Summary of 2018 Protocol Changes **December 22, 2017**

Protocol (numbers may have changed during revision)	Name	Change	Type (Minor/ Major)
0	**Preface**	Page 1 Changed wording of first paragraph to reflect a "continued evolution of prehospital medicine in Vermont." Changed email to vtems@vermont.gov Page 2 Removed references to scope of practice transition. Page 3 - removed reference to Combitube from Medication and Equipment Options Page 4 - no changes Page 5 last paragraph - added the word "continued" staff name updates	Minor
1.0	**Routine Patient Care**	Removed reference to CPR from Major System Trauma Added bullet about maintaining normal body temperature to secondary focused assessment Broke out Scene Arrival and Size-up into bulletted points Changed sentence in Patient Approach to read "Use a pediatric resource tool, such as a length-based resuscitation tape, when treating pediatric patients." Added "point of care ultrasound" to Secondary/Focused Assessment and Treatment section. Added CPR to list of on-scene field messures for major multiple system trauma Page 4 - BVM Rates table - changed Adult Supraglottic rate to 6 - 10 from 8 - 10 Page 4 - Pulse Ox Readings - changed Percent O2 for normal range to ≥94% from 94% - 100%.	Minor Minor Minor Minor Major Major Minor Major
1.1	**Routine Patient Care (EMR)**	Removed reference to CPR from Major System Trauma Added assisting patient with administration of patient's own epinephrine Added bullet about maintaining normal body temperature to secondary focused assessment Broke out Scene Arrival and Size-up into bulletted points Changed sentence in Patient Approach to read "Use a pediatric resource tool, such as a length-based resuscitation tape, when treating pediatric patients." Added CPR to list of on-scene field messures for major multiple system trauma Page 3 - BVM Rates table - changed Adult Supraglottic rate to 6 - 10 from 8 - 10	Minor Minor Minor Minor Minor Major Minor
1.2	**Extended Care Guidelines**		
2.0A	**Abdominal Pain (Non Traumatic) – Adult**		
2.0P	**Abdominal Pain (Non Traumatic) – Pediatric**		

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2.1	**Adrenal Insufficiency – Adult/Pediatric**	Changed Paramedic Dex to 10 mg max	Minor
2.2A	**Allergic Reaction/Anaphylaxis – Adult**	AEMT: Changed epi dosing to every 5 to 15 minutes, max of 3 doses. AEMT: Albuterol…may dose every 5 minutes. AEMT: DuoNeb….may dose every 5 minutes, max of 3 doses Paramedic: Removed race epi (3rd bullet) Extended: Dropped Dex max dose to 10 mg	Major Major Major Major Major
2.2P	**Allergic Reaction/Anaphylaxis – Pediatric**	 AEMT: Changed epi dosing to every 5 to 15 minutes, max of 3 doses. AEMT: Albuterol…may dose every 5 minutes. AEMT: DuoNeb….may dose every 5 minutes, max of 3 doses Paramedic: Removed race epi (3rd bullet) Extended: Dropped Dex max dose to 10 mg	Major Major Major Major Major
2.3A	**Altered Mental Status (Unknown Etiology) – Adult**	AEMT: changed naloxone and narcan spray dosing to every 3 - 5 minutes vs. 2 - 3 minutes	Minor
2.3P	**Altered Mental Status (Unknown Etiology) – Pediatric**	AEMT: Refer directly to Restraints Procedure 6.4 vs Behavioral Emergencies Procedure AEMT: Repeat naloxone every 3 - 5 minutes. Pearls: AEMT and Paramedic may titrate naloxone	Minor Minor Minor
2.4	**Apparent Life-Threatening Event (ALTE)**	Changed name of protocol Will shift order and protocol number at later date	Minor Minor
2.5A	**Asthma/COPD/RAD – Adult**	Removed AEMT medical direction for use of albuterol. Dex dose to 10 mg. Added repeat doses and when to contact Medical Direction for nebulized epi. Added a pearl regarding IV starts. AEMT: Changed DuoNeb OR Albuterol to AND/OR. Changed bullet to read: For patients who do not respond to treatments, or for impending respiratory failure, continue nebulizers and consider CPAP up to a maximum of 10 – 15 cm H2O pressure support. Added Extended Care: Albuterol metered-dose inhaler (MDI) 2 – 4 puffs. May repeat every 5 minutes for continued symptoms.	Major Major Minor Minor Major Minor Minor
2.5P	**Asthma/Bronchiolitis/Croup/RAD – Pediatric**	Removed AEMT medical direction for use of albuterol. Dex dose to 10 mg. Added repeat doses and when to contact Medical Direction for nebulized epi. Added a pearl regarding IV starts. AEMT: Changed DuoNeb OR Albuterol to AND/OR. For impending respiratory failure, continue nebulizers and consider CPAP (see CPAP 5.3P).	Major Major Minor Minor Major Minor
2.6	**Behavioral Emergencies Including Suicide Attempts & Threats – Adult/Pediatric**	Add open bullet under excited delerium to refer to the restraints procedure	Minor

