

**SOUTHWEST OHIO PROTOCOL  
QUALITY & PERFORMANCE MEASURES  
REFERENCE DOCUMENT**

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The following quality and performance measures are suggested to improve the quality of prehospital care in Southwest Ohio.

<b>PROTOCOL(s)</b>	A105 Determination of Death/Termination of CPR
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"><li>• Time to CPR</li><li>• Time to AED application if applicable</li><li>• Review of CPR quality</li><li>• Duration of resuscitative efforts</li><li>• Review of biometric data/CPR quality if available</li><li>• Appropriateness of termination</li><li>• Review of every patient transport from scene with patient in arrest</li></ul>

<b>PROTOCOL(s)</b>	SB200 Clinical Practice Standards
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Abnormal vital signs should be addressed and reassessed</li> <li>• Response to therapy provided should be documented including pain scale reassessment if appropriate</li> <li>• Limit scene time for patients with time-critical illness or injury unless clinically indicated</li> <li>• Blood glucose level obtained when indicated</li> <li>• Patient decision-making capacity was determined and documented</li> <li>• Direct medical oversight was contacted as indicated by EMS agency protocol</li> <li>• Guardians contacted or efforts to contact the guardians for minor patients who are not or cannot be confirmed to be emancipated</li> <li>• Patient decision-making capacity was determined and documented on refusals.</li> <li>• Guardians contacted or efforts to contact the guardians for minor patients who are not or cannot be confirmed to be emancipated.</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-01: Respiratory assessment. Documented evidence that a respiratory assessment was performed on pediatric patients</li> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> <li>• Stroke-01: Suspected stroke receiving prehospital stroke assessment. To measure the percentage of suspected stroke patients who had a stroke assessment performed by EMS</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain.</li> <li>• Lights and/or Siren Response Rate - Percentage of EMS transports originating from a 911 request during which lights and sirens were not used during response.</li> <li>• Lights and/or Siren Transport Rate - Percentage of EMS transports originating from a 911 request during which lights and sirens were not used during patient transport.</li> </ul>

<b>PROTOCOL(s)</b>	SB201 Altered Level of Consciousness / Altered Mental Status
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Hypoglycemia considered and treated appropriately</li> <li>• Blood glucose level obtained</li> <li>• Percentage receiving stroke assessments</li> <li>• Application of cardiac monitor</li> <li>• Percentage receiving 12-lead EKG</li> <li>• CO detector is used when available.</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> <li>• Stroke-01: Suspected stroke receiving prehospital stroke assessment. To measure the percentage of suspected stroke patients who had a stroke assessment performed by EMS</li> </ul>

<b>PROTOCOL(s)</b>	SB203 Symptom Based Chest Pain M400 Acute Coronary Syndrome
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• The time of patient contact by to the time of 12-lead EKG acquisition within 10 minutes</li> <li>• The time from first diagnostic 12-lead EKG to STEMI notification.</li> <li>• Confirmation patient received Aspirin (taken Prior To EMS Arrival, given by EMS, or substantiated by other pertinent negatives)</li> <li>• The time of a STEMI patient's ultimate arrival to a receiving hospital</li> <li>• The time of EMS notification to the time of activation of a cardiac catheterization laboratory*</li> <li>• The time of arrival at the PCI center to the time of cardiac catheterization (door-to-balloon time) OR if patient not transported directly to PCI center, the time of arrival at receiving hospital to thrombolytics*</li> <li>• The time of prehospital 12-lead EKG acquisition to the time of cardiac catheterization (EKG-to-balloon time) *</li> </ul> <p>*NOTE: These measures can only be evaluated if EMS documentation can be combined with information provided by the receiving hospital</p>

<b>PROTOCOL(s)</b>	SB204 Cardiac Arrest C300 Ventricular Fibrillation/Tachycardia Adult w/o Pulse C301 Asystole – Pulseless Electrical Activity (PEA) P601 Pediatric Pulseless Cardiac Arrest (V-Fib, V-Tach) P602 Pediatric Pulseless Cardiac Arrest (Asystole, PEA)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Time to scene</li> <li>• Time to patient</li> <li>• Time to first CPR</li> <li>• Time to first shock</li> <li>• Time of ROSC</li> <li>• Review of CPR Quality <ul style="list-style-type: none"> <li>○ Compression Fraction</li> <li>○ Average and longest peri-shock pause</li> <li>○ Rate and depth of compressions</li> </ul> </li> <li>• End-tidal CO2 monitored</li> </ul>

