

Susquehanna Regional EMS Protocol Review

The formats of these protocols have been changed to make them more user friendly.

OLD PROTOCOL

Routine Medical Care

The following procedures will be performed for all medical emergencies requiring advanced life support:

Bring ALS equipment to the patient. This includes a monitor-defibrillator, advanced airway equipment and oxygen, suction, medication box and capability for field to hospital communications.

Reassurance and proper position of the patient:

Patient assessment with vital signs every 5 minutes and after every treatment

Airway management, ventilatory assistance as needed and oxygen therapy

Establish IV access with a saline lock unless other specified

EKG monitoring, obtain 12 lead when available

Contact medical control with 20 minutes of arrival at the scene

ILS units may use EKG monitoring if meeting with an ALS unit of transporting to a hospital, whichever brings ALS to the patient sooner

Multiple patient procedures:

If a potential multi-casualty incident exists, contact the dispatch center and medical control hospital as soon as possible.

The medical control physician may authorize standing orders during the MCI
Document incident command's name and agency

NEW PROTOCOL

Routine Medical Care

General Guidelines

- Bring equipment to the patient
 - Defibrillator, oxygen, suction, capability for field to hospital communications
- Initial patient assessment and vital signs; blood pressure, pulse, and respirations every 5 minutes and after every treatment
- Vital signs with minimum of 2 sets and monitor as indicated
 - Including at least one manual set
- Pulse oximetry, if available
- Waveform Capnography
- Blood glucose monitoring as needed
- Oxygen therapy, airway management as needed
- Reassurance and proper positioning
- Contact Medical Control within 20 minutes of patient contact

Intermediate

- Bring equipment to the patient
 - Advanced airway equipment
 - Cardiac monitor
- Monitor EKG
 - EMT-I may use EKG monitoring if meeting with ALS unit or transporting to the hospital, whichever brings ALS to the patient sooner*
- IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- Bring equipment to the patient
 - ALS equipment and medications
- 12 lead EKG
- Intraosseous infusion if unable to perform IV Access for all ages/
 - ADULT ONLY**
 - Sternal IO with use of IO bone gun for target landmark.

Eye contamination:

- Morgan Lens with Tetracaine, 3-4 drops to affected eye, if available and indicated.

Completion of Critical Care Tech and Paramedic Stage

Note:

- Multiple patient procedures:*
 - If a potential MCI exists, contact 911 center and medical control hospital ASAP*
 - The medical control physician may authorize standing orders during the MCI*

Document incident commander's name and affiliated agency

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Airway Management

Manually open the airway

Suction as needed

Insert OPA/NPA

Ventilate with BVM and 100% oxygen

Consider performing endotracheal intubation

Use facilitated intubation if combative or agitated

If intubation is unsuccessful consider alternative airway

AEMT-Intermediate, Critical Care

May attempt intubation up to 3 times on patient in respiratory arrest. May attempt orotracheal intubation up to 3 times if patient has altered mental status, respiratory rate <10, and tolerates an oropharyngeal airway. If direct laryngoscopy is impossible, digital intubation may be attempted. In trauma, manual stabilization may be required. If intubation unsuccessful, consider the use of an LMA.

Paramedic

May attempt orotracheal intubation up to 3 times in patients requiring definitive airway management. If direct laryngoscopy is impossible, digital intubation may be attempted. In trauma, manual stabilization may be required. If intubation is unsuccessful, consider the use of an LMA.

Following intubation, ventilate patient with BVM and 100% oxygen, or automatic ventilator. Use an endtidal CO2 detector on all intubations of breathing patients >6 years old.

Have medical control at receiving hospital verify and sign off on ET placement.

NEW PROTOCOL

Airway Management

General Guidelines

- Manually open the airway, as needed
- In a trauma, manual stabilization may be required
- Suction as needed
- Insert OPA/NPA, as needed
- Ventilate with BVM and 100% oxygen or approved positive pressure ventilator as needed
- SpO₂ monitoring, if available
- Waveform Capnography

Intermediate

- Consider endotracheal intubation for airway control
- May attempt intubation up to 3 times
- If intubation is unsuccessful, consider dual lumen airway or LMA

Completion of Intermediate Stage

Critical Care Tech

- Contact Medical Control for facilitated intubation if combative or agitated
- Lidocaine for increased ICP
 - o Adult and Pediatric dose:
 - 1-1.5 mg/kg with a maximum of 100 mg IV

Completion of Critical Care Tech Stage

Paramedic

- Consider needle cricothyrotomy or percutaneous airway if appropriate
- Consider NG tube to decrease gastric distension

Completion of Paramedic Stage

Medical Control Options

- Facilitated Intubation, CCT/P

Note:

- Following intubation, ventilate with BVM and 100% oxygen or automatic ventilator
- Consider applying cervical collar to minimize risk of ET or dual-lumen airway displacement
- Verify placement on all adult and pediatric patients with auscultation, direct visualization, and waveform capnography.
- Reassess lung sounds pre-and post-movement of patient

Medical Control Physician at receiving hospital must verify and sign off on ET placement

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OLD PROTOCOL

Oxygen Administration

If patient demonstrates inadequate ventilation with BLS procedures, and/or patient has reduced LOC:

Consider intubation for airway control, protect c-spine as appropriate

I,CC,P

Monitor EKG IV

Contact Medical Control

Medical Control Options:

Facilitated intubation: see protocol page 14

NEW PROTOCOL

Oxygen Administration

General Guidelines

- Manually open the airway/protect c-spine, as needed
- Suction as needed
- Insert OPA/NPA, as needed
- Apply high flow oxygen via NRB (12-15 LPM) mask or via NC (6LPM or less) tolerated by patient
- If pt has inadequate ventilation with BLS maneuvers and/or decreased level of consciousness, ventilate with BVM and 100% oxygen or approved positive pressure ventilator
- SpO₂ monitoring, if available
- Waveform Capnography

Intermediate

- Consider endotracheal intubation for airway control
- May attempt intubation up to 3 times
- If intubation is unsuccessful, consider dual lumen airway or LMA
- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech

- Contact Medical Control for facilitated intubation if combative or agitated

Completion of Critical Care Tech Stage

Paramedic

- Consider needle cricothyrotomy or percutaneous airway if appropriate

Completion of Paramedic Stage

Medical Control Options

- Facilitated Intubation, CCT/P

Note:

- Following intubation, ventilate with BVM and 100% oxygen or using automatic ventilator
- Verify placement on all adult and pediatric patients with auscultation, direct visualization, and waveform capnography.
- Reassess lung sounds pre-and post-movement of patient

Medical Control Physician at receiving hospital must verify and sign off on ET placement.

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Facilitated Intubation

Medical Control Protocol Only!

This protocol is meant for those agencies carrying narcotics

For patients requiring sedation prior to intubation, critical care and paramedic providers may, after obtaining a med control order, perform the following:

Indications are:

Need for airway control in patients that are combative, agitated, or have a gag reflex

Etomidate 0.3 mg/kg IV push over 30-60 seconds
CC, P

Intubate

Verify tube placement

After successful intubation, verify hemodynamic status then:

Diazepam 5 MG IV for continued sedation CC,P

To perform this procedure, use of spo2 monitoring and an appropriate detector to confirm proper placement in the trachea is required, and must be documented in the e-PCR

Have medical control at receiving hospital verify and sign off on ET placement

NEW PROTOCOL

Facilitated Intubation

Medical Control Options

Indications

- Adult or pediatric patients requiring airway control who are combative, agitated, or have a gag reflex
- For EMS agencies carrying controlled substances

Preparation

- Contact Medical Control for order
- Hyperventilate/pre-oxygenate as appropriate
- Assure suction is available and set-up
- Establish IV access
- Place cardiac monitor and pulse oximeter on patient
- Ready endotracheal equipment and supplies
- Set-up alternate airway adjuncts
 - Bag-Valve Mask with BLS airway adjuncts
 - LMA or dual lumen airway