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2.7A	**Diabetic Emergencies (Hyperglycemia) – Adult**	Changed 500mL bolus to 1000mL, removed "250mL/hr" replaced with "reassess and administer 1000mL .9% NaCl IV/IO if indicated."	Minor
2.7P	**Diabetic Emergencies (Hyperglycemia) – Pediatric**	Added "IV/IO" route specification	Minor
2.8A	**Diabetic Emergencies (Hypoglycemia) – Adult**	Change: Treat hypoglycemia if blood glucose is <60 mg/dL	
2.8P	**Diabetic Emergencies (Hypoglycemia) – Pediatric**	Added "or 5mL/kg"	Minor
2.9	**Hyperthermia (Environmental) – Adult & Pediatric**	Added "Utilize ice bath if available" between misting and truncal. Added hyperthermia ice bath PEARL for standy events, and referral to "rehab protocol" Changed bullet about discontinuing active cooling to add temperature range at which to discontinue.	Minor Minor Minor
2.10	**Hypothermia (Environmental) – Adult & Pediatric**	Added "contraindications to prolonged CPR include" before prolonged CPR bullet Added "hypothermia is a clinical diagnosis"	Minor Minor
2.11	**Nausea/Vomiting – Adult & Pediatric**	Added PEARL for applying 12-lead ECG when appropriate	Minor
2.12A	**Nerve Agent/Organophosphate Poisoning – Adult**		
2.12P	**Nerve Agent/Organophosphate Poisoning – Pediatric**		
2.13	**Newborn Care**	Add "but no less than 1 minute" after chord stops pulsating	Minor
2.14	**Newborn Resuscitation**	Removed bullet 1 Added bullet under BVM ventilation "meconium aspiration may be indicated if airway is obstructed."	Major Major
2.15	**Normal Labor and Delivery**		
2.16	**Obstetrical Emergencies**		

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2.17A	**Pain Management – Adult**	Paramedic (all): Added "Fentanyl 25-100 mcg slow, every 2-5 minutes to a total of 300 mcg titrated to pain relief (Fentanyl is the preferred narcotic agent" Removed bullet on reassessing patient every five minutes. Added "Morphine 2-5 mg IV/IM every 10 minutes to a total of 20 mg titrated to pain relief and if systolic BP is >100 mmHg" Added "Ketamine .25mg/kv IV infusion (in 100mL bag .9% NaCl) over 15 minutes" In red flags, added "or 2-4mg intranasal" in the antidote section. Added IV Acetaminophen and Ketorolac IV/IM to Paramedic level. Removed mention of pediatrics ≥9 years of age from Adult Protocol. In red flags, added contraindications of acetaminophen. Adapted NH's 2-page Adult Pain protocol but retained VT medication dosages	Major (all) Major (all) Major
2.17P	**Pain Management – Pediatric**	Paramedic: Changed to 5-10 minute intervals for reassessment doses at half the original dose to a total of 3 doses. AEMT: Added "if the child is age >=9, able to self-administer, and has not received an opiate" to nitrous oxide management. Medic: Under antidote red flag, added "or 2-4 mg intranasal" Split EMT and AEMT section out. Added nitrous to AEMT level. Added IV Acetaminophen IV or PO to Paramedic level. Moved narcotic contraindications to better caution such use. Pushed protocol to 2 pages to allow for nitrous addition. Changed "Cardiac chest pain" to "Chest pain" in nitrous contraindication list.	Minor (all) Major Major Minor Minor