<b>PROTOCOL(s)</b>	SB205 Shock
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Percentage of patients who have full vital signs (HR, RR, BP, T, O2) documented</li> <li>• Presence of a decision support tool (laminated card, a protocol, or electronic alert) to identify patients in shock</li> <li>• Percentage of patients with suspected shock for whom advanced notification to the hospital was provided</li> <li>• Mean time from abnormal vitals to initiation of a fluid bolus</li> <li>• Percentage of patients who receive pressors for ongoing hypotension after receiving 30 mL/kg isotonic fluid in the setting of shock</li> </ul>

<b>PROTOCOL(s)</b>	SB210 Trauma Patient Assessment and Transport Guidelines S500 Hemorrhagic Shock with/without Suspected Head Injury
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Percentage of EMS responses originating from a 911 request for patients who meet protocol criteria of SB214 for trauma and are transported to a trauma center.</li> <li>• Scene time should be less than 10 minutes unless entrapped.</li> <li>• A reasonable performance goal for an EMS system is that 90% of patients who have traumatic shock and are not entrapped should be delivered to a definitive trauma care facility within 30 minutes from the time of injury.</li> </ul>

<b>PROTOCOL(s)</b>	SB211 Guideline for Assessment/Transport of Adult Trauma Patients SB212 Guideline for Assessment/Transport of Pediatric Trauma <16 yrs SB213 Guideline for Assessment/Transport of Geriatric Trauma Patients C308 Traumatic Cardiac Arrest (Adult & Pediatric)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Transport to a trauma center.</li> <li>• Appropriate utilization of air medical services</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Trauma-04: Percentage of EMS responses originating from a 911 request for patients who meet criteria for trauma and are transported to a trauma center.</li> </ul>

<b>PROTOCOL(s)</b>	C302 Bradycardia P603 Pediatric Bradycardia
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Blood sugar obtained.</li> <li>• 12-lead obtained</li> <li>• Correct medication(s) and dose given for patient condition, age and weight</li> <li>• Correct application and use of cardiac pacing</li> <li>• Use of sedation or pain management with cardiac pacing</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Pediatrics-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> </ul>

<b>PROTOCOL(s)</b>	C303 Wide Complex Tachycardia with Pulse (Unstable) C304 Wide Complex Tachycardia with Pulse (Stable) C305 Narrow Complex Tachycardia w/Pulse (Stable) C306 Narrow Complex Tachycardia w/Pulse (Unstable) P604 Pediatric Supraventricular Tachycardia (PSVT)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Time to clinical improvement from patient contact</li> <li>• Blood sugar obtained</li> <li>• Correct medication(s) and dose given for patient condition, age and weight</li> <li>• Correct cardioversion joules delivered given patient weight and/or condition</li> <li>• Use of sedation for responsive patient</li> <li>• 12-lead obtained</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Pediatrics-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> </ul>

<b>PROTOCOL(s)</b>	C307 Post-Return of Spontaneous Circulation Care
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Percent of ROSC patients transported to appropriate facility as defined by the EMS system</li> <li>• 12-lead obtained</li> </ul>



<b>PROTOCOL(s)</b>	M400 Acute Coronary Syndrome
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• The time of patient contact by to the time of 12-lead EKG acquisition within 10 minutes</li> <li>• The time from first diagnostic 12-lead EKG to STEMI notification.</li> <li>• Confirmation patient received Aspirin (taken Prior To EMS Arrival, given by EMS, or substantiated by other pertinent negatives)</li> <li>• The time of a STEMI patient’s ultimate arrival to a receiving hospital</li> <li>• *The time of EMS notification to the time of activation of a cardiac catheterization laboratory</li> <li>• *The time of arrival at the PCI center to the time of cardiac catheterization (door-to-balloon time) OR if patient not transported directly to PCI center, the time of arrival at receiving hospital to thrombolytics</li> <li>• *The time of prehospital 12-lead EKG acquisition to the time of cardiac catheterization (EKG-to-balloon time)</li> </ul> <p>*NOTE: These measures can only be evaluated if EMS documentation can be combined with information provided by the receiving hospital</p>

