Michigan Department of Health & Human Services | Bureau of Emergency Preparedness, EMS and Systems of Care

QUALITY ASSURANCE TASK FORCE
AGENDA
March 22, 2024
10:00 a.m.
VIRTUAL ONLY
Click here to join the meeting
+1 248-509-0316 Conference ID: 559 603 547#

Attendance:
Member Roll Call:
Dr. Edwards-chair, Dr. Domeier, Dr. Fales, Dr. Noel, Dr. Wise, Dr. Paul, Deb Wagner, Lynn Weber, Lisa Martin, Betsy McDavid.

EMSCC Appeal Hearing:
To be rescheduled.

Agenda and Minutes:

MCA Protocols/Bylaws:

1. **DELTA COUNTY MCA**
   a. 11.01(s) Orders
   b. 11.02(s) Scope
   c. 11.11 Dobutamine
   d. 11.12 Dopamine
   e. 11.13 Epinephrine
   f. 11.14 Esmolol
   g. 11.16 Fosphenytoin
   h. 11.17 Heparin
   i. 11.18 Hydromorphone
   j. 11.19 Insulin
   k. 11.21 Labetolol
   l. 11.22 Lidocaine
   m. 11.23 Magnesium Sulfate
   n. 11.24 Mannitol
   o. 11.27 Nicardipine
   p. 11.28 Nitroprusside
   q. 11.29 Norepinephrine
   r. 11.30 Octreotide
   s. 11.31 Oxytocin
   t. 11.32 Paralytics
   u. 11.33 Potassium Chloride
   v. 11.35 Thrombolytics
   w. 11.36 Valproate
   x. 11.37 Vasopressin

2. **GENESEE COUNTY MCA**
   a. ****REQUEST NOT TO ADOPT****
      - 3-7 Crashing Patient/Impending Arrest
      - 4-9 Pediatric Crashing Patient/Impending Arrest
3. **TRI COUNTY MCA**
   a. 9-5 EMS Medication and IV Supply
   b. 9-6 Pharmacy MCA Medication IV Supply Requirements

State Protocols/Bylaws:

1. **Other matters – K. Kuhl**
   a. Protocol status/update
   b. General Q & A with Krisy Kuhl

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QATF PACKET COVER PAGE

MCA: Delta County MCA

PACKET FOR: March 22, 2024

PROTOCOLS INCLUDED:

a. 11.01(s) Orders
b. 11.02(s) Scope
c. 11.11 Dobutamine
d. 11.12 Dopamine
e. 11.13 Epinephrine
f. 11.14 Esmolol
g. 11.16 Fosphenytoin
h. 11.17 Heparin
i. 11.18 Hydromorphone
j. 11.19 Insulin
k. 11.21 Labetolol
l. 11.22 Lidocaine
m. 11.23 Magnesium Sulfate
n. 11.24 Mannitol
o. 11.27 Nicardipine
p. 11.28 Nitroprusside
q. 11.29 Norepinephrine
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Michigan Department of Health and Human Services
Bureau of Emergency Preparedness, EMS and Systems of Care
Division of EMS and Systems of Care
PO Box 30207
Lansing, MI 48909-0207
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Medical Control Authority Request for Protocol Change

MCA Name: Delta

Medical Director Name: Dr. Benkendorf

Name of Submitter: Dr. Bigsby

Date of Submission: 3.7.24

Communication included with this form from the above-named medical director indicating this form has been reviewed and approved.

ADOPTING STATE PROTOCOLS AS WRITTEN

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

CHANGES TO A STATE PROTOCOL WITHIN THE YELLOW SELECTION BOX *ONLY*

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

Medical Control Authority Request for Protocol Change

ADOPTING A PROTOCOL CURRENTLY UTILIZED BY ANOTHER MCA *AS WRITTEN*

Contents of the original protocol has not been edited, the original protocol is included with the submission, the protocol was approved by MDHHS within the last 3 years and the protocol is in current use in the MCA from which it was obtained.

Proposed Protocol Number	Proposed Protocol Name	Proposed MCA Adoption Date	Proposed MCA Implementation Date	Dept Use Only

ALL OTHER PROTOCOLS

After QATF recommendation of department approval, a clean copy of the protocol with recommended changes (if applicable), MCA adoption date and MCA implementation date will be submitted to the department at least 15 business days prior to implementation. The department will issue an approval letter within 10 business days of receipt. The MCA is then required to submit a final copy of the protocol which must include the MDHHS approval date.

Proposed Protocol Name: 11.01-11.02

Rationale:
Outlines Scope and Transfer Orders
****state recommendation - disucss verbiage on 11.02(S) - specify that ALS protocols do not require additional training and EPIC protcols can only be utilized by paramedics that have received indicated EPIC training*****

Evidence used to determine/display the need for the change. This may include MCA level data, published articles, peer reviewed journals, etc., (explained or attached):

11.01-11.02 - Outline transfer orders and scope.

11.11-11.14, 11.16-11.19, 11.21-11.24, 11.27-11.33, 11.35-11.37 are all medication protocols for review.

Transfer Orders

Purpose: To provide guidance for inter-facility transfer orders. Appropriate transfer orders are an essential component of the transfer process. The transferring physician is responsible for the care of the patient until care is assumed by the accepting physician at the receiving facility.

Guidance:

I. Use standard transfer order document.
II. Orders should provide for the basic needs of the patient during the transfer. This may include, but not be limited to:
    a. Oxygen delivery method and FiO_2.
    b. Vascular access.
    c. IV fluid solution and rate.
    d. ECG monitor, SpO_2, $ETCO_2$, and vital signs.
    e. Other anticipated patient needs.
III. Indicated specific interventions.
    a. Catheter and tube monitoring and maintenance (*i.e.,* Foley, NG, chest drainage unit).
    b. *Ventilator Orders* document is required for ventilated patients.
    c. Medications.
        i. May reference appropriate medication protocols.
        ii. If no medication protocol is referenced, the following must be addressed:
            a) Medication route and delivery method (*i.e.,* IM, IVP or infusion).
            b) Medication dose or infusion rate.
            c) Titration parameters (rate change and timing).
            d) Maximum dose rate.
            e) Discontinue and/or hold orders.
IV. Call physician for orders parameters.
V. Documentation (see Protocol 11.01)
    a. The medication, concentration, and administration rates of all medications being administered will be documented on the patient care record.
    b. Vital signs will be documented before and after all medication doses and/or rate changes.
    c. Patient response to ordered medications will be documented.

Patient Care Protocols and Paramedic Scope of Practice

ALS protocols

Amiodarone
Blood product management
Chest tube management
Diltiazem
Epinephrine
Fentanyl
Heparin
Hydromorphone
Ketamine
Lidocaine
Magnesium Sulfate
Midazolam
Morphine Sulfate
Patient sedation (interfacility)
Thrombolytics

EPIC protocols

Dobutamine
Dopamine
Esmolol
Fosphenytoin
Insulin
Labetolol
Mannitol
Nicardipine
Nitroprusside
Norepinephrine
Octreotide
Oxytocin
Paralytics
Potassium Chloride
Propofol
Valproate Sodium
Vasopressin
Ventilator management

Some medications on this list are part of a primary 911 response protocol. They are included here because when administered during an interfacility transfer they are administered in a different manner and/or dosage than in normal ALS response.

BETP Bureau of EMS, Trauma & Preparedness

Scope of Practice Document Paramedic

Airway skills

Airway
- Nasopharyngeal
- Oropharyngeal
- Supraglottic
- Endotracheal intubation
- Cricothyrotomy

Airway obstruction dislodgement
- Manual
- Direct laryngoscopy

Oxygen therapy
- Humidified
- Nasal cannula
- Non-rebreather
- Partial rebreather
- Simple face mask
- Venturi mask
- High flow nasal cannula

CPAP

Chest decompression
- Needle

Chest tube placement
- Assist only

Chest tube
- Monitoring
- Management

End tidal CO_2
- Monitor

Splint
- Long bone stabilization
- Joint stabilization
- Traction splint

Patient Movement

Emergency moves

Intravenous/Intraosseous
- Intravenous Administration
- Intraosseous Administration
- Venous Blood Sampling
- Blood chemistry analysis
- Central line-monitoring
- Indwelling catheters and implanted central IV port access
- IV maintenance of medicated fluids

- Interpretation

Pulse oximetry

Suctioning
- Upper airway
- Tracheobronchial of intubated patient

Cardiac skills

CPR/AED
- Mechanical device

Cardiac
- Monitoring
- Interpretation-12 lead ECG
- Cardioversion-electrical
- Defibrillation-manual
- Transvenous cardiac pacing-monitoring & maintenance