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2.18A	**Poisoning/Substance Abuse/Overdose – Adult**	AEMT: bullet on restraints, changed "behavioral emergencies" to "restraints" link. Medic: Added ">110ms" to wide QRS under last paramedic bullet. Medic: Changed "Tricyclic" to "Trycyclic (Cyclics) in the medication reference.	Minor (all)
2.18P	**Poisoning/Substance Abuse/Overdose – Pediatric**		
2.19A	**Seizures – Adult**		
2.19P	**Seizures – Pediatric**		
2.20A	**Septic Shock – Adult**	Under physiologic criteria, adopted NH's criteria P: Added "IV/IO" after pump in Norepinephrine bullet P: New bullet under norepi, "Consider push dose epinephrine (10mcg/mL) for short transport times or as bridge to infusion. Administer 0.5-2 mL (IV/IO) every 2-5 minutes (5-20 mcg) P: Changed "consider adding vasopressin" to "consider adding second agent" P: Changed "40 units" bullet to "Vasopressin 40 units (2 vials of 20 units each)" P: Merged "vasopressin should not" bullet into note after "Vasopressin 40 units" bullet P: New bullet, "OR, Epinephrine infusion 2-10 mcg/min via pump"	Major Major Major Minor Minor Minor Major
2.20P	**Septic Shock – Pediatric**	Under physiologic criteria, changed lactate ">4" to ">2" Paramedic: removed dopamine P: Added IV/IO after "pump" with norepi and epi bullets	Major Major Minor
2.21A	**Shock – Adult**	A: Moved IV fluid bullet from E section to A and P. A: Added bullet for heating IV saline to 104 degrees P: Removed phenylephrine under cardiogenic shock P: Added push dose epi under cardiogenic shock (same verbage as sepsis)	Minor Minor Major Major
2.21P	**Shock – Pediatric**	P: Removed dopamine from cardiogenic & distributive shock	Major
2.22A	**Smoke Inhalation – Adult**	P: Added sub-bullet under "Consider early advanced airway[…]" saying "Consider epinephrine 3mg (3mL) in 3mL 0.9% NaCl via nebulizer for symptomatic patients. Especially if unable to obtain advanced airway."	Major
2.22P	**Smoke Inhalation – Pediatric**	P: Added sub-bullet under "Consider early advanced airway[…]" saying "Consider epinephrine 3mg (3mL) in 3mL 0.9% NaCl via nebulizer for symptomatic patients. Especially if unable to obtain advanced airway."	Major
2.23	**Stroke – Adult**	Adopted NE Stroke Protocol. Added "Draw labs, if possible." to A/P section. Added to EMT section: For symptoms between 6 – 24 hours, or wake-up symptoms where last-known well is between 6 – 24 hours, contact Medical Direction to consider "Stroke Alert" and transport to the most appropriate facility based on regional transport agreements.	

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3.0	**Acute Coronary Syndrome – Adult**	P: Added title for medication bullets: "For chest discomfort unresponsive to nitrates, consider analegsia:" P: Added "preferred agent" after fentanyl dosage P: Added red flag "Morphine should be used with caution, due to an association with increased mortality." E: Added "perform serial 12-lead ECGs, especially any time when clinical changes are noted." to "acquire and transmit 12-lead" E: Changed "left arm pain" to "jaw or arm discomfort", "epigastric pain" to "epigastric discomfort"	Minor Minor Minor Minor
3.1A	**Bradycardia – Adult**	P: Added "consider glucagon 2-5mg IV/IO over 3-5 minutes. May repeat up to 10mg; if effective, place on infusion 1-5mg/hr" to Symptomatic beta blocker bullet under Med Direction section P: Remove poisoning/substance abuse bullet (circular reference)	Major Minor
3.1P	**Bradycardia – Pediatric**	Reworked Paramedic analgesia prior to or during transcutaneous pacing section. P: Remove poisoning/substance abuse bullet (circular reference)	Minor Minor