<b>PROTOCOL(s)</b>	M403 Asthma – COPD P607 Pediatric Respiratory Distress (Wheezing or Asthma)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• CPAP/BiPAP utilization</li> <li>• Time to administration of specified interventions in the protocol</li> <li>• Rate of administration of accepted therapy (whether or not certain medications/interventions were given)</li> <li>• Change in vital signs (heart rate, blood pressure, temperature, respiratory rate, pulse oximeter, capnography values)</li> <li>• Time to administration of specified interventions in the protocol</li> <li>• Mortality</li> <li>• PRAM score completed (P607 only)</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-01: Respiratory assessment. Documented evidence that a respiratory assessment was performed on pediatric patients</li> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> </ul>

<b>PROTOCOL(s)</b>	M404 Congestive Heart Failure
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Time to initiation of non-invasive positive pressure ventilation</li> <li>• Number of CPAP/BiPAP patients who require intubation</li> <li>• Time to clinical improvement</li> <li>• Assessment/auscultation of lung sounds before and after each intervention</li> </ul>

<b>PROTOCOL(s)</b>	M405 Nausea and Vomiting
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• In patients with nausea and vomiting, appropriate medication(s) was/were administered (including proper dosage) and the patient's response to treatment is documented</li> <li>• Any event where complications occurred, such as a dystonic reaction, should have event and appropriate responsive interventions performed and documented</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> </ul>

<b>PROTOCOL(s)</b>	M406 Hyper/Hypoglycemia P608 Pediatric Hypoglycemia and Hyperglycemia
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Blood glucose level checked for all patients with symptoms of altered level of consciousness, seizure, stroke, hypoglycemia or hyperglycemia</li> <li>• When hyperglycemia documented, appropriate volume replacement given while avoiding overzealous repletion before insulin therapy at receiving center</li> <li>• If patient released at scene after hypoglycemia event, criteria documented for safe release</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> </ul>

<b>PROTOCOL(s)</b>	M408 Restraint Protocol P618 Pediatric Restraint Protocol
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Incidence of injuries to patient, EMS personnel, or others on scene</li> <li>• Incidence of injuries to patient, EMS personnel, or others during transport</li> <li>• Medical or physical complications (including sudden death) in patients</li> <li>• Advance informational communication of EMS protocols for the management of agitated and violent patients to others within the emergency care system and law enforcement</li> <li>• Initiation and engagement with EMS direct medical oversight</li> <li>• Initiation and duration of engagement with law enforcement</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> </ul>

<b>PROTOCOL(s)</b>	M409 Allergic Reaction – Anaphylaxis P609 Pediatric Anaphylaxis / Allergic Reaction
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Percentage of patients with anaphylaxis that receive epinephrine for anaphylaxis: <ul style="list-style-type: none"> <li>○ Via the IM route (vs. other routes)</li> <li>○ Via the IM route in the anterolateral thigh (vs. other locations)</li> </ul> </li> <li>• Percentage of patients with anaphylaxis who receive: <ul style="list-style-type: none"> <li>○ Epinephrine within 10 minutes of arrival</li> <li>○ The appropriate weight-based dose of epinephrine</li> </ul> </li> <li>• Percentage of patients that require airway management in the prehospital setting (and/or the emergency department)</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> </ul>

<b>PROTOCOL(s)</b>	M410 Seizure P610 Pediatric Seizure
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Time to administration of anticonvulsant medication</li> <li>• Rate of respiratory failure</li> <li>• Rate of seizure recurrence</li> </ul>

<b>PROTOCOL(s)</b>	M411 Toxicological Emergencies
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Early airway management in the rapidly deteriorating patient.</li> <li>• Accurate exposure history <ul style="list-style-type: none"> <li>• Time of ingestion/exposure</li> <li>• Route of exposure</li> <li>• Quantity of medication or toxin taken (safely collect all possible medications or agents)</li> <li>• Alcohol or other intoxicant taken</li> </ul> </li> <li>• Appropriate protocol selection and management.</li> <li>• Multiple frequent documented reassessments.</li> <li>• Clinical improvement after prehospital administration of naloxone</li> <li>• Frequency of patients who develop adverse effects or complications (recurrent respiratory depression or decreased mental status, aspiration pneumonia or pulmonary edema)</li> <li>• Number of patients who refuse transport following naloxone administration</li> </ul>