Medication

- Pre-oxygenate
- Etomidate 0.3mg/kg IV to a maximum of 40 mg, CCT/P
- Midazolam 2.5 mg may repeat 1 time, CC/P
- Perform endotracheal intubation
- Verify placement of endotracheal tube

After successful intubation

- Diazepam 5-10 mg IV for continued sedation CC/P
- Midazolam 2mg IV for continued sedation, CC/P

Post administration

- Following intubation, ventilate with BVM and 100% oxygen
- Verify placement on all adult and pediatric patients with direct visualization, auscultation, and waveform capnography.
- Secure ET tube
- Reassess lung sounds pre and post movement of patient
- Document all actions on PCR

Note:

Medical Control Physician at receiving hospital must verify and sign off on ET placement and medication orders

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

NO PREVIOUS PROTOCOL

Severe Nausea or Vomiting

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
- IV access
 - Start 2nd IV with large bore IV cath if indicated

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG

Adult dose:

- Zofran 2 – 4 mg slow IV/IM with a maximum of 4 mg

Pediatric dose:

- Zofran 0.15 mg/kg slow IV/IM with a maximum of 4 mg

Completion of Critical Care Tech and Paramedic Stage

Note:

- Zofran can be administered IV undiluted over 30 seconds

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Allergic Reaction

Hives, itching, welts, no respiratory compromise

** If respiratory compromise, see Anaphylaxis Protocol

Benadryl 50 mg IM or IV CC,P
Consider saline lock

Contact Medical Control

Medical Control Options
Albuterol 2.5mg via Nebulizer for wheezing
Saline lock or NS KVO
Solumedrol 125 mg IV push

NEW PROTOCOL

Allergic Reaction

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

If presenting with hives, itching, welts but without respiratory compromise:

- Diphenhydramine 50 mg IV/IM
- Methylprednisolone 125 mg IV/IM

Completion of Critical Care Tech and Paramedic Stage

*Note: If respiratory compromise or shock, see **Anaphylaxis Protocol***

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Altered Level of Consciousness

- Consider intubation for airway control CC, P
 - Monitor EKG I, CC, P
 - IV NS KVO or saline lock I, CC, P

Adult

- Thiamine 100 mg IV/IM CC,P
- Naloxone 2MG IV/SC/ET/IM if respiratory suppression, CC, P
- 50% Dextrose 50cc CC,P
- Glucagon 1mg IM if no iv access CC, P

Contact Medical Control

Medical Control Options
Facilitated intubation

Altered Mental Status

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
- ❑ Check blood glucose as needed
- ❑ Consider oral glucose as necessary
- ❑ Consider Poisoning Protocol

Intermediate

- ❑ Monitor EKG
- ❑ IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

If signs and symptoms of hypoglycemia:

- ❑ Dextrose 50% -- 25 g/50 ml via IV
 - 2nd dose of Dextrose 50% administered if s/s of hypoglycemia still present
- ❑ Thiamine 100 mg IV

If no IV access:

- ❑ Glucagon 1 mg IM

If respiratory suppression:

- ❑ Naloxone 2 mg IV/ET/IM

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated intubation, CCT/P

Note: If no response, consider other etiologies

If blood glucose is high, call Medical Control

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Anaphylaxis

Respiratory distress, stridor, wheezing, decreased b/p, altered level of consciousness, throat tightness, shock

In a patient with adequate perfusion

- Epinephrine 1:1000, 0.01 cc/kg SC/IM to a maximum of 0.5 cc CC,P
- Consider intubation for airway control
- Albuterol 2.5 mg via Nebulizer
- Benadryl 50mg IV unless no iv access, then give IM
- IC NS KVO refer to shock protocol
- Monitor EKG

Contact Medical Control

Medical control options

In a patient with cardiovascular collapse:

- 1:10 000 epinephrine 3-5 cc IV
- 1:1000 epinephrine 0.5-0.5cc SC
- Epinephrine 2 mg via ET
- Repeat epinephrine 1:1000 0.2-0.5 cc SC
- IV bolus for hemodynamically unstable patient
- Benadryl 25-75mg IV push/IM
- Adult Solumedrol 125mg IV push
- Glucagon 1-2 mg IM every 5 minutes
- Needle cricothyrotomy Paramedic only

Anaphylaxis

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml mixed with Atrovent 0.5mg (one unit dose) via nebulizer at a flow rate of 6 LPM O2 (**EMT-CC/EMT-P**)
- ❑ Epi Pen if agency certified

Intermediate

- ❑ Monitor EKG
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3 ml x 2 (total of 3 unit doses given)
- ❑ IV access

Completion of Intermediate Stage

Critical Care Tech

If presenting with respiratory distress, stridor, wheezing, hypotension, altered level of consciousness, throat tightness, shock:

Adequate perfusion:

- ❑ Epinephrine 1:1000: 0.03 ml/kg SC or IM
- ❑ Diphenhydramine 50 mg IV/IM
- ❑ Methylprednisone 125 mg IV/IM

Completion of Critical Care Tech Stage

Paramedic

Cardiovascular Collapse:

- ❑ Epinephrine 1:10,000: 3-5 mg IV 1st dose 0.3mg SC/IV 2nd dose 3-5 mg IV
- ❑ Epinephrine 1:10,000: 2 mg ETT

Completion of Paramedic Stage

Medical Control Options

- ❑ Epinephrine 1:1000 0.2 ml – 0.5 ml SC (repeat dose), **CCT/P**
- ❑ Diphenhydramine 25-75 mg IV/IM, **CCT/P**
- ❑ Glucagon 1-2 mg IV/IM every 5 minutes, **CCT/P**

Cardiovascular Collapse:

- ❑ Epinephrine 1:10,000: 3-5 mg IV, **CCT**
- ❑ Epinephrine 1:10,000: 2 mg ETT, **CCT**

Note:

Signs and symptoms:

Respiratory distress, stridor, wheezing, hypotension, altered level of consciousness, throat tightness, shock

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cold Emergencies

Systemic hypothermia

If the patient has altered mental status and is not shivering:

Warm humidified O2 if possible

Monitor EKG

IV NS KVO 50CC/HR-warm if possible

Consider Endotracheal intubations as indicated

Contact Medical Control

Medical Control Options

- ❑ Treat dysrhythmias as indicated and consider delayed metabolism of drugs
- ❑ Facilitated intubation see protocol page 14

Cold Emergencies

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
- ❑ Remove wet/cold garments
- ❑ Protect against heat loss and wind chill
 - *Use blankets and insulating equipment*
- ❑ Avoid rough movement and excess activity
- ❑ Administer warmed high concentration humidified oxygen

Intermediate

- ❑ Monitor EKG
- ❑ Waveform Capnography
- ❑ IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- ❑ 12 lead EKG

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated Intubation, CCT/P

Note:

- ❑ During cardiac arrest: continue CPR and contact medical Control prior to administering any medications.
- ❑ Defibrillate a maximum of 3 shocks.
Treat dysrhythmias as indicated

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Heat Emergencies

If heart stroke or heat exhaustion is suspected:

Consider endotracheal intubation as indicated

Monitor EKG

IV NS 150-250CC/HR

Cool

NEW PROTOCOL

Heat Emergencies

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol
- Cool the patient

Intermediate

- Monitor EKG
- Waveform Capnography
- IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- Go to specific dysrhythmia
- 12 lead EKG

Completion of Critical Care Tech and Paramedic Stage

Note:

- Heat cramps:** *painful, involuntary contractions of skeletal muscles, excessive sweating*
- Heat exhaustion:** *weakness, fatigue, dizziness, drowsiness, headache, nausea and vomiting, rapid heart rate, arm and leg tingling, no mental status changes*
- Heat stroke:** *inadequate sweating, skin flushed, hot/dry or wet/clammy, dizziness, confusion, headache, irritability, combativeness, seizures, nausea and vomiting*

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OLD PROTOCOL

NEW PROTOCOL

Adult Obstructed Airway

If airway obstruction persists after two sequences of obstructed airway maneuvers:

Perform direct laryngoscopy and attempt removal of FB with magill-type forceps I,CC,P