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Protocol (numbers may have changed during revision)	Name	Change	Type (Minor/ Major)
3.2A	**Cardiac Arrest – Adult**	New protocol, "High Performance CPR" to be added in the appendix as an alternate protocol for services that have switched	Major
		Add to "integrated teams" PEARL, refer to appendix for high performance CPR.	Minor
		Added under Paramedic standing orders for VF/VT: o Changing pad placement from anterior-apex to anterior-posterior. o If second manual defibrillator is available, consider Double Sequential Defibrillation Procedure 5.4	Major
		EMT section - reworked transport options: If a shock is delivered to patient, transport as soon as one of the following occurs: o You have administered three shocks. o The patient regains a pulse. o If you have received three consecutive NSI messages, contact Medical Direction to consider termination of resuscitation OR continue resuscitation and transport.	Major
		Page 1 - Paramedic section: Changed last 2 bullets to begin with "For refractory ventricular fibrilllation, consider:"	Minor
3.2P	**Cardiac Arrest – Pediatric**	P: 3rd bullet (amiodarone) under "for v-fib", added "May repeat up to 2 times for refractory VF/VT"	Major
		P: Under lidocaine VF bullet, removed "may repeat once", added "maintenance: 20-50 mcg/kg/min infusion, repeat bolus dose if infusion initiated greater than 15 minutes after initial bolus therapy."	Major
		A: Added bullet above capnography: "BVM ventilation is the preferred method for ventilation of the pediatric population. However, if unsuccessful, consider placement of a supraglottic airway. Consider advanced airway after use of AED, as applicable."	Major

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Protocol (numbers may have changed during revision)	Name	Change	Type (Minor/ Major)
3.3	**Congestive Heart Failure (Pulmonary Edema) – Adult**	A&P: Changed SL Nitro to "every 3-5 minutes"	Minor
		P: Replaced second bullet with: o Titrate until symptomatic improvement or systolic BP of 140 mmHg: o For systolic BP of 140 – 160 mmHg: IV nitroglycerin start at 50 mcg/min. o For systolic BP of 160 – 200 mmHg: IV nitroglycerin start at 100 mcg/min. o For systolic BP > 200 mmHg: nitroglycerin start at 200 mcg/min. o Note: It is recommended two (2) IV lines in place and the IV nitroglycerin must be on an infusion pump. Maximum dose of 400 mcg/min.	Major
		A: changed BP ≥100 mmHG to 140 mmHG.	Major
~~**3.4**~~	~~**Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest – Adult**~~	REMOVE	Major
3.5A	**Post Resuscitative Care – Adult**	E: Removed last bullet	Minor
		A: Add sentence to contact Med Direction for additional fluid dosing to "If SBP <90[…]" P: Consider push dose epinephrine (10mcg/mL) for short transport times or as bridge to infusion. Administer 0.5-2 mL (IV/IO) every 2-5 minutes (5-20 mcg)	Minor
		P: added "or lidocaine 100mg IV/IO bolus." to first bullet after amiodarone 10 minute bolus.	Major
		P: Merged "if amiodarone" and "if the patient is having" bullets, changed to "PVCs" from "PVC."	Minor
		P: Removed phenylephrine bullet under post-resusc	Major
		P: Added "consider push-dose epi" language from shock protocol	Major
3.5P	**Post Resuscitative Care – Pediatric**	E: Removed last bullet re hypothermia	Major
		P: Added "Max 300mg" to amiodarone first bullet	Major
		P: Added to first bullet under VF amiodarone "or lidocaine 1mg/kg (maximum 100mg) IV/IO bolus"	Major
		P: Merged "if amiodarone" and "if the patient is having" bullets, changed "PVCs" from PVC	Major
		P:Added lidocaine "20-50 mcg/kg/min IV/IO via pump" to antidysrhythmic list in VF section	Major
		P: Removed last bullet under VF section "if another antidysrhytmic was used"	Major
		P: Removed dopamine infusion under periatric post-resusc hypotension	Major

