camts

Commission on Accreditation of Medical Transport Systems

Medical Protocol Evaluation Tool

Program #

Adult ROSC	#N/A
Adult TBI	#N/A
Agitation	#N/A
Aortic Dissection	#N/A
Blood Products	#N/A
NIPV-Peds/Neo	#N/A
Ped Sepsis	#N/A
Ped ROSC	#N/A
Ped TBI	#N/A
Pre-Eclampsia/Eclampsia	#N/A
RSI	#N/A
Sepsis	#N/A
Stroke	#N/A
VLBW Newborn	#N/A

Total Below 50	0

Directions: Complete the scoring utilizing the appropriate tab below. Score each item with "Yes" or "No" from the drop down menu in the Objective Scoring section. Rank the protocol on the scale provided in the Subjective Scoring section. Scores will automatically appear in the roll up report.

Adult Post Cardiac Arrest Critical Element Review

	Item	Item Present
Objective Scoring	1. Protocols should address the need of post-arrest patients to be directed to facilities capable of specialized cardiac and neurologic care	
	2. Protocols should perform a risk assessment and address unstable vitals signs prior to transport	
	3. Ensure the airway is evaluated and secured if necessary prior to transport and monitored with continuous waveform end-tidal CO2 and SpO2.	
	4. Programs must have a protocol for patient temperature monitoring and maintenance of targeted temperature management or active fever suppression.	
	5. Protocols must address arrhythmias encountered in transport including continuous cardiac monitoring, placement of defibrillator pads prior to transport, administration of antidysrhythmic medications when indicated.	
	6. Protocols must address the need for sedation and analgesia to provide comfort, prevent inadvertent discontinuation of medical therapies and devices, and support mechanical ventilation when indicated. The protocols must define indications, contraindications, options for sedation, metrics for effectiveness (scale).	
	7. Vital signs should be recorded every 5 minutes and transport teams should actively prevent secondary injury from hypotension, hypoxemia, and hypocarbia. Targets should include a minimum mean arterial blood pressure (MAP) >70 mmHg, SpO2 of 95%, EtCO2 of 35-45 mmHg.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Agitation Critical Element Review

	Item	Item Present
Objective Scoring	**1. Utilization of an agitation risk assessment tool**	
	2. Vital Signs/monitoring to include: Cardiac, O2 saturation, ETCO2, Level of Consciousness	
	3. Guidance to use physical restraints:	
	a. Supine positioning	
	b. Head elevated	
	c. NO prone positioning	
	4. Guidance to use sedation for agitation/violent behavior	
	a. Must have pharmacological options	
	b. NMB/ RSI	
	c. Option of "no flight/ no transport"	
	5. Documentation requirements: a. Airway patency	
	b. Blood glucose	
	c. Monitoring/vitals q 5-minute intervals	
	d. Location and duration of physical restraints	
	e. Circulation status distal to physical restraints	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Non-Invasive Vent (Neo/Ped) Critical Element Review

	Item	Item Present
Objective Scoring	1. Utilization of warmed, humidified air as a critical piece of delivering non-invasive ventilation.	
	2. Identify clearly, the clinical criteria for use of non-invasive means versus intubation.	
	3. Continuous monitoring for adequate oxygenation and ventilation, I.e. pulse oximetry, throughout the transport.	
	4. Identify and use only safe, appropriately sized and proven interface devices with approved transport ventilators for delivering non-invasive ventilation. ie. RAM, FlexiTrunk	
	5. Appropriately address safe and effective sedation for non-invasive ventilation.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Peds ROSC Critical Element Review

	Item	Item Present
Objective Scoring	1. **Vital Signs** to Include: Cardiac, O2 sat, ETCO2, VS q 5 min., Airway patency.	
	2. **Oxygenation and ventilation**- Continuous waveform capnography, Target SpO2 94-99%, ETCO2 35-45 torr, Age appropriate ventilator settings (if intubated).	
	3**. Hemodynamic Monitoring** -Recognition of shock (poor perfusion, altered mental status, tachycardia, poor urine output, serum lactate if routinely measured). Recognition and management of life-threatening dysrhythmias. Use of parenteral fluid bolus with or without inotropic agents or vasopressors to maintain systolic blood pressure above 5th percentile for age.	
	4. **Temperature**- Monitor temperature and when reaching 38C take active steps to maintain <38C.	
	5.Recognition of **Seizures** with an Appropriate Treatment Guideline	
	6. Correct **Hypoglycemia** <70 mg/dl	
	7. Replace **Mg+ and Ca++ a**s necessary if laboratory results available.	
	8. Correct **Hgb** <9gm/dl by transfusion if necessary.	
	7. Guideline for **Sedation and Analgesia**	
	8. Transport to a Pediatric Critical Care Center for **Specialized Care**	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Adult TBI Critical Element Review