Consider intubation thru obstruction I,CC,P

Consider needle cricothyrotomy Paramedic ONLY

IV NS en route to hospital I,CC,P

Monitor EKG I,CC,P

Contact Medical Control

Obstructed Airway

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol

Intermediate. Critical Care Tech

- ❑ Perform direct laryngoscopy and attempt removal of foreign body with magill-type forceps
- ❑ Consider intubation through obstruction
- ❑ Monitor EKG
- ❑ IV access

Completion of Intermediate and Critical Care Tech Stage

Paramedic

- ❑ Consider needle cricothyrotomy or percutaneous airway

Completion of Paramedic Stage

Medical Control Options

- ❑ Facilitated intubation, **CCT/P**

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Poisoning

Poisoning

Consider scene safety first Hazmat

Field decontaminate as indicated

Consider Endotracheal Intubation I,CC,P
IV NS KVO

Monitor EKG, 12 lead if available

Contact medical control

Medical control options

Atropine 1-3 mg IV for organophosphate poisoning
CC,P

NG Tube 50-75GM activated charcoal Paramedic
ONLY

Activated Charcoal 50-75 Grams PO I,CC,P

Glucagon 1mg IM for beta blockers CC,P

Sodium Bicarbonate 1 amp IV for tricyclic
antidepressants, CC,P

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol
- Check blood glucose

Intermediate

- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- Go to specific dysrhythmia
- 12 lead EKG

If respiratory depression:

- Narcan 2 mg IV/ET

Completion of Critical Care Tech and Paramedic
Stage

Medical Control Options

- Facilitated Intubation, **CCT/P**
- Atropine 2-5 mg IV (Organophosphate poisoning), **CCT/P**
- NG Tube placement, **P**
- Activated Charcoal 50 – 75 grams by mouth, **EMT,I,CCT/P**
- Glucagon 1 mg IM (Beta-blocker overdose), **CCT/P**
- Sodium Bicarbonate 8.4% 1mEq/kg (Tri-cyclic antidepressant overdose), **CCT/P**

Note:

- Consider scene safety first
 - Field decontaminate as indicated
- Identify substance and quantity*

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Respirator Distress
(Shortness of breath, difficulty breathing, asthma)

- Intubation for airway control if respiratory arrest seems imminent and level of consciousness is decreased I,CC,P
- Asthma
 - Albuterol Nebulizer 2.5 mg in 3cc NS may repeat X2 consecutively if symptoms persist
- COPD
 - Albuterol Nebulizer 2.5 mg in 3cc NS may repeat X2

NOTE: patient must have diagnosis of asthma, COPD or be on a bronchodilator (ie proventil, ventolin, atrovent)

Pulmonary Edema:

- Lasix 80 mg IV CC,P
- NTG 0.4 mg SL or 1 spray every 5 min X3 CC,P
- 12 lead if available
- ADULT
 - Consider intubation for airway control I,CC,P
- Saline lock or NS KVO I,CC,P
- Monitor EKG I,CC,P

Contact medical control

Medical control options

NTG 0.4 mg SL or 1 spray

Morphine Sulfate 2-5 mg IV or IM

Facilitated intubation see protocol page 14

Lasix 40-80 mg

Solumedrol 125mg IV or IM

Albuterol Nebulizer 2.5 mg in 3cc NS

Respiratory Distress
(Asthma, COPD)

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml (one unit dose) via nebulizer at a flow rate of 6 LPM O2 (EMT/EMT-I/EMT-CC/EMT-P)

Intermediate

- ❑ Monitor EKG
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3 ml x 2 (total of 3 unit doses given)
- ❑ IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- ❑ Consider 12 lead EKG
- ❑ Methylprednisone 125 mg IV

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated Intubation, CCT/P
- ❑ Albuterol 0.083% 2.5 mg in 3ml (4th dose and higher) via hand held nebulizer, EMT/I/CCT/P
- ❑ Epinephrine 1:1000 3cc SC

Note:

- ❑ Patient must have a diagnosis of asthma, COPD or be on a bronchodilator for standing order treatment (i.e. Proventil, Ventolin, etc.)

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OLD PROTOCOL

Respirator Distress
(Shortness of breath, difficulty breathing, asthma)

- Intubation for airway control if respiratory arrest seems imminent and level of consciousness is decreased I,CC,P
- Asthma
 - Albuterol Nebulizer 2.5 mg in 3cc NS may repeat X2 consecutively if symptoms persist
- COPD
 - Albuterol Nebulizer 2.5 mg in 3cc NS may repeat X2

NOTE: patient must have diagnosis of asthma, COPD or be on a bronchodilator (ie proventil, ventolin, atrovent)

Pulmonary Edema:

- Lasix 80 mg IV CC,P
- NTG 0.4 mg SL or 1 spray every 5 min X3 CC,P
- 12 lead if available
- ADULT
 - Consider intubation for airway control I,CC,P
- Saline lock or NS KVO I,CC,P
- Monitor EKG I,CC,P

Contact medical control

Medical control options

NTG 0.4 mg SL or 1 spray

Morphine Sulfate 2-5 mg IV or IM

Facilitated intubation see protocol page 14

Lasix 40-80 mg

Solumedrol 125mg IV or IM

Albuterol Nebulizer 2.5 mg in 3cc NS

NEW PROTOCOL

Respiratory Distress
(Acute Pulmonary Edema, CHF)

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml mixed with Atrovent 0.5mg (one unit dose) via nebulizer at a flow rate of 6 LPM O2 **(EMT-CC/EMT-P)**
- ❑ Airway Management and Oxygen Administration Protocol

Intermediate

- ❑ Monitor EKG
- ❑ IV access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- ❑ 12 lead EKG
- ❑ Lasix 40-80 mg IV
- ❑ Nitroglycerin 0.4mg or 1 spray SL every 5 minutes x 3 doses
 - *(If the systolic BP is above 100 mmHg)*
- ❑ CPAP Protocol

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated intubation, **CCT/P**
- ❑ Consider Nitroglycerin (additional dose if systolic BP is above 100 mmHg) 0.4 mg or 1 spray SL, or Nitro Paste 1 Inch. **CCT/P**
- ❑ Lasix (additional dose) IV, **CCT/P**
- ❑ Morphine Sulfate IV or IM, **CCT/P**

Note:

Remove Nitro Paste if systolic BP is below 100 mmHg

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Routine Trauma Care

Assess the mechanism of injury

Take appropriate spinal precautions

Patient assessment- vital signs every 5 minutes and after every treatment

Airway management- ventilatory assistance as needed, and oxygen therapy

Determine major trauma criteria and need for areomedical transport

CRITERIA PRESENT

Transport to trauma center

Establish IV access

Monitor EKG

Contact Medical Control

If systolic BP <90 or <100 with signs of shock

Inflate mast for profound hypovolemia, unstable pelvic fracture

CRITERIA ABSENT

Perform secondary assessment

Stabilize patient as needed

Establish IV access

Monitor EKG

Contact Medical Control

Transport

If total time to the trauma center exceeds one hour, the patient should be taken to the nearest hospital. Total time is designed as the period of time from the occurrence of the incident to the estimated extrication; on-scene time should not exceed ten minutes. Take all patients in cardiac arrest and unmanageable airways to the nearest hospital document incident commanders name and agency.
ALL trauma

NEW PROTOCOL

Routine Trauma Care

General Guidelines

- Bring appropriate equipment to the patient
- Initial patient assessment and vital signs every 5 minutes and after every treatment
- Assess mechanism of injury
- Airway Management and Oxygen Administration Protocol
- Proper positioning, spinal precautions
- Determine major trauma criteria and need for aero-medical transport
- Contact Medical Control

Intermediate, Critical Care Tech, Paramedic

Trauma criteria present:

- Transport to trauma center
- IV access
- Monitor EKG
- Contact Medical Control

Trauma criteria absent:

- Perform secondary assessment
- Stabilize patient as needed
- IV access
- Monitor EKG
- Contact Medical Control

Completion of Intermediate, Critical Care Tech, Paramedic Stage

Note:

- With exception of prolonged extrication, on-scene time should not exceed 10 minutes*
- Take all patients in cardiac arrest or with unmanageable airways to the nearest hospital*
- Document incident commander's name and agency*

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Burns

(Contaminations*chemical*radiation)

Consider scene safety first! Hazmat
Field decontaminate as indicated
Consider Intubation as needed, I,CC,P

If the eye is contaminated, use an IV administration set to irrigate the eye with normal saline solution I,CC,P

Morgan lens with Tetracaine 3-4 drops to affected eye

IV NS KVO or saline lock I,CC,P
Refer to shock protocol (page 50)
Apply sterile, dry dressing to burns

Contact Medical Control
Medical Control Options

Morphine Sulfate 3-10 mg IV for pain control CC,P
Facilitated intubation see protocol page 14

Carbon Monoxide exposure

- 100% NRB Minimum
- BVM Ventilation
- Consider intubation

Burns

(Thermal*electrical)

Consider scene safety first! Hazmat
Consider intubation I,CC,P

For smoke inhalation/respiratory burns, high concentration oxygen, via nebulizer for greater humidification if available
IV NS KVO or saline lock I,CC,P
Monitor EKG I,CC,P

Contact Medical Control
Medical Control Options

Pain medication-local med control option
IV NS Infusion as needed

Burns or Smoke Inhalation

General Guidelines

- Scene safety
- Field decontaminate as indicated
- Routine Trauma Care Protocol
- High flow oxygen via NRB mask
- Airway Management and Oxygen Administration Protocol as indicated for every smoke inhalation or significant burn patient
- Apply dry, sterile dressings to burns
- Assess burned area according to Rule of Nines (p. 60)

Eye contamination:

- Irrigate with Normal Saline 0.9% using IV administration set

Intermediate

- Intubation for airway control
- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech

- Morphine Sulfate IV/IM 5mg may repeat to max of 10mg

Completion of Critical Care Tech Stage

Paramedic

- Consider needle cricothyrotomy or percutaneous airway if appropriate

Completion of Paramedic Stage

Medical Control Options

- Facilitated intubation, CCT/P
- Morphine Sulfate IV/IM (pain management), CCT/P
- IV Normal Saline 0.9% infusion as needed, I/CCT/P

Note:

Contact Medical Control as soon as possible for possible referral to burn center

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Fractures/Dislocations

For pelvic or femur fractures (s):
IV NS KVO or saline lock I,CC,P
Monitor EKG I,CC,P

Contact Medical Control
Medical Control Options

Consider IV NS for volume replacement as needed I,CC,P
Morphine sulfate 2-5mg IV or IM CC,P

Reminder:
Trauma center referral as needed

NEW PROTOCOL

Fractures/Dislocations

General Guidelines

- Routine Trauma Care Protocol
- Airway Management and Oxygen Administration Protocol
- Stabilize fractures/dislocations
- Femur fractures
 - Traction device
 - NOTE:*
 - Traction device is not appropriate for femur fractures near joints*

Intermediate

- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech, Paramedic

- Morphine Sulfate IV/IM 5mg may repeat to max of 10mg
- Nitrous Oxide

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Morphine Sulfate IV/IM (pain management), CCT/P
- Valium IV (muscle spasm), CCT/P
- Consider Nitrous Oxide, CCT/P

Note:
Trauma center referral as needed

Susquehanna Regional EMS Protocol Review

ADULT

OLD PROTOCOL

NEW PROTOCOL

Suspected Head or Spinal Injury
(Not Meeting Major Trauma Criteria)

Suspected Head or Spinal Injury
(Not Meeting Major Trauma Criteria)

Consider intubation for airway control while protecting the C-spine I,CC,P

Lidocaine 50mg IV bolus prior to intubation with signs of increased intracranial pressure CC, P

Do NOT hyperventilate unless signs of intracranial pressure!

IV NS KVO or saline lock I,CC,P
Monitor EKG I,CC,P

Contact Medical Control
Medical Control Options

Determine NS or saline lock infusion rate
Facilitated intubation see protocol page 14
Seizures: valium 5-10 mg IV CC,P
Increased ICP Lasix 40-80 mg IV CC,P

Reminder: Trauma center referral/notification air ambulance activation

General Guidelines

- ❑ Routine Trauma Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
 - Do not hyperventilate unless s/s of herniation

Intermediate

- ❑ Monitor EKG
 - ❑ IV access
- Completion of Intermediate Stage

Critical Care Tech. Paramedic

- ❑ Lidocaine 50 mg IV
 - 1 –2 minutes prior to intubation
 - used with signs of increased ICP

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated intubation, CCT/P
- ❑ Valium for seizure activity, CCT/P
- ❑ Consider Dopamine (if hypotensive), CCT/P

Note: Early trauma center notification

Susquehanna Regional EMS Protocol Review

ADULT

OLD PROTOCOL

NEW PROTOCOL

Adult Major Trauma (Including Traumatic Cardiac Arrest)

Consider intubation for airway control while protecting the C-spine I,CC,P

Treat dysrhythmia as per protocol

Lidocaine 50mg IV bolus prior to intubation with signs of increased intracranial pressure CC, P

For Chest Trauma:

Needle-chest decompression for tension pneumothorax Paramedic only!

IV NS large bore catheter per shock protocol (page50) I,CC,P

Start second IV NS with large bore catheter I,CC,P

Monitor EKG

Contact Medical Control
Medical Control Options

Start second large bore IV as needed

Facilitated intubation see protocol page 14

For CNS trauma (head/spine injuries):

Seizures- consider diazepam (valium 5-10 mg slow iv push CC,P

Increased ICP:

Consider lasix 40-80mg IV CC,P

Chest Trauma:

Needle-chest decompression for tension pneumothorax CC,P

Reminder: Trauma center referral- go to nearest trauma center- air ambulance activation

Major Trauma (Including Traumatic Arrest)

General Guidelines

- Routine Trauma Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
- IV access

Completion of Intermediate Stage

Critical Care Tech

- Lidocaine 1-1.5mg/kg with maximum of 100mg
 - 1 -2 minutes prior to intubation
 - used with signs of increased ICP

Completion of Critical Care Tech Stage

Paramedic

Chest Trauma:

- Needle-chest decompression for tension pneumothorax

Completion of Paramedic Stage

Medical Control Options

- Facilitated intubation, **CCT/P**
- Valium for seizure activity, **CCT/P**
- Chest trauma: Needle-chest decompression, **CCT/P**

Note:

- Treat dysrhythmia as per protocol*
- Early trauma center notification*

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Traumatic Shock

Consider intubation for airway control while protecting the C-spine I,CC,P

IV NS with large bore catheter and rapid infusions- start second large bore IV NS I,CC,P

Call for total volume to be infused: Intraosseous (tibia)

Infusions may be started by paramedic only

Monitor EKG I,CC,P

Contact Medical Control
Medical Control Options

Administration rate OFNS

Reminder: Trauma center referral notification

NEW PROTOCOL

Traumatic Shock

General Guidelines

- Routine Trauma Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate. Critical Care Tech. Paramedic

- Monitor EKG
- IV access
 - Maintain and titrate BP >90 systolic

Completion of Intermediate, Critical Care Tech and Paramedic Stage

Medical Control Options

- Facilitated intubation, CCT/P
- Administration rate of Normal Saline 0.9%, I/CCT/P

Note:

- Early trauma center notification
- Contact Medical Control

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cardiac related problem/pain/pressure
CHF, syncope, unexplained seizure, SOB,ETC

Monitor EKG I,CC,P
Establish IV NS KVO I,CC,P
ASA (chewable) 324 mg orally CC,P

Administer

Nitroglycerine 0.4 mg or 1 spray SL every 5 minutes (max of 3 doses) for pain, if BP is greater than 100mm/Hg I,CC,P

12 lead when available, ASAP
advise receiving hospital ASAP if 12-lead positive for Ami or ischemia

Must have IV established prior to giving 2nd and 3rd NTG, CC,P

If positive EKG start 2nd IV line

Contact Medical Control
Medical Control Options

Amiodorone 150mg IV over 5-10 minutes CC, P
Lidocaine 1-1.5mg/kg IV bolus for observed indication CC,P