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Protocol (numbers may have changed during revision)	Name	Change	Type (Minor/ Major)
3.6A	**Tachycardia – Adult**	P: 2nd page, under monomorphic QRS, lidocaine bullet, removed "considered second line therapy", changed dosage to 1mg/kg P: Under lidocaine sub-bullet, changed repeat frequency to x2 doses q5 minutes (total of 3 doses) P: Under amiodarone bullet, added "OR" before lidocaine P: Added PEARL: For best results in vagal maneuver: start with patient head of bed elevated 30 degrees, while the patient is perfoming vagal maneuver over 15 seconds, lower the bed back and raise the legs." Red flag box: Added metoprolol, amiodarone and adenosine to contraindicated meds for patients with WPW syndrome.	Major Minor Minor Minor Major
3.6P	**Tachycardia – Pediatric**	P: Under wide complex bullet, added new bullet "OR lidocaine 1mg/kg IV/IO bolus (maximum 100mg)"	Major
4.0A	**Burns (Thermal) – Adult**		
4.0P	**Burns (Thermal) – Pediatric**		
4.1	**Drowning/Submersion Injuries – Adult & Pediatric**		
4.2	**Eye & Dental Injuries – Adult & Pediatric**		
4.3	**Musculoskeletal Injuries – Adult & Pediatric**		
4.4	**Rhabdomyolysis/Crush Injury – Adult & Pediatric**	E: Added new bullet "maintain O2 sats greater than equal to 94%" E: Changed "immobilize patient" to "initiate spinal motion restriction" A: Added bullet "Acquire and transmit 12 lead ECG if available" P: Added bullet "consider hyperkalemia"-- copied language from 3.2. To add hyperkalemia information to appendix	Minor Minor Minor Minor
4.5	**Spinal Motion Restriction**		
4.6	**Thoracic and Abdominal Injuries – Adult & Pediatric**		
4.7	**Traumatic Brain Injury – Adult & Pediatric**		
New	**TXA**	New protocol - needs local DMA approval. Currently not approved for agencies transporting to UVMMC	Major
5.0	**Airway Management Procedure**		
5.1A	**Airway Management Protocol – Adult**		

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5.1P	**Airway Management Protocol – Pediatric**		
5.2	**Automated Transport Ventilators**		
~~**5.3**~~	~~**Combitube**~~		
5.4	**Continuous Positive Airway Pressure (CPAP) – Adult & Pediatric**	Changed pressure to 5 - 15 cm	Minor
5.x	**Double Defib**		
5.5	**Foreign-Body Obstruction**		
5.6	**Gum Elastic Bougie/Flexguide**		
5.7	**i-gel**		
5.8	**King – LT**		
5.9	**Laryngeal Mask Airway (LMA)**		
5.10	**Nasotracheal Intubation**		
5.11	**Orotracheal Intubation**		
5.12	**Percutaneous Cricothyrotomy**		
5.13	**Suctioning of Inserted Airway**		
5.14	**Tracheostomy Care – Adult & Pediatric**		
6.0	**Advanced Spinal Assessment**	Add: check for abnormal neurological findings in all four extremities	Minor
6.1	**ECG Acquisition, Transmission and Interpretation**	Change: discomfort for pain	Minor
6.2	**Intraosseous Access**		
6.3	**Quantitative Waveform Capnography**		
6.4	**Restraints**	Added in OR: Ketamine 4mg/kg IM injection only (max dose 500 mg). Use 100 mg/ml concentration. Repeat 100 mg IM dose in 5-10 minutes for continued agitation (additional training and credentialing is required for use of ketamine) Red Flag: On-line medical direction is required for sedation of an adult with combative behavior from a behavioral emergency. Sedation for combative adults for overdose, poisoning, or head trauma is by off-line order. Added (intoxication) after overdose to Red Flag area.	Major 11/16/17
6.5	**Taser (Conducted Electrical Weapon) Probe Removal and Assessment**		
6.6	**Tourniquet & Hemostatic Agent – Adult & Pediatric**	"Tighten per manufacturer instructions until hemorrhage stops **and** distal pulses in affected extremity disappear." ADD: junctional tourniquet to Prehospital External Hemorrhage Control Protocol	Minor
6.7	**Vascular Access Via Pre-Existing Central Catheter**		
7.0	**Interfacility Transfer**		
7.1	**Interfacility Transport of Patients with IV Heparin by Paramedics**		
7.2	**Rapid Sequence Intubation (RSI)**		
8.0	**Abuse and Neglect Assessment and Management**		

