

Michigan
Adult Treatment Protocols

Date: November 15, 2012

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ABDOMINAL PAIN (NON-TRAUMATIC)

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Abdominal Pain (Non-traumatic)

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Conduct physical exam of abdomen including assessment of central and distal pulses.
3. If symptoms of shock present refer to **Shock Protocol**.
4. Position patient in a position of comfort if pain is non-traumatic. If trauma related, refer to **Adult Trauma Protocol**.
5. Do not allow patient to take anything by mouth.
6. If patient is experiencing nausea and vomiting refer to **Nausea/Vomiting Protocol**.

PARAMEDIC

7. Treat pain per **Pain Management Procedure**.

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Adult Trauma

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Adult Trauma

This protocol should be followed for severely injured patients meeting trauma triage guidelines and methodology; including chest injuries, and patients with symptoms of spinal cord injury, along with extremity weakness, numbness or sensory loss. It consists of assessment, stabilization, extrication, initiation of resuscitation, and rapid transportation to the closest appropriate facility.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**. Consider rapid extrication
2. Stabilize spinal column while opening the airway, determine level of consciousness. Refer to **Spinal Injury Assessment Protocol**.
3. Manage airway ventilation per **Emergency Airway Procedure**. DO NOT HYPERVENTILATE.
4. Control major external bleeding. Consider tourniquet use when applicable (refer to **Tourniquet Application Procedure**)
5. If shock present, refer to **Shock Protocol**.
6. Refer to **Mass Casualty Incidents Protocol** if appropriate.

EMT/SPECIALIST/PARAMEDIC

7. Initiate transport.
8. Alert receiving hospital as soon as appropriate. Note mechanism of injury.

SPECIALIST/PARAMEDIC

9. Consider vascular access.
10. If hypotensive, administer a NS IV/IO fluid bolus up to 1 liter, wide open. Repeat as indicated.

PARAMEDIC

11. Refer to **Pain Management Procedure**.

CHEST INJURY

MFR/EMT/SPECIALIST/PARAMEDIC

1. Control hemorrhage. For patient with diminished or absent breath sounds:
 - A. Closely monitor airway and provide for early maintenance.
 - B. Provide high concentration of oxygen, and early assistance of ventilation, if indicated.
 - C. Look for life threatening respiratory problems and stabilize.
 - D. If sucking chest wound, cover wound with occlusive dressing sealed on 3 sides, or FDA **and** MCA approved commercial device. Release dressing if worsened shortness of breath, or signs of tension pneumothorax.

PARAMEDIC

- E. If tension pneumothorax suspected, needle decompression, control external bleeding and complete spinal immobilization, if indicated. Refer to **Pleural Decompression Procedure**.

ABDOMINAL INJURY

MFR/EMT/SPECIALIST/PARAMEDIC

1. Cover intestinal eviscerations with a sterile dressing moistened with sterile saline or water; cover the area with an occlusive material (aluminum foil or plastic wrap). Cover the area with a towel or blanket to keep it warm. Transport with knees slightly bent, if possible. DO NOT PUSH VISCERA BACK INTO ABDOMEN, unless prolonged extrication.

INJURY SPECIFIC TREATMENTS

1. Follow appropriate protocols.

MCA Name **MANISTEE COUNTY MEDICAL CONTROL**
MCA Board Approval Date **FEBRUARY 6, 2013**
MDCH Approval Date
MCA Implementation Date **MAY 7, 2014**



Section 1-2

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ALTERED MENTAL STATUS

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Altered Mental Status

The purpose of this protocol is to provide for the assessment and treatment of patients with altered mental status of unknown etiology such as alcohol, trauma, poisonings, seizures, behavioral problems, stroke, environmental causes, infection, etc.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Restrain patient if necessary, refer to **Patient Restraint Procedure**.

MFR/EMT/SPECIALIST

3. For a known diabetic, consider small amounts of oral glucose paste, buccal or sublingual.

EMT/SPECIALIST/PARAMEDIC

4. **If the patient is alert** but demonstrating signs of hypoglycemia, measure blood glucose level, if available.
 - A. If less than 60 mg/dl administer oral high caloric fluid.
5. **If patient is not alert or vital signs are unstable:**
 - A. Evaluate and maintain airway, provide oxygenation and support ventilations as needed.
 - B. If no suspected spinal injury, place the patient on either side.