Repeat Lidocaine 0.5-1.5mh/kg boluses every 5-10 minutes up to a total of 3mg/kg as indicated or use infusion at 2-4mg/min CC,P

Administer morphine 2-5mg IV every 5 minutes for pain unrelieved by NTG CC,P

Treat specific dysrhythmia as per specific protocol

Acute Coronary Syndrome
(Cardiac Related)

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
 - Waveform Capnography
 - ASA (chewable) 324 mg orally
 - NOTE: check with EMT-B if dose given
 - IV access
- Completion of Intermediate Stage

Critical Care/ Paramedic

- 12 lead EKG
 - Complete additional 12 lead EKG after each medication administration
- Treat specific dysrhythmia as per specific protocol
- If positive for AMI, establish 2nd site for IV access
 - If ST elevation, contact Medical Control at patient's requested/receiving hospital
- ASA (chewable) 324 mg orally
 - NOTE: check with EMT-B if dose given

For systolic BP greater than 100 mmHg:

- Nitroglycerin 0.4 mg tablet or 1 spray SL every 5 minutes for a total of 3 doses
 - Must have IV established prior to administering 2nd and 3rd NTG

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Treat specific dysrhythmia as per specific protocol
- Morphine Sulfate IV, CCT/P
- Nitro Paste 1 inch if systolic BP is above 100 mmHg, CCT/P
- Lopressor 1-5 mg IV, CCT/P

Note:

- Remove Nitro Paste if systolic BP is below 100 mmHg
- Consider right-sided AMI and hypotension

If erectile dysfunction medications have been taken within 24 hours, call Medical Control prior to administering NTG

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cardiac ALS protocol: Cardiogenic shock

- Consider ET intubation for airway control I,CC,P
- IV NS KVO
- 12 lead if available
- For systolic BP less than 90mm/Hg: fluid bolus 250-500 cc NS I,CC,P (if no heart failure or pulmonary edema)

Consider dopamine drip:

- 400mg/500cc NS titrated to BP of 100mm/Hg, 2.5-5mcg/kg/min Paramedic only
- For diastolic BP greater than 100mm/Hg:
- Consider serial NTG:
 - 0.4 mg or 1 spray every 5 minutes X3 CC,P

Contact Medical Control
Medical Control Options

Treat specific dysrhythmia

For systolic BP less than 90mm/Hg: fluid bolus 250-500 cc NS If no response, consider:

400mg/500cc NS titrated to BP of 100mm/Hg,
2.5-5mcg/kg/min CC, P

Administer lasix 40-80mg IC CC,P
Administer morphine sulfate 2-5mg IV CC,P

Consider Bradycardia, hypovolemia, cardiac tamponade, tension pneumothorax, acidosis, CHF, and pulmonary edema

Cardiogenic Shock

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol

Intermediate

- ❑ Monitor EKG
- ❑ Waveform Capnography
- ❑ IV Access

For systolic BP less than 90 mmHg (if no heart failure or pulmonary edema)

- ❑ 0.9% Normal Saline bolus 250 ml – 500 ml
- ❑ Reassess lung sounds

Completion of Intermediate Stage

Critical Care Tech

- ❑ 12 lead EKG

Completion of Critical Care Tech Stage

Paramedic

For systolic BP less than 90 mmHg:

- ❑ Dopamine IV drip 2.5 – 20 mcg/kg/min
 - titrated to BP of 100 mmHg
 - IO preferred

Completion of Paramedic Stage

Medical Control Options

- ❑ Dopamine IV drip 2.5 – 20 mcg/kg/min (IO preferred), CCT
- ❑ Lasix 40 – 80 mg IV/IM, CCT/P
- ❑ Morphine Sulfate IV, CCT/P
- ❑ Treat specific dysrhythmia

Note:

Search for and treat possible contributing factors:

- ❑ *Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hypo/hyperkalemia, Hypoglycemia, Hypothermia*

Toxins, Tamponade, Tension pneumothorax, Thrombosis, Trauma

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cardiac ALS protocol: symptomatic SVT with pulse and Narrow complex
(AEMT CC,P only) Refer to cardiac related protocol

ABC's

Assess vital signs every 5 minutes
12 lead EKG, monitor and IV NS KVO

Unstable and altered LOC

(Ventricular rate >150/minute)
Sedate Patient in not unconscious
Valium 5-10 mg IV
(Medical control order)
Cardiovert 75-100 joules
Check rhythm -> no change
Cardiovert 500 joules
Check rhythm ->if no change
Cardiovert 360 joules

Stable

Observe only
Or
Vagal maneuvers with patient attached to monitor and IV in place and meds available P only
Adenosine 6mg IV rapid bolus
(Patient may go transit asystole)
Repeat adenosine 12 mg IV rapid bolus X2
cardizem 15mg IV slowly over 5 min (0.15-0.25mg/kg)

CORRECT UNDERLYING ABNORMALITIES

Contact medical control

Unstable: patient with chest pain, sob, decreased BP, shock, pulmonary congestion, CHF, Ami
Sedate patient if not unconscious, synchronize if no delay to cardioversion
Bolus for adenosine over 1-2 seconds immediately followed by 5cc saline flush

Narrow Complex Tachycardia

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
 - IV Access
- Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG
 - If positive for AMI, establish 2nd site for IV access

Stable

- Observe/Monitor
- Consider Valsalva Maneuver (*Paramedic only*)
- Adenosine 6mg IV/IO rapid bolus
 - May repeat Adenosine 12mg IV/IO x 2
- If no conversion
 - Cardizem 0.15 - 0.25 mg/kg or 15mg IV/IO slowly over 5 minutes
 - Lopressor via Medical Control

Unstable (*CP, SOB, hypotension, shock, pulmonary congestion, CHF, AMI*)

- Consider sedation if conscious (**see Medical Control Options**)
- Synchronized Cardioversion 75 – 100 joules
 - Check rhythm: if no change cardiovert 200 joules
 - Check rhythm: if no change cardiovert 360 joules

Completion of Critical Care and Paramedic Stage

Medical Control Options

- Valium IV (if needed for sedation), **CCT/P**
- Lopressor 1-5 mg IV slowly over 5 minutes, **CCT/P**

Note:

Correct underlying abnormalities

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cardiac ALS protocol: VT or Wide Complex Tachycardia

No Pulse	ABC's	pulse present
Treat as vfib		oxygen high
Concentration		or intubation
Stable*		IV NS KVO
		Unstable**

**Sedate with valium 5-10mg IV (Med control order needed)

Cardiovert 100 joules

Cardiovert 200 joules

Cardiovert 360 joules

Amiodorone 150mg IV

Cardiovert 360 joules

If no pulse treat as vfib

* Amiodorone 150mg IV

Adenosine 6mg IV bolus

Adenosine 12mg IV bolus X2

If becoming unstable:

Sedate with valium 5-10mg IV (Med control order needed)

Cardiovert as in unstable protocol

Contact Medical Control

Medical Control Options

Procoanimaide 20-30mg/min until VT resolves or up to 17mg/kg

Repeat amiodorone 150 bolus over 5-10 minutes

Lidocaine 1-1.5mg/kg IV

Facilitated intubation see protocol page 14

*stable:stable BP, no LOC or no pulmonary edema

**unstable: hypotension, decrease LOC, pulmonary edema or AMI

Wide Complex Tachycardia

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
- IV Access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG
 - If positive for AMI, establish 2nd site for IV access

Stable (stable blood pressure, no LOC, no pulmonary edema)

- Amiodarone 150 mg IV/IO
 - 150 mg placed in 100 ml 0.9% NS infused over 10 minutes
- If suspected Torsades de Pointes
 - Magnesium Sulfate 1-2g IV/IO
- If becoming unstable
 - synchronized cardioversion
- If suspected SVT

Unstable (hypotension, decreased LOC, pulmonary edema, AMI)

