intimately familiar with the use of a bougie. It is the single most often used device by Anesthesiologists and Emergency Physicians for helping guide placement when a difficult airway is encountered
- **Alternate Devices:** utilize an alternate device when the clinical indications for intubation still exist but conditions prevent intubation or previous attempts at ETT placement have failed. Each of the approved devices has its own set of advantages/disadvantages and requires a unique insertion technique. Providers should have at least one of these devices available for use.
  - **King-LT**
  - **Combitube**
  - **LMA**
- **CPAP**: Continuous Positive Airway Pressure (CPAP) has been shown to be effective in preventing intubation and decreasing mortality in properly selected patients with acute respiratory failure.
- **Surgical Airways**: These procedures are indicated only when all other measures fail and you are presented with a situation* in which intubation is contraindicated or in which you cannot intubate or otherwise ventilate a patient.

*Situations that might require a surgical airway include

- Massive facial trauma
- Upper airway obstruction due to edema or mass or foreign body

DOCUMENTATION

All efforts towards airway management should be clearly documented and, at the minimum, should include the following

- Pre/post intervention vital signs including oxygen saturation as well as capnography (if available)
- Procedures performed/attempted, including number of failed attempts and who performed procedure
- Size of device(s) placed, depth of placement if applicable.
- Placement confirmation: methods should include auscultation, condensation in the ETT, symmetrical chest wall rise, as well as at least one of the following: colorimetric $EtCO_2$, capnography, esophageal tube detector.

GUM ELASTIC BOUGIE/FLEXGUIDE 5.1

PARAMEDIC STANDING ORDERS

- Indications
  - Same as orotracheal intubation, but, unable to fully visualize vocal cords
- Contraindications
  - Use of a 6.0 or smaller ETT
- Procedure
  1. Lubricate bougie with surgilube.
  2. Using a laryngoscope (Macintosh or Miller blade) and standard ETT intubation techniques, attempt to visualize the vocal cords.
  3. If the vocal cords are visualized, pass the bougie through the cords while attempting to feel the signs of tracheal placement (see below). The bougie is advanced until the black line on the bougie reaches the lip line.
  4. If the vocal cords are not visualized, pass the bougie behind the epiglottis, guiding the tip of the bougie anteriorly towards the trachea and asses for signs of tracheal placement (see below).
  5. With laryngoscope still in place, have assistant load ETT over bougie and slide it to the level of the lips.
  6. Advance ETT over the bougie rotating the ETT about 1/4 turn counterclockwise so that the bevel is facing posteriorly as the ETT passes through the vocal cords. This maneuver allows the bevel to gently spread the arytenoids with a minimum of force, thus avoiding injury. If resistance is felt, withdraw the ETT rotating it in a slightly more counterclockwise direction and advance the tube again. Advance the tube to a lip line of 24 cm in an adult male, and 22 cm in an adult female.
  7. Holding ETT firmly in place, remove the bougie.
  8. Remove laryngoscope.
  9. Inflate the cuff with 5 – 10 cc of air.
  10. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
  11. This should be repeated often especially after movement of the patient
  12. Secure the ETT.
- Signs of tracheal placement
  1. The bougie is felt to stop or get 'caught up' as the airway narrows and is unable to be advanced further. This is the most reliable sign of proper bougie placement. If the bougie enters the esophagus, it will continue to advance without resistance.
  2. You may be able to feel the tactile sensation of 'clicking' as the bougie tip is advanced forward over the rigid cartilaginous tracheal rings.
  3. The bougie can be felt to rotate as it enters a main stem bronchus. Usually it is a clockwise rotation as the bougie enters the right mainstem bronchus but occasionally will rotate counterclockwise if the bougie enters the left mainstem bronchus.
  4. If the patient is not paralyzed, he or she may cough.

P

OROTRACHEAL INTUBATION 5.2

PARAMEDIC STANDING ORDERS

- Indications
  - Apnea/Respiratory Failure
  - Impending Respiratory Failure
  - Impaired gag reflex
- Contraindications
  - Epliglottitis
  - Facial or neck injuries that prohibit visualization of airway anatomy - Relative
- Procedure

P

1. Prepare all equipment and have suction ready.
2. Pre-oxygenate the patient, if time permits.
3. Open the patient's airway. While holding the laryngoscope in the left hand, insert the blade into the right side of the patient's mouth, sweeping the tongue to the left.
4. Use the blade to lift the tongue and the epiglottis either directly with the straight (Miller) blade or indirectly with the curved (Macintosh) blade.
5. Once the glottic opening is visualized, insert the tube through the vocal cords and continue to visualize while passing the cuff through the cords.
6. Remove the laryngoscope and then the stylet from the ETT.
7. Inflate the cuff with 5-10cc of air.
8. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
9. This should be repeated often, especially after movement of the patient.
10. In addition to auscultation, confirm the placement of the tube by using at least one additional method: Colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note this should be used prior to ventilation to be accurate).
11. Secure the tube.
12. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's teeth or gums) on the PCR. Also include in documentation the procedures and devices used for confirmation of tube placement (e.g. bilateral equal breath sounds and absence of epigastric sounds, end-tidal CO_2, etc.).

NASOTRACHEAL INTUBATION 5.3

PARAMEDIC STANDING ORDERS

- Indications
  - Impending respiratory failure with intact gag reflex or jaw is clenched and unable to be opened.
- Contraindications
  - Apnea
  - Nasal obstruction
  - Suspected basilar skull fracture
  - Age less than 12 years
  - Length less than a pediatric length based resuscitation tape (Broslow Tape)
- Procedure
  1. Pre-medicate nasal mucosa with 2% lidocaine jelly and nasal decongestant spray if available.
  2. Select the largest and least obstructed nostril and insert a lubricated nasal airway to help dilate the nasal passage.
  3. Pre-oxygenate the patient.
  4. Lubricate the endotracheal tube with water-based lubricant.
  5. Remove the nasal airway and gently insert the tube, keeping the bevel toward the septum (a gentle rotation movement may be necessary at the turbinates).
  6. Continue to advance the ETT while listening for maximum air movement.
  7. At the point of maximum air movement, indicating proximity to the level of the glottis, gently and evenly advance the tube through the glottic opening on inspiration.
  8. If you feel resistance, the tube may have become lodged into the pyriform sinus and you may note tenting of the skin on either side of the thyroid cartilage. If this happens, slightly withdraw the ETT, rotate it toward the midline, and again attempt to advance tube with the next inspiration.
  9. Upon entering the trachea, the tube may cause the patient to cough, buck, strain, or gag. This is normal. Do not remove. Be prepared to control the cervical spine and the patient, and be alert for vomiting.
  10. The 15mm marker usually rests close to the nostril with proper positioning.
  11. Inflate cuff with 5 to 10 ml of air.
  12. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
  13. Secure the ETT.
  14. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's nares) on the PCR. Also include in documentation the procedures and devices used for confirmation of tube placement (e.g. bilateral equal breath sounds and absence of epigastric sounds, end-tidal CO_2, etc.).

RAPID SEQUENCE INTUBATION (RSI) 5.4

PARAMEDIC STANDING ORDERS

- Prerequisites Required
  - This procedure is only to be used by paramedics that are trained and credentialed to perform RSI by NH Bureau of EMS.
- Indication
  - Immediate severe airway compromise in the context of trauma, drug overdose, status epilepticus, etc., where respiratory arrest is imminent.
- Contraindication
  - Extensive recent burns, or crush injuries greater than 24 hours old
- Definition
  - RSI is the near-simultaneous administration of neuromuscular blocking agents and sedative-hypnotic drugs in order to facilitate oral intubation of a patient with the least likelihood of trauma, aspiration, hypoxia, and other physiologic complications.
- Procedure: The seven "Ps"

P

1. **Preparation**: The time-frame is limited, but the operator must have adequate Ambu-mask/oxygen sources, two laryngoscope handles, an assortment of blades, two assistants familiar with the procedure, one or two secure IV's, rescue airway devices, oxymetry & capnography monitoring, bulb-style tube checker.
2. **Preoxygenation**: When possible a nonrebreather mask for several minutes is more e ffective in performing nitrogen washout and establishing an adequate oxygen reserve during the procedure. In emergent cases, three mask breaths with 100% oxygen may suffice.
3. **Premedication**: Lidocaine (1.5mg/kg) given exactly 2 minutes before intubation may prevent a rise in ICP for head injured patients. Atropine should be given to bradycardic adults at 0.5mg IVP.
4. **Paralyze**: Etomidate (0.3mg/kg IV).
   - ◊ Apply cricoid pressure and maintain until the airway is secure.
   - ◊ Succinylcholine (1.5mg/kg IVP) immediately after etomidate
5. **Pass the tube**: Observe for fasciculations approximately 90 seconds after succinylcholine to indicate imminent paralysis. After paralysis is achieved, follow procedure outlined in section 5.2 to place the endotracheal tube.
6. **Proof of placement**: Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
   - ◊ This should be repeated often, especially after movement of the patient.
7. **Post intubation care**: The patient may be given incremental doses of midazolam (0.05-0.10mg/kg IVP) **or** lorazepam 1 - 2 mg IV as needed for sedation. For continued paralysis, vecuronium 0.1 mg/kg IVP **or** rocuronium 1 mg/kg IVP may be considered, with on-line medical consultation. Consider wrist restraints.

COMBITUBE 5.5

BASIC & INTERMEDIATE & PARAMEDIC STANDING ORDERS

- Indications
  - Apneic patient when endotracheal intubation is not possible or not available.
  - Standard Combitube: patient must be at least 5 feet tall.
  - Combitube SA (small adult): patient 4 – 5 1/2 feet tall
- Contraindications
  - Intact gag reflex
  - Patients < 4 feet tall
  - Known esophageal disease such as cancer
  - Caustic ingestion
  - Allergy or sensitivity to latex (the pharyngeal balloon contains latex)
- Procedure

B/I/P

1. Prepare Combitube
   - Test balloons
     - Proximal pharyngeal cuff (blue pilot balloon) – 100ml
     - Distal esophageal cuff (white pilot balloon) – 15ml
   - Lubricate device with water-soluble lubricant.
2. Preoxygenate and hyperventilate the patient, if time permits.
3. Grasp the patient's tongue and jaw with your gloved hand and pull forward.
4. Gently insert the tube until the teeth (or gums) are between the printed rings.
5. Inflate cuff #1 (blue pilot balloon) with 100cc of air.
6. Inflate cuff #2 (white pilot balloon) with 15cc of air.
7. Ventilate taller blue tube (#1) with bag valve mask.
8. Auscultate for breath sounds and sounds over the epigastrium. Look for rise and fall of chest.
9. If breath sounds are present and epigastric sounds are absent, continue to ventilate through the blue tube. The tube is properly positioned in the esophagus. In the case above you can aspirate stomach contents through the #2 white tube to relieve some gastric distention.
10. If breath sounds are absent and epigastric sounds are present, attempt to ventilate through the shorter white (#2) tube and assess for breath sounds and epigastric sounds. If breath sounds are present and epigastric sounds are absent, continue to ventilate through the white tube (#2); you have intubated the trachea.
11. In addition to auscultation, confirm tube placement by using at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
    This should be repeated often, especially after movement of the patient.
12. Secure the device.

KING LT-D 5.6

BASIC & INTERMEDIATE & PARAMEDIC STANDING ORDERS

- Indications
  - Apneic patient when endotracheal intubation is not possible or not available.
  - Patient must be > 4 feet tall.
- Contraindications
  - Intact gag reflex
  - Known esophageal disease such as cancer
  - Caustic ingestion
  - Patient less than 4 feet tall
- Procedure

B/I/P

1. Choose correct size:

Size	Height (ft)	Cuff Volume (ml)
3	4 - 5	50
4	5 – 6	70
5	6 +	80

2. Prepare King LT-D
   - ◊ Test cuffs for leaks (see volume above)
   - ◊ Lubricate device with water soluble lubricant
3. Preoxygenate and hyperventilate the patient, if time permits.
4. Grasp the patient's tongue and jaw with your gloved hand and pull forward.
5. With the King LT-D rotated laterally at 45-90 degrees such that the blue orientation line is touching the corner of the mouth, introduce tip into mouth and advance behind base of tongue.
6. As tube tip passes under tongue, rotate tube back to midline (blue orientation line faces chin).
7. Advance tube until base of connector is aligned with teeth or gums.
8. Inflate cuffs to appropriate volume as listed above.
9. Connect the King LT-D to a bag-valve device and ventilate the patient.
10. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
    This should be repeated often, especially after movement of the patient.
11. Secure the device.