SPECIALIST/PARAMEDIC

6. If glucose is less than 60 mg/dl, and patient is demonstrating signs of hypoglycemia:
 - A. Administer Dextrose 50%, 25 grams (50 ml) IV or small amounts of oral glucose paste, buccal or sublingual.
 - B. Per MCA selection, if unable to start IV, when Dextrose 50% is indicated, administer glucagon.

<u>Glucagon</u>	
1 mg IM	
<input checked="checked" type="checkbox"/>	Included
<input type="checkbox"/>	Not Included

7. Recheck the blood glucose 10 minutes after glucose/glucagon administration (Per MCA selection).
8. If respiratory depression is present, administer Naloxone up to 2 mg IV slowly, titrating to improve respiratory status or IM, repeat as needed every 2-3 minutes.
9. Contact Medical Control.

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ANAPHYLAXIS/ALLERGIC REACTION

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Anaphylaxis/Allergic Reaction

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Determine substance or source of exposure, remove patient from source if known and able.
3. Assist the patient in administration of their own epinephrine auto-injector, if available.

EMT/SPECIALIST

4. In cases of severe allergic reaction, wheezing or hypotension, administer epinephrine via auto-injector.
5. Albuterol may be indicated. Refer to **Nebulized Bronchodilators Procedure**.

SPECIALIST/PARAMEDIC

6. Administer a NS IV/IO fluid bolus up to 1 liter, wide open as indicated.

PARAMEDIC

7. If patient is symptomatic, administer diphenhydramine 50 mg IM or IV/IO.
8. In cases of severe allergic reaction, wheezing or hypotension:
 - A. Administer Epinephrine 1:1000, 0.3 mg (0.3 ml) IM OR via auto-injector.
9. In cases of profound anaphylactic shock (near cardiac arrest):
 - A. Administer Epinephrine 1:10,000, 0.3 mg (3 ml) slow IV/IO.
10. Per MCA selection, administer Bronchodilator per **Nebulized Bronchodilators Procedure**.
11. Per MCA Selection, administer Prednisone **OR** Methylprednisolone.

Medication Options:

Prednisone

50 mg tablet PO

☐ YES ☒ NO

Methylprednisolone

125 mg IV

☒ YES ☐ NO

Post-Medical Control:

EMT/SPECIALIST

1. Additional Epinephrine via auto-injector.

PARAMEDIC

2. Additional Epinephrine 1:1,000, 0.3 mg (0.3 ml) IM; or Epinephrine 1:10,000 0.3 mg (3ml) slow IV/IO if critically ill (near cardiac arrest).

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BURNS

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Burns

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Determine burn extent & severity (rule of nines).
3. Follow local MCA transport protocol.

THERMAL BURNS:

1. Stop the burning process. Remove smoldering and non-adherent clothing.
2. Assess and treat associated trauma.
3. Remove any constricting items.
4. If partial/full burn is moderate-to-severe, more than 15% of body surface area (BSA). cover wounds with dry clean dressings.
5. Use cool, wet dressings in smaller burns, less than 15% BSA, for patient comfort.

CHEMICAL BURNS:

1. Protect personnel from contamination.
2. Remove all clothing and constricting items.
3. Decontaminate patient prior to transport, brushing off dry chemicals prior to irrigation.
4. Assess and treat for associated injuries.
5. Evaluate for systemic symptoms, which might be caused by chemical contamination.
6. Cover burned area in clean, dry dressing for transport.

ELECTRICAL INJURY:

1. Protect rescuers from live electric wires.
2. Remove patient from electrical source when safe.
3. Treat associated injuries, provide spinal immobilization when indicated.
4. Assess and treat entrance and exit wound.

PARAMEDIC

5. Monitor patient ECG for possible arrhythmias. Treat as per specific arrhythmia protocol.

FOR ALL TYPES OF BURNS:

SPECIALIST/PARAMEDIC

1. Obtain vascular access if indicated for pain management or fluid therapy.
2. Administer NS IV/IO fluid bolus up to 1 liter wide open for hypotension or severe burn greater than 15% BSA. Repeat as indicated.
3. Follow local MCA transport protocol.