Hemorrhage control
- Direct pressure
- Tourniquet
- Wound packing

Musculoskeletal skills

Cervical spine
- Motion restriction
- Cervical collar placement

Spinal Motion Restriction

X-Local Medical Control Approval

Scope of Practice Paramedic 05/2020

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Scope of Practice Document
Paramedic

Medication Routes
- Aerosolized/nebulized
- Endotracheal tube
- Inhaled
- Intradermal
- Intramuscular-injection & auto-injector
- Intranasal
- Intraosseous
- Intravenous
- Mucosal/sublingual
- Nasogastric
- Oral
- Rectal
- Subcutaneous
- Topical
- Transdermal

Childbirth

Assist Childbirth

Vital Signs

Blood pressure
- Automated
- Manual

Blood Glucose

Blood glucose monitoring

Eye Irrigation

Eye irrigation
- Hands-free using sterile eye irrigations device

Patient Restraint

Mechanical patient restraint

Patient Transport

Patient transport

Medications
- Aspirin for ischemic chest pain
- Anti-arrhythmic medications
- Antidotes
- Antiemetic medications
- Anti-hemorrhagic medications
- Benzodiazepine medications
- Beta-agonist medications
- Blood/blood products-maintenance
- Dextrose
- Epinephrine
- Glucose
- Immunizations
- Nitrous oxide and other inhaled medications
- Nitroglycerin
- Opioid antagonists
- Over the counter analgesics
- Parenteral analgesia
- Steroids
- Thrombolytics
- Other medications dictated by protocol-X

X-Local Medical Control Approval

Scope of Practice Paramedic 05/2020

Dobutamine

Indications: Dobutamine is an adrenergic agent used to improve cardiac output. Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components (typically - sulfite allergy).
2. Idiopathic hypertrophic subaortic stenosis.

Adverse effects:

1. Causes increased blood pressure (especially systolic).
2. Causes increased heart rate (less so than other adrenergic medications).
3. May result in worsening of cardiac ischemia.
4. May precipitate or exacerbate atrial and ventricular ectopy.
5. May promote a rapid ventricular response, especially in atrial fibrillation.
6. Rarely, hypotension may occur.

General:

1. Dobutamine is a direct-acting positive inotropic agent (β receptor).
2. Used for the treatment of cardiogenic shock and severe heart failure.
3. Hypovolemia should be corrected prior to the administration of dobutamine.
4. Dobutamine should not be mixed with other medications in the same solution.
5. Available as a pre-mixed solution (2000 **mcg**/ml).

Administration:

1. Must be administered via an infusion pump into a large vein.
2. Initial dose: 2.5 to 10 **mcg**/kg/min
3. IV continuous infusion: 2.5 to 20 **mcg**/kg/min.
4. Maximum dose rate: 40 **mcg**/kg/min.
5. May titrate 2 **mcg**/kg/min every 5 min to desired effect (SBP, UO).
6. Monitoring: Continuous ECG and blood pressure monitoring during infusion.
7. Hold dose and contact Medical Control if hypertension or hypotension, tachycardia, or ventricular ectopy occurs.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue if ventricular tachycardia develops.
4. Contact Medical Control if any adverse reaction is noted or suspected.

SBP – systolic blood pressure
UO – urine output

Dopamine

Indications: Dopamine is an adrenergic agent used to improve cardiac output, blood pressure, and renal blood flow. Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components (typically - sulfite allergy).
2. Pheochromocytoma.
3. Uncorrected tachyarrhythmias.

Adverse effects:

1. Causes increased blood pressure.
2. Causes increased heart rate.
3. May cause increased systemic vascular resistance.
4. May result in worsening of cardiac ischemia.
5. May precipitate or exacerbate atrial and ventricular ectopy.
6. May promote a rapid ventricular response.
7. Extravasation may cause tissue necrosis.

General:

1. Dopamine is an adrenergic agent with α, β and dopaminergic effects.
2. Dopamine effects are dose related:
    a. α (alpha) effects: > 10 **mcg**/kg/min
    b. β1 (beta) effects: 2-10 **mcg**/kg/min
    c. Dopaminergic (renal) effects: 0.5-2 **mcg**/kg/min
3. Used for the treatment of cardiogenic shock, heart failure, and poor tissue perfusion.
4. Hypovolemia should be corrected prior to the administration of dopamine.
5. Dopamine should not be mixed with an alkaline solution.
6. Available as a pre-mix solution (1600 **mcg**/ml).

Administration:

1. Must be administered via an infusion pump into a large vein.
2. Initial dose: 2 to 5 **mcg**/kg/min.
3. IV continuous infusion: 2 to 20 **mcg**/kg/min.
4. Maximum dose rate: 50 **mcg**/kg/min.
5. May titrate 1 - 2 **mcg**/kg/min every 5 min to desired effect (SBP, HR, UO).
6. Monitoring: Continuous ECG and blood pressure monitoring during infusion.
7. Monitor for decreased perfusion of extremities (coldness, cyanosis, decreased capillary refill).

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue if ventricular tachycardia or significant hypotension develops.
4. Contact Medical Control if hypertension, tachycardia, or ventricular ectopy occurs. The infusion may need to be weaned to avoid onset of sudden hypotension.
5. Contact Medical Control if any adverse reaction is noted or suspected.

SBP – systolic blood pressure
HR – heart rate
UO – urine output

Epinephrine

Indications: Epinephrine is an adrenergic agent with a and β effects. It is used for the treatment of hypotension in septic shock, and symptomatic bradycardia (unresponsive to atropine or pacing). Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Eclampsia.
2. Pheochromocytoma.
3. Thyrotoxicosis.
4. Uncorrected tachyarrhythmias.

Adverse effects:

1. Causes increased blood pressure.
2. Causes increased heart rate.
3. Causes increased systemic vascular resistance.
4. Risk of pulmonary edema.
5. Risk of cerebrovascular hemorrhage.
6. May result in worsening of cardiac ischemia.
7. May precipitate or exacerbate atrial and ventricular ectopy.
8. May promote a rapid ventricular response.
9. Extravasation may cause tissue necrosis.

General:

1. Hypovolemia should be corrected prior to the administration of epinephrine.
2. Epinephrine should not be mixed with an alkaline solution.
3. Supplied by pharmacy as 16 **mcg**/ml.

Administration:

1. Must be administered via an infusion pump into a large vein.
2. IV continuous infusion (for **bradycardia**): 0.1 to 0.5 **mcg**/kg/min.
3. IV continuous infusion (for **shock**): 1 – 30 **mcg**/min.
4. May titrate by 1 **mcg**/min every 5 min to desired effect (SBP, HR).
5. Monitoring: Continuous ECG and blood pressure monitoring during infusion.

SBP – systolic blood pressure
HR – heart rate

Epinephrine

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue if ventricular tachycardia or ventricular fibrillation develops.
4. Contact Medical Control if hypertension, tachycardia, or persistent ventricular ectopy occurs.
5. Contact Medical Control if any adverse reaction is noted or suspected.

Esmolol

Indications: Esmolol is an ultra-short acting beta blocker used to control supraventricular tachycardia and for the treatment of hypertensive emergencies. Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components.
2. Bradycardia.
3. 2º / 3º heart block.
4. Sick sinus syndrome.
5. Cardiogenic shock.
6. Decompensated heart failure.
7. Pulmonary hypertension.

Adverse effects:

1. May cause hypotension.
2. May cause symptomatic bradycardia.
3. May result in bronchospasm.
4. May worsen heart failure.
5. In pheochromocytoma, esmolol may precipitate a paradoxical increase in BP unless an alpha blocking agent is first administered.

General:

1. Esmolol is an ultra-short acting β-blocker.
2. Is not compatible with sodium bicarbonate or furosemide.
3. Avoid concomitant administration with Ca-channel blockers .
4. Supplied by pharmacy as 20 mg/ml.

Administration:

1. Must be administered via an infusion pump.
2. Initial dose: 50 **mcg**/kg/min.
3. IV continuous infusion: 25 to 200 **mcg**/kg/min.
4. Maximum dose rate: 200 **mcg**/kg/min.
5. May titrate 25 **mcg**/kg/min every 5 – 10 min to desired effect (SBP, HR).
6. Monitoring: Continuous ECG and blood pressure monitoring during infusion.

SBP – systolic blood pressure
HR – heart rate

Esmolol

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue if hypotension, severe bradycardia, bronchospasm, or cardiac decompensation.
4. Contact Medical Control if any adverse reaction is noted or suspected.

Fosphenytoin

Indications: Fosphenytoin is an anticonvulsant used to prevent or control seizures, including status epilepticus. The loading dose is initiated by the sending facility and may be continued by the Paramedic. It is unlikely that a maintenance dose will be administered by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components.
2. Sinus bradycardia.
3. Sino-atrial block.
4. 2º or 3º heart block.
5. Adams-Stokes syndrome.