- Consider sedation if conscious (see Medical Control Options)
- Synchronized cardioversion 100 joules
 - If no conversion, repeat at 200, 300, 360 joules until conversion
- Amiodarone 150 mg IV/IO

If suspected Torsades de Pointes

- Magnesium Sulfate 1-2g IV/IO
 - If unstable, repeat synchronized cardioversion
- Completion of Critical Care and Paramedic

Medical Control Options

- If SVT suspected consider adenosine
- Lidocaine 1mg to 1.5mg IV/IO (then Lidocaine drip), CCT/P
- Valium IV/IO (if needed for sedation), CCT/P

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Cardiac ALS protocol: Symptomatic Bradycardia

Slow rate (less than 60 beats per minute in adult)

Signs or symptoms*

YES

12 lead EKG when available

Transcutaneous pacing

Consider atropine 0.5mg up to maximum dose of 3mg

Contact Medical Control

Medical Control Options

Continued signs and symptoms

NO

For 2nd degree

for 2nd degree

YES

repeat atropine 0.5 mg

Maximum 3mg

continued s/s

Type 2 or
3rd degree

type 1 sinus
junctional

observe or
external pacer

observe

YES

External pacemaker
consider dopamine 5-
20mcg/kg/min

*adult :hypotension (BP less than 90 mm/hg) PVC's, altered mental status, chest pain, dyspnea, ischemia or infarction

Bradycardia

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol

Intermediate

- Monitor EKG
- IV Access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG
 - If positive for AMI, establish 2nd site for IV access

Adequate Perfusion

- Observe/Monitor

Poor Perfusion

- Atropine 0.5 mg IV
 - up to a maximum dose of 3 mg
- Transcutaneous pacing

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Atropine 0.5 mg IV (up to a maximum dose of 3 mg), CCT/P
- Transcutaneous pacing
- Dopamine IV 5 – 20 mcg/kg/min, CCT/P
- Valium IV (if needed for sedation), CCT/P

Note:

- Signs and symptoms of poor perfusion caused by bradycardia
 - PVCs, CP, shortness of breath, altered mental status, CHF, low BP
- Pulse rate < 60 BPM with a systolic BP of <100mmHg
- If pulseless arrest develops, go to Pulseless Arrest Protocol

Search for and treat possible contributing factors:

- Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hypo/hyperkalemia, Hypoglycemia, Hypothermia
- Toxins, Tamponade, Tension pneumothorax, Thrombosis, Trauma

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

NO PREVIOUS PROTOCOL

Continuous Positive Airway Pressure (CPAP)

Indications

- Hypoxemia secondary to Congestive Heart Failure
- Acute cardiogenic shock
- Pulmonary edema
- Respiratory distress
- Systolic BP > 100mmHg
- Be alert and able to follow commands (GCS >13)

Preparation and Placement

- Assure patent airway
- Administer 100% oxygen via appropriate delivery system
- Patient assessment, vital signs
- Continuous pulse oximetry
- Monitor EKG
- 12 lead EKG
- Waveform Capnography
- Explain CPAP procedure to patient
- Ensure adequate oxygen supply to ventilate device (maintain SPO2 >95%)
- Place the delivery device over the mouth and nose
- Secure mask with provided straps
- Use 5 cm H2O of PEEP maximum
- IV Access (NS lock or IV at KVO rate)
- Check for air leaks

If hypertensive:

- Systolic BP >160 mmHg
- Lasix 40 – 80 mg IV
- Nitroglycerin 0.4 mg SL every 5 minutes x 3 doses
- Consider Morphine Sulfate (Medical Control Order)

If normotensive

- Systolic BP >100 mmHg
- Lasix 40 – 80 mg IV
- Nitroglycerin 0.4 mg SL every 5 minutes x 3 doses
- Consider Morphine Sulfate (Medical Control Order)

If hypotensive

- Shock, GCS <13, etc. go to appropriate protocol.
- Patient is not a CPAP candidate

Post Placement

- Monitor and document the patients respiratory rate
- Continue to coach the patient to keep mask in place and readjust as needed
- Application of the CPAP device detailed in PCR narrative
- Response to CPAP documented in PCR narrative
- Document Medical Control Physicians name in PCR narrative

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

NO PREVIOUS PROTOCOL

BLS Protocol for External Bleeding (Hemostatic Gauze)

- ❑ Assure that the patient's airway is open and that breathing and circulation are adequate.
- ❑ Control bleeding by:
 - Immediately applying pressure directly on the wound with a sterile dressing, **and**
 - Elevating the injured part above the level of the patient's heart (when possible).

If bleeding persists:

- ❑ Remove dressing and expose wound site, apply Hemostatic Gauze per manufacturers recommendations.
- Or***
- ❑ Apply a pressure dressing to the wound. If bleeding soaks through the dressing, apply additional dressings and **reapply pressure.**
 - Do not remove dressings from the injured site
- ❑ Cover the dressed site with a bandage.

If severe bleeding persists:

- ❑ Apply pressure on the appropriate arterial pressure points.
- ❑ Splints and pressure splints may also be used to control bleeding.
- ❑ Use a tourniquet only if uncontrollable bleeding persists.
- ❑ Assess for hypotension
 - If hypoperfusion is present, refer immediately to the Hypoperfusion protocol
- ❑ Transport keeping the patient warm.
- ❑ Ongoing assessment.
- ❑ Obtain and record the patient's vital signs, repeat enroute as often as the situation indicates.

Record all patient care information, including the patient's medical history and all treatment provided, on a Prehospital Care report (PCR).

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

NO PREVIOUS PROTOCOL

12 Lead ECG

EMT-CC/ EMT-P

Criteria:

- May be performed on adult patients who present with signs and symptoms presumed by the technician to be an ACS
- Anginal Chest Pain
- Any adult who requires normal ECG monitoring

Frequency of 12 Lead:

- Initially with vital signs
- After administration of medication or if ECG changes are noted OR set automatic ST segment trending
- Final approach to Emergency Department

Considerations For Suspected Acute Myocardial Infarction:

- Consider second IV access- if possible on same arm as initial IV
- Consider continued nitroglycerin as per protocol
- If right ventricle is suspected complete 12 Lead with V4R,5R,6R

Reminders:

- Complete a radio report and document ALL suspected AMI's
- Give copies of 12 Lead to hospital and keep one for your agency

V1	4 TH intercostal space @ R sternum edge
V2	4 TH intercostal space @ L sternum edge
V3	Between leads V2 and V4
V4	5 TH intercostal space @ L midclavicular line
V4R	5 TH intercostal space @ R midclavicular line
V5	Level with lead V4 at L anterior axillary line
V5R	Level with lead V4R @ R anterior axillary line
V6	Level with lead V5 @ L midaxillary line
V6R	Level with lead V5R @ R midaxillary line

Location of Infarction by Leads	
Inferior Wall	Leads II,III, and aVF
Anterior Wall	Leads V3 and V4
Lateral Wall	Leads I, aVL, V5, V6
Septal Wall	Leads V1 and V2
Right Ventricle	Leads V4R, 5R, 6R

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Patient Refusal Against Medical Advice

Patient Refusal Against Medical Advice

Only changes to format and wording

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Altered Level of Consciousness (*Pediatric*)

Intubation for airway control I,CC,P
Monitor EKG
IV NS KVO or saline lock

Nalaxone 0.1 mg/kg up to 2mg total
Dextrose 25% 1GM IV

Contact Medical Control
Medical Control Options

Dextrose 25% 0.5-1GM/kg bolus
Glucagon 0.5-1 mg IV
Narcan 0.05mg/kg IV

Altered Mental Status (*Pediatric*)

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol
- Check blood glucose

Intermediate

- Monitor EKG
- Waveform Capnography
- IV Access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG
- Naxolone 0.1 mg/kg up to 2 mg IV if respiratory rate is slow
- Dextrose 25% 1 gram/kg IV

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Dextrose 25% 0.5 – 1 gram/kg IV, CCT/P
- Glucagon 0.5 – 1mg IM, CCT/P
- Naxolone 0.1 mg/kg up to 2 mg IV if respiratory rate is slow
- Consider IV fluids, CCT/P