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BURNS

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PARAMEDIC

4. Administer Analgesic Medication. Refer to **Pain Management Procedure**.

Post-Medical Control

Thermal Burns and Electrical Injury:

1. Additional NS IV/IO fluid bolus, up to 1 liter, wide open.

Thermal inhalation, chemical burns:

2. Intubation per **Emergency Airway Procedure**.

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CEREBROVASCULAR ACCIDENT (CVA, STROKE)

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Cerebrovascular Accident (CVA, Stroke)

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.

EMT/SPECIALIST/PARAMEDIC

2. Measure blood glucose
 - A. If blood glucose less than 60 mg/dl treat per **Altered Mental Status Protocol**.
3. If seizure, follow **Seizures Protocol**.
4. Utilize the Cincinnati Pre-hospital Stroke Scale. Try to elicit the following signs:
 - A. Facial droop (have patient show teeth or smile)
 - B. Arm drift (have patient close eyes and hold both arms straight out for 10 seconds)
 - C. Abnormal speech (have patient say the sky is blue in Michigan)
5. Document time last seen normal (for patient).
6. Minimize scene time and begin transport.
7. Make contact with destination hospital, notify as soon as possible.

SPECIALIST/PARAMEDIC

8. Initiate vascular access.

PARAMEDIC

9. Monitor ECG. (**DO NOT** delay scene time for IV and ECG monitoring.)

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DROWNING / NEAR DROWNING / SUBMERSION

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Drowning/Near Drowning/Submersion

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
 - a. Assess patient's temperature.
2. **If pulse is absent:**
 - A. If documented submersion time is greater than 1 hour refer to the **Dead on Scene Procedure**.
 - B. In normothermic patients initiate CPR and refer to **Cardiac Arrest – General Protocol**.
 - C. If patient is hypothermic, go to **Hypothermia Cardiac Arrest Protocol**.
3. **If pulse is present:**
 - A. If patient is hypothermic, go to **Hypothermia/Frostbite Protocol**.
 - B. Prevent further heat loss by transport in a warm environment. Patient should be dry.

EMT/SPECIALIST/PARAMEDIC

- C. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**.
- D. Contact Medical Control if no transport is considered or requested.

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GENERAL PRE-HOSPITAL CARE

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General Pre-Hospital Care

In most cases, the stabilization of patients presenting with medical conditions should be carried out at the patient's side prior to patient movement or transport. Before attempting the following procedures, implement appropriate blood borne and/or airborne pathogen protective procedures. Contact medical control according to local protocol.

Unless otherwise stated, pediatric protocols will apply to patients less than or equal to 14 years of age. If the patient's age is not known, then pediatric protocols will apply until there are physical signs that the patient has reached puberty as indicated by armpit hair in boys and breast development in girls.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Assure ABCs while maintaining C-Spine precautions where indicated.
2. Do airway intervention using appropriate airway adjuncts when necessary:

	MFR	EMT	SPECIALIST	PARAMEDIC
Oralpharyngeal Airway	X	X	X	X
Nasopharyngeal Airway	X	X	X	X
Bag-Valve-Mask Ventilation	X	X	X	X
Supraglottic Airway (per MCA approval)		X	X	X
Oral / Nasal Endotracheal Intubation				X/O
Needle / Surgical Cricothyroidotomy				O/O
X: Approved Intervention				
O: Optional Intervention per MCA selection				

3. Administer oxygen and assist ventilations. As indicated refer to the **Emergency Airway Procedure**. Use 2-person BVM technique whenever possible.
4. Obtain an appropriate history and physical exam.
5. Obtain vital signs including pulse oximetry if available or required, approximately every 15 minutes, or more frequently as necessary to monitor the patient's condition (minimum 2 sets suggested).

SPECIALIST/PARAMEDIC

6. For pediatric with life threatening or potentially life threatening conditions measure with Broselow Pediatric Emergency Care tape to determine color.
7. Follow specific protocol for patient condition.
8. Establish vascular access per **Vascular Access & IV Fluid Therapy Procedure** when fluid or medication administration may be necessary.

PARAMEDIC

9. Apply cardiac monitor and treat rhythm according to appropriate protocol. If available and applicable, obtain 12-lead ECG. A copy of the rhythm strip or 12-lead ECG should be attached to the patient care record and should be left at the receiving facility.
10. Consider use of capnography as appropriate and if available, per **Waveform Capnography Procedure**.

NOTE: When possible, take the patient's medications to the hospital.

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HEAT EMERGENCIES

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Heat Emergencies

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Determine history/evidence of heat exposure.