Adverse effects:

1. May cause severe hypotension.
2. May cause cardiac arrhythmias to include:
    a. Bradycardia.
    b. Heart block.
    c. QT interval prolongation.
    d. VT and VF.
3. May result in local toxicity "purple glove syndrome".

General:

1. Fosphenytoin is a phenytoin equivalent used when phenytoin cannot be administered.
2. The dose, concentration, and infusion rate of Fosphenytoin Sodium Injection should always be expressed as phenytoin sodium equivalents (PE).
3. The rate of intravenous Fosphenytoin infusion should not exceed 150 mg phenytoin sodium equivalents (PE) per minute due to the risk of severe hypotension and cardiac arrhythmias.
4. Because the full antiepileptic effect of phenytoin is not immediate, the concomitant use of a benzodiazepine will usually be necessary for the control of status epilepticus.
5. The maximum concentration of fosphenytoin sodium Injection in any solution should be 25 mg PE/ml.

Administration:

1. Must be administered via an infusion pump.
2. Loading dose: 10 to 20 mg PE/kg administered at 100 to 150 mg PE/min.
3. Maximum dose rate: 10 to 15 mg PE/kg at a rate of 1 to 2 mg PE/kg/min (or 150 mg PE/min, whichever is slower).
4. Maintenance Dose: 4 to 6 mg PE/kg/day in divided doses as ordered.
5. Monitoring: Continuous cardiac and BP monitoring during administration.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue or reduce rate of infusion if hypotension and/or cardiac dysrhythmia is noted.
4. If the infusion is discontinued, administration of a benzodiazepine may be required to avoid onset of withdrawal seizures.
5. Contact Medical Control if any adverse reaction is noted or suspected.

Heparin - unfractionated heparin (UFH)

Indications: Heparin is an anticoagulant used in the treatment of thrombosis (DVT) and embolism (PE). It may also be administered in ACS, NSTEMI and STEMI. This protocol refers to the administration of UFH and not to the use of low molecular weight heparin (LMWH). Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components (pork products, sulfite).
2. History of heparin-induced thrombocytopenia (HIT) or heparin-induced thrombocytopenia with thrombosis (HITT).
3. Uncontrolled active bleeding state, except when this is due to disseminated intravascular coagulation (DIC).

Adverse effects:

1. May cause bleeding (serious hemorrhage).
2. Use with caution if any risk factor for hemorrhage.

General:

1. Is not compatible (in the same IV line) with amiodarone, diazepam, dobutamine, and haloperidol.
2. Infusion solution is provided by the sending facility (50 units/ml).

Administration:

1. Must be administered via an infusion pump.
2. DVT and PE
    a. Loading dose: 80 units/kg IV bolus (max: 10000 units IV bolus) *then*:
    b. IV continuous infusion: 18 units/kg/hr (or 1800 units/hr).
3. STEMI
    a. Loading dose: 60 units/kg (max: 4000 units) IV bolus *then*:
    b. IV continuous infusion: 12 units/kg/hr (max 1000 units/hr).
4. Monitoring: Measurement of aPTT is not available during transport.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain bolus dose and infusion rate from sending facility physician prior to departure.
3. Discontinue if active bleeding.
4. Contact Medical Control if there is new bleeding.
5. Contact Medical Control if any adverse reaction is noted or suspected.

Hydromorphone

Indications: Hydromorphone is an opioid analgesic used for control of pain. Hydromorphone is not administered as an Infusion. Intermittent IM or IV administration may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components.
2. Known or suspected gastrointestinal obstruction, including paralytic ileus.
3. Circulatory shock.

Adverse effects:

1. May cause respiratory depression or arrest.
2. May cause altered mental status to include excessive sedation.
3. May cause severe hypotension.
4. May worsen CO_2 retention in pulmonary disorders.
5. May increase the risk of seizures in clinical settings associated with seizures.

General:

1. Exercise caution in concomitant administration with other sedative agents.
2. Acute overdose can be manifested by respiratory depression, stupor or coma, skeletal muscle flaccidity, and signs of shock. In some cases, pulmonary edema, bradycardia, and hypotension may occur. Marked mydriasis rather than miosis may be seen with hypoxia in overdose situations.

Administration:

1. Initial **IV** dose: 0.2 mg to 1 mg over 2 – 3 min.
2. Initial **IM** dose: 1 - 2 mg.
3. May repeat (IV or IM) every 2 - 3 hours to desired effect.
4. Maximum dose: The lowest dose to achieve adequate pain control should be used.
5. Monitoring: SpO_2 and $ETCO_2$ for signs of respiratory depression.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain initial and subsequent dose range from sending facilityphysician prior to departure.
3. Discontinue if signs of respiratory depression or hypotension are noted.
4. Contact Medical Control if any adverse reaction is noted or suspected.

Insulin (regular)

Indications: This protocol applies to the use of a continuous insulin Infusion in the treatment of diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS). Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components.
2. Hypoglycemia.

Adverse effects:

1. May cause hypoglycemia.
2. May cause hypokalemia.
3. May result in sodium retention and edema.
4. Over correction of blood glucose may result in severe hypoglycemia with little or no warning.

General:

1. Treatment of DKA and HHS includes:
    a. Correction of fluid loss with intravenous fluids,
    b. Correction of electrolyte disturbances, particularly potassium loss,
    c. Correction of acid-base balance, and
    d. Correction of hyperglycemia with insulin.
2. The solution will be prepared and supplied by the hospital pharmacy.

Administration:

1. Must be administered via an infusion pump.
2. Loading dose: per sending physician.
3. IV continuous infusion: 0.1 unit/kg/hr.
4. Maximum dose rate: 15 Units/hr (in morbid obesity).
5. Monitoring: blood glucose (fingerstick) every 30 minutes.
6. When blood glucose falls to 250 mg/dL the infusion rate should be decreased to 0.05 Units/kg/hr. Addition of 10% glucose may be ordered at this point.

Inter-facility Transfer Directives

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Avoid stopping the insulin infusion entirely, if possible.
4. Discontinue if signs of allergic reaction.
5. Contact Medical Control if any adverse reaction is noted or suspected.

Labetalol

Indications: Labetalol is a non-cardioselective beta-blocker used in severe hypertension to lower blood pressure. Infusions are initiated by the sending facility and may be continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to drug or components.
2. Severe sinus bradycardia.
3. Heart block greater than first degree.
4. Cardiogenic shock.
5. IV calcium-channel blockers.
6. Bronchial asthma or obstructive airway disease.

Adverse effects:

1. May cause symptomatic postural hypotension.
2. May cause severe bradycardia, including sinus pause, heart block, and cardiac arrest.
3. May cause bronchospasm.
4. May worsen cardiac failure.
5. May result in Paradoxical hypertensive responses in patients with pheochromocytoma.

General:

1. Is not compatible with sodium bicarbonate.
2. Avoid concomitant administration with IV calcium channel blockers.
3. Avoid concomitant administration with nitroglycerine.
4. May be administered by repeated Intravenous Injection or continuous infusion.
5. The maximum effect usually occurs within 5 minutes of each injection.
6. Supplied by pharmacy (1mg/ml).

Administration:

1. Repeated Intravenous Injection: Initially 0.25 mg/kg up to 20 mg over 2 minutes. Then 40 - 80 mg IV q10min until the desired supine blood pressure is achieved.
2. Continuous infusion must be administered via an infusion pump.
3. IV continuous infusion: 0.5 - 2 mg/minute.
4. May titrate 0.25 mg every 10 min to desired effect (up to maximum of 10 mg/min).
5. Maximum total dose: 300 mg.
6. Monitoring: Blood pressure every 5 – 10 minutes.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue if signs of allergic reaction, 2º or 3º heart block, bradycardia (HR < 60), or hypotension.
4. Contact Medical Control if BP < 60.
5. Contact Medical Control if any adverse reaction is noted or suspected.

Lidocaine

Indications: Lidocaine is a Class Ib antiarrhythmic used to control ventricular arrhythmia. Lidocaine is also an amide-type local anesthetic which may be used to facilitate IV and IO cannula placement. When utilized as an antiarrhythmic, infusions are initiated by the sending facility and may be continued by the Paramedic. This protocol addresses the use of lidocaine in non-cardiac arrest situations. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity to amide-type local anesthetics.
2. Adam-Stokes Syndrome, SA, AV, or intraventricular heart block (unless a functioning pacemaker is present).
3. CHF, cardiogenic shock, 2 **º** and 3 **º** heart block (if no pacemaker is present), Wolff-Parkinson-White Syndrome.