LARYNGEAL MASK AIRWAY (LMA) 5.7

INTERMEDIATE & PARAMEDIC STANDING ORDERS

I/P

- Indication
  - Inability to place ETT for airway management
- Contraindications
  - Intact gag reflex
  - Pulmonary Fibrosis
  - Morbid Obesity
- Procedure

1. Check tube for proper inflation/deflation.
2. Lubricate the back of the mask with a water-soluble jelly.
3. Pre-oxygenate the patient.
4. Insert the LMA into the hypopharynx until resistance is met.
   Inflate the cuff until a seal is obtained. (**Note**: This airway does not prevent aspiration of stomach contents.)
5. Connect the LMA to a bag-valve device and ventilate the patient.
6. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise and at least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (note: this device should be used prior to ventilation to be accurate).
   This should be repeated often, especially after movement of the patient.
7. Secure the device.

NEEDLE CRICOTHYROTOMY 5.8

INTERMEDIATE & PARAMEDIC STANDING ORDERS

- Indications
  - Unable to perform endotracheal intubation or place alternate device due to airway obstruction.
- Contraindications
  - Ability to ventilate by any other means.
- Procedure

P

1. Identify cricothyroid membrane between the cricoid and thyroid cartilages.
2. Using non-dominate hand, stabilize membrane.
3. Prep skin with providone-iodine swabs or other antiseptic.
4. Using a syringe and a 14 – 16 gauge IV catheter or commercial equivalent, insert the needle through the cricothyroid membrane perpendicular to the surface of the membrane.
5. Aspirate for air while inserting needle/device.
6. Once air returns easily, stop advancing device.
7. Secure catheter either by having assistant hold it in place or with the aid of a commercial device.
8. Attach jet ventilation device/BVM as appropriate.
9. Ventilate patient.
10. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), symmetrical chest wall rise, and at least one additional method (for commercial device only): colorimetric end-tidal CO_2 detector, capnography, or esophageal tube.
    This should be repeated often, especially after movement of the patient.
11. When using the jet ventilation device, ensure ample time to allow for expiration using a 1:4 inspiration/expiration ratio.

SURGICAL CRICOTHYROTOMY 5.9

PARAMEDIC STANDING ORDERS

P

- Indications
  - Unable to perform endotracheal intubation or place alternate device due to airway obstruction
- Contraindications
  - Child whose height does not exceed length of length based resuscitation tape (Broslow Tape)
- Procedure
  1. Identify cricothyroid membrane between the cricoid and thyroid cartilages.
  2. Using non-dominate hand, stabilize thyroid cartilage.
  3. Prep skin with providone-iodine swabs or other antiseptic.
  4. Using a scalpel, make a 1-inch vertical incision through the skin and the subcutaneous tissue overlying the cricothyroid membrane.
  5. Using blunt dissection, expose the cricothyroid membrane and make a 0.5-inch incision horizontally through the membrane.
  6. Using a dilator, hemostat, or gloved finger to maintain surgical opening in the membrane, insert a 6.0 cuffed ETT tube (or device as supplied in commercial kit) into the trachea.
  7. Inflate ETT cuff.
  8. Connect a bag-valve device and ventilate the patient.
  9. Secure the ETT/device.
  10. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT/device, symmetrical chest wall rise and at least one additional method (for commercial device only): colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector.
     This should be repeated often, especially after movement of the patient.

ADVANCED SUCTIONING 5.10

BASIC & INTERMEDIATE & PARAMEDIC STANDING ORDERS

B/I/P

- Indication
  - Obstruction of the airway (secondary to secretions, blood, and/or any other substance) in a patient currently being assisted by an airway adjunct such as an endotracheal tube, Combitube, tracheostomy tube, or a cricothyrotomy tube
- Procedure
  1. Ensure the suction device is operable
  2. Pre-oxygenate the patient
  3. While maintaining aseptic technique, attach the suction catheter to the suction unit.
  4. If applicable, remove ventilation devices from the airway.
  5. Insert the sterile end of the suction catheter into the tube without suction. Insert until resistance is met, pull back approximately 1-2 cm.
  6. Once the desired depth is met, apply suction by occluding the port and slowly remove the catheter from the tube, using a twisting motion.
  7. Suctioning duration should not exceed 15 seconds.
  8. Saline flush may be used to help loosen secretions and facilitate suctioning.
  9. Re-attach the ventilation device and oxygenate the patient.

TRACHEOSTOMY CARE – ADULT AND PEDIATRIC 5.11

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Consult with patient's caregivers for assistance.
- Assess tracheostomy tube: look for possible causes of distress that may be easily correctable, such as a detached oxygen source.
- Obtain pulse oximeter reading.
- Consider ALS intercept.
- Assist ventilations using bag-valve-mask device with high flow oxygen.
- If on a ventilator, remove patient from the ventilator prior to using bag-valve-mask device, as there may be a problem with the ventilator or oxygen source.
- Suction if unable to ventilate via tracheostomy or respiratory distress continues. Use no more than 100 mm/Hg suction pressure. If the tracheostomy tube has a cannula, remove it prior to suctioning. Determine proper suction catheter length by measuring the obturator. If the obturator is unavailable, insert the suction catheter approximately 2 to 3 inches into the tracheostomy tube. **Do not use force.** Two to three ml of sterile saline may be used in the tracheostomy tube.
- If patient remains in severe distress, continue ventilation attempt using bag-valve-mask with high-flow oxygen via the tracheostomy. Refer to Asthma/COPD/RAD Protocol 2.1 if indicated.
- If patient's breathing is adequate but exhibits continued signs of respiratory distress, administer high flow oxygen via non-rebreather mask or blow-by as tolerated.

PARAMEDIC STANDING ORDERS

P

- If patient continues in severe respiratory distress
- Remove tube and attempt bag-valve mask ventilation.
  - If another tube is available from caregivers, insert into stoma and resume ventilation (a standard endotracheal tube may be used or the used tracheostomy tube after being cleaned.)
  - If unable to replace tube with another tracheostomy tube or endotracheal tube, assist ventilations with bag-valve-mask and high-flow oxygen.

INTRAOSSEOUS ACCESS 5.12

PARAMEDIC STANDING ORDERS

- Definition
  Intraosseus infusion establishes access in a patient where venous access cannot be rapidly obtained. The bone marrow space serves as a noncollapsible vein and provides access to the general circulation for the administration of fluids and resuscitation drugs. This protocol applies to all appropriate IO insertion sites.
- Indication
  - Drug or fluid resuscitation of a patient in need of immediate life-saving intervention and unable to obtain peripheral IV access
- Contraindications
  - Placement in or distal to a fractured bone
  - Placement at a burn or infected site
- Complications
  - Infusion rate may not be adequate for resuscitation of ongoing hemorrhage or severe shock, extravasation of fluid, fat embolism, and osteomyelitis (rare).
- Equipment
  - 15 to 19 gauge bone marrow needle or FDA approved commercial intraosseous infusion device
  - Betadine and gloves
  - Primed IV tubing, stopcock, IV solution
  - 10cc syringe with 0.9% NaCl (normal saline)
  - Pressure pump/bag or 60cc syringe for volume infusion or slow push
- Procedure
  1. When using a FDA-approved commercial IO device, follow manufacturer's instructions.
  2. Place the patient in a supine position.
  3. Identify the bony landmarks. The site of choice for pediatric patients is the proximal tibia, 1-2 cm medially and 1-2 cm distal to the tibial tuberosity on the anteromedial surface.
  4. Prep the site with Betadine.
  5. When using bone marrow, direct and insert the needle with the stylet in place perpendicular to the bone or angled away from the joint, avoiding the epiphyseal plate. Insert with pressure and a boring or screwing motion until penetration into the marrow, which is marked by a sudden lack of resistance, and then remove the stylet.
  6. Needle is appropriately placed if the following are present:
     - ◊ Aspiration with syringe yields blood with marrow particulate matter.
     - ◊ Infusion of saline does not result in infiltration at the site.
     - ◊ Needle stands without support.
  7. Attach IV tubing, with or without stopcock.
  8. Flow rates to gravity may be unacceptably slow. Consider placing an IV solution in a pressure bag inflated to 300 torr or pushing the fluid bolus with a syringe and 3-way stopcock.
  9. Stabilize needle on both sides with sterile gauze and secure with tape (avoid tension on needle).

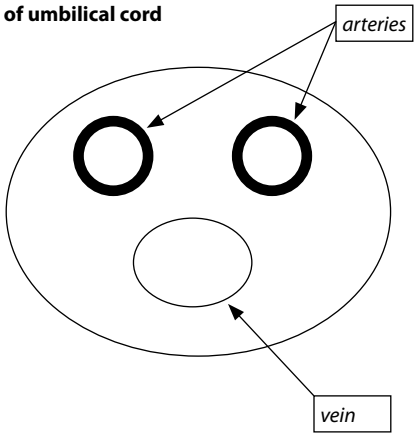
UMBILICAL VEIN CANNULATION 5.13

PARAMEDIC STANDING ORDERS

P

- Indication
  - Intravenous access needed for resuscitation and stabilization of a newborn.
- Contraindication
  - Ability to obtain peripheral venous access
- Procedure
  1. Prep umbilical cord with providone-iodine solution
  2. Place a constricting loop around umbilical cord using umbilical tape, but do not tighten at this time.
  3. Cut umbilical cord proximal to previous clamp site.
  4. Identify the umbilical vein. Typically, it is located at six o'clock and has a thinner wall and larger lumen than the umbilical arteries.
  5. Insert umbilical vein catheter 3.5 Fr (preterm) or 5.0 Fr (full term) and advance 1 – 2 cm beyond point at which blood returns freely. Advancing catheter too far can result in placement within the liver and can lead to liver necrosis.
     If a commercial catheter is not available, a peripheral angiocath can be used as an alternative.
  6. Gently tighten purse string to help secure catheter in place and to prevent bleeding.

Cross section of umbilical cord



VASCULAR ACCESS VIA CENTRAL CATHETER – ADULT AND PEDIATRIC 5.14

PARAMEDIC STANDING ORDERS

- Prerequisites: Paramedic who has taken the NH Bureau of EMS and Medical Control Board approved training module.
- Indications
  - In the presence of a life threatening condition, with clear indications for immediate use of medications or fluid bolus
- Contraindications
  - Prophylactic IV access
  - Suspected infection at skill site
- Determine type of catheter: PICC, Broviac, Hickman, Groshong, or Mediport.
  - Procedure for peripherally inserted central catheter (Cook, Neo-PICC) and tunneled catheter (Broviac, Hickman, Groshong)

P

1. Prepare equipment: 10ml syringe (empty), 10ml syringe (normal saline) and sterile gloves (if available).
2. If more than one lumen is available (PICCs and Boviacs can have one, two, or three lumens), select the largest lumen available.
3. Remove cap on the end of the catheter.
4. Prep the end of the lumen with an alcohol swab.
5. Using a 10ml syringe, (after unclamping the lumen) aspirate 3-5ml of blood with the syringe and discard. If unable to aspirate blood, re-clamp the lumen and attempt to use another lumen (if present). If clots are present, contact medical control before proceeding. Re-clamp the lumen.
6. Flush the lumen with 3 – 5ml normal saline using a 10ml syringe. If catheter does not flush easily (note that a PICC line will generally flush more slowly and with greater resistance than a typical intravenous catheter), re-clamp the selected lumen and attempt to use another lumen (if present).
7. Attach IV administration set and observe for free flow of IV fluid.
8. If shock is not present, allow fluid to run at rate of 10 ml/hour to prevent the central line from clotting.

Note: The maximum flow rates for a PICC line is 125 ml/hour for less than 2.0 Fr. sized catheter and 250 ml/hour for catheters over 2.0 Fr. sized catheters.

Note: Avoid taking a blood pressure reading in the same arm as the PICC.

- Procedure for implanted cathether (portacath, Pas Port, mediport)
  1. Prepare all necessary equipment: 10ml syringe (empty), 10ml syringe (normal saline), and sterile gloves (if available).
  2. Identify the access site; usually located in the chest.
  3. Clean the access site with Betadine; remove Betadine with alcohol swab.
  4. Secure the access point firmly between two fingers and attach 10 ml syringe to Haberman Needle.
  5. Aspirate 3-5ml of blood with the syringe. If unable to aspirate blood, re-clamp the catheter and do not attempt further use. If clots are present, contact medical control before proceeding. Re-clamp the catheter.
  6. Flush the catheter with 3 – 5ml normal saline using a 10ml syringe. If catheter does not flush easily, re-clamp the catheter and do not attempt further use.
  7. Attach IV administration set and observe for free flow of IV fluid.
  8. If shock is not present, allow fluid to run at rate of 10 ml/hour to prevent the central line from clotting.