<b>PROTOCOL(s)</b>	M412 Hypothermia and Cold Emergencies
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Patient core temperature and means of measurement (when available)</li> <li>• Presence of cardiac dysrhythmias</li> <li>• Documentation of associated trauma (when present)</li> <li>• Blood glucose level obtained</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>• Trauma-02: Pain re-assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> </ul>

<b>PROTOCOL(s)</b>	M413 Hyperthermia and Heat Related Emergencies
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Blood glucose level obtained.</li> <li>• Fluids given for hypotension</li> <li>• Attempts to reduce core temperature</li> <li>• All decompensations during EMS care reviewed</li> <li>• Patient core temperature and means of measurement (when available)</li> <li>• Presence of cardiac dysrhythmias</li> <li>• Documentation of associated trauma (when present)</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Hypoglycemia-01: Treatment administered for hypoglycemia. Measure of patients who received treatment to correct their hypoglycemia</li> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> </ul>

<b>PROTOCOL(s)</b>	M414 Stroke
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Documentation of “last known well time.”</li> <li>• Use of validated stroke scale</li> <li>• Use of validated LVO tool</li> <li>• Blood glucose level obtained</li> <li>• EMS scene time minimized (goal: less than 15 minutes)</li> <li>• Hospital stroke team pre-arrival alert or activation occurred as early as possible after positive stroke assessment finding</li> <li>• Transport to appropriate stroke center level of care</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Stroke-01: Suspected stroke receiving prehospital stroke assessment. To measure the percentage of suspected stroke patients who had a stroke assessment performed by EMS</li> <li>•</li> </ul>

<b>PROTOCOL(s)</b>	M419 Sepsis
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Identification of Sepsis</li> <li>• Initiated sepsis alert</li> </ul>

<b>PROTOCOL(s)</b>	S500 Hemorrhagic Shock with/without Suspected Head Injury T710 Hemorrhage Control Protocol
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Proper placement of tourniquet (location, elimination of distal pulse)</li> <li>• Proper marking and timing of tourniquet placement and notification of subsequent providers of tourniquet placement</li> <li>• Appropriate splinting of fractures</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>• Trauma-03: Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</li> <li>• Trauma-04: Trauma patients transported to trauma center. Trauma patients meeting Step 1 or 2* of the CDC Guidelines for Field Triage of Injured Patients are transported to a trauma center</li> </ul> <p>* Any value documented in NEMSIS eInjury.03 - Trauma Center Criteria</p>

<b>PROTOCOL(s)</b>	S501 Head or Spinal Trauma
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• No oxygen desaturation <i>less than 90%</i></li> <li>• No hypotension: <ul style="list-style-type: none"> <li>○ Adults: <i>less than 90 mmHg</i></li> <li>○ Pediatrics: <ul style="list-style-type: none"> <li>▪ <i>less than 1 month: less than 60 mmHg</i></li> <li>▪ <i>1-12 months: less than 70 mmHg</i></li> <li>▪ <i>1-10 yo: less than 70 + 2x age in years</i></li> </ul> </li> </ul> </li> <li>• <del>No EtCO<sub>2</sub> lower than 35 for mild head injury, 30 if severe head injury with signs of herniation</del></li> <li>• Appropriate triage to trauma center</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>• Trauma-04: Trauma patients transported to trauma center. Trauma patients meeting Step 1 or 2* of the CDC Guidelines for Field Triage of Injured Patients are transported to a trauma center</li> </ul> <p>* Any value documented in NEMSIS eInjury.03 - Trauma Center Criteria</p>

<b>PROTOCOL(s)</b>	S502 Major Burns (Thermal or Electrical)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Patient transported to most appropriate hospital, preferably a burn center</li> <li>• Pain scale documented and pain appropriately managed</li> <li>• Airway assessment and management appropriately documented</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>• Trauma-03: Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</li> <li>• Trauma-04: Trauma patients transported to trauma center. Trauma patients meeting Step 1 or 2* of the CDC Guidelines for Field Triage of Injured Patients are transported to a trauma center.</li> </ul> <p>* Any value documented in NEMSIS eInjury.03 - Trauma Center Criteria</p>



<b>PROTOCOL(s)</b>	S505 Pre-Hospital Pain Management P612 Pediatric Pain Management
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>Trauma-03: Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</li> </ul>

<b>PROTOCOL(s)</b>	S507 Special Trauma Situations
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>Initiation of fluid resuscitation prior to extrication</li> <li>EKG/monitor to monitor for dysrhythmias or changes related to hyperkalemia</li> <li>Treatment of hyperkalemia if evidence is noted on EKG</li> </ul>