Adverse effects:

1. May cause hypotension, respiratory depression, and seizures.
2. May result in myocardial depression and worsening heart failure.
3. May worsen heart block.

General:

1. Is not compatible with blood transfusion lines.
2. Avoid concomitant administration with amiodarone.
3. Available as a pre-mix solution and pre-filled syringe.
4. Supplied by pharmacy as 8 mg/ml

Administration:

1. Infusions are administered via an infusion pump.
2. Initial dose: 1 – 1.5 mg/kg over 2 – 3 min.
3. Repeat doses of 0.5 - 0.75 mg/kg in 5 -10 minutes if arrythmia persists.
4. IV continuous infusion: 1 – 4 mg/min.
5. May titrate by 1 mg/min every 5 - 10 min to maximum of 4 mg/min.
6. Maximum dose: 3 mg/kg total.
7. Monitoring: Continuous ECG.
8. When used to facilitate IO placement, 5 mL of 2% lidocaine may be infused after access has been established to decrease pain and discomfort associated with the force of high-volume infusion.

MCA: Delta County
MCA Board Approval Date: 21 Feb 2024
MDHHS Approval Date:
MCA Implementation Date:

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue infusion if signs of excessive depression of cardiac conduction occur (prolongation of PR interval and QRS complex, aggravation of arrhythmias).
4. Discontinue if seizure occurs.
5. Severe reactions may be preceded by somnolence, slurred speech, and paresthesia.
6. Contact Medical Control if any adverse reaction is noted or suspected.

MCA: Delta County
MCA Board Approval Date: 21 Feb 2024
MDHHS Approval Date:
MCA Implementation Date:

Magnesium Sulfate ($MgSO_4$)

Indications: Magnesium sulfate is mineral salt electrolyte indicated in cardiac arrest, Torsades de Pointes, Pre-eclampsia & Eclampsia. This protocol does not supersede the following protocols: *Adult Cardiac Arrest(5.1), Adult Respiratory Distress(3.3), Adult seizures(3.4), or Childbirth & Related Obstetrical Emergencies(4.2)*. This protocol addresses those situations when $MgSO_4$ is ordered to be administered by continuous infusion. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity.
2. Myocardiopathy.
3. Diabetic coma.
4. Heart block.
5. Hypercalcemia or hypermagnesemia.

Adverse Effects:

1. Hypotension and circulatory collapse.
2. Depressed cardiac function.
3. Respiratory paralysis.
4. Pulmonary edema.
5. Caution in renal impairment.
6. Caution in neuromuscular disease (*i.e.*, myasthenia gravis).

Administration:

1. Bolus and/or Intermittent dosing, see appropriate protocol.
    a. Adult Cardiac Arrest (5.1).
    b. Adult Respiratory Distress (3.3).
    c. Adult seizures (3.4).
    d. Childbirth & Related Obstetrical Emergencies (4.2).
2. **Eclampsia/preeclampsia**:
    a. Loading dose of 4 to 6 gm IV over 15 to 30 min.
    b. 1 to 2 g/hr infusion – or rate as ordered.
    c. Maximum dose is 3 g/hr.

3. **Pre-term labor (tocolytic)**:
    a. Loading dose of 4 to 6 gm IV over 15 - 30 min.
    b. 2 to 3 gm/hr – or rate as ordered

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Loss of deep tendon reflexes may indicate impending respiratory arrest. Hold dose and call Medical Control.

MCA: Delta
MCA Board Approval Date: 21 Feb 2024
MDHHS Approval Date:
MCA Implementation Date:

Mannitol (Osmitrol)

Indications: Mannitol is an osmotic diuretic Indicated for reduction of intracranial pressure associated with cerebral edema and/or brain mass. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Active intracranial bleeding.
3. Hypovolemia (severe).
4. Pulmonary edema or severe pulmonary vascular congestion.
5. Anuria.

Adverse Effects:

1. Hypersensitivity reactions to include anaphylaxis.
2. CNS toxicity: headache, coma, seizures, confusion, lethargy; rebound increase in intracranial pressure.
3. Fluid and electrolyte imbalances: hypovolemia, hypervolemia, peripheral edema, dehydration, hyponatremia, hypernatremia, hyperkalemia, hypokalemia; metabolic acidosis.
4. Cardiac and respiratory: congestive cardiac failure, pulmonary edema, hypotension, hypertension, tachycardia, and angina-like chest pain.
5. Infusion site reactions: venous thrombosis, phlebitis, pain, rash, compartment syndrome.
6. Acute kidney injury, to include irreversible kidney failure.

Administration:

1. IV infusion:
    a. Supplied by OSF pharmacy (200 mg/ml).
    b. 0.25 to 2 gm/kg over 30 to 60 minutes.
    c. Administer through a 0.22 micron filter set into a large vein.
    d. May repeat in 6 to 8 hours.
    e. Do not mix with blood.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Discontinue infusion if renal, cardiac, or pulmonary status worsens, or CNS toxicity develops.

Nicardipine (Cardene)

Indications: Nicardipine is a calcium channel blocker used for the treatment of hypertension, angina, and pulmonary hypertension. IV nicardipine may be used for the treatment of hypertensive emergencies. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Aortic stenosis.
3. Severe left ventricular dysfunction.
4. Avoid in combination with beta-blocker.

Adverse Effects:

1. Hypotension.
2. Tachycardia.
3. Heart failure.
4. Headache.

Administration:

1. IV continuous infusion:
    a. Solution is prepared and supplied by OSF pharmacy (0.2 mg/ml).
    b. Dose range is 0.5 to 15 mg/hr.
    c. Usually, infusion is Initiated at 5 mg/hr.
    d. May titrate by 2.5 mg/hr every 5 to 15 min (to maximum of 15 mg/hr).
    e. Goal is to maintain SBP < 220 mmHg and < 110 mmHg.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transports.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Hold dose and call Medical Control if hypotension, sustained tachycardia, or signs of heart failure.

Nitroprusside (Nipride)

Indications: Nitroprusside is indicated for the immediate control of blood pressure in hypertensive emergencies. If used in acute aortic dissection it is administered in combination with a beta-blocker. In acute heart failure it is used to reduce left ventricular end-diastolic pressure and systolic vascular resistance. It may be used to reduce cerebral vasospasm following subarachnoid hemorrhage. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Reduced peripheral vascular resistance (sepsis).
3. Head trauma with increased ICP.
4. Liver failure.
5. Pregnancy Category C – use only if benefit outweighs risk.

Adverse Effects:

1. Hypotension.
2. Reflex tachycardia, cardiac dysrhythmia.
3. Elevated ICP.
4. Decreased platelet aggregation with hemorrhage.
5. Cyanide toxicity, metabolic acidosis, methemoglobinemia thiocyanate toxicity.
6. Apprehension, restlessness, confusion, dizziness, headache, somnolence.

Administration:

1. IV continuous infusion:
    a. The solution is prepared and supplied by OSF pharmacy.
    b. Solution must be protected from light.
    c. Initial infusion rate at 0.3 **mcg**/kg/min.
    d. Titrate by 0.5 **mcg**/kg/min every 5 min until desired BP is achieved (as ordered by physician).
    e. Do not exceed 10 **mcg**/kg/min.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Reduce infusion rate and call Medical Control if excessive hypotension.
4. Call Medical Control if an adverse reaction is suspected.

Norepinephrine (Levophed)

Indications: Norepinephrine is primarily an alpha (some beta) agonist indicated for supporting blood pressure in acute hypotension, hypotension in post cardiac arrest, and hypotension in septic shock. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy (sulfite).
2. Hypotension due to hypovolemia unless adequate volume resuscitation is complete.
3. In critical circumstances infusion may be initiated in conjunction with volume resuscitation.
4. Avoid concomitant administration with *etomidate*, *ketamine* and *propofol*.

Adverse Effects:

1. Extravasation may result in tissue necrosis. Infusion should be given into a large vein (antecubital) or by central line.
2. Hypertension.
3. Severe peripheral and visceral vasoconstriction. Tissue hypoxia, and lactic acidosis may occur.
4. Pregnancy Category C. Use in life threatening situations.

Administration:

1. IV continuous infusion via infusion pump:
    a. Solution is prepared and supplied by the OSF hospital pharmacy. (confirm smart pump concentration prior to departure)
    b. Incompatible with sodium bicarbonate in the same line.
    c. Initial infusion rate is 2 **mcg**/min.
    d. Titrate by 1 **mcg**/min every 5 minutes to maintain MAP >65 or SBP >90 (or as ordered by physician).
    e. Obtain BP every 2 minutes until desired BP is achieved, then every 5 minutes during infusion.
    f. If significant hypertension occurs, decrease by 2-4 **mcg**/min every 10 minutes.
    g. Do not discontinue abruptly (except if extravasation).
    h. The usual dose range is 2 - 80 **mcg**/min.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Stop infusion if extravasation occurs.
4. Call physician if hypertension, tachycardia, extravasation, or any unexpected change in patient condition.