EMT/SPECIALIST/PARAMEDIC

3. Check blood glucose and treat hypoglycemia per **Altered Mental Status Protocol**.

HEAT CRAMPS:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Move the patient to a cool environment and attempt oral liquids.
2. Contact Medical Control.

HEAT EXHAUSTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Move the patient to a cool environment.
2. Remove Tight Clothing.
3. Cool patient, provide air conditioning/fanning. Avoid chilling/shivering.

SPECIALIST/PARAMEDIC

4. NS IV/IO fluid bolus up to 1 liter, wide open.
 - A. Patient may take oral fluid replacement rather than IV if no nausea. Allow oral intake of cool fluids or water (may use commercial sports/rehydration drinks). Do not permit patient to drink if altered mental status, abdominal pain or nausea. Avoid carbonated, alcoholic and caffeinated beverages.

EMT/SPECIALIST/PARAMEDIC

5. Contact Medical Control.

HEAT STROKE:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Move the patient to a cool environment.
2. Remove tight clothing.
3. Immediate cooling – provide air conditioning and fanning. Avoid chilling/shivering.
4. Place patient in semi-reclining position with head elevated.

SPECIALIST/PARAMEDIC

5. NS IV/IO fluid bolus up to 1 liter, wide open. repeat as indicated.

EMT/SPECIALIST/PARAMEDIC

6. Contact Medical Control.

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HEAT EMERGENCIES

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MANAGEMENT OF PATIENT WITH EXERTIONAL HEAT STROKE

7. Cool as quickly as possible via ice or cool-water immersion, if possible. Alternative means such as water dousing may be used if immersion is not possible, dousing is not as effective.
 - A. Cool as much of the body as possible, especially the torso.
8. **Cool first, transport second when possible.**

SPECIALIST/PARAMEDIC

9. Obtain vascular access; consider resting the patient's arm on the side of immersion tub to start IV while patient is still immersed.
10. If patient experiences seizures, refer to **Seizures Protocol**.

PARAMEDIC

11. Monitor ECG (lead cables can go in the water).

MCA Name **MANISTEE COUNTY MEDICAL CONTROL**
MCA Board Approval Date **FEBRUARY 6, 2013**
MDCH Approval Date
MCA Implementation Date **MAY 7, 2014**



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HYPOTHERMIA/FROSTBITE

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Hypothermia/Frostbite

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**

HYPOTHERMIA:

MFR/EMT/SPECIALIST/PARAMEDIC

2. If cardiac arrest develops follow **Hypothermia Cardiac Arrest Protocol**.
3. Move patient to a warm dry place, remove wet clothing & wrap in warm blankets and protect from wind exposure.
4. If the patient's temperature is greater than 30° C (86° F) or patient shivering & conscious:
 - A. Apply heat packs to groin, axillae, and neck if possible.
 - B. Use warmed humidified oxygen if available

EMT/SPECIALIST/PARAMEDIC

- C. If patient is alert, administer warm non-caffeinated beverages (if available) by mouth, slowly.
5. If patient temperature is less than 30° C (86° F)
 - A. Transport immediately.
 - B. Follow local MCA transport protocol.

SPECIALIST/PARAMEDIC

6. Administer warm NS IV/IO fluid bolus up to 1 liter, wide open, if available.
7. Use warmed humidified oxygen if available.

SUSPECTED FROSTBITE:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Remove wet or constricting clothing. Keep skin dry and protected from wind.
2. Do not allow the limb to thaw if there is a chance that limb may re-freeze before evacuation is complete or if patient must walk to transportation.
3. Dress injured areas lightly in clean cloth to protect from pressure, trauma or friction. Do not rub. Do not break blisters.
4. Keep patient warm.
5. Frostbitten areas should be supported and elevated during transport.

PARAMEDIC

6. Treat pain per **Pain Management Procedure**.

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NAUSEA & VOMITING**

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Nausea & Vomiting

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.

SPECIALIST/PARAMEDIC

2. Administer NS IV/IO fluid bolus up to 1 liter, wide open.
3. Hypotensive patients should receive additional IV/IO fluid boluses, as indicated by hemodynamic state. Continue IV/IO fluid bolus to a maximum of 2 liters.