<b>PROTOCOL(s)</b>	P600 Pediatric Newborn Resuscitation
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>Prehospital on-scene time</li> <li>Call time for additional resources</li> <li>Arrival time of additional unit</li> <li>Time to initiation of interventions</li> <li>Use of oxygen during resuscitation</li> <li>Presence of advanced life support (ALS) versus basic life support (BLS) providers</li> <li>ROSC and/or normalization of heart rate</li> <li>Knowledge retention of prehospital providers</li> <li>Number of advanced airway attempts</li> <li>Mortality</li> </ul>

<b>PROTOCOL(s)</b>	P616 Pediatric Submersion Injury
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>Recognition and appropriate care of pulmonary/respiratory complaints</li> <li>Cervical spine management when appropriate</li> <li>Adherence to Cardiac Arrest guideline</li> </ul>

<b>PROTOCOL(s)</b>	T704 Spinal Motion Restriction (SMR)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Percentage of patients with high risk mechanisms of injury and/or signs or symptoms of cervical spine injury who are placed in a cervical collar</li> <li>• Percentage of patients without known trauma who have a cervical immobilization device placed (higher percentage creates a negative aspect of care)</li> <li>• Percentage of trauma patients who are transported on a long backboard (target is a low percentage)</li> <li>• Percentage of patients with a cervical spinal cord injury or unstable cervical fracture who did not receive cervical collar</li> </ul>
<b>NEMSQA MEASURES</b>	<ul style="list-style-type: none"> <li>• Peds-03: Documentation of estimated weight in kilograms. Frequency that weight or length-based estimate are documented in kilograms</li> <li>• Trauma-01: Pain assessment of injured patients. Recognizing that pain is undertreated in injured patients, it is important to assess whether a patient is experiencing pain</li> <li>• Trauma-03: Percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.</li> </ul>

<b>PROTOCOL(s)</b>	T705 Airway Protocol
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Respiratory rate and oxygen saturation are both measured and documented</li> <li>• Percentage of patients with advanced airway who have waveform capnography used for both initial confirmation and continuous monitoring during transport</li> <li>• Percentage of patients who were managed upon arrival to the emergency department (ED) with each of the following: Bag-valve-mask, SGA, EGD, or endotracheal intubation Percentage of intubated patients with endotracheal tube in proper position upon ED arrival</li> <li>• First pass intubation success without hypoxia or hypotension. Survival upon ED arrival</li> </ul>
<b>PROTOCOL(s)</b>	T710 Hemorrhage Control Protocol
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Proper placement of tourniquet (location, elimination of distal pulse)</li> <li>• Proper marking and timing of tourniquet placement and notification of subsequent providers of tourniquet placement</li> <li>• Appropriate splinting of fractures</li> </ul>

<b>PROTOCOL(s)</b>	T712 Taser/Conducted Energy Weapon Emergencies
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Comprehensive patient documentation as this is a complex patient</li> <li>• Abnormal findings or vital signs were addressed</li> <li>• Patient received EKG or 12-lead EKG evaluation</li> <li>• If indicated, review for appropriate securing technique</li> </ul>

<b>PROTOCOL(s)</b>	O800 Imminent Delivery (Childbirth)
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Recognition of complications</li> <li>• Documentation of APGAR scores</li> <li>• Maternal reassessment</li> </ul>

<b>PROTOCOL(s)</b>	O801 Pregnancy Complications
<b>PERFORMANCE MEASURES</b>	<ul style="list-style-type: none"> <li>• Patients with signs of hypertension and <i>greater than</i> 20-weeks gestation or recent post-partum should be assessed for signs of pre-eclampsia</li> <li>• Recognition and appropriate treatment of eclampsia</li> <li>• Patients with signs of hypoperfusion or shock should not be ambulated to stretcher</li> <li>• If available, IV should be initiated on patients with signs of hypoperfusion or shock</li> <li>• Recognition and appropriate treatment of shock</li> </ul>

### **References**

1. *National Model EMS Clinical Guidelines, V2.2*, NASEMSO Medical Directors Council; January 2019, [www.nasemso.org](http://www.nasemso.org).
2. *2019-2020 NEMSQA Measures*, National EMS Quality Alliance, 2019, [www.nemsqa.org](http://www.nemsqa.org)