MCA: Delta
MCA Board Approval Date: 21 Feb 2024
MDHHS Approval Date:
MCA Implementation Date:

Octreotide (Sandostatin)

Indications: Octreotide may be used for temporizing treatment of upper GI bleeding from esophageal varices. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Use caution in patients with cardiovascular disease or heart failure.
3. Use with caution in patients taking beta-blockers.
4. Use caution in patients with hepatic or renal impairment.

Adverse Effects:

1. Bradycardia and dysrhythmia.
2. High degree AV blocks.
3. QT prolongation.
4. Hypoglycemia.

Administration:

1. Supplied by pharmacy (2 **mcg**/ml).
2. Initial bolus of 50 **mcg**.
    a. May repeat bolus in the first hr if bleeding is not controlled.
3. IV continuous infusion:
    a. 25 to 50 **mcg**/hr.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transports.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Monitor blood sugar.
4. Call physician if hyper or hypoglycemia is noted.

Oxytocin (Pitocin)

Indications: Oxytocin is a naturally occurring hormone. Although oxytocin is used for the induction of labor, this protocol addresses the use of oxytocin in post-partum hemorrhage. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.

Adverse Effects:

1. Bradycardia, tachycardia, premature ventricular complexes & other arrhythmias.
2. Decreases in maternal systolic & diastolic blood pressure.
3. Strong (hypertonic) &/or prolonged (tetanic) contractions.

Administration:

1. 10 unit IM or IV may be given following delivery of placenta.
2. IV continuous infusion:
    a. Solution is supplied by pharmacy (0.06 units/ml).
    b. Infusion initiated at 300 milliunits/min (300 ml/hr) for 1 hour then...
    c. 60 milliunits/min (60 ml/hr).

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Hold dose if hypertonic or tetanic contractions and call Medical Control.

Paralytics

Indications: This protocol considers the use of paralytics in the management of the ventilated patient. RSI is not within the scope of practice of the Paramedic and is not considered. Paralytics are divided into depolarizing and nondepolarizing agents. Depolarizing agents (succinylcholine) are often used in RSI but are inappropriate for continuous dosing. Nondepolarizing agents may be employed for maintenance of paralysis. Adequate control of the airway and ventilation is mandatory during paralysis. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Neuromuscular disease.

Adverse Effects:

1. Hypersensitivity to include anaphylaxis.
2. Respiratory arrest (expected).
3. Histamine release, with vasodilation and transient bronchospasm.
4. Hypotension.
5. Malignant hyperthermia.
6. Prolonged recovery from paralysis.

Administration:

1. Dosing should be based on ideal body weight.
2. **Rocuronium** (Zemuron):
    a. Expected single dose duration: 30 min (0.6 mg/kg); 67 min (1.2 mg/kg).
    b. 0.6 to 1.2 mg/kg for induction of paralysis.
    c. 1 to 12 **mcg**/kg/min for maintenance of paralysis.
    d. Titration 1 – 2 **mcg**/kg/min every 15 minutes.
3. **Vecuronium** (Norcuron):
    a. Expected single dose duration: (0.1 mg/kg) 30-40 min.
    b. 0.08 to 0.1 mg/kg bolus for induction of paralysis.
    c. 0.2 to 1.7 **mcg**/kg/min for maintenance of paralysis.
    d. Titration 0.2 **mcg**/kg/min every 15 minutes.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Obtain sedation endpoint from sending facility prior to departure.
4. Ensure adequate analgesia and sedation before administration or increasing dose of paralytics (See Patient Sedation Protocol 11.08).
5. Hold dose and contact Medical Control if signs of hypersensitivity, hypotension, or suspected hyperthermia.

Intermittent dosing may be the only option during periods of drug shortage, however continuous infusion is preferred when possible.

Potassium Chloride

Indications: Potassium chloride is a mineral salt electrolyte used in the treatment and prevention of hypokalemia. Intravenous replacement is generally reserved for the treatment of severe hypokalemia. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for Paramedic use only.

Contraindications:

1. Hypersensitivity.
2. Hyperkalemia.
3. Renal failure.
4. Addison's Disease (untreated).

Adverse Effects:

1. Hyperkalemia with cardiac dysrhythmia and cardiac arrest.
2. Fluid overload.

Administration:

1. Intermittent dosing is not appropriate for interfacility transport.
2. IV continuous infusion:
    a. Typically reserved for severe (<2.5 mEq/L) or symptomatic hypokalemia.
    b. Solution is prepared and supplied by the OSF pharmacy.
    c. Maximum concentration is 40 mEq/L.
    d. 10 to 40 mEq/hr – rate as ordered.
    e. Continuous ECG monitoring.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Hold dose if ECG changes indicating hyperkalemia and call Medical Control.
    i. Peaked T waves.
    ii. Prolonged P-R interval.
    iii. Widening or dropped P wave.
    iv. Widened QRS complex.
    v. Heart block.
4. Be prepared to administer CaCl 1 gm IVP and/or albuterol 20 mg by continuous nebulization.

Thrombolytics

Indications: Thrombolytics are proteases that convert plasminogen to plasmin. Plasmin lyses clots by breaking down the fibrinogen and fibrin contained in a clot. Primary indications include; acute myocardial infarction (AMI), acute ischemic stroke (AIS), pulmonary embolism (PE), deep vein thrombosis (DVT), acute peripheral arterial occlusion, and occlusion of indwelling catheters. When administered by continuous infusion, the infusion is initiated by the sending facility and continued by the Paramedic. This Protocol is for Paramedic use only.

Thrombolytic agents (used at OSF-St Francis):

1. Tissue plasminogen activator (tPA) - Alteplase
2. Tenecteplase (TNK) – TNKase

Contraindications:

1. Known allergy.
2. Current or prior intracranial hemorrhage.
3. Subarachnoid hemorrhage suspected.
4. Active internal bleeding.
5. Stroke within 3 months.
6. Intracranial or intraspinal surgery or serious head trauma within 3 months.
7. Intracranial pathology with risk of bleeding (neoplasm, AVM, aneurysm).
8. Bleeding diathesis.
9. Current severe uncontrolled hypertension.
10. Aortic dissection suspected.
11. Pregnancy Category C – use if benefit outweighs risk.

Adverse Effects Include:

1. Hemorrhage.
2. Stroke.
3. Reperfusion dysrhythmias.
4. Embolism.

Administration:

1. Solution is prepared and supplied by OSF pharmacy.
2. **Tenecteplase** push dose in **Acute Myocardial Infarction**:
   30-50 mg IV bolus once (based on weight).
   a. <60 kg: 30 mg
   b. 60-70 kg: 35 mg
   c. 70-80 kg: 40 mg
   d. 80-90 kg: 45 mg
   e. >90 kg: 50 mg

3. **Tenecteplase** for **acute ischemic stroke**:
    a. 0.25 mg/kg once.
4. **Alteplase** in **Pulmonary Embolism**:
    a. 100 mg infusion over 2 hr.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Call Medical Control if active internal or intracranial bleeding is suspected.

Valproate Sodium (Depacon)

Indications: Valproate is indicated for the control of complex and partial seizures. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Pregnancy.
3. Liver failure.
4. Avoid in acute head trauma.

Adverse Effects:

1. CNS depression, somnolence, ataxia, dizziness, double vision, tremor, headache.
2. Nausea, vomiting.
3. Hepatic toxicity.

Administration:

1. IV infusion:
    a. Solution is prepared and supplied by the OSF pharmacy.
    b. 10 to15 mg/kg/day divided q12 hr infused over 1 hr.
    c. Single infusion dose is 5 to 7.5 mg/kg over 1 hr.
    d. Maximum dose 60 mg/kg/day.

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Hold dose and call Medical Control if signs of allergic reaction.

Vasopressin (Anti-Diuretic Hormone)

Indications: Vasopressin is a hormone analog used to increase blood pressure in adults with vasodilatory shock (septic shock) who remain hypotensive despite fluids and catecholamines. Infusions are initiated by the sending facility and continued by the Paramedic. This Protocol is for EPIC Paramedic use only.

Contraindications:

1. Known allergy.
2. Pregnancy Category C. Use with caution only if benefit outweigh risk.

Adverse Effects:

1. Use caution in patients with seizure, migraine, asthma, heart failure, vascular disease, angina pectoris, coronary thrombosis, renal disease.
2. Therapy may produce tonic uterine contractions that could threaten continuation of pregnancy.
3. Use with catecholamines is expected to result in an additive effect on mean arterial blood pressure and other hemodynamic parameters.