IMMUNIZATION 5.15

PARAMEDIC STANDING ORDERS

- Prerequisites: This procedure is only to be used by paramedics that are trained and credentialed to perform Immunization by the NH Bureau of EMS and NH Medical Control Board.
  - Indications
    - Prehospital providers may be called upon to provide certain immunizations as necessary to assist State Health Officials in the event of a public health crisis or under the written order of a physician.
  - Non-patient specific orders
    - A non-patient specific order authorizes paramedics to administer specified immunization agents or anaphylaxis treatment agents for a specified period of time to an entire group of persons such as schoolchildren, employees, patients of a nursing home, etc.
  - Some examples of non-patient specific orders are
    - Administer Influenza vaccine 0.5 ml. IM to all incoming freshmen students at X College who are eligible per protocol.
    - Administer Influenza vaccine 0.5 ml IM to all employees of X organization who request it and who are eligible by protocol.
    - Administer Influenza vaccine 0.5 ml. IM to all X town residents who request it and who are eligible by protocol.
    - Administer Hepatitis B series to all employees of X organization eligible per protocol.
  - Immunizing Agents
    - Many of the immunizations listed in the Centers for Disease Control and Prevention (CDC) guidelines fall under this protocol. The list of authorized immunizing agents differs for adults and children. Adults are persons who are 18 years of age or older; children are persons under 18 years of age.
  - Immunizing Agents for Adults
    - Diphtheria
    - Hepatitis A
    - Hepatitis B
    - Inactivated Polio
    - Influenza
    - Measles
    - Meningococcus
    - Mumps
    - Pneumococcus
    - Rubella
    - Smallpox vaccine
    - Tetanus
    - Varicella

Immunization Paramedic Standing Orders continued on next page ⇨

IMMUNIZATION cont. *5.15*

⇦Immunization Paramedic Standing Orders continued from previous page

- Immunizing Agents for Children
  - Acellular Pertussis
  - Diphtheria
  - Haemophilus Influenza Type b (HIB)
  - Hepatitis A
  - Hepatitis B
  - Inactivated Polio
  - Influenza
  - Measles
  - Meningococcus
  - Mumps
  - Pneumococcal Conjugate
  - Rubella
  - Tetanus
  - Varicella

Note: The Medical Control Board may add immunizing agents in accordance with the recommendations of the Centers for Disease Control and Prevention and the New Hampshire Department of Health and Human Services.

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- Administration of immunizations
  - The non-patient specific standing order and protocol must be authorized by a physician.
- Epidemics
  - Any paramedic may administer any immunizing agent that is authorized by a non-patient specific standing order and protocol as part of an immunization program when the immunization program is instituted because of an epidemic declared by public health officials.
- Protocol Requirements
  - Ensure that the potential recipient is assessed for contraindications to immunizations;
  - Inform each potential immunization recipient of the potential side effects and adverse reactions, orally and in writing, prior to immunization, and inform each potential immunization recipient, in writing, of the appropriate course of action in the event of an untoward or adverse event. Vaccine Information Statements (VIS), developed by the Centers for Disease Control and Prevention (CDC) and the United States Health and Human Services, are recommended for this use.
  - Obtain consent for the immunization from the potential recipient, or from a person legally responsible in the case of a minor or otherwise incapable person, before the immunization is administered.
  - In cases of minors and persons incapable of personally consenting to immunization, consent may be gained by informing the legally responsible person of the potential side effects and adverse reactions in writing and obtaining a written consent prior to administering the immunization.

Immunization Paramedic Standing Orders continued on next page ⇨

IMMUNIZATION cont. *5.15*

⇦*Immunization Paramedic Standing Orders continued from previous page*

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- Provide to each legally responsible immunization recipient, a signed certificate of immunization noting the recipient's name, date of immunization, address, immunization agent, administering nurse, immunizing agent, manufacturer and lot number, and recommendations for future immunizations.
- Have available on site, agents to treat anaphylaxis including, but not limited to, epinephrine and necessary needles, and syringes.
- Report all adverse immunization outcomes to the Vaccine Adverse Event Reporting System (VAERS) using the appropriate form, from the Centers for Disease Control and Prevention, United States Department of Health and Human Services.
- Ensure that the record of all persons immunized includes: the non-patient specific standing order and protocol utilized, the recipient's name, the date, the address of the immunization site, the name of the immunizing agent, the name of the manufacturer, the lot number of administered vaccine(s), and recommendations for future immunizations.
- For the administration of the influenza vaccine to adults only, it is acceptable to maintain a log of the names, addresses, and phone numbers of all adult patients, immunized with the influenza vaccine under non-patient specific orders in a dated file.
- Ensure that a record is kept of all potential recipients, noting those who refused to be immunized.

BLOODBORNE/AIRBORNE PATHOGENS 6.0

BLOODBORNE PATHOGENS

Emergency Medical Services personnel should assume that all bodily fluids and tissues are potentially infectious with bloodborne pathogens including HIV (causing AIDS) and HBV (causing hepatitis), and must protect themselves accordingly by use of body substance isolation (BSI).

Body substance isolation procedures include the appropriate use of hand washing, protective barriers (such as gloves, masks, goggles, etc.), and care in the use and disposal of needles and other sharp instruments. EMTs are also encouraged to obtain the hepatitis B vaccine series to decrease the likelihood of hepatitis B transmission.

EMTs who have exudative lesions, weeping dermatitis, or open wounds should refrain from all direct patient care and from handling patient-care equipment as they are at increased risk of transmission and reception of bloodborne pathogens through these lesions. Transmission of bloodborne pathogens has been shown to occur when the blood of the infected patient is able to come in direct contact with the blood of the health-care worker.

EMTs who have had a direct bloodborne pathogen exposure should immediately wash the exposed area with soap and water and a suitable disinfectant. The exposed area should then be covered with a sterile dressing. Upon arrival at the destination hospital, after responsibility for the patient has been transferred to the emergency department, the EMT should thoroughly cleanse the exposed site, complete a state of New Hampshire Emergency Response/Public Safety Worker Incident Report Form, and sign in to the Emergency Department as a worker's compensation patient. The only exception to this latter step is when the squad has a designated exposure officer and medical advisor wherein the exposed EMT has definitive and immediate medical care elsewhere.

AIRBORNE PATHOGENS

EMTs who believe they have been exposed to an airborne pathogen may proceed as above in getting timely medical care. It is expected that a properly filled out Patient Care Report will allow hospital infection control staff to contact EMTs involved in patient care where that patient was subsequently found to have a potential airborne pathogen such as Tuberculosis, Neisseria meningitis, SARS, etc.

AIRBORNE PERSONAL PROTECTIVE EQUIPMENT (APPE)

- Recommended APPE consists of a N95 respirator, prior fit testing is recommended.
- Apply APPE if the patient presents with the following signs or symptoms
  - Cough
  - Fever
  - Rash
- Limit the number of personnel in contact with suspected patients to reduce the potential of exposure to other providers and bystanders.
- Patients suspected of being infected with a possible airborne pathogen should be masked if tolerated.
- Patients requiring oxygen therapy should receive oxygen through a mask with a surgical mask placed over the oxygen mask to block pathogen release. Close monitoring of the patient's respiratory status and effort should be maintained.
- APPE should be in place when performing suctioning, airway management and ventilation assistance (Bag-Valve-Mask) for suspect patients.

Bloodborne/Airborne Pathogens continued on next page ⇨

BLOODBORNE/AIRBORNE PATHOGENS cont. *6.0*

⇦*Bloodborne/Airborne Pathogens continued from previous page*

- Limit procedures that may result in the spread of the suspected pathogen, e.g. nebulizer treatments.
- Exchange of fresh air into the patient compartment is recommended during transport of patient with a suspected airborne pathogen.
- Early notification to the receiving hospital should be made such that the receiving hospital may enact its respective airborne pathogen procedures.

DECONTAMINATION

- In addition to accepted decontamination steps of cleaning surfaces and equipment with an approved solution and proper disposal of contaminated disposable equipment, the use of fresh air ventilation should be incorporated (open all doors and windows to allow fresh air after arrival at the hospital).
- All personnel in contact with the patient should wash their hands thoroughly with warm water and an approved hand-cleaning solution.
- Ambulances equipped with airborne pathogen filtration systems should be cleaned and maintained in accordance with manufacturer guidelines.

CRIME SCENE/PRESERVATION OF EVIDENCE 6.1

If you believe a crime has been committed, contact law enforcement immediately. Protect yourself and other EMS personnel. You will not be held liable for failing to act if a scene is not safe to enter. Once a crime scene is deemed safe by law enforcement, initiate patient contact and medical care.

- Do not touch or move anything at a crime scene unless it is necessary to do so for patient care.
- Have all EMS providers use the same path of entry and exit.
- Do not walk through fluids on the floor.
- Observe and document original location of items moved by crew.
- When removing patient clothing, leave intact as much as possible.
- Do not cut through clothing holes made by gunshot or stabbing.
- If you remove any items from the scene, such as an impaled object or medication bottle, document your action and advise investigating officers.
- Do not sacrifice patient care to preserve evidence.
- Consider requesting a law enforcement officer to accompany the patient in the ambulance to the hospital.
- Document statements made by the patient or bystanders on the EMS patient care report.
- Inform staff at the receiving hospital this is a "crime scene" patient.
- If the patient is obviously dead, contact medical control for directions to withhold resuscitative measures and do not touch the body.
- For traffic accidents, preserve the scene by parking away from skid marks and debris.

ABUSE & NEGLECT – CHILD, ELDER, OR OTHER VULNERABLE INDIVIDUALS 6.2

PURPOSE

To provide the process for identification, assessment, management and reporting of patients with suspected physical abuse (children, elderly, or other vulnerable individuals), exploitation, and/or neglect.

PROCEDURE FOR ASSESSMENT

- Treat and document only physical injuries requiring immediate attention using the appropriate medical treatment protocol, without causing undue emotional trauma for non life-threatening injuries.
- Secure and bag (in paper), whenever possible, any clothing or items that could be preserved for evidence.
- Interview with patient shall be conducted calmly, with respect and privacy, and should include close observation for
  - Over-sedation
  - Inappropriate fears
  - Avoidance behaviors
  - Poor parent-child bonding
  - Inappropriate interaction with caregiver
- Do not address specifics of abuse or neglect.
- Obtain pertinent history relating to presenting injuries.
- Carefully and specifically, document verbatim any patient statements of instances of rough handling, sexual abuse, alcohol/drug abuse, verbal or emotional abuse, isolation or confinement, misuse of property, threats, and gross neglect such as restriction of fluids, food, or hygiene.
- Note problems with living conditions and environment.
- Note any of the following potential indicators of an abusive history or environment
  - Unsolicited history provided by the patient
  - Delay in seeking care for injury
  - Injury inconsistent with history provided
  - Conflicting reports of injury from patient and care-giver
  - Patient unable, or unwilling, to describe mechanism of injury
  - Lacerations, bruises, ecchymosis in various stages of healing
  - Multiple fractures in various stages of healing
  - Scald burns with demarcated immersion lines without splash marks
  - Scald burns involving anterior or posterior half of extremity
  - Scald burns involving buttocks or genitalia
  - Cigarette burns
  - Rope burns or marks
  - Patient confined to restricted space or position
  - Pregnancy or presence of sexually transmitted disease in a child less than 12 years

Abuse & Neglect - Child, Elder, or other Vulnerable Individuals continued on next page ⇨

ABUSE & NEGLECT cont. 6.2

⇦ Abuse & Neglect - Child, Elder, or other Vulnerable Individuals continued from previous page

SPECIAL CONSIDERATIONS

- Law enforcement may be contacted at the discretion of the EMS provider, however assure the safety of EMS personnel before entering the scene.
- If patient is not transported, the suspected abuse must still be reported. If a parent/guardian refuses treatment of a minor child whom you feel needs medical attention, contact law enforcement immediately.
- Careful and specific documentation is vital because the "story" often changes as the investigation proceeds.
- Patients 14 years of age or older **do not** need parental consent for treatment of sexually transmitted diseases (RSA 141-C:7).
- Any minor 12 years of age or older may voluntarily submit himself to treatment for drug dependency as defined in RSA 318-B:1, IX.
- **Child Abuse**: You must make a verbal report within 24 hours of the patient contact to the **NHDCYF Child Abuse Hotline (800-894-5533**). Informing hospital personnel does not fulfill your legal reporting responsibilities in compliance with NH RSA Chapter 169-C Child Protection Act.
- **Elder Abuse**: You must make a report to the **NH Division of Elderly and Adult Services District Office (800-949-0470**). Informing hospital personnel does not fulfill your legal reporting responsibilities in compliance with NH RSA Chapter 161-F Elderly and Adult Services.