	Item	Item Present
Objective Scoring	1. In absence of other factors (i.e., uncontrolled bleeding), maintain SBP>110 mmHg (or age adjusted BP)	
	2. Maintain pulse oximetry >93%	
	3. Maintain normal CO2 tension (PaCO2 35-45 mmHg) assuming normal perfusion/ventilation without signs of acute herniation.	
	4. Blood sugar checked on all altered mental status	
	5. Define management of elevated Intracranial Pressure (pharmacologic, physical, and logistical)	
	6.Documentation of the GCS including its components along with any en-route changes.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Aortic Dissection Critical Element Review

	Item	Item Present
Objective Scoring	1.Pertinent history documentation: time of onset, quality of pain, history of syncope, CVA symptoms, past history of aortic dissection/surgery	
	2. Documentation: a. Documentation of how Dx made: Imaging modality used. b. Documentation of Classification of Dissection (if known): Ascending (Stanford Type A, Debakey types I and II); Descending (Stanford Type B, DeBakey Type III)	
	3. Physical Exam findings : (pre-, transport, on arrival at destination) a. Hypertension, hypotension, inter arm blood pressure differential <20mmHg b. Signs of aortic regurgitation: bounding pulses, wide pulse pressure, diastolic murmur c. Signs of cardiac tamponade. d. Asymmetrical pulses e. Neurological deficits (AMS, syncope, peripheral paresthesias, hemiparesis)	
	4. Management: MUST HAVE anti-impulse medical management and pain control. a. Decreasing blood pressure and shearing forces of myocardial contractility. i. Beta-blockers to reduce delta pressure/delta time (dp/dT)** a. Esmolol b. Labetalol c. Metoprolol. ii. Peripheral vasodilation to reduce peripheral vascular resistance** a. Nitroprusside b. Calcium channel blockers iii. Pain/anxiety control a. Morphine, Fentanyl	
	5. Destination: Ascending (Cardiothoracic Surgery availability), Descending-Preferably with TEVAR (Thoracic endovascular aortic repair) capability; Critical Care, CT surgery, Cardiology availability.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Transport of Blood Products Critical Element Review

	Item	Item Present
Objective Scoring	1. Blood products must be inspected daily and prior to each administration for adequate temperature, appropriate visual appearance, ABO and Rh type, and expiration.	
	2. Policies must include and ensure that blood products have been maintained at an appropriate temperature prior to administration. a. Storage Temperature (1-6 Degrees Celsius) b. Transport Temperature (1-10 Degrees Celsius)	
	3. Programs must have protocols that describe the inclusion and exclusion criteria for blood product administration.	
	4. Programs must have protocols for the identification and treatment of transfusion-related reactions and adverse events- 4a. Patients should be assessed every 15 min for evidence of transfusion reaction including: (fever, hypotension, hives, dyspnea, wheezing, tachycardia, rigors, nausea, vomiting, and abdominal pain).	
	5. Treatment of transfusion reactions should include stopping the transfusion, both antihistamines and steroids and the blood product bags must be left with the receiving facility to facilitate evaluation in the event of a reaction.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

PEDS Sepsis Critical Element Review

	Item	Item Present
Objective Scoring	1. Recognize altered mental status (obtundation, irritability, inconsolability) and abnormal peripheral perfusion (includes cool, pale extremities, diminished pulses).	
	2. Fluid resuscitation: 20 mL/kg over 5 minutes; repeat 3 times or until peripheral perfusion normalizes. (Not unusual to give 100 mL/kg in first hour).	
	3. Correct hypoglycemia	
	4. Correct hypocalcemia	
	5. For infants in the first month of life, begin Prostaglandin E-1 until ductal-dependent cardiac lesion is ruled out by echocardiogram.	
	6. Administer antibiotics before or during transport.	
	7. For fluid refractory shock, intubate following RSI guidelines, using ketamine and neuromuscular blockade.	
	8. For fluid refractory shock, begin epinephrine 0.1-1 mcg/kg/min.	
	9. If shock is refractory to both fluids and inotropic/pressor agents and/or if patient has suspected adrenal insufficiency, give bolus hydrocortisone (50 mg/M2 or 2 mg/kg) and begin continuous infusion using 50 mg/M2/24 hours.	
	10. If shock continues to be refractory despite fluids, inotropic agents, and steroids, rule out and correct pericardial effusion, pneumothorax and increased intra-abdominal pressure.	
	11. If shock remains refractory after following #10, transport to an ECMO center.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

PEDS TBI Critical Element Review

	Item	Item Present
Objective Scoring	1. Advises advanced airway protocol when GCS < 8	
	2. Head of the bed up 30 degrees	
	3. Avoid hypotension- Give crystalloid fluid bolus when the systolic blood pressure is less than (70 + 2 times age in years) mmHg	
	4. Avoid hyperventilation- •Maintain PaCO2 32-35 mmHg •If signs of Cushing's Triad, begin hyperventilation and titrate to reverse pupillary dilation and bolus with mannitol or 3% saline	
	5. Avoid hypoxia- •Maintain SpO2 94-99% •If signs of Cushing's Triad, increase FiO2 to 1.0	
	6. Avoid hypoglycemia. Maintain BG >70 mg/dl	
	7. Maintain appropriate analgesia and sedation.	
	8. Begin prophylactic anticonvulsant	
	9. Avoid fever (Temperature > 38° C)	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Pre-Eclampsia/Eclampsia Critical Element Review