Administration:

1. IV continuous infusion:
    a. Administration only via controlled infusion device.
    b. Solution is prepared and supplied by OSF Pharmacy.
    c. Confirm concentration of 40 unit/100 ml (0.4 unit/ml).
    d. Initial rate 0.03 unit/min.
    e. Titration parameters per physician order (may expect 0.005 unit/min every 10 – 15 minutes until target BP is reached).
    f. Maximum dose is 0.06 unit/min (data for rates greater than 0.07 unit/min are limited and adverse effects common).

Inter-facility Transfer Directives:

1. Follow general protocols for inter-facility transport.
2. Obtain starting dose and titration parameters from sending facility physician prior to departure.
3. Contact Medical Control if an adverse reaction is suspected (see adverse reaction section above).

Michigan Department of Health & Human Services

Bureau of Emergency Preparedness, EMS and Systems of Care

QATF PACKET COVER PAGE

MCA: Genesee County MCA

PACKET FOR: March 22, 2024

PROTOCOLS INCLUDED:

- REQUEST NOT TO TAKE:
- 3-7 Crashing Pt/Im. Arrest
- 4-9 Pediatric Crashing Pt/Im. Arrest

Michigan Department of Health and Human Services
Bureau of Emergency Preparedness, EMS and Systems of Care
Division of EMS and Systems of Care
PO Box 30207
Lansing, MI 48909-0207
www.michigan.gov/ems

Medical Control Authority Request for Protocol Change

MCA Name: Genesee County

Medical Director Name: Joshua Newblatt, D.O.

Name of Submitter: Bruce Trevithick

Date of Submission: March 8, 2024

Communication included with this form from the above-named medical director indicating this form has been reviewed and approved.

ADOPTING STATE PROTOCOLS AS WRITTEN

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

CHANGES TO A STATE PROTOCOL WITHIN THE YELLOW SELECTION BOX *ONLY*

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

Medical Control Authority Request for Protocol Change

ADOPTING A PROTOCOL CURRENTLY UTILIZED BY ANOTHER MCA *AS WRITTEN*

Contents of the original protocol has not been edited, the original protocol is included with the submission, the protocol was approved by MDHHS within the last 3 years and the protocol is in current use in the MCA from which it was obtained.

Proposed Protocol Number	Proposed Protocol Name	Proposed MCA Adoption Date	Proposed MCA Implementation Date	Dept Use Only

ALL OTHER PROTOCOLS

After QATF recommendation of department approval, a clean copy of the protocol with recommended changes (if applicable), MCA adoption date and MCA implementation date will be submitted to the department at least 15 business days prior to implementation. The department will issue an approval letter within 10 business days of receipt. The MCA is then required to submit a final copy of the protocol which must include the MDHHS approval date.

Proposed Protocol Name: 3.7 Crashing Adult/Impending Arrest

Rationale:

Our MCA has decided not to adopt this new state protocol as it is unnecessary and distracting from the primary focus of treating critical ill and and injured patients by following existing treatment protocols.

Evidence used to determine/display the need for the change. This may include MCA level data, published articles, peer reviewed journals, etc., (explained or attached):

- Currently nothing in state law or rules that requires an MCA to adopt a state protocol like this.
- There are current treatment protocols in place to address the management of critically ill and injured patients that could potentially decompensate.
- Vagueness of inclusion criteria creates liability for EMS personnel.
- This is a new protocol developed by the state with no evidence or rationale as to why it is necessary. Has there been an evaluation, with data, that shows that EMS personnel are failing to properly address decompensating patients through existing treatment protocols? If so, that would be helpful for MCAs to use when determining if the protocol should be adopted locally.

Michigan Department of Health and Human Services
Bureau of Emergency Preparedness, EMS and Systems of Care
Division of EMS and Systems of Care
PO Box 30207
Lansing, MI 48909-0207
www.michigan.gov/ems

Medical Control Authority Request for Protocol Change

MCA Name: Genesee County

Medical Director Name: Joshua Newblatt, D.O.

Name of Submitter: Bruce Trevithick

Date of Submission: March 8, 2024

Communication included with this form from the above-named medical director indicating this form has been reviewed and approved.

ADOPTING STATE PROTOCOLS AS WRITTEN

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

CHANGES TO A STATE PROTOCOL WITHIN THE YELLOW SELECTION BOX *ONLY*

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

Medical Control Authority Request for Protocol Change

ADOPTING A PROTOCOL CURRENTLY UTILIZED BY ANOTHER MCA *AS WRITTEN*

Contents of the original protocol has not been edited, the original protocol is included with the submission, the protocol was approved by MDHHS within the last 3 years and the protocol is in current use in the MCA from which it was obtained.

Proposed Protocol Number	Proposed Protocol Name	Proposed MCA Adoption Date	Proposed MCA Implementation Date	Dept Use Only

ALL OTHER PROTOCOLS

After QATF recommendation of department approval, a clean copy of the protocol with recommended changes (if applicable), MCA adoption date and MCA implementation date will be submitted to the department at least 15 business days prior to implementation. The department will issue an approval letter within 10 business days of receipt. The MCA is then required to submit a final copy of the protocol which must include the MDHHS approval date.

Proposed Protocol Name: 3.9 Pediatric Crashing Patient/Impending Arrest

Rationale:

Our MCA has decided not to adopt this new state protocol as it is unnecessary and distracting from the primary focus of treating critical ill and and injured patients by following existing treatment protocols.

Evidence used to determine/display the need for the change. This may include MCA level data, published articles, peer reviewed journals, etc., (explained or attached):

- Currently nothing in state law or rules that requires an MCA to adopt a state protocol like this.
- There are current treatment protocols in place to address the management of critically ill and injured patients that could potentially decompensate.
- Vagueness of inclusion criteria creates liability for EMS personnel.
- This is a new protocol developed by the state with no evidence or rationale as to why it is necessary. Has there been an evaluation, with data, that shows that EMS personnel are failing to properly address decompensating patients through existing treatment protocols? If so, that would be helpful for MCAs to use when determining if the protocol should be adopted locally.

Michigan Department of Health & Human Services | Bureau of Emergency Preparedness, EMS and Systems of Care

QATF PACKET COVER PAGE

MCA: Tri-County MCA

PACKET FOR: March 22, 2024

PROTOCOLS INCLUDED:

- 9-5 EMS Medication and IV Supply
- 9-6 Pharmacy MCA Medication IV Supply Requirements

Tri-County Emergency Medical Control Authority

Serving Clinton, Eaton, and Ingham County

February 12, 2024

Reference: Review and agreement of submitted Protocols for approval

Dear State EMS Office,

As the Medical Director for TCEMCA I have reviewed and agree with the following protocols being submitted for approval by your office.

Section 9 9-4 Optional

These protocols follow the direction of our MCA, and I am in full support of their approval. If you have any questions, please reach out to the TCEMCA offices.

Respectfully Submitted,

Dr. Robert K. Orr, D.O. FACEP
Medical Director
Tri-County Emergency Medical Control Authority
517-699-2888 – office

Michigan Department of Health and Human Services
Bureau of Emergency Preparedness, EMS and Systems of Care
Division of EMS and Systems of Care
PO Box 30207
Lansing, MI 48909-0207
www.michigan.gov/ems

Medical Control Authority Request for Protocol Change

MCA Name: Delta

Medical Director Name: Dr. Benkendorf

Name of Submitter: Dr. Bigsby

Date of Submission: 3.7.24

Communication included with this form from the above-named medical director indicating this form has been reviewed and approved.

ADOPTING STATE PROTOCOLS AS WRITTEN

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

CHANGES TO A STATE PROTOCOL WITHIN THE YELLOW SELECTION BOX *ONLY*

Protocol Number	Protocol Name	MCA Adoption Date	MCA Implementation Date	Dept Use ONLY

Medical Control Authority Request for Protocol Change

ADOPTING A PROTOCOL CURRENTLY UTILIZED BY ANOTHER MCA *AS WRITTEN*

Contents of the original protocol has not been edited, the original protocol is included with the submission, the protocol was approved by MDHHS within the last 3 years and the protocol is in current use in the MCA from which it was obtained.

Proposed Protocol Number	Proposed Protocol Name	Proposed MCA Adoption Date	Proposed MCA Implementation Date	Dept Use Only

ALL OTHER PROTOCOLS

After QATF recommendation of department approval, a clean copy of the protocol with recommended changes (if applicable), MCA adoption date and MCA implementation date will be submitted to the department at least 15 business days prior to implementation. The department will issue an approval letter within 10 business days of receipt. The MCA is then required to submit a final copy of the protocol which must include the MDHHS approval date.