Note: Nothing contained herein shall be construed to mean that any minor of sound mind is legally incapable of consenting to medical treatment provided that such minor is of sufficient maturity to understand the nature of such treatment and the consequences thereof.

RESPONSE TO DOMESTIC VIOLENCE 6.3

When domestic violence is suspected, the health-care provider will further assess the patient and take appropriate action in accordance with New Hampshire State law.

PURPOSE

To ensure that battered women and men who have experienced domestic abuse or neglect are identified and provided with comprehensive medical and psychosocial interventions.

INDICATORS OF DOMESTIC VIOLENCE

The following is a list of potential indicators of domestic violence. If the patient presents with one or more of the following indicators, further assessment is warranted.

- The patient admits to past or present physical or emotional abuse, as a victim or witness.
- The patient denies physical abuse, but presents with unexplained bruises, whiplash injuries consistent with shaking, areas of erythema consistent with slap injuries, grab marks on arms or neck, lacerations, burns, scars, fractures or multiple injuries in various stages of healing, fractured mandible, or perforated tympanic membranes.
- The patient presents with injury sites suggestive of battering. Common sites of injury are areas hidden by clothing or hair (e.g., face, head, chest, breasts, abdomen, and genitals). Accidental injuries usually involve the extremities whereas domestic violence often involves both trunk and extremity injuries.
- The extent or type of injury is inconsistent with the explanation offered by the patient.
- The woman is pregnant. Violence often begins with the first pregnancy, and with injuries to the breasts or abdomen.
- The patient presents evidence of sexual assault or forced sexual actions by her partner.
- The partner (or suspected abuser) insists on staying close to the patient and may try to answer all questions directed to her.
- The patient is afraid of returning home and fears for the safety of her children.
- A substantial delay exists between the time of the injury and presentation for treatment. The patient may have been prevented from seeking attention earlier, or may have had to wait for the batterer to leave.
- The patient describes the alleged "accident" in a hesitant, embarrassed, or evasive manner, or avoids eye contact.
- The patient has "psychosomatic" complaints such as panic attacks, anxiety, choking sensation, or depression.
- The patient has complaints of chronic pain (back or pelvic pain) with no substantiating physical evidence. This may signify fear of impending or actual physical abuse.
- The patient or partner has a history of psychiatric illness, alcohol, and/or drug abuse.
- The patient has a history of suicide attempts, or suicidal ideation. Battering accounts for one in every four suicide attempts by all women, and half of all suicide attempts by black women.
- Medical history reveals many "accidents" or remarks indicating that previous injuries were of suspicious origin.
- The patient has a history of self-induced abortions or multiple therapeutic abortions.
- The patient has a pattern of avoiding continuity in health care.

Response to Domestic Violence continued on next page ⇨

RESPONSE TO DOMESTIC VIOLENCE cont. *6.3*

⇦*Response to Domestic Violence continued from previous page*

RESPONSIBILITY OF EMS PROVIDER

- Decide whether to withdraw to a staging area and call for police, or proceed with caution.
- Don't hesitate to return to vehicle to make decisions, notify police and/or medical control.
- Consider using cell phone versus radio.

IF DECISION IS TO PROCEED

- Clearly and simply, identify yourself and your role. Use non-threatening body language and approach.
- Use team approach. Designate one provider to observe for safety, one or more to work on patient, another to calmly distract aggressor or discreetly assess children for injuries.
- Be aware of surroundings
  - The number and location of exits
  - Number and location of people in the residence
  - Potential weapons and hiding places;
  - Position rescuers with access to exit
- Let occupants lead down hallways or into stairwells or rooms. (Keep them in front.)
- Avoid treating patient in a bedroom (only one exit, intimate setting, and often weapons hidden) or kitchen (many possible weapons).
- Use hard chairs rather than upholstered furniture; weapons are easily hidden among cushions.
- Limit number of people present: responders, neighbors, etc.
- Secure pets.
- Attempt to separate patient from suspected batterer for treatment, questioning. If possible, move patient to ambulance to assess and treat, even if non-transport.
- Use only paper bags to collect evidence.
- Take appropriate body substance isolation precautions.

DOCUMENTATION & REPORTING RESPONSIBILITIES

Per NH RSA 631:6, a person must report to the police any gunshot wound or **any other injury** he/she believes was caused by a criminal act, with the following exception

- If the patient is 18 years old or older **and** if the injury was caused by sexual assault or domestic violence **and** if it is not a gunshot wound or other serious bodily injury, the patient can refuse to have the information released to the police.

RESOURCES AND REFERRALS

- NH Coalition Against Domestic and Sexual Violence (NHCADSV) is a network of 14 agencies across the state that support survivors of domestic and sexual violence. All of the agencies offer the following free, confidential services
  - 24-Hour Crisis Line (1-800-852-3388 in NH, 603-225-9000 outside NH, etc.)
  - Emergency shelter and transportation
  - Legal advocacy
  - Hospital and court accompaniment
  - Information about public assistance

DO NOT RESUSCITATE (DNR) ORDERS 6.4

RECOGNIZED DNR OPTIONS IN NEW HAMPSHIRE

- "P-DNR" (Portable DNR) order: Statewide recognized pink document and/or wallet card written by a physician or advanced registered nurse practitioner
- DNR Bracelet or Necklace: inscribed with the patient's name, date of birth, in numerical form and "NH DNR" or "NH Do Not Resuscitate" on it
- "DNR" order: Written by a physician at a nursing home, hospital, or other in-patient care setting
- "PORT" (Physician Order Regarding Treatment): Accompanying patient from facility to facility or in their home
- Living Will: May or may not specify DNR status.
- DPOA for Healthcare: A document designating an individual to make healthcare decisions for another if that person lacks capacity to make decisions for him or herself. The DPOA can designate if resuscitation should/should not be instituted without written documentation.

EMTs are encouraged to contact Medical Control in any instance where the patient's DNR status is unclear.

Any patient who is deemed to have a valid DNR order as outlined above has indicated their wishes not to be resuscitated with basic or advanced life support measures. They do wish maximum comfort care.

If the above conditions are met, EMTs should perform the following procedures

- Do not do chest compressions or actively assist ventilations via BVM.
- Do not intubate.
- Do not defibrillate.
- Do not use external pacemaker.
- Do not start IV unless it is anticipated that intravenous medications will be utilized.

EMTs **may** perform any comfort measures to these patients within their scope of EMT practice per the usual treatment guidelines, including, but not limited to

- oxygen therapy via simple mask, non-rebreather mask, or nasal cannula
- medications for treatment of pain, respiratory distress, dysrhythmias
- intravenous fluid therapy for medication access
- mouth or airway suctioning

EMTs are encouraged to contact Medical Control to define prehospital treatment in these instances.

Note: All patients without valid DNR documentation should be given full resuscitative efforts by prehospital personnel

SPECIAL RESUSCITATION SITUATIONS AND EXCEPTIONS 6.5

WHEN NOT TO START

- Dead on Arrival (DOA). A person is presumed dead on arrival when they are apneic and pulseless in the context of transection of head or trunk, have extensive full thickness burns, deforming head trauma, or rigor mortis/lividity.
- Do Not Resuscitate Orders: Full palliative measures should be instituted when the person or family has evidence of a Do Not Resuscitate order at hand. An attending physician's order at the bedside, or an on-line order from medical control, are equivalent. (Palliative measures are comfort measures exclusive of BCLS and/or ACLS, but they may include such measures as airway suctioning and positioning.)
- Infant death (SIDS). An infant under the age of three months who is apneic, asystolic and meets the non-trauma criteria in DOA may be presumed dead. In some cases, resuscitation and transport may be initiated. Activation of family support systems may be beneficial.
- Neonate death: a neonate who is apneic, asystolic (no heartbeat or umbilical cord pulse) and meets the non-trauma criteria in DOA may be presumed dead.
- Mass Casualty Incident (MCI). During an MCI EMS Providers should not attempt to resuscitate the near-arrest or full-arrest Category Black (expectant) persons if personnel are required to care for the Category Red (immediate) patients.
- Blunt trauma patients with significant injuries, apnea and electrical asystole
- Scene safety: The physical environment is not safe for providers.

WHEN TO STOP

Resuscitation may be stopped under the following circumstances

- Exhaustion of EMS providers
- No return of spontaneous vital signs after 20 minutes of combined BCLS and/or ACLS efforts in the absence of hypothermia
- The physical environment becomes unsafe for providers.
- If directed to do so by Medical Control

DECLARING DEATH IN THE FIELD

Do not initiate resuscitation when the patient is apneic and pulseless and other obvious signs of death are present

- Rigor mortis and or lividity or neonatal maceration
- Injury incompatible with life (decapitation, transection of head or trunk, extensive full thickness burns, massive blunt trauma)

Notes

- Even in the case of an infant, death may be declared in the field. However, in some cases resuscitation and transport may be initiated. Activation of family support systems may be beneficial.
- Neonates: Contact medical resource hospital if indications are present that gestational age is less than 22 weeks and the neonate shows signs of obvious immaturity (translucent, gelatinous skin; lack of fingernails; fused eyelids.) In some cases, resuscitation and transport may be initiated. Activation of family support systems may be beneficial.
- In all cases where death is declared in the field, local law enforcement as well as the NH Medical Examiners office **must** be consulted.

Special Resuscitation Situations and Exceptions continued on next page ⇨

SPECIAL RESUSCITATION SITUATIONS AND EXCEPTIONS cont. 6.5

⇦ Special Resuscitation Situations and Exceptions continued from previous page

MASS CASUALTY INCIDENT

Do not attempt resuscitation of near arrest or full arrest patients (category Black/Expectant) if EMS personnel are required to care for category Red/Immediate patients.

DOCUMENTATION

- Complete a patient care record (PCR) in all cases.
- Special orders including DNR, on-line medical control, etc.
- MCI conditions may require a Tag in addition to an abbreviated PCR.
- Record any special circumstances or events that might impact patient care or forensic issues.

LEGAL STANDING

All deaths are potentially criminal until the Medical Examiner declines jurisdiction.