PARAMEDIC

4. Administer Ondansetron (Zofran) 4mg IV/IM.

Post-Medical Control

5. Repeat Ondansetron (Zofran) 4mg IV/IM.
6. For Pediatric Patients refer to **Pediatric Nausea/Vomiting Protocol**.

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OBSTETRICAL EMERGENCIES

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Obstetrical Emergencies

Purpose: To provide the process for the assessment and management of the patient with an obstetrical related emergency.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**
 2. Assessment Information
 - A. History:
 - a. Past Medical History: previous births, previous complications
 - b. Current History: duration of gestation (weeks), whether single or multiple births are expected.
 - B. Specific Objective Findings: vital signs, assess contractions
 - C. Determine whether to transport or remain at scene due to imminent delivery. Indications of impending imminent delivery may include:
 - a. Multiples pregnancy, strong regular contractions, every 2 minutes or less; ruptured membrane, bloody show, sensation of need to push or bear down, crowning.
 3. General Management
 - A. Utilize universal precautions
 - B. Evaluate and maintain airway, provide oxygen and support ventilation as needed.
 4. Evaluate for signs of **Pre-eclampsia/Eclampsia/HELLP Syndrome** (Hemolysis Elevated Liver Enzymes Low Platelet counts) Signs include
 - a. BP 160/110 or higher (preeclampsia)
 - b. Marked peripheral edema (preeclampsia)
 - c. Constant right upper quadrant pain (HELLP)
 - d. Visual changes or impairment (HELLP)
 - e. Diminished level of consciousness (eclampsia)
 - f. Seizure (eclampsia)
- A. Immediate transport

PARAMEDIC

- B. If seizure occurs, administer Magnesium Sulfate 2 gm over 10 minutes IV/IO until seizure stops. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.
- C. If seizure does not stop after Magnesium, then administer Benzodiazepine as specified below.
- D. If an IV has not been established administer Midazolam 10 mg IM, if patient is actively seizing.
- E. If an IV has already been established and Midazolam IM has not been administered, administer Midazolam, Lorazepam, or Diazepam slow IV push until seizure stops, per MCA selection.

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Medication Options:

(Choose One)

- | | |
|-------------------------------------|------------------------------------|
| <input checked="" type="checkbox"/> | Midazolam 5 mg IV/IO |
| OR | |
| <input type="checkbox"/> | Lorazepam - 4 mg IV/IO |
| OR | |
| <input type="checkbox"/> | Diazepam - 10 mg IV/IO or rectally |

If seizure persists, per MCA selection, repeat Midazolam, Lorazepam or Diazepam at the same dose or contact medical control for further instructions.

Post-Medical Control

PARAMEDIC

- F. If seizure persists, administer additional Magnesium Sulfate 2 gms IV/IO, if available.

5. MANAGEMENT OF NORMAL DELIVERY

SPECIALIST/PARAMEDIC

- A. Obtain vascular access, if time permits.

MFR/EMT/SPECIALIST/PARAMEDIC

- B. Have oxygen, suction, and other needed equipment readily available for care of the newborn.
- C. **If signs of newborn delivery are imminent, and there is no time to transport, prepare for delivery.**
- a. Try to find a place for maximum privacy and cleanliness.
 - b. Place patient in position of comfort for impending delivery (laying on left side or on hands and knees).
 - a. Monitor patient for signs of hypotension. If signs develop, position patient so weight of uterus is to patient's left side.
 - c. Drape if possible, using clean sheets.
 - d. Encourage mother to relax and take slow deep breaths through her mouth.
 - e. Reassure her throughout procedure.
 - f. As baby's head begins to emerge from vagina, support it gently with hand and towel to prevent an explosive delivery.
 - a. Routine suction of the nose and mouth at the perineum is no longer recommended.
 - g. After head is delivered look and feel to see if cord is wrapped around baby's neck.
 - a. **If the cord is around neck and loose, slide gently – over the head DO NOT TUG.**

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- b. **If the cord is around neck and snug**, clamp the cord with 2 clamps and cut between the clamps. Once this is done delivery should be expedited.
 - h. As the shoulders deliver, carefully hold and support the head and shoulders as the body delivers, usually very suddenly – and the baby is very slippery! **Note the time of delivery.**
 - i. Clear the airway only if necessary. If the newborn is vigorous (strong respiratory effort, good muscle tone, and a heart rate > 100 bpm), there is no need to suction the airway, even if meconium was in the amniotic fluid or there was meconium staining.
- D. **If there is visible meconium in the airway and the newborn is having difficulty breathing, has poor muscle tone, or has a heart rate less than 100bpm**
 - a. Suction the airway.