Proposed Protocol Name: 11.01-11.02

Rationale:

Outlines Scope and Transfer Orders
****state recommendation - disucss verbiage on 11.02(S) - specify that ALS protocols do not require additional training and EPIC protcols can only be utilized by paramedics that have received indicated EPIC training*****

Evidence used to determine/display the need for the change. This may include MCA level data, published articles, peer reviewed journals, etc., (explained or attached):

11.01-11.02 - Outline transfer orders and scope.

11.11-11.14, 11.16-11.19, 11.21-11.24, 11.27-11.33, 11.35-11.37 are all medication protocols for review.

EMS: Medication and IV Supply Requirements

I. Emergency medical service vehicles will be equipped with medication boxes and IV kits or supplies consistent with their licensure level and protocols.

II. The contents of the medication boxes are subject to inspection at any time by participating hospital pharmacy staff or by the medical control authority.

III. Medication boxes will be prepared by MCA participating hospital pharmacies prior to each patient use see **Pharmacy: Medication and IV Supply Requirements Protocol**.

   A. All medications will be obtained from an approved MCA participating pharmacy. TCEMCA will keep a list of approved MCA pharmacies.

      i. Oral glucose, or other TCEMCA approved medication. TCEMCA will keep a list of approved medications agencies may provide.

      ii. Agencies must have an MCA approved process in place for manufacture recalls.

IV. IV kit supplies will be made available by MCA participating pharmacies or by delegated agencies per MCA approved procedure.

V. Licensed EMS personnel will assure that a proper seal is in place on medication boxes

VI. The ambulance agency and licensed EMS personnel are responsible for the security of the medications and supplies.

VII. Medication boxes and IV supplies shall be locked and secured in the EMS vehicle, except when required for patient care. Each agency will have a MCA approved procedure in place to ensure controlled access to the medication boxes and IV supplies.

VIII. Licensed EMS personnel will include the following MCA approved documentation when returning medication boxes (and IV supplies if applicable) to a secure location for pharmacy exchange.

   A. All medications used and/or wasted from the medication box (and IV supplies if applicable)

   B. Physician, PA or NP signature for controlled substances administered.

   C. Witness signature for controlled substance waste

      i. Whenever controlled substances are used from a medication box, any unused or contaminated medication must be wasted in the presence of a witness that is a licensed healthcare professional that is authorized by the receiving facility to sign for wasted controlled substances.

   D. A completed TCEMCA drug box exchange form, EPCR form, or replacement form will be placed in every drug box delivered for exchange.

IX. Opened syringes, needles, and any broken glass ampules will be properly disposed of and not left in the medication box. It is the responsibility of the licensed EMS personnel to clean any blood or body fluids from the outside and inside of the medication box before it is returned to the pharmacy.

X. If EMS personnel or agency discover a discrepancy in medication box contents, that does not affect patient care, they shall notify the pharmacy at the hospital they transported to of the discrepancy. If the discrepancy would affect patient care, immediately request an ALS ambulance to the scene. Report the discrepancy to the member hospital pharmacy you transported to. IF an agency discovers a discrepancy during normal business hours, immediately contact TCEMCA. If after normal business hours, or unable to reach TCEMCA staff, take the drug box to a member hospital pharmacy and notify them of the discrepancy and get a replacement medication box.

A. TCEMCA, the pharmacy, and the involved agency will mutually work to resolve any discrepancies. Any discrepancies, pharmacy issues, or concerns will be documented utilizing the TCEMCA Pharmacy Reporting Form. This form shall be completed and sent to pharmacy@tcemca.org email within 24 hours. For all medication discrepancies, if possible, a picture of the top of the medication box shall be attached with the form. Please contact TCEMCA office when submitting a Pharmacy Reporting Form.

EMS: Medication and IV Supply Requirements

I. Emergency medical service vehicles will be equipped with medication boxes and IV kits or supplies consistent with their licensure level and protocols.

II. The contents of the medication boxes are subject to inspection at any time by participating hospital pharmacy staff or by the medical control authority.

III. Medication boxes will be prepared by MCA participating hospital pharmacies prior to each patient use see **Pharmacy: Medication and IV Supply Requirements Protocol**.

- A. All medications will be obtained from an approved MCA participating pharmacy. TCEMCA will keep a list of approved MCA pharmacies.
  - i. Oral glucose, or other TCEMCA approved ~~is the only~~ medication. TCEMCA will keep a list of approved medications agencies may provide.~~that an agency may own and supply.~~
  - ii. Agencies must have an MCA approved process in place for manufacture recalls.

IV. IV kit supplies will be made available~~s may be prepared and sealed~~ by MCA participating pharmacies or by delegated agencies per MCA approved procedure.

V. Licensed EMS personnel will assure that a proper seal is in place on medication boxes

VI. The ambulance agency and licensed EMS personnel are responsible for the security of the medications and supplies.

VII. Medication boxes and IV supplies shall be locked and secured in the EMS vehicle, except when required for patient care. Each agency will have a MCA approved procedure in place to ensure controlled access to the medication boxes and IV supplies.

VIII. Licensed EMS personnel will include the following MCA approved documentation when returning medication boxes (and IV supplies if applicable) to a secure location for pharmacy exchange.

- A. All medications used and/or wasted from the medication box (and IV supplies if applicable)
- B. Physician, PA or NP signature for controlled substances administered.
- C. Witness signature for controlled substance waste
  - i. Whenever controlled substances are used from a medication box, any unused or contaminated medication must be wasted in the presence of a witness that is a licensed healthcare professional that is authorized by the receiving facility to sign for wasted controlled substances.
- D. A completed TCEMCA drug box exchange form, EPCR form, or replacement form will be placed in every drug box delivered for exchange. ~~MCAs will determine procedures and requirements for EPCR signatures~~

IX. Opened syringes, needles, and any broken glass ampules will be properly disposed of and not left in the medication box. It is the responsibility of the licensed EMS personnel

to clean any blood or body fluids from the outside and inside of the medication box before it is returned to the pharmacy.

X. If EMS personnel or agency discover a discrepancy in medication box contents, that does not affect patient care, they shall notify the pharmacy at the hospital they transported to of the discrepancy. If the discrepancy would affect patient carre, immediately request an ALS ambulance to the scene. Report the discrepancy to the member hospital pharmacy you transported to. IF an agency discovers a discrepancy during normal business hours, immediately contact TCEMCA. If after normal business hours, or unable to reach TCEMCA staff, take the drug box to a member hospital pharmacy and notify them of the discrepancy and get a replacement medication box.~~they shall contact the last pharmacy which had possession of the box and mutually resolve the discrepancy.~~

   A. TCEMCA, the pharmacy, and the involved agency will mutually work to resolve any discrepancies. Any discrepancies, pharmacy issues, or concerns will be documented utilizing the TCEMCA Pharmacy Reporting Form. This form shall be completed and sent to pharmacy@tcemca.org email within 24 hours. For all medication discrepancies, if possible, a picture of the top of the medication box shall be attached with the form. Please contact TCEMCA office when submitting a Pharmacy Reporting Form.~~Upon resolution, the agency shall submit a report to the medical control authority documenting the circumstances and the resolution. A copy of the report will also be sent to the pharmacy by the agency.~~

   ~~B. Discrepancies that cannot be resolved between the pharmacy and agency will immediately be forwarded to the medical control authority for investigation.~~

Protocol Source/Reference: Michigan 9.5 EMS Medication and IV Supply Requirements; Version 4/8/23.

Pharmacy and MCA: Medication and IV Supply Requirements

Roles

1. Pharmacies operated within the member hospitals, member Free Standing Emergency Departments, Pharmacies approved by TCEMCA, and member outpatient surgical centers of the medical control authority and participate in the medication exchange system established by this protocol are considered MCA participating pharmacies and shall be referred to as 'pharmacies' for this protocol.
2. The MCA participating pharmacy is responsible for ensuring that re-stocked EMS medication boxes (and if applicable, IV supplies) are available to EMS units 24/7 who bring a box for replacement. The Administrative Rules of the Michigan Board of Pharmacy (R 338.486)(4)(c) require that "The pharmacist shall routinely inspect these medications and, after use, shall verify the contents and replace the medications as necessary".
3. The Director of Pharmacy at each MCA participating pharmacy is responsible for assuring compliance with this protocol.