ADVANCED SPINAL ASSESSMENT 6.6

PURPOSE

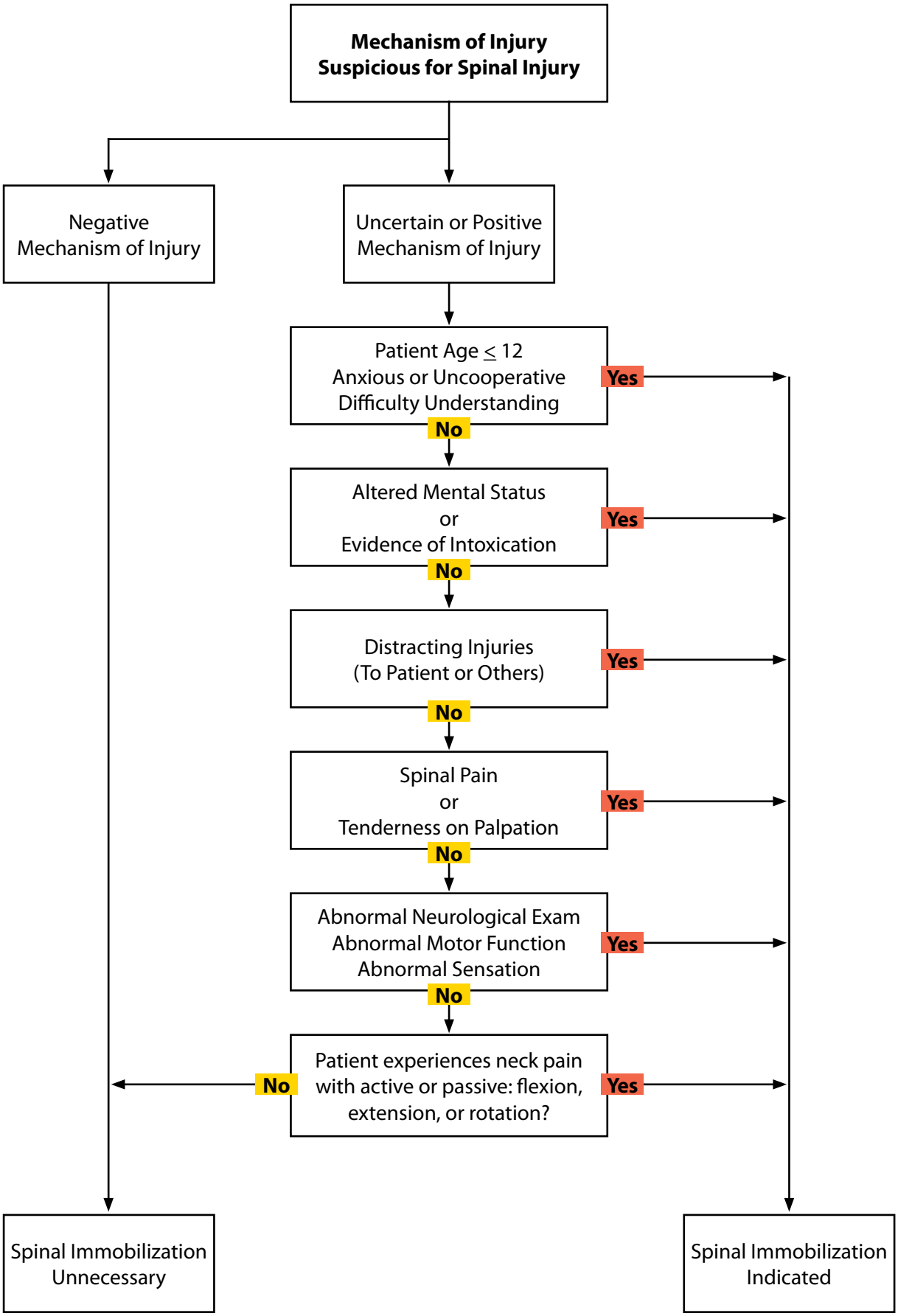
To define patients who do not require spinal immobilization or who may have spinal immobilization devices removed in the field.

PROCEDURE FOR ASSESSMENT

- Reliable Patient
  - ≥ 12 years
  - Calm and cooperative
  - No altered mental status (dementia, brain injury, developmental delay, psychosis, etc.)
  - No evidence of alcohol or drug intoxication
  - No acute stress reaction
  - Not distracted by circumstances or injuries to self or others
  - No communication barriers (deafness, language, etc.)
- History of Present Illness
  - No paresthesias or other neurologic symptoms
  - Denies Spinal Pain
- Physical Exam
  - No Spinal Tenderness with Palpation
  - Motor Exam Intact
    - Finger abduction/adduction
    - Finger/wrist flexion/extension
    - Foot/great toe extension/flexion
  - Neurosensory Exam Intact
    - Soft/sharp touch discrimination in upper and lower extremities

FINALLY

- If the patient meets the criteria above, and then, they can flex/extend/rotate their neck without pain or assistance, then spinal immobilization is not necessary.



ON-SCENE MEDICAL PERSONNEL *6.7*

The medical care provided at the scene is the responsibility of the highest level of EMS provider who has responded by usual dispatch systems to that scene. Passersby who stop to help, even though possibly more highly trained than the system providers, may **not** assume responsibility (except as outlined below) but may be allowed to help in care at the discretion of the lead EMS provider and assuming they have proof of licensure.

When an EMS provider, under medical control (on- or off-line), arrives at the scene of an emergency, the provider acts as the agent of medical control, i.e., the on-line physician is ultimately responsible.

Any healthcare provider (MD, PA, RN, nurse midwife, non-NH licensed EMS provider, etc.) who is not an active member of the responding EMS unit, and who is either at the scene at the time of EMS' arrival or arrives after an EMS unit provider has initiated care, and who desires to continue to participate, should be put in touch with the on-line medical control physician.

At no time should an EMS provider provide care outside of their scope of training and/or protocols.

REFUSAL OF CARE *6.8*

Competent adult patients (age 18 or older) have a right to refuse prehospital care. These patients must sign a "Refusal of Care" form and demonstrate that they understand the benefits and risks associated with refusing treatment and that they will be responsible for this decision. The "Refusal of Care" form should be signed, dated, and witnessed preferably by a competent relative, friend, police officer, or impartial third person.

A person is competent to refuse care if they understand the potential life-threatening causes and consequences of their decision, and they can describe these consequences in their own words. A patient who is not competent cannot refuse patient care. In these circumstances, attempts should be made to form an alliance with the patients. Family members, friends, counselors, or police should be recruited to assist in getting cooperation for administration of proper and timely prehospital care. Physical restraint may be required as a last resort.

Patients who are minors (under age 18) cannot refuse care. However, the child's parent or legal guardian of these minors may sign the "Refusal of Care" form on behalf of these minors as long as the adults demonstrate understanding and are willing to assume responsibility for the minor's care or lack of care. Telephonic refusal of care from a family member may suffice to abort transport. When in doubt, contact medical control.

If the individual is under the age of 18 and refuses treatment or transport **and**, is in such circumstance or situation that presents an imminent danger to his/her health or life, police may take him/her into protective custody under RSA 169-C. (see RSA and Administrative Rule Section). You **must** have the consent of a parent or guardian or other caretaker to refuse services (follow refusal of treatment protocol).

If the individual is an adult and refuses an evaluation or follow-up **and** you believe he/she is suicidal, and/or is in immediate danger of bodily injury to themselves or others as a result of mental illness, you may request police take the individual into protective custody under RSA 135C:28, III (see RSA and Administrative Rule Section) **and/or** is intoxicated **and** in need of medical treatment or protective custody, police can take custody of the individual under RSA 172:B3 (see RSA and Administrative Rule Section)

If the individual would benefit from an evaluation or treatment, but does not meet either of the above criteria and refuses follow up

- ► Avoid leaving him/her alone when you clear the scene.
- ► Encourage him/her to call a friend, neighbor, family member, minister, etc., to come be with him/her. Ask to speak directly to this person and communicate your concerns and explain why you feel he/she is at risk and could benefit from follow up evaluation or treatment.
- ► Have the individual call Samaritans 357-5006 or Headrest 1-800-639-6095 (both provide phone support for suicidal individuals)

A patient care record (PCR) is still required, documenting the patient's competence, mental status, as well as any other pertinent history and findings.

Contact with police and/or medical control in situations that are uncertain or unclear, or if a lack of care poses a serious threat to the minor may be required. If child abuse or child neglect is suspected, the EMT must contact police and/or medical control immediately if a refusal of care situation exists. Complicated or uncertain situations should be resolved by on-line medical control.

PEDIATRIC RESTRAINT AND TRANSPORTATION 6.9

PATIENT TRANSPORT

An ill or injured child must be restrained directly to the cot in a manner that prevents ramping or sliding in a collision

- A belt/strap looped over each shoulder and attached to a non-sliding cot member
- A soft, sliding, or breakaway connector holding the shoulder straps together on chest
- Belt/strap anchored to non-sliding cot member and routed over thighs, not around waist
- Note: Standard belt systems do not adequately secure child to the cot during a crash.

Ill or injured child/infant (5 to 80 lbs) who can tolerate a semi-upright position may be secured using a child passenger safety seat

- Use a convertible child safety seat that has a front and rear belt path.
- Position safety seat on cot facing the foot-end with backrest fully elevated.
- Consider removing mattress.
- Secure safety seat with 2 pairs of belts in both the forward & rear positions.
- Place the shoulder straps of the harness through slots just below child's shoulders.
- For infants, place rolled towels on sides of child to maintain centered position.
- Note: Non-convertible safety seats cannot be secured properly to the cot.

For infants who cannot tolerate a semi-upright position or who must lie flat

- Use car bed, if available, that can be secured against both rearward and forward motion.
- Position car bed across cot so child lies perpendicular to cot.
- Fully raise cot's backrest and anchor car bed to cot with 2 belts.
- Fasten car bed harness snugly to infant.

WELL CHILD TRANSPORT

- There is no place in the patient compartment that is recommended for child passengers.
- Well children should be transported in a vehicle other than the ambulance whenever possible.
- Children may be transported relatively safely in the passenger seat of the driver's compartment if they are large enough to ride forward-facing in a child passenger safety seat or booster seat.
- If the air bag can be deactivated, the restrained, rear-facing infant can be placed in the passenger seat of the driver's compartment.

USE OF CHILD PASSENGER SAFETY SEAT AFTER INVOLVEMENT IN MOTOR VEHICLE CRASH

Child safety seats may be used after involvement in a minor crash. **All** of the following must apply to be considered a minor crash

- Visual inspection including inspection under movable seat padding does not reveal any cracks or deformation.
- The vehicle in which the child safety seat was installed was capable of being driven from the scene of the crash.
- The vehicle door nearest the child safety seat was undamaged.
- There were no injuries to any of the vehicle occupants.
- The air bags (if any) did not deploy.

INTERFACILITY TRANSFERS *7.0*

INTRODUCTION

Interfacility transfer of patients to provide optimal medical care is a frequent, necessary, and inevitable occurrence that must be anticipated and planned for. Reasons for transfers include continuity of care, definitive care, access to advanced technologies and advanced diagnostics, obtaining a higher level of care, and patient preference. Transportation and care of these patients are fundamental roles of the EMS system.

Interfacility Transfer: Any transfer, after initial assessment and stabilization, from and to a health care facility. Examples would include hospital to hospital, clinic to hospital, hospital to rehabilitation, and hospital to long-term care. (Guide for Interfacility Patient Transfer, NHTSA, April 2006)

Responsibility for patient transfer lies with the transferring physician, and must take into account the risk vs. benefit to the patient. Providing appropriate equipment, medications, and qualified staffing during transport is paramount to patient safety. These parameters should be based on the requirements of the patient at the time of transfer, and in anticipation of foreseeable complications, deterioration, and medical needs that might arise during transport. On occasion, equipment and personnel in addition to, or in place of, the EMS providers and local ambulance service must be utilized. Options include physicians and nurses to complement EMS providers, and implementation of ground-based critical care transport units, or air medical transport. In order to effect a safe transfer, transferring physicians must be knowledgeable about their respective EMS system's provider and equipment capabilities. Out-of-hospital skills and protocols do not necessarily translate into the transfer setting. EMS personnel accompanying the patient must possess the assessment and treatment skills appropriate for the patient's needs and be capable of recognizing and managing complications that occur during transfer.

Physicians and hospitals must also comply with laws regulating the transfer of patients. The Federal Emergency Medical Treatment and Active Labor Act (EMTALA) passed in 1985 as a part of the Consolidated Omnibus Reconciliation Act (COBRA). Under this law, regulations exist concerning the evaluation, examination, treatment, stabilization, and transfer of patients with an emergency medical condition. The transferring physician is responsible under Federal laws for assuring that qualified personnel, with appropriate equipment, transfer the patient.

Initiation of a transfer should be a carefully coordinated effort by the transferring and receiving physicians, transferring and receiving facilities, and the transferring unit and personnel. The following provides a guideline for selection of appropriate NH EMS personnel to provide inter-facility transport of patients consistent with their current scope of licensure, protocols, and training. Staffing, medical control, documentation, medications, transfer protocols, and procedures are addressed. The purpose of this document is to reconcile unique aspects of interfacility transfer with current NH EMS law, licensure, and acute care protocols. It should serve both as a guide and as a maximum menu that includes both standard acute care protocols, and local options specific to each provider level. It is intended to provide flexibility where possible for individual agencies, institutions, and communities to meet their unique needs.

It is assumed that the Intermediate orders include those listed under the Basic orders and the Paramedic orders include those listed for the Intermediate and Basic.

Interfacility Transfers continued on next page ⇨

INTERFACILITY TRANSFERS cont. *7.0*

⇦ *Interfacility Transfers continued from previous page*

MINIMUM STAFFING

The patient's condition and needs dictate which level providers are appropriate.