PARAMEDIC

- b. refer to the **Pediatric Newborn Assessment, Treatment and Resuscitation Protocol** for management: Page 3, 9. C. a and b.

MFR/EMT/SPECIALIST/PARAMEDIC

- E. Prevent heat loss
 - a. Place baby on mother (preferably skin to skin).
 - b. Stimulate the baby
 - c. Dry baby off and remove all wet linen.
- F. Evaluate respirations
 - a. If the baby does not breathe spontaneously, stimulate by gently rubbing its back or thumping the soles of its feet. If still no response, initiate management per Pediatric Newborn Assessment, Treatment and Resuscitation Protocol.
 - b. If spontaneous breathing begins, administer oxygen for a few minutes until baby's color is pink
- G. Cord Clamping
 - a. The umbilical cord **should not** be cut immediately; wait until the child is breathing adequately, the cord has stopped pulsating or, in the vigorous infant, a minimum of **two to three minutes post delivery**. When prepared to cut the cord, it must be tied or clamped approximately 8" from the infant's abdominal wall with a second tie or clamp 2" further. The cord should be cut between the ties / clamps.
 - b. If child is being resuscitated, the cord may be clamped and cut and kept moist with a small dressing. (In case Umbilical Vein IV is needed for hospital use only.)
 - c. Score APGAR at one minute and five minutes after delivery. Refer to **Pediatric Newborn Assessment, Treatment and Resuscitation Protocol** if APGAR is less than 6.
 - d. Encourage breastfeeding to stimulate placental delivery.
 - e. When delivery of baby is complete, prepare for immediate transport. Placenta can be delivered in route or at the hospital
 - f. Delivery of placenta generally takes place within 20 minutes.

MCA Name **Manistee County MCA**
MCA Board Approval Date **Jan 7, 2015**
MDCH Approval Date
MCA Implementation Date **Jan 15, 2015**



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- g. Following placental delivery, massage the uterus firmly and briskly to aid in contraction of the uterus and prevent hemorrhage.
- h. Place placenta in basin or plastic bag and transport with mother.
- i. Contact Medical Control.

6. MANAGEMENT OF COMPLICATED DELIVERIES

MFR/EMT/SPECIALIST/PARAMEDIC

A. Contact Medical Control as soon as appropriate.

B. Breech position

- a. Allow buttocks and trunk to deliver spontaneously.
- b. Once legs are clear, support body on the palm of your hand and surface of your arm, allowing head to deliver. Do not put traction on the head.
- c. If the head doesn't deliver immediately, transport rapidly to the hospital with mother's buttocks elevated on pillows with baby's airway maintained throughout transfer.
- d. Place **gloved** hand in the vagina with your palm towards the baby's face. Form a "V" with your fingers on either side of the baby's nose and push the vaginal wall away from baby's face until the head is delivered.

e. Prolapsed Cord – Life Threatening Condition

- i. Place mother in a supine position with hips supported on a pillow.
- ii. Evaluate and maintain airway, provide oxygen.
- iii. **With sterile gloved hand, gently push** the baby up the vagina several inches to release pressure on the cord.
- iv. **DO NOT ATTEMPT TO PUSH CORD BACK!**
- v. Transport maintaining pressure on baby's head.

f. Arm or limb presentation – Life threatening condition.

- i. Immediate transportation
- ii. Delivery should not be attempted outside the hospital.
- iii. Place mother in position of comfort or with hips elevated on pillow.
- iv. Evaluate and maintain airway, provide oxygen.

g. Multiple births

- i. Immediate transportation
- ii. Multiple birth infants are potentially smaller in size and will need careful management to maintain body temperature.
- iii. After first infant is delivered, clamp cord and proceed through airway, drying and warming procedures while awaiting delivery of other births, (See **Pediatric Newborn Assessment, Treatment and Resuscitation Protocol**.)
- iv. Prepare additional supplies for subsequent births.
- v. There may be time to transport between births.

h. Premature births

- i. Immediate transportation
- ii. Premature infants are usually very small, have difficulty maintaining temperatures and are likely to need significant resuscitative support.
- iii. Refer to the **Pediatric Newborn Assessment, