APPENDIX 2:

HVREMAC MEDICAL PROCEDURES REFERENCE

SECTION1: Airway Control

Any references to airway control will include the use of supplemental oxygen, oropharyngeal airways, nasopharyngeal airways, bag-valve-masks with supplemental oxygen, flow restricted oxygen powered ventilation devices, foreign body removal, tracheal suctioning, gastric decompression, endotracheal intubation (ETI), nasotracheal intubation (NTI), combitube (or similar device), laryngeal mask airway (LMA), pleural decompression, continuous positive airway pressure (CPAP), and/or cricothyrotomy. *Procedures may only be performed consistent with the providers' level of training and certification.*

SECTION 2: Endotracheal Intubation

Endotracheal Intubation Confirmation from either Orotracheal or Nasotracheal Intubation routes must include clinical signs for primary confirmation including:

1. direct visualization of the ETT passing through the vocal cords (orotracheal);
2. visual inspection of the chest for the presence of symmetrical chest rise;
3. auscultation at the epigastrum for absence of gurgling sounds;
4. auscultation at the anterior and lateral chest walls for the presence of bilateral breath sounds; and
5. continuous End Tidal CO_2 ($ETCO_2$) waveform capnography monitoring (see Section 3). The capnography device must have the ability to print and/or store the data of the continuous waveform monitoring documentation as well as QA/QI purposes. The ability to print the data should be accomplished at the hospital whenever possible.

Note: When performing Nasotracheal Intubation:

1. administer single dose of Oxymetazoline (Afrin) spray into each nostril;
2. lubricate endotracheal tube with 2% Lidocaine (Viscous) gel prior to procedure.

SECTION 3: Waveform Capnography

See NYS SEMAC Advisory, 08-01; Confirmation of ETT Required Capnography

Continuous waveform capnography monitoring is required for all out of hospital adult and pediatric patients who require endotracheal intubation. The capnography device must have the ability to print and/or store the data for continuous waveform monitoring documentation as well as QA/QI purposes. The ability to print the data should be accomplished at the hospital whenever possible.

SECTION 4: Cricothyrotomy

Cricothyrotomy is an invasive surgical procedure that is intended to be used only by Paramedics who demonstrate expertise performing the procedure at a minimum of once every year in a clinical lab setting. Cricothyrotomy is to be performed only in circumstances where the Paramedic is unable to ventilate a patient by any other method as a result of a complete airway obstruction (i.e., severe facial trauma, angio edema, irremovable foreign body). Cricothyrotomy may be performed with a large bore over-the-needle catheter or with a REMAC approved device such as the “Quick Trach” or “Nu-Trake” devices.

SECTION 5: Pleural Decompression

Pleural Decompression is an invasive surgical procedure that is intended to be used only by AEMT-CCs and Paramedics who demonstrate expertise performing the procedure at a minimum of once every year in a clinical lab setting. Pleural decompression is to be performed only for the treatment of a tension pneumothorax when the patient presents with evidence of the following signs resulting from suspected trauma:

A. Respiratory distress with absent lung sounds; AND
B. Cardiovascular compromise as evidenced by;
    i. Hypotension
    ii. Cardiopulmonary arrest

SECTION 6: Medically Facilitated Intubation (replaces RSI)

MFI may only be performed by:

1. HVREMAC credentialed MFI Paramedics, **and**
2. on-duty at an HVREMAC MFI approved ALS agency, **and**
3. who are trained by the ALS agency to perform MFI **and**
4. approved by the agency Medical Director **and**
5. with the assistance of a second MFI trained Paramedic at the scene.

Consult the HVREMAC MFI Program (Appendix 5)

SECTION 7: Venous / Osseous Access and Infusion

1. Intravenous Access (with or without Saline Lock) refers to surgical cannulation of a peripheral vein including external jugular cannulation with an over-the-needle-catheter to deliver medication and/or fluids or withdraw blood specimens for laboratory analysis.

2. Intravenous Infusion refers to administration of normal saline with a Micro-Drip or Macro-Drip administration device through an intravenous access site.
   To administer medications or maintain venous access, the ALS provider should use a catheter of sufficient size to keep the vein open (KVO) and deliver medication as needed along with Micro-Drip administration tubing and run according to the recommended infusion rate. To replace fluid volume, or replace body electrolytes, the ALS provider should use the largest catheter that can be introduced into the patient's vein along with Macro-Drip administration tubing and run according to the recommended infusion rate.

3. Intraosseous Access is primarily for critical medical and trauma patients for whom peripheral IV access is not available, and it is recognized that IV access is needed urgently for delivery of fluids and/or medications. This procedure may be performed as a standing order only in cardiac arrest, respiratory arrest, and in cases with unstable patients where the provider is unable to obtain peripheral IV access following two attempts. In other cases, Medical Control must be consulted. *Peripheral IV sites must be considered prior to intraosseous access. The following is from the Collaborative Protocol: "…* Intraosseous infusion may only be used in cases of critical patients where IO access may be lifesaving. If IO access is started in a conscious patient, the IO should be flushed with Lidocaine (2%) 40 mg (2 mL) for adults, or 1 mg/kg for pediatric patients…".

4. Intraosseous Infusion refers to administration of normal saline with a Micro-Drip or Macro-Drip administration device through an intraosseous access site run according to the recommended infusion rate. To administer medications the ALS provider should use Micro-Drip administration tubing. To replace fluid volume the ALS provider should use Macro-Drip administration tubing, or in the case of a pediatric patient, Micro-Drip administration tubing, or preferably Macro-Drip administration tubing along with a pediatric burette or soluset.

5. KVO (Keep Vein Open) Rate refers to administration of normal saline at an approximate rate of 1 drip every 2 seconds when using Micro-Drip administration tubing and one drip every 10 to 15 seconds when using Macro-Drip administration tubing.

SECTION 8: Cardioversion, Pacing, and Cardiac Monitoring

Synchronized cardioversion is the treatment of choice for supraventricular and ventricular tachydysrhythmias when the patient is unstable or the dysrhythmia is refractory to drug therapy when the patient is stable. The synchronizer circuit must be turned on and there must be capture marks on the QRS complexes or the defibrillator will not synchronize correctly. If there are no marks, adjust the EKG size accordingly. *Biphasic cardioversion is an acceptable option if used according to the specific manufacturer's instructions.*

External pacing is the treatment of choice in profound bradydysrhythmias. The pacing circuit monitors the QRS complexes similar to the synchronizing circuit in cardioversion, but it determines the rate and provides pacing if it is slower than the specified rate (usually 60 BPM). For this reason, the patient cables must be in place and good QRS complexes must be sensed. During pacing, the patient should be visually monitored at all times and should be assessed for both electrical and mechanical capture. Skeletal muscle twitching should be expected, but it is not an indication of pacing capture.

Cardiac Monitoring shall be performed on all patients where indicated by the patient's clinical condition. AEMT-CC and AEMT-P services are required to utilize defibrillators, which are capable of continuous EKG monitoring. AEMT-CC and AEMT-P services are required to utilize defibrillators capable of continuous EKG monitoring, 12-Lead EKG acquisition, and computer recognition of EKG changes associated with Acute Myocardial Infarction.

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