STABLE PATIENT WITH NO RISK FOR DETERIORATION

1 EMT Basic & 1 First Responder

- No IV infusions
- Oxygen for stable patient permitted
- Previously inserted Foley catheter
- Saline Lock permitted
- Automatic External Defibrillator (AED)

STABLE PATIENTS WITH LOW RISK OF DETERIORATION

1 EMT Intermediate & 1 First Responder

- IV 0.9% NaCl (normal saline), Lactated Ringers, or D5W, or saline lock
- No ongoing medications administered, or anticipated
- PCA pump
- IV Infusion pump for non-pharmacologic agents
- established feeding tube

STABLE PATIENTS WITH MEDIUM RISK OF DETERIORATION

1 Paramedic & 1 Basic

- Cardiac monitoring, manual defibrillation, cardioversion, transcutaneous pacing
- Intubated patients are allowed with second attendant
- Stable patient on ventilator for discharge to long term care
- Medical monitoring, procedures, and medication administration consistent with skill set, approved medications, protocols, and licensure.
- Advanced airway management
- ACLS/PALS drugs and procedures
- KCL (up to 40 meq/lt) maintenance pump infusion
- Maintenance of previously initiated medication* and therapies

***Approved Medications**

In the interfacility transfer setting where the medication is ordered and initiated in the health care facility or the home health care setting (i.e. hospice or home nursing care) prior to transfer, it is within the scope of practice of the paramedic to continue that medication during transfer.

Interfacility Transfers continued on next page ⇨

INTERFACILITY TRANSFERS cont. *7.0*

⇦ *Interfacility Transfers continued from previous page*

UNSTABLE OR STABLE PATIENT WITH HIGH RISK OF DETERIORATION

An Additional Paramedic, 1 Basic & 1 Qualified Advanced Healthcare Provider (For Example: Paramedic, Respiratory Therapist, Critical Care RN, Emergency RN, PA, NP, Physician, etc)

- For example: patients on multiple vasoactive medication drips, patients in shock, patients who require invasive monitoring, patients on balloon pumps, patients with chest tubes, patients who are <12 hours post resuscitation, patient who have sustained multiple trauma.
- Procedures consistent with provider licensure, scope of practice, and training.

DEFINITIONS

- Unstable Patients: A patient who cannot be stabilized at the transporting facility, who is deteriorating or likely to deteriorate. (From "Guide for Interfacility Patient Transfer", EMS NHTSA)
- Stable Patients: Defined as hemodynamically stable, those with a secure airway and **not** in acute distress (e.g. active labor, respiratory distress, dangerous dysrhythmias, shock, uncontrolled bleeding). Medical definitions of "stable" are not necessarily the same as the legal definitions used by EMTALA.

EMTALA specifies for non-pregnancy cases that "stabilized" means: "With respect to an emergency medical condition..[other than labor]..to provide such medical treatment of the condition as may be necessary to assure, within reasonable medical probability, that no material deterioration of the condition is likely to result from, or during transfer." With respect to a pregnant woman with contractions, stable is having delivered (including the placenta). Psychiatric patients are stable for interfacility transfer if they are "protected" from hurting themselves or others. This may be accomplished with medication or physical restraints.

EMS Interfacility Transfer Exception: New Hampshire Revised Statutes Annotated (RSA) Chapter 153-a:16 III has been amended to read: "If a physician determines that an interfacility transfer of a recognized critical access hospital patient is urgent and the availability of 2 licensed emergency medical services providers exceeds 30 minutes, then a registered nurse certified in emergency nursing, an emergency physician, or an emergency physician assistant may act as the responsible provider for the patient during the transfer, provided that each is certified in advanced cardiac life support and has completed a bureau of emergency medical services interfacilty training module."

MEDICAL CONTROL

Provisions for patient medical care in transit must always be made. According to EMTALA, patient care during transport until arrival at the receiving facility is the responsibility of the transferring physician unless other arrangements are made. Integral to this medical care provision is medical control and who assumes medical responsibility for the patient during transport.

Transferring and receiving physicians and transport personnel should determine in-transit medical responsibility prior to transport. Sometimes, as in certain air-medical transport services or over-land critical care units, the transport is functioning as an extension of a tertiary center. It operates under that facility's protocols, medical directorship, and on-line medical control. In most instances however, there are combinations of medical control elements and shared responsibility. In the prehospital environment, the EMS system operates under protocols. In the interfacility transfer environment, there is also a need to follow written transfer orders authored by the transferring physician that are within the scope of the provider's protocols and licensure. Transfer orders are specific, and appropriate to the patient being transferred. Both the protocols and transfer orders provide off-line medical control. Where transfer orders and protocols are in conflict, transfer orders take precedence.

Interfacility Transfers continued on next page ⇨

INTERFACILITY TRANSFERS cont. *7.0*

⇦*Interfacility Transfers continued from previous page*

Online Medical control through voice communication (on-line) must be available should the transport personnel need direction beyond their standing order capabilities in transit. It is highly recommended that voice control communication be recorded. Effectiveness of on-line direction depends upon a system that permits voice communication between the transport personnel and the appropriate physician. Transport personnel must have an identified, appropriate on-line medical control contact prior to initiating transport.

Options for on-line medical responsibility and control during transfer include

- Transferring physician assumes medical control.
- Receiving physician assumes medical control.
- Medical director or other physician designee of the transport unit assumes medical control.
- There is a shared, predefined responsibility between the transferring physician and receiving physician. A transfer of control en route occurs based on proximity, or distance based communication capability.
- Transferring facility's emergency physician assumes medical control.
- Receiving facility's emergency physician assumes medical control.

It is advisable that a medical responsibility policy determination be made in advance by hospitals according to their needs, patient requirements, and their unique situations. This may be done through a transfer committee or other appropriate means. Optimal patient care and safety are the primary considerations. Transferring physicians should be immediately available, or they should make other arrangements, for medical control communication via radio, cell phone, or telephone when executing emergency transfers. If there is a communication failure, the transferring facility's emergency physician should be the first default on-line contact and the receiving facility's emergency physician the second.

EQUIPMENT

All equipment as required in Saf-C 5904.08(a)–(d) must be available and functioning at the time of transfer. Advanced Life Support transfers must have appropriate equipment to deliver current ACLS/PALS care. This includes, but not limited to cardiac monitoring, defibrillator, cardiac pacer, pulse oximetry advanced airway equipment, suction, drug reference guide including medications used in transfers and IV pump. Patients who require ventilatory assistance during transfer will require a continuous CO_2 monitor.

HAZARDOUS MATERIALS EXPOSURE 8.0

The goal of the Hazardous Materials Exposure Protocol is to prepare the EMS provider for the potential risks that may be encountered and to provide guidelines to mitigate the effects of such an incident. The EMS provider may reference additional protocols for the management of specific hazardous materials exposure in dealing with known chemicals.

Successful management of a hazardous materials exposure depends on effective coordination between EMS, Local Hazardous Materials Teams, Fire & Police Departments, the Poison Control Center and appropriate state and federal agencies.

IDENTIFICATION

- Identification of the exposed material should be made at the earliest convenient time possible.
- Proper chemical name and spelling will be necessary for identification of procedures for Poison Control (1-800-222-1222) and receiving hospitals.
- Utilization of shipping papers, waybills, and MSDS (Material Safety Data Sheet) may assist in identifying chemical hazards, safety precautions, personal protective equipment, and treatments.
- Note: Many household chemicals may not require activation of hazardous materials team. Utilize manufacturer's recommendation for decontamination and treatment or contact poison control for treatment and decontamination procedures.

PERSONAL SAFETY

- **Personal protection is the highest priority** when responding to an incident where hazardous material exposure is suspected. **Do not enter the hot zone.** Only Hazmat Teams should ever enter the hot zone. Emergency response personnel caring for decontaminated patients should wear universal precautions including gowns, gloves, booties, and goggles/face shields.
- If there is a major hazardous materials release
  - Request specific staging information and be alert for clusters of injured patients.
  - Maintain safe location upwind and uphill of the site (at least 300 ft.).
  - Observe strict adherence to hot, warm, cold zone areas for personal safety, decontamination & treatment
  - Activate HAZMAT Response/Incident Command System.
  - Incident Command to notify NH Bureau of Emergency Management (603-271-2231) to request additional resources including law enforcement and pharmaceutical supply.

PATIENT DECONTAMINATION

Only properly trained and protected personnel should conduct patient decontamination. The decon-system is established by the appropriately trained Fire Department/HazMat Team. EMS personnel will work cooperatively with them during the decontamination process.

Patient decontamination is necessary to minimize injury due to exposure as well as to mitigate risk of secondary exposure.

Hazardous Materials Exposure continued on next page ⇨

HAZARDOUS MATERIALS EXPOSURE cont. *8.0*

⇦*Hazardous Materials Exposure continued from previous page*

MASS/GROSS DECONTAMINATION

- Mass Decontamination (Large Scale Multiple/Mass Casualty) involves the effective dilution of a chemical or hazardous substance utilizing large quantities of water. This process is supervised by the appropriately trained Local Fire Department or Hazardous Materials Team.
- This process is necessary due to the involvement of an overwhelming number of patients, the severity of symptoms, and where Technical or Fine Decontamination cannot be utilized due to time and personnel.

TECHNICAL DECONTAMINATION

- Technical Decontamination involves a step process, supervised by the appropriately trained Fire Department or Hazardous Materials Team.
- This Decon process is dependent on the type of chemical hazard present and may require different methods such as
  - Dilution
  - Absorption
  - Neutralization
  - Adsorption
  - Chemical Degradation
  - Solidification

Each method of decontamination has specific uses. Ascertain from the HazMat Team which method was used, if there are any hazards associated with the decontamination process, and if further definitive decontamination is required at the hospital.

DEFINITIVE/FINE DECONTAMINATION

- Usually completed at the hospital, it involves additional washing and rinsing to further dilute and finally remove any contaminants. Definitive Decontamination should be performed in an authorized decontamination facility and with appropriately trained personnel.

Hazardous Materials Exposure continued on next page ⇨

HAZARDOUS MATERIALS EXPOSURE cont. *8.0*

⇦*Hazardous Materials Exposure continued from previous page*

DECONTAMINATION OF SPECIAL REQUIREMENT POPULATIONS

Children and their families, elderly/frail, and patients with medical appliances will require more EMS staff and time for general assistance and may require simultaneous basic life support assistance during decontamination. An individual patient requiring special needs decontamination may take 10 to 15 minutes to complete.

Although the principals of decontamination are the same, certain precautions may need to be taken depending on the patient.

- These patients may have the inability to give history or describe symptoms and physical complaints.
- Typical stress response of children is to be highly anxious and inconsolable making assessment difficult.
- Small children are more difficult to handle while wearing PPE
- Attempt to keep children with their families as the decontamination process is likely to be frightening and children may resist.
- Keep patients with existing medical conditions together with their caregivers.
- Children and elderly, and possibly special needs patients, are inherently unable to maintain body temperature and quickly become hypothermic. Utilize water warmed to 100^0F, if available, and keep warm after drying procedure.
- Use low-pressure water, soft washcloths and protect airway and eyes throughout the decontamination process.

TREATMENT DURING DECONTAMINATION

- If medication is required, limit administration route to intramuscular or medi-inhaler.
- Intravenous therapy and advanced airway interventions should be delayed until after gross decontamination
- Specific individual treatment should be referenced from poison control or MSDS sheets.

DOCUMENT EXPOSURE AND TREATMENT INFORMATION

- Name of chemical(s)
- Amount, time and route of exposure
- Decontamination information
- Treatment/Antidotes administered

TRANSPORT

- EMS personnel transporting contaminated patients must have appropriate PPE.
- If an ambulance has transported a contaminated patient, it can only be used to transport similarly contaminated patients until proper decontamination of the vehicle is complete.
- Contaminated patients will not be transported by helicopter.
- Lining of the interior of the ambulance and further use of PPE may be necessary, dependent upon the level of completed decon.
- Communication of chemical exposure should be transmitted to the receiving hospital at the earliest possible time. Transmitted information should include such information as covered under the documentation and treatment section.

MASS/MULTIPLE CASUALTY TRIAGE *8.1*

PURPOSE

- The goal of the Mass/Multiple Casualty Triage protocol is to prepare for a unified, coordinated, and immediate emergency medical services (EMS) mutual aid response by prehospital and hospital agencies to effectively expedite the emergency management of the victims of any type of Mass Casualty Incident.
- Successful management of any MCI depends upon the effective cooperation, organization and planning among health care professionals, hospital administrators and out-of-hospital EMS agencies, state and local government representatives, and individuals and/or organizations associated with disaster-related support agencies.

DEFINITIONS

MULTIPLE CASUALTY SITUATIONS

- The number of patients and the severity of the injuries do not exceed the ability of the provider to render care. Patients with life-threatening injuries are treated first.

MASS CASUALTY INCIDENTS

- The number of patients and the severity of the injuries exceed the capability of the provider, and patients sustaining major injuries who have the greatest chance of survival with the least expenditure of time, equipment, supplies, and personnel are managed first.