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Anaphylaxis (*Pediatric*)

Anaphylaxis (*Pediatric*)

Respiratory distress, stridor, wheezing, decreased BP, altered level of consciousness, throat tightness, shock

In a patient with adequate perfusion:

Epinephrine 1:1000: 0.01 ml/kg SC or IM
Diphenhydramine 1 mg/kg IV/IM
Consider Intubation for airway control

IV NS or saline lock, refer to pediatric shock protocol page 114
IO (tibia) paramedic only
Monitor EKG

Contact Medical Control
Medical Control Options

Epinephrine 1:1000, 0.01 cc/kg SC CCT/P
Epinephrine 1:10,000 0.1cc/kg Body weight or 0.01mg/kg IV, CCT/P
Repeat Epinephrine 1:1000, 0.01 cc/kg SC

IV NS or saline lock bolus for hemodynamically unstable patient
IO (tibia) paramedic only
Benadryl: 1mg/kg IM or IV
Solumedorl 1mg/kg maximum dose 125 mg IV

General Guidelines

- Initial patient assessment and vital signs
- Pulse oximetry
- Administer high concentration oxygen
- Epi Pen Jr, If agency certified
Completion of EMT stage

Intermediate

- Intubation for airway control
- Waveform Capnography
- Monitor EKG
- IV Access
Completion of Intermediate Stage

Critical Care Tech. Paramedic

If presenting with respiratory distress, stridor, wheezing, low blood pressure, altered level of consciousness, throat tightness, shock

Adequate perfusion:

- Epinephrine 1:1000: 0.01 ml/kg SC or IM
- Diphenhydramine 1 mg/kg IV/IM

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Epinephrine 1:1000 0.01 ml/kg SC or IM, CCT/P
- Epinephrine 1:10,000 0.1ml/kg or 0.01mg/kg IV, CCT/P
- Methylprednisone 1 mg/kg IV/IM, CCT/P
Consider IV fluids, CCT/P

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Obstructed Airway (*Pediatric*)

If airway obstruction persists after two sequences of obstructed airway maneuvers:

Perform direct laryngoscopy and removal of foreign body with finger sweep or pediatric magill-type forceps

Suction as necessary

Monitor EKG if child tolerates it

Contact Medical Control

Medical Control options

Consider intubation through the obstruction

NEW PROTOCOL

Obstructed Airway (*Pediatric*)

General Guidelines

- ❑ if conscious and can breathe, cough or speak, encourage to cough
- ❑ If foreign body cannot be dislodged by pt via coughing
 - Routine Medical Care Protocol
 - Airway Management and Oxygen Administration Protocol
- ❑ If unresponsive:
 - perform chest compressions

Intermediate, Critical Care Tech

- ❑ Perform direct laryngoscopy and attempt removal of foreign body with pediatric magill-type forceps or finger sweep
 - Suction as necessary
 - Intubation through obstruction
 - ❑ Monitor EKG
 - ❑ IV Access
- Completion of Intermediate, Critical Care Tech Stage

Paramedic

- ❑ Consider needle cricothyrotomy or percutaneous airway

Completion of Paramedic Stage

Note:

- ❑ *Infant*
 - *Confirm airway obstruction*
 - *If silent, 5 back blows/5 chest thrusts*
 - *Unconscious: finger sweep (if obstructing object is visible) and CPR*
 - *CPR: for 2 minutes*
- ❑ *Child*
 - *Abdominal thrusts*
 - *Unconscious: finger sweep (if obstructing object is visible) and CPR*
 - *CPR: or 2 minutes*

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Pediatric Poisoning

Consider scene safety and hazmat!

ABC
Consider Intubation I,CC,P
IV NS KVO I,CC,P
IO (Tiba) Paramedic Only
Charcoal 1GM/kg CC,P
Monitor, 12 lead EKG if available

Contact Medical Control

NEW PROTOCOL

Poisoning (*Pediatric*)

General Guidelines

- Initial patient assessment and vital signs
- Pulse oximetry
- Administer high concentration oxygen
- Check blood glucose

Completion of EMT stage

Intermediate

- Intubation for airway control as needed
- Waveform Capnography
- Monitor EKG
- IV Access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- Go to specific Dysrhythmias
- 12 lead EKG
- Activated Charcoal 1gram/kg by mouth

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Atropine (Organophosphate poisoning), **CCT/P**
- Glucagon (Beta-blocker overdose), **CCT/P**
- Sodium Bicarbonate (Tri-cyclic antidepressant overdose), **CCT/P**

Note:

- Consider scene safety first*
Field decontaminate as indicated

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

Pediatric Respiratory Distress (Shortness of breath, difficulty breathing, asthma)

Consider intubation for airway control is respiratory arrest seems imminent and level of consciousness is decreased. I,CC,P

Asthma:
Albuterol nebulizer 2.5mg in 3 ml NS may be repeated up to 2 times if wheezing persists

Monitor EKG I,CC,P
Intubation I,CC,P

Contact Medical Control

Medical Control Options

Asthma:
Epinephrine 1:1000
0.01cc/kg Maximum of 0.3MG CC,P
Solumedrol 1mg/kg IM or IV CC,P

NEW PROTOCOL

Respiratory Distress
(*Pediatric*)

General Guidelines

- ❑ Routine Medical Care Protocol
- ❑ Airway Management and Oxygen Administration Protocol
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml mixed with Atrovent 0.5mg (one unit dose) via nebulizer at a flow rate of 6 LPM O₂ (EMT-CC/EMT-P)
 - May repeat Albuterol Sulfate x 1 if no response

Intermediate

- ❑ Monitor EKG
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml
- ❑ IV Access
 - As indicated, consider patient condition

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml mixed with Atrovent 0.5mg (one unit dose) via nebulizer at a flow rate of 6 LPM O₂

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- ❑ Facilitated Intubation, CCT/P

Asthma:

- ❑ Solumedrol 1 mg/kg IV or IM, CCT/P
- ❑ Albuterol Sulfate 0.083%, 2.5 mg in 3ml, CCT/P
- ❑ Epinephrine 1:1000 SC or IM
0.01 mg/kg (maximum of 0.3 mg), CCT/P

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Seizure (*Pediatric*)

Seizure (*Pediatric*)

Consider intubation
IV NS KVO or saline lock
IO (tibia) paramedic only
Monitor EKG

Valium 2mg IV push
Med control signature required for active seizure

Contact medical control
Medical control options

Repeat valium 2-10 mg IV for recurrent seizures
Consider dextrose 25% 0.5-1 GM/KG IV

General Guidelines

- Routine Medical Care Protocol
- Airway Management and Oxygen Administration Protocol
- Access blood glucose

Intermediate

- Monitor EKG
 - Waveform Capnography
 - IV Access
- Completion of Intermediate Stage

Critical Care Tech. Paramedic

- 12 lead EKG
- Valium dose per Braslow Tape
 - Medical Control Signature required

Completion of Critical Care Tech and Paramedic Stage

Medical Control Options

- Diazepam 2 – 10 mg IV/IO (for recurrent seizure), CCT/P
- Dextrose 25% 0.5 – 1 gram/kg IV, CCT/P

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

Neonatal Resuscitation: ABC's

Consider intubation as indicated I, CC,P
 IV NS access I,CC,P
 IO (tibia) Paramedic Only

Medications:

Epinephrine 1:10 000 0.01-0.03 cc/kg IV
 Or ET 1:1000 0.1cc/kg Q 3-5 minutes CC,P

Naloxone: 0.4mg/ml

Or 0.1mg/kg IV/ET/IO/SC/IM CC, P

Contact Medical Control

Neonatal Resuscitation

General Guidelines

- Position, suction, dry, warm and stimulate
- Airway Management and Oxygen Administration Protocol
- Chest compressions (lower 1/3 of the sternum below nipples)

Meconium Aspiration

- Continue proper suctioning until airway clear
- Do not stimulate
- Intubate and attach Meconium aspirator
- Suction on withdrawal of ET tube