Responsibilities

1. Medication box refers to the boxes and additional packs (if MCA approved) that contain medications required to fulfill the care outlined in the MCA approved protocols.
    a. All medications in approved protocols must be supplied in correct dosages, concentrations, and quantities to fulfill the MCA approved protocols.
    b. All medications carried must have a corresponding protocol for use.
    c. Medication boxes must be provided per licensure level, containing only medications that are MCA approved for that licensure level to administer.
2. Medication box contents remain the property of the MCA participating pharmacy. The MCA participating pharmacy will manage their respective inventory for restocking medication boxes (and if applicable, IV supplies).
    a. Unless addressed by approved protocol, all medications (including over the counter medications) must be obtained from an MCA recognized participating pharmacy or TCEMCA approved pharmacy.
    b. Oral Glucose, or other TCEMCA approved medications are the only medications an agency may own and supply. TCEMCA will maintain a other approved medication list.
3. The medication box is purchased by the agency through TCEMCA and is considered owned by the TCEMCA system.
4. The medical control authority will maintain a list of the medication box numbers currently "in service", and will assign new medication box numbers, as needed.
5. The pharmacy will Include in each box an MCA approved document(s) that state the inventory of the box, allow for usage and waste documentation, and required signatures (narcotic administration, narcotic waste).
6. IV kit supplies will be made available by designated TCEMCA pharmacies or by delegated agencies per MCA approved procedure.

7. The pharmacy will upon issuing or refilling a box assure the following are in place:
    a. Label/Relabel the medication box/pack with a pharmacy label which contain, at minimum.
        i. The hospital name
        ii. The name or initials of the pharmacist checking the box
        iii. The date the box was restocked and checked.
        iv. The expiration date of the first medication to expire in the box (this date must be at least three months from the date the box is being restocked and checked).
        v. The tag number of the locks assigned to the box.
    b. Attach to the exterior of the box a notification regarding any changes to contents of the medication box that deviates from the standard inventory list of contents.
    c. Assure the box is sealed and secured.
8. The contents of the medication box are subject to inspection at any time by the medical control authority and/or pharmacy.
9. A current schematic or inventory list of the medication box (including concentrations and quantities) shall be submitted to the MCA by the pharmacy.
    The MCA is responsible for assuring that MDHHS has a current schematic or inventory list.
10. The pharmacy will be responsible for establishing requirements for EMS units to obtain or replace IV supplies (if applicable).
11. The pharmacy is responsible for providing a 24/7 accessible, secure environment for obtaining restocked medication boxes (and IV supplies if applicable) and returning of used medication boxes unless otherwise established by the MCA.
12. Upon receiving a used medication box from an EMS service, the pharmacy will:
    a. Check to assure that the box is properly sealed and contains documentation that includes:
        i. All medications used and/or wasted from the medication box
        ii. Physician, PA or NP signature for controlled substances administered.
        iii. Witness signature for controlled substance wasted
    b. Replace the used contents of the medication box (including IV supplies if applicable) and verify that all supplies and medications listed on the medical control authority medication box inventory form are present.
13. If a discrepancy is found by the pharmacy, the pharmacy shall contact TCEMCA and submit a completed TCEMCA Pharmacy Reporting Form to pharmacy@tcemca.org email, within 24 hours. If possible a photo of the top of the medication box should be submitted with the TCEMCA Pharmacy Reporting Form.
14. TCEMCA utilizes orange plastic drug boxes, clear narcotic boxes, blue plastic specialist boxes, BLS Red Bags, Yellow Bags, Narcan kits, and draw-up epinephrine kits all referred to throughout protocols as medication boxes or drug boxes.
15. IV supplies are made available to agencies from designated member hospital pharmacies.

Pharmacy and MCA: Medication and IV Supply Requirements

Roles

1. Pharmacies operated within the member hospitals, member Free Standing Emergency Departments, Pharmacies approved by TCEMCA, and member outpatient surgical centers of the medical control authority and participate in the medication exchange system established by this protocol are considered MCA participating pharmacies and shall be referred to as 'pharmacies' for this protocol.
2. The MCA participating pharmacy is responsible for ensuring that re-stocked EMS medication boxes (and if applicable, IV supplies) are available to EMS units 24/7 who bring a box for replacement. The Administrative Rules of the Michigan Board of Pharmacy (R 338.486)(4)(c) require that "The pharmacist shall routinely inspect these medications and, after use, shall verify the contents and replace the medications as necessary".
3. The Director of Pharmacy at each MCA participating pharmacy is responsible for assuring compliance with this protocol.

Responsibilities

1. Medication box refers to the boxes and additional packs (if MCA approved) that contain medications required to fulfill the care outlined in the MCA approved protocols.
    a. All medications in approved protocols must be supplied in correct dosages, concentrations, and quantities to fulfill the MCA approved protocols.
    b. All medications carried must have a corresponding protocol for use.
    c. Medication boxes must be provided per licensure level, containing only medications that are MCA approved for that licensure level to administer.
2. Medication box contents remain the property of the MCA participating pharmacy. The MCA participating pharmacy will manage their respective inventory for restocking medication boxes (and if applicable, IV supplies).
    a. Unless addressed by approved protocol, all medications (including over the counter medications) must be obtained from an MCA recognized participating pharmacy or TCEMCA approved pharmacy.~~.~~
    b. Oral Glucose, or other TCEMCA approved medications are the ~~is the~~ only medications an agency may own and supply. TCEMCA will maintain a other approved medication list.
3. The medication box is purchased by the agency through TCEMCA~~itself is owned by~~ and is considered owned by the TCEMCA system.~~the entity that purchased it and entered it into the system (i.e., EMS agency, MCA, hospital, etc.).~~
4. The medical control authority will maintain a list of the medication box numbers currently "in service", and will assign new medication box numbers, as needed.
5. The pharmacy will Include in each box an MCA approved document(s) that state the inventory of the box, allow for usage and waste documentation, and required signatures (narcotic administration, narcotic waste).

6. IV kit supplies will be made available by designated TCEMCA pharmacies ~~may be prepared and sealed by MCA participating pharmacies~~ or by delegated agencies per MCA approved procedure.
7. The pharmacy will upon issuing or refilling a box assure the following are in place:
    a. Label/Relabel the medication box/pack with a pharmacy label which contain, at minimum.
        i. The hospital name
        ii. The name or initials of the pharmacist checking the box
        iii. The date the box was restocked and checked.
        iv. The expiration date of the first medication to expire in the box (this date must be at least three months from the date the box is being restocked and checked).
        v. The tag number of the locks assigned to the box.
    b. Attach to the exterior of the box a notification regarding any changes to contents of the medication box that deviates from the standard inventory list of contents.
    c. Assure the box is sealed and secured.
8. The contents of the medication box are subject to inspection at any time by the medical control authority and/or pharmacy.
9. A current schematic or inventory list of the medication box (including concentrations and quantities) shall be submitted to the MCA by the pharmacy.
    The MCA is responsible for assuring that MDHHS has a current schematic or inventory list.
10. The pharmacy will be responsible for establishing requirements for EMS units to obtain or replace IV supplies (if applicable).
11. The pharmacy is responsible for providing a 24/7 accessible, secure environment for obtaining restocked medication boxes (and IV supplies if applicable) and returning of used medication boxes unless otherwise established by the MCA.
12. Upon receiving a used medication box from an EMS service, the pharmacy will:
    a. Check to assure that the box is properly sealed and contains documentation that includes:
        i. All medications used and/or wasted from the medication box ~~(and IV supplies if applicable).~~
        ii. Physician, PA or NP signature for controlled substances administered.
        iii. Witness signature for controlled substance wasted
    b. Replace the used contents of the medication box (including IV supplies if applicable) and verify that all supplies and medications listed on the medical control authority medication box inventory form are present.
13. If a discrepancy is found by the pharmacy, the pharmacy shall contact TCEMCA and submit a completed TCEMCA Pharmacy Reporting Form to pharmacy@tcemca.org email, within 24 hours. If possible a photo of the top of the medication box should be submitted. ~~the agency with last possession of the medication box/pack and~~ TCEMCA, the pharmacy, and involved agency will ~~-~~mutually work to ~~-~~resolve the discrepancy.

~~a. Upon resolution, the pharmacy shall submit a report to the medical control authority documenting the circumstances and resolution. A copy of the report will also be sent to the agency by the pharmacy.~~
~~b. Discrepancies that cannot be resolved between the pharmacy and agency will immediately be forwarded by the pharmacy to the medical control authority for investigation~~

14. TCEMCA utilizes orange plastic drug boxes, clear narcotic boxes, blue plastic specialist boxes, BLS Red Bags, Yellow Bags, Narcan kits, and draw-up epinephrine kits all referred to throughout protocols as medication boxes or drug boxes.
15. IV supplies are made available to agencies from designated member hospital pharmacies.

Protocol Source/Reference: Michigan 9.6 Pharmacy and MCA Medication and IV Requirements; Version 4/28/23.