GENERAL CONSIDERATIONS

Initial Assessment to include the following

- Location of incident
- Type of incident
- Any Hazards
- Approximate number of victims
- Type of assistance required

COMMUNICATIONS

- Within the scope of a mass casualty incident, the EMS provider may perform, within the limits of their certifications, necessary ALS procedures that under normal circumstances would require a direct physician's order.
- These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition
- All procedures performed under this order shall be documented thoroughly.

Mass/Multiple Casualty continued on next page ⇨

MASS/MULTIPLE CASUALTY TRIAGE cont. 8.1

⇦Mass/Multiple Casualty continued from previous page

TRIAGE SORTING

Utilization of a triage system such as "START" (adults) and "Jump START" (children)
Triage Priorities

- Assess each patient as quickly and safely as possible.
- Conduct Rapid Assessment.
- Assign patients to broad categories based on need for treatment.
- Remember: Triage is not treatment! Stopping to provide care to one patient will only delay care for others. Standard Triage care is only to correct airway and severe bleeding problems.

TRIAGE CATEGORIES

- Immediate (**RED**): Life Threatening Injuries. Symptoms involving serious impairment of 2 or more organ systems, Seizing, altered mental status, unconsciousness, severe respiratory compromise, or hemorrhaging.
- Delayed (**YELLOW**): Urgent Care can be delayed up to one hour. Patients who have no immediate life-threatening injuries/effects but suspect of injury or exposure.
- Minimal (**GREEN**): Delayed Care up to three hours. Patients able to walk and talk after event or exposure.
- Expectant (**BLACK**): Deceased or casualties whose injuries are so severe that their chance of survival does not justify expenditure of limited resources. As circumstances permit, casualties in this category may be reexamined and possibly be re-triaged to a higher category.

TAGGING SYSTEMS

- Use water-repellant triage tags with waterproof markers and attach to the patient.
- Indicate patient's triage priority, degree of decontamination performed, treatment, and medications received.

TRIAGE IN HAZARDOUS MATERIALS INCIDENTS

DECONTAMINATION

- The need for decontamination is the "first triage decision". Since decontamination can be a lengthy process, the "second decision" is which patient(s) are the first to be decontaminated. The "third decision" is based on need for treatment during the decontamination process since only simple procedures such as antidote administration can be accomplished while wearing PPE.

IDENTIFICATION & TREATMENT

- Signs and symptoms of exposure will usually dictate the treatment required, however at the earliest possible time, identification of the specific chemical should be made as soon as possible.
- Reference additional Hazardous Materials Protocols as necessary.
- Request additional resources. Initial antidote and medical supplies may be limited to priority patients.
- Respiratory compromise is a leading factor of fatalities due to Hazardous Materials Exposure. Symptoms of chemical exposure may be delayed and occur suddenly. Constant re-evaluation of respiratory status is necessary.

NERVE AGENTS & ORGANOPHOSPHATES MCI – ADULT 8.2

BASIC STANDING ORDERS

B

- Routine Patient Care
- Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching) and KILLER Bs: (Bradycardia, Bronchorrhea, Bronchospasm).
- Remove to cold zone after decontamination and monitor for symptoms
- Treatment using Mark-1 Kit Auto-injectors only in Mass Casualty Incidents
- Treatment using Diazepam Auto-Injector only in Mass Casualty Incidents where ChemPaks are deployed
- Antidotal therapy should be started as soon as symptoms appear.
- All injections must be given IM.
- Atropine (tube#1) should always be given before 2-PAM chloride (tube#2)
- Severe symptoms include unconsciousness, convulsions, apnea, flaccid paralysis.
- Mild/Moderate symptoms include sweating, muscle fasciculations, nausea, vomiting, weakness, dyspnea, anxiety, restlessness, confusion and constricted pupils.

Determine dosing according to the following symptom assessment and guidelines:

Tag Color	Exposure, SLUDGEM	Mark-1 Kit Diazepam Monitoring Interval	Repeat Dosing	Maintenance Dose
RED	Severe Symptoms	3 Adult Mark-1 kits 1 Adult Diazepam (10 mg) Auto-injector	Diazepam Auto-Injector may be repeated 3 times at 10-15 min. intervals.	1 Adult Mark-1 kit every hour for 3 hours
YELLOW	Mild to Moderate Symptoms	1 Adult Mark-1 kit for minor symptoms. Monitor every 10 minutes.	If symptoms progress: 2 Adult Mark-1 kits & 1 Adult Diazepam Auto-injector. Diazepam may be repeated 3 times at 10-15 min. intervals.	
GREEN	No	None. Monitor every 10 minutes for evidence of exposure.		

INTERMEDIATE STANDING ORDERS

I

- Obtain IV access if situation permits.

Nerve Agents & Organophosphates MCI - Adult Paramedic Standing Orders on next page ⇨

NERVE AGENTS & ORGANOPHOSPHATES MCI – ADULT cont. 8.2

⇦ Nerve Agents & Organophosphates MCI - Adult from previous page

PARAMEDIC STANDING ORDERS

P

- If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- If symptoms persist after the administration of 3 Mark 1 kits
  - Atropine: 2 mg IV, Repeat every 5 minutes until secretions cleared.
  - Pralidoxime: 1-2 gram IV over 30–60 minutes
  - Diazepam 10 mg IM/IV, repeat every 5 to 10 minutes as needed

Instead of diazepam, may use either

- Lorazepam 2-4 mg IM/IV, repeat every 5 to 10 minutes as needed, **or**
- Midazolam 2.5-5.0 mg IM/IV, repeat every 5 to 10 minutes as needed.

- Albuterol 2.5 mg in 5 ml normal saline via nebulizer

MEDICAL CONTROL MAY CONSIDER

- Pralidoxime maintenance infusion: Up to 500 mg per hour (max. of 12 gm/day)

NERVE AGENTS & ORGANOPHOSPHATES MCI – PEDIATRIC 8.2P

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care
- Asses for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching) and KILLER Bs: (Bradycardia, Bronchorrhea, Bronchospasm).
- Remove to cold zone after decontamination and monitor for symptoms.
- Antidotal therapy should be started as soon as symptoms appear.
- Mark-1 Kit Auto-injectors for use only in Mass Casualty Incidents
- All injections must be given IM.
- Atropine (tube#1) should always be given before 2-PAM chloride (tube#2).
- Determine dosing according to the following guidelines:

Tag Color	Exposure, Respiratory Distress Agitation, SLUDGEM	Atropine and 2-PAM Doses Monitoring Interval		Atropine Repeat Dosing
RED (Pediatric)	Yes	Age <1 yr	1 **Peds** Atropine Auto-injector **(0.5 mg)*** No 2-PAM Monitor every 3 minutes.	Atropine every 3 minutes as needed
		Age >1 yr	1 Atropine Auto-injector **(2 mg)** 1 2-PAM Auto-injector **(600 mg)** (Adult MARK 1 Kits) Monitor every 3 minutes.	
GREEN (Pediatric)	No	None Monitor every ten minutes for evidence of exposure.		

*One Adult Mark-1 kit may be used for pediatric patients in a life-threatening situation with exposure symptoms when no pediatric Auto-injector is available.

Nerve Agents & Organophosphates MCI - Pediatric Paramedic Standing Orders on next page ⇨

NERVE AGENTS & ORGANOPHOSPHATES MCI – PEDIATRIC cont. 8.2P

⇦Nerve Agents & Organophosphates MCI - Pediatric from previous page

PARAMEDIC STANDING ORDERS

P

In the unlikely event that field conditions permit, follow weight based dosing and treatment guidelines

- Initiate cardiac monitoring.
- Establish IV access.
- Atropine: 0.05 - 0.1 mg/kg IV/IO or IM (minimum dose of 0.1 mg, maximum single dose 5 mg), repeat 2-5 minutes as needed
- Pralidoxime 25 - 50 mg/kg/doses IV (maximum dose 1 g) or IM (maximum dose of 2 g), may repeat within 30-60 minutes as needed, then again every hour for 1 – 2 doses as needed.
- Diazepam 0.3 mg/kg IV(0.5 mg/kg per rectum) (maximum dose 10 mg), repeat every 5 to 10 minutes as needed

Instead of diazepam, may use either

- Lorazepam 0.1 mg/kg IV/IM (maximum dose 4 mg), repeat every 5 to 10 minutes as needed, **or**
- Midazolam 0.2 mg/kg IM, repeat every 5 to 10 minutes as needed

- Albuterol 2.5 mg in 5 ml normal saline via nebulizer

PARAMEDIC MEDICAL CONTROL MAY CONSIDER

- Praxlidoxime maintenaince infusion: 10-20 mg/kg/hr
- 0.2 mg/kg Midazolam sublingual, intranasal

NERVE AGENTS & ORGANOPHOSPHATES MCI – PROVIDER PROTECTION 8.3

BASIC STANDING ORDERS

B

- If first responder(s) display symptoms, notify dispatch immediately.
- All first responders will evacuate area until secured by Hazmat Team.
- Remove clothing and decontaminate yourself and/or assist other responders.
- Routine Patient Care
- Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching) and KILLER B's (Bradycardia, Bronchorrhea, Bronchospasm).
- Use Mark-1 Auto-Injectors only if nerve agent symptoms are present. Mark-1 kits **offer no prophylactic protection** and use prior to appearance of symptoms may be harmful.
- Atropine (tube#1) should always be given before 2-PAM chloride (tube#2). All injections must be given IM.
- Treatment using Diazepam Auto-Injector only in Mass Casualty Incidents where ChemPaks are deployed
- Severe symptoms include unconsciousness, convulsions, apnea, flaccid paralysis.
- Mild/Moderate symptoms include sweating, muscle fasciculations, nausea, vomiting, weakness, dyspnea, anxiety, restlessness, confusion and constricted pupils.

INTERMEDIATE STANDING ORDERS

I

- Obtain IV access if situation permits.

PARAMEDIC STANDING ORDERS

P

- If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- If symptoms persist after the administration of 3 Mark 1 kits
  - Atropine: 2 mg IV, Repeat every 5 minutes until secretions cleared.
  - Pralidoxime: 1-2 gram IV over 30–60 minutes
  - Diazepam 10 mg IM/IV, repeat every 5 to 10 minutes as needed

Instead of diazepam, may use either

  - Lorazepam 2-4 mg IM/IV, repeat every 5 to 10 minutes as needed, **or**
  - Midazolam 2.5-5.0 mg IM/IV, repeat every 5 to 10 minutes as needed.
- Albuterol 2.5 mg in 5 ml normal saline via nebulizer

MEDICAL CONTROL MAY CONSIDER

- Pralidoxime maintenance infusion: Up to 500 mg per hour (max. of 12 gm/day)

CYANIDE POISONING MCI – ADULT 8.4

CYANIDE COMPOUNDS

BASIC STANDING ORDERS

B

- Decontamination concurrent with initial resuscitation
  - If patient exposed to gas only and does not have skin or ocular irritation, does not need decontamination.
  - If patient exposed to liquid, decontamination required. Avoid self-contamination.
- Routine Patient Care
- Pulsoximetry may be inaccurate and should be avoided
- Asymptomatic patients should not be treated with entire cyanide antidote kit because of inherent toxicity
- Administer amyl nitrite inhalant from cyanide antidote kit*
  - Crush 1-2 ampules into gauze, continue every 5 minutes
  - Have patient inhale amyl nitrite through gauze or place gauze within facemask, over intake valve of bag-valve-mask device during assisted ventilation
  - Alternate amyl nitrite every 30 seconds with 100 percent oxygen.
- Consider ALS intercept/air medical transport

INTERMEDIATE & PARAMEDIC STANDING ORDERS

I/P

- Obtain IV access if situation permits.
- Consider paramedic intercept.
- Continue amyl nitrate until IV access is established and sodium nitrite can be administered.
- Sodium nitrite: 300 mg IV over 5 minutes or more (10 ml of a 3 percent solution)
- Repeat half dose if symptoms persist after 20 minutes.
- Sodium thiosulfate: 12.5 g IV over 15 minutes (50 ml of a 25 percent solution)
- Repeat half dose if symptoms persist after 20 minutes.
- Note: Sodium thiosulfate may be considered as a single agent for treatment of cyanide poisoning, especially in suspected cases that have not been confirmed, or in a situation where they may be concurrent CO poisoning. In the case of CO, poisoning, it is reasonable to administer sodium thiosulfate first, and reserve the sodium nitrite for refractory cases.