Apnea or HR <80

- Chest Compressions for heart rate under 60 beats per minute
- Assist ventilation 40-60 breaths per minute with BVM at 100% oxygen
- If heart rate does not increase after 30 seconds
 - Chest compressions (90 compressions/30 ventilations)
 - 1 complete cycle of 3 compressions
 - 1 ventilation every 2 seconds

Intermediate

- Intubation for airway control
 - Bag-valve-mask is just as effective an airway method for short transport time*
- Monitor EKG
- IV Access

Completion of Intermediate Stage

Critical Care Tech. Paramedic

- Narcan 0.1 mg/kg IV/IM/ET/SC
- Epinephrine 1:10,000 0.01 – 0.03 ml/kg IV/IO

Or

- Epinephrine 1:1000 0.1 ml/kg ET

Completion of Critical Care and Paramedic Stage

Medical Control Options

Sodium Bicarbonate 4.2% 1-2 mEq/kg

Susquehanna Regional EMS Protocol Review

OLD PROTOCOL

NEW PROTOCOL

New Items Added to Pediatric's

Pediatric Reference Table
Pediatric Medication IV Drip Table
Pediatric Coma Scale
Pediatric Burn Charts

Susquehanna Regional EMS Protocol Review

This is the Medical Incident Management Protocol. There was no previous protocol like this.

MEDICAL INCIDENT MANAGEMENT PROTOCOL

Policy:

EMS providers operating in this region will utilize the National Incident Management System (NIMS), Incident Command System (ICS) principles and shall implement the protocol anytime:

- a) There are two or more patients involved in an EMS call/response.
- b) The potential for multiple patients is likely to exist (e.g. Fire/Rescue scenes, HAZMAT scenes, firefighter rehab operations, high risk law enforcement operations, public events/gatherings and motor vehicle crashes, etc...).

NOTE:

SEGMENTS OF THIS PROTOCOL AND THE ICS SYSTEM MAY BE UTILIZED TO MORE EFFICIENTLY MANAGE ANY EMS SCENE.

Rationale:

Implementation of ICS improves a patient's chance for recovery and survival through the establishment of a well-organized, clearly defined management structure that insures a timely and optimal utilization of emergency resources. Early, patient-specific clinical notification to hospitals will improve the opportunity to prepare for each inbound patient. The goal is to minimize out-of-hospital time while optimizing pre-hospital care.

Authority:

This protocol is REMAC approved and will be followed by all EMS providers and agencies operating within this region. Each implementation of this protocol will be reviewed by the primary EMS agency and the Medical Director as part of their Quality Management Program and opportunities for development/improvement will be shared in writing with the agency and REMAC as appropriate.

Procedure:

Upon arrival of the first EMS unit on scene (with capable communication equipment), the provider "in charge" will implement this protocol and establish "**Incident Command**" (**IC**) if it has not already been established by other disciplines (e.g. Fire, Law Enforcement, etc...).

In the event that IC has been established (by other disciplines) and prolonged extrication or delayed response may require extended EMS involvement, a "**Unified Command**" shall be established. Transfer of "Incident Command" can occur whenever a more qualified provider arrives on scene. Establishment or transfer of command and location of the command post must be broadcast to the 911 Center.

NOTE: ALL INCIDENTS, REGARDLESS OF SIZE OR COMPLEXITY, WILL HAVE AN INCIDENT COMMANDER.

Susquehanna Regional EMS Protocol Review

Protocol:

1. Utilize all available information (e.g. dispatch, law enforcement, bystanders, etc...) to request the response of additional specific emergency resources at the earliest indication of need. (e.g. helicopter stand-by or launch, ALS response, fire/rescue, EMS Coordinator, dive team, law enforcement, etc...)
2. Establish scene safety (reassessment of scene safety should be ongoing).
3. As the first-in-EMS unit arrives, broadcast a "size-up" to include what you can see or what you are told: (e.g. number of vehicles, actual or potential hazards, number of patients and a description of the structure or scene, etc...)
4. Establish "**INCIDENT COMMAND**" or a "**UNIFIED COMMAND**" and then broadcast the location of the command post. In the event that a command structure has already been established, assist the current IC or "OPERATION SECTION CHIEF" with the creation of the "MEDICAL BRANCH"

Example:

"EMT/Medic _____ establishing Incident/Unified Command. Command Post is located at _____ and will operate on freq. _____".

5. Don the medical command vest.
6. Delegate or establish, in coordination, with other commanders (if unified command), any additional ICS positions required. Specifically the "**MEDICAL BRANCH DIRECTOR**"
7. Initiate a detailed scene survey and if safe begin Triage operations (e.g. START Triage)
8. Organize Treatment and Transport areas as needed.
9. Notify Incident Command and broadcast the following information:
 - ❖ Scene Safety Issues
 - ❖ Hazards
 - ❖ Number of patients and severity (RED, YELLOW, GREEN, BLACK)
 - ❖ Cause(s) of injuries/illnesses (If known)
 - ❖ Best access to the scene (Road Blocked?)
 - ❖ Number of patients trapped/type of rescue required
 - ❖ Staging area location (if required)
 - ❖ Orders for additional responding units/personnel
 - ❖ Direct 911 Center to notify hospital(s) of the incident.

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10. Order additional resources as needed

Order Response of Additional Resources:

- ❖ Additional Ambulances & EMS Personnel (Plan on ALS ambulance for every “RED” patient.
- ❖ ALS Fly Vehicle
- ❖ Fire/Rescue
- ❖ Law Enforcement/Fire Police
- ❖ Specialty Terrain Vehicles (Boat, URVs, ATVs etc...)
- ❖ Air Ambulance (Rotary-wing)
- ❖ Agency Leadership/Management
- ❖ County EMS Coordinator Staff (resources)
- ❖ County OES Vehicle (e.g. CV-1, Hazmat 1, etc...)
- ❖ County Emergency Medical Support Trailer
- ❖ Sheriff Office Command Vehicle
- ❖ Tactical Law Enforcement
- ❖ Additional supplies/assets for prolonged operations
- ❖ Specially trained teams (e.g. HAZMAT, dive team, etc...)
- ❖ Regional Critical Incident Stress Debriefing/Management team.

NOTE:

RESPONDING EMS AGENCIES/DEPARTMENTS/COUNTY OFFICIALS WILL NOT CANCEL NOR DIVERT RESOURCES WHILE EN ROUTE TO A SITUATION OR SCENE. THEY MAY REQUEST ADDITIONAL RESOURCES TO THE SCENE AND/OR COORDINATE ADDITIONAL STAND-BY/BACK-FILL RESOURCES, ESPECIALLY IF SCENE PROVIDERS ARE OVER COMMITTED. EVERY EFFORT SHOULD BE MADE TO NOTIFY THE ON SCENE INCIDENT COMMANDER PRIOR TO DEPLOYMENT.

11. Establish and maintain early contact with hospitals-Develop a specific contact at each hospital (Command Physician or Charge RN) in order to maintain consistency and accuracy of information.

- ❖ Consider continuous, open-line of communication with hospital.
- ❖ Provide Hospital Medical Command physician with event details, number of suspected patients, nature of injuries/illness, contamination, special needs, etc...
- ❖ Ascertain Emergency Department capacity for each hospital.
- ❖ Provide updates as they become available.
- ❖ Consider appointment of a dedicated “Hospital Communications” EMS provider to maintain contact with hospitals..
- ❖ Consider notification of out of area hospitals for larger incidents (Consult with EMS Coordinator Staff)

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12. Consider direct Air-Ambulance of major burn injuries in an MCI situation directly to regional burn center. Consult with Medical Command Physician.
13. Assign additional responders to appropriate roles.
14. Demobilize unused equipment/personnel.
15. Transfer command to more qualified personnel as needed (e.g. at the end of the operational period or event.) Broadcast transfer of command information.
16. Keep track of resources and personnel. Consider use of a command board on extended incidents.
17. Debrief
18. Closeout the command structure

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MEDICAL INCIDENT MANAGEMENT PROTOCOL MEDICAL BRANCH UNIT STRUCTURE AND LEADERSHIP *(Adapted from NIMS Structure)*