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8.1	**Air Medical Transport**	ADD to Circulatory insufficiency: sustained systolic blood pressure <90mmHg in adults, age appropriate hypotension in children, or other signs of shock. ADD: critically ill children, including those with acute decompensation of chronic and/or special healthcare needs.	
8.2	**Baby Safe Haven**		
8.x	**Bariatric**	Modified and adopted NH protocol	Major
8.3	**Bloodborne/Airborne Pathogens**		
8.4	**Communications**		
8.5	**Communications Failure**		
8.6	**Consent for Treatment of a Minor**		
8.7	**Crime Scene/Preservation of Evidence**		
8.8	**Do Not Resuscitate (DNR) & Clinician Orders (COLST) and DNR/COLST Form**		
8.9	**Ebola Virus Disease**		
8.10	**Left Ventricular Assist Device (LVAD)**	Replaced VT's LVAD policy with NH's Implantable VAD policy	Minor
8.11	**Non-EMS Personnel at the Emergency Scene**		
8.12	**Pediatric Transportation**		
8.13	**Police Custody**	Change (18 VSA 7504 to 7505); Change: Excited Delirium see: Behavioral Emergencies to *Restraints* .	Minor
8.14	**Refusal of Care and Patient Non-Transport Form**		
8.15	**Response to Domestic Violence**		

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8.16	**Resuscitation Initiation and Termination**	Page 1: Add Body frozen solid, unable to perform chest compressions to "Factors of Death" Page 1: Add "but not limited to" to "Damage or destruction of the body…" Page 2: TOR Rule changes: o If ALL criteria are present, contact Medical Direction to consider termination of resuscitation. o If ANY criteria are missing, contact Medical Direction to consider termination of resuscitation OR continue resuscitation and transport. o Notify law enforcement if terminating resuscitation. Page 2 - Paramedic reference to narrow complex PEA changed to read: o For narrow-complex PEA with a rate above 40 or refractory and recurrent ventricular fibrillation/ventricular tachycardia, consider continuation of resuscitation and transport. o May consider termination of resuscitation if > 60 minutes from time of dispatch. o Confirm lack of organized heart wall movement with point-of-care ultrasound, if available and trained.	Major Minor Major Major Major
8.17	**Trauma Triage and Transport Decision**		
9.0	**Hazardous Materials Exposure**		
9.1	**Mass/Multiple Casualty Triage**		
9.2	**Radiation Injuries – Adult & Pediatric**		
A1	**Vermont Adult Medication Reference**		
A2	**Pediatric Color Coded Appendix**	Add decadron to pediatric appendix	
A3	**Scope of Practice (update to 2018)**	Update	
A4	**VT Specialty Care Paramedic (SCP) Scope of Practice**		
A5	**Cardiac Algorithms**		
A6	**CPAP Algorithm**		
A7	**VT Incident Scene and Training Rehabilitation Guidelines for EMS**		
A8	**High Performance CPR - Adult**	New protocol, "High Performance CPR" to be added in the appendix as an alternate protocol for services that have switched	
A9	**EMS in the Warm Zone**		
New	**Drip Charts**		

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New	**Push Dose Pressors**	Integrated	