*Cyanide antidote kit: each kit contains 12 ampules of amyl nitrite inhalant, 2 ampules of 300 mg sodium nitrite in 10 ml of water, and 2 ampules of 12.5 g sodium thiosulfate in 50 ml of water.

CYANIDE POISONING MCI – PEDIATRIC 8.4P

CYANIDE COMPOUNDS

BASIC & INTERMEDIATE STANDING ORDERS

B/I

- Decontamination concurrent with initial resuscitation
- If patient exposed to gas only and does not have skin or ocular irritation, does not need decontamination.
- If patient exposed to liquid, decontamination required
- Routine Patient Care
- Pulsoximetry may be inaccurate and should be avoided
- Administer amyl nitrite inhalant from cyanide antidote kit*
  - Crush 1-2 ampules into gauze, continue every 5 minutes
  - Have patient inhale amyl nitrite through gauze or place gauze within facemask, over intake valve of bag-valve-mask device during assisted ventilation
  - Alternate amyl nitrite every 30 seconds with 100 percent oxygen.
- Consider ALS intercept/air medical transport

PARAMEDIC STANDING ORDERS

P

- Obtain IV access if situation permits
- Sodium nitrite: 0.3 ml/kg of a 3 percent solution IV
- Repeat half dose if symptoms persist after 20 minutes.
- Sodium thiosulfate: 1.65 ml/kg IV of a 25 percent solution
- Repeat half dose if symptoms persist after 20 minutes.
- Sodium thiosulfate may be considered as a single agent for treatment of cyanide poisoning, especially in suspected cases that have not been confirmed.

*Cyanide antidote kit: each kit contains 12 ampules of amyl nitrite inhalant, 2 ampules of 300 mg sodium nitrite in 10 ml of water, and 2 ampules of 12.5 g sodium thiosulfate in 50 ml of water.

RADIATION INJURIES MCI – ADULT AND PEDIATRIC 8.5

Exposure to radioactive source or radioactive material/debris

BASIC STANDING ORDERS

B

- Remove patient from scene and decontaminate by appropriately trained personnel.
- Triage tools for mass casualty incident
  - If vomiting starts
    - within 1 hour of exposure, survival is unlikely and patient should be tagged "Expectant."
    - after less than 4 hours of exposure, patient needs immediate decontamination and evaluation and should be tagged "Immediate."
    - after 4 hours, re-evaluation can be delayed 24 – 72 hours if no other injury is present and patient tagged "Delayed."
- Routine Patient Care
- Treat traumatic injuries and underlying medical conditions.
- Patients with residual contamination risk from wounds, shrapnel, and internal contamination should be wrapped in water-repellent dressings to reduce cross contamination.
- Consider air medical transport after proven definitive decontamination of patient.

INTERMEDIATE STANDING ORDERS

I

- IV access and administer fluids to adults to hemodynamically stable if situation permits

PARAMEDIC STANDING ORDERS

P

- Consider anti-emetic (see Nausea/Vomiting Protocol 2.13)
- Consider pain control (see Pain Management Protocol 2.9)

2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

GENERIC NAME	TRADE NAME
ACETAMINOPHEN	TYLENOL
ACTIVATED CHARCOAL	
ADENOSINE	ADENOCARD
ALBUTEROL	PROVENTIL
AMIODARONE	CORDARONE
AMYL NITRITE	
ASPIRIN	ACETYLSALICYLIC ACID
ATROPINE	
ATROPINE (AUTOINJECTOR)	ATROPEN, ATROPEN JR.
BUMETANIDE	BUMEX
CALCIUM CHLORIDE	
DEXTROSE	GLUCOSE
DIAZEPAM	VALIUM
DILTIAZEM	CARDIZEM, DILACOR, TIAZAC
DIPHENHYDRAMINE	BENADRYL
DOLASETRON	ANZEMET
DOPAMINE	
EPINEPHRINE	
EPINEPHRINE (AUTOINJECTOR)	EPI-PEN, EPI-PEN JR.
ETOMIDATE	AMIDATE
FENTANYL	SUBLIMAZE
FLUMAZENIL	ROMAZICON
FUROSEMIDE	LASIX
GRANISETRON	KYTRIL
GLUCAGON	
HALOPERIDOL	HALDOL
HEPARIN	
IBUPROFEN	MOTRIN
IPRATROPIUM BROMIDE	ATROVENT
KETOROLAC	TORADOL
LEVALBUTEROL	XOPENEX
LIDOCAINE	
LORAZEPAM	ATIVAN
MAGNESIUM SULFATE	
MARK-1 KITS	
METHYLPREDNISOLONE	SOLUMEDROL
METOCLOPRAMIDE	REGLAN

2007 Approved Medications List for New Hampshire EMS Providers continued on next page

2007 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

⇦ *2007 Approved Medication List for New Hampshire EMS Providers continued from previous*

GENERIC NAME	TRADE NAME
METOPROLOL	LOPRESSOR
MIDAZOLAM	VERSED
MORPHINE	
NALOXONE	NARCAN
NITROGLYCERIN	TRIDIL, NITROBID, NITROSTAT
NITROUS OXIDE PREMIXED WITH OXYGEN	NITRONOX®
NOREPINEPHRINE	LEVOPHED
ONDANSETRON	ZOFRAN
OXYTOCIN	PITOCIN
PHENYLEPHRINE	NEO-SYNEPHRINE
PRALIDOXIME	2-PAM, PROTOPAM CHLORIDE
PRALIDOXIME (AUTOINJECTOR)	2-PAM, PROTOPAM CHLORIDE
PROCAINAMIDE	PRONESTYL
PROCHLORPERAZINE	COMPAZINE
PROMETHAZINE	PHENERGAN
PROPARACAINE	ALCAINE
ROCURONIUM	ZEMURON
SODIUM BICARBONATE	
SODIUM NITRITE	
SODIUM THIOSULFATE	
SUCCINYLCHOLINE	ANECTINE
THIAMINE	VITAMIN B1
VASOPRESSIN	
VECURONIUM	NORCURON
VERAPAMIL	CALAN

Approved Interfacility Medication

In the interfacility transfer setting where the medication is ordered and initiated in the health care facility or the home health care setting (i.e. hospice or home nursing care) prior to transfer, it is within the scope of

NEW HAMPSHIRE ADVANCED ADULT AIRWAY PROCEDURES BY LICENSURE LEVEL

ADULT AIRWAYS	LEVELS		
Combitube	Basic*	Intermediate*	Paramedic*
KING LT-D	Basic*	Intermediate*	Paramedic*
LMA		Intermediate*	Paramedic*
ETT oral			Paramedic
ETT nasal			Paramedic
CPAP			Paramedic*
Cricothyrotomy			Paramedic*
RSI			Paramedic▲

EMT-Basics and EMT-Intermediates are authorized to use adult advanced airways only for patients in cardiac arrest.

*NH Department of Safety Transition Program required prior to use, unless approved and trained under local option prior to 01/01/06.

▲Prerequisite and training required prior to use. (Skill allowed under protocol with waiver and approval from the NH Department of Safety prior to 01/01/06)

Approved by the New Hampshire Medical Control Board July 20, 2006.

ADULT PATIENT CARE PROCEDURES MATRIX

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography			X	X
Chest Tube Maintenance				Transfer*
Cleared, Opened, Heimlich	X	X	X	X
Combitube		*	*	X
CPAP				*
Digital Intubation				X
Endotracheal Suctioning				X
KING LT-D		*	*	*
Laryngeal Mask Airway			*	*
McGill Forceps				X
Nasogastric Tube				X
Nasopharyngeal Airway	X	X	X	X
Nasotracheal Intubation				X
Nebulizer Treatment			*	X
Needle Cricothyrotomy				X
Needle Decompression				X
Oral Endotracheal Intubation				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration	*	X	X	X
Pulse Oximetry		X	X	X
Rapid Sequence Intubation				Prerequisite
Surgical Criothyrotomy				*
Tracheostomy Maintenance		*	*	X
Ventilator Operation				Transfer*

X Skills allowed under protocol and taught in the DOT curriculum.
* Skill allowed under protocol after completion of a NH Department of Safety approved transition module or enhanced module.

Adult Patient Care Procedures continued on next page ⇨

ADULT PATIENT CARE PROCEDURES MATRIX cont.

⇦ *Adult Patient Care Procedures from previous page*

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Auto Injector		*	*	X
Endotracheal				X
Inhalation	O_2*	O_2 MDI*	*	X
Intramuscular			*	X
Intraosseous				X
Intravenous			*	X
Intravenous Pump				X
Oral		X	X	X
Intranasal			X	X
Piggyback				X
Rectal				X
Subcutaneous			*	X
Sublingual		Assist*	Assist*	X

Vascular Acess	1st Responder	EMT-B	EMT-I	EMT-P
Blood Draw			X	X
Blood Glucose Analysis		*	*	X
Central Line Access				*
Central Line Maintenance				Transfer*
Peripheral Venous Access			X	X
Intraosseous - Adult				X

Cardiac Management	1st Responder	EMT-B	EMT-I	EMT-P
Application of 12 lead ECG		*	*	X
Application of 3 or 4 lead ECG		*	*	X
CPR - Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation - AED	X	X	X	X
Defibrillation - Manual			*	X
Interpretation of 12 lead ECG				X
Interpretation of 3 or 4 lead ECG			Vfib/Vtack Asystole, PEA*	X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

X Skills allowed under protocol and taught in the DOT curriculum.
* Skill allowed under protocol after completion of a NH Department of Safety approved transition module or enhanced module.

PEDIATRIC PATIENT CARE PROCEDURES MATRIX

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography				X
Cleared, Opened, Heimlich	X	X	X	X
Digital Intubation				X
Endotracheal Suctioning				X
KING LT-D				X
Laryngeal Mask Airway				X
McGill Forceps				X
Nasogastric Tube				X
Nasopharyngeal Airway	X	X	X	X
Nebulizer Treatment				X
Needle Cricothyrotomy				*
Needle Decompression				X
Oral Endotracheal Intubation				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration	*	X	X	X
Pulse Oximetry		X	X	X
Tracheostomy Maintenance		*	*	X
Ventilator Operation				Transfer*
Resuscitation Ventilator Operation				X

X Skills allowed under protocol and taught in the DOT curriculum.
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Pediatric Patient Care Procedures continued on next page ⇨

PEDIATRIC PATIENT CARE PROCEDURES MATRIX cont.

⇦ *Pediatric Patient Care Procedures from previous page*

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Auto Injector		❋	❋	X
Endotracheal				X
Inhalation	O_2*	O_2 MDI*	O_2 MDI*	X
Intramuscular				X
Intranasal				X
Intraosseous				X
Intravenous				X
Intravenous Pump				X
Oral		Activated Charcoal	Activated Charcoal	X
Piggyback				X
Rectal				X
Subcutaneous				X
Umbilical Vein				X

Vascular Access	1st Responder	EMT-B	EMT-I	EMT-P
Blood Draw				X
Blood Glucose Analysis		X	X	X
Central Line Access				❋
Intraosseous				X
Peripheral Venous Access				X
Umbilical Vein Access				X

Cardiac Management	1st Responder	EMT-B	EMT-I	EMT-P
Application of 12 lead ECG		❋	❋	X
Application of 3 or 4 lead ECG		X	X	X
CPR - Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation - AED	X	X	X	X
Defibrillation - Manual				X
Interpretation of 12 lead ECG				X
Interpretation of 3 or 4 lead ECG				X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

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ADULT & PEDIATRIC PATIENT CARE PROCEDURES

Other Skills	1st Responder	EMT-B	EMT-I	EMT-P
Advanced Spinal Assessment		X	X	X
Burn Care	X	X	X	X
Cervical Spinal Immobilization	*	X	X	X
Childbirth	X	X	X	X
Cold Pack	X	X	X	X
Extrication		X	X	X
Eye Irrigation (Morgan Lens)				X
Hot Pack	X	X	X	X
Immunization				*
MAST (pelvic splinting)		X	X	X
Restraints - pharmacological				X
Restraints - Physical		X	X	X
Spinal Immobilization - Lying (Long Board)	*	X	X	X
Spinal Immobilization - Seated (K.E.D)	*	X	X	X
Spinal Immobilization - Standing	*	X	X	X
Splinting	*	X	X	X
Splinting - Traction	*	X	X	X
Stroke Scale		X	X	X
Temperature		X	X	X
Vital Signs	*	X	X	X
Wound Care - Occlusive Dressing	X	X	X	X
Wound Care Pressure Bandage	X	X	X	X

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