	Item	Item Present
Objective Scoring	1. Documentation of pertinent obstetrical history (i.e., maternal gravida & parity, EDC, complications of prenatal care, gestational age, maternal blood type if known, contractions (presence, intensity, frequency, duration), status of cervix including documentation of time of last exam, status of membranes), FHR including decelerations)	
	2. Vital signs every 5 minutes, including FHR at a minimum pre- and post-transport with emphasis on importance of maternal SpO2 > 95%.	
	3. Documentation of maternal reflexes if patient receiving magnesium sulfate.	
	4. Maternal BP management to include emphasis on maintenance of diastolic BP <110 or systolic <160 mm Hg. a. Magnesium initially but must also include CCM pharmacology which should include at least one of the following: b. Beta blockers (e.g., labetalol, esmolol) c. Calcium channel blockers (e.g., nifedipine, nicardipine) d. Vasodilators (e.g., hydralazine, nitroglycerin if evidence of pulmonary edema)	
	5. Seizure management a. Initially with benzodiazepines b. Magnesium c. Phenytoin	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

RSI Critical Element Review

	Item	Item Present
Objective Scoring	1. Optimizing first-pass success while limiting hypoxia by positioning patients by elevating the head of the bed when appropriate.	
	2. Preoxygenation includes apneic oxygenation with nasal cannula.	
	3. For hypotensive patients, tenuous hemodynamic patients, or shock index > 0.9, resuscitation before induction which may include push dose pressors, crystalloid fluid resuscitation, blood product administration when appropriate.	
	4. Written plan for when tracheal intubation is unsuccessful (difficult/failed airway).	
	5. Confirming tracheal placement with waveform capnography and requiring waveform capnography post-intubation to monitor maintenance of tracheal position.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

SEPSIS Critical Element Review

	Item	Item Present
Objective Scoring	1. Documentation source of suspected infection and presence of shock/hypoperfusion	
	2. Initial prescribed crystalloid fluid resuscitation begun for hypotension or lactate ≥4 mmol/L within maximum first 3 hours (i.e., 30ml/kg or other targeted fluid resuscitation)	
	3. Resuscitation fluid should be balanced crystalloid (i.e. Lactated Ringers, PlasmaLyte, etc…)	
	4. Utilize vasopressors if hypotensive during or after fluid resuscitation with a goal MAP ≥65 mmHg	
	5. In general, norepinephrine infusion should be used as initial vasopressor of choice	
	6. For patients with ongoing shock despite adequate fluid resuscitation, and ongoing vasopressor requirements, consider IV corticosteroids.	
	7. Ongoing fluid resuscitation based on a dynamic assessment of volume status/responsiveness (ultrasound/SLR/PPV/CVP/serial lactate/UOP/etc…)	
	8. Antibiotics given/initiated prior to interfacility transport	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

Ischemic Stroke Critical Element Review

	Item	Item Present
Objective Scoring	1. Blood glucose measured and documented.	
	2. Last known well date and time documented.	
	3. Completion of large vessel stroke scale and then destination triage to a thrombectomy center when LVO scale is positive.	
	4. No treatment of blood pressure unless above American Stroke Association threshold 220/120 mmHg or end organ damage unless intravenous thrombolytic has been administered then treat to maintain BP less than 180/105.	
	5. An acknowledgment of the time-sensitivity of the condition which may include a statement about limiting on-scene time/bedside time for transfers, requiring pre-notification of (suspected) stroke patient, etc.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		

VLBW Newborn Critical Element Review

	Item	Item Present
Objective Scoring	1. Monitor and intervene on neonatal temperature less than 36.5 axillary. (NO need for HIE in this GA group as contraindicated)	
	2. Have a process to continuously monitor for unplanned extubations throughout the transport.	
	3. Monitor for hypoglycemia to include signs and symptoms of hypoglycemia (ie jittery, irritable, neuro deficits), and intervene for plasma glucose level < 47 mg/dl.	
	4. Protocol stated specific critical procedures guidance:	
	4a. Criteria for use, transporting, preparing, and administering Surfactant.	
	4b. Criteria for placement of umbilical arterial and venous catheters to include gestational age, birth weight, level of acuity and chronological age cutoff.	
	4c. Use of predefined and weight based calculated drip rates to include high and low concentrations if used.	
	5. Defined protocol for Skin Care to include preventing trauma and preventing heat loss through the use of positioners, emollients, or other interventional tools and processes.	
Subjective Scoring	Overall protocol ranking for flow, ease of use, relevance, on a scale from 1 (low) to 5 (high).	
Overall Score	Individual element (out of 100)	**#N/A**
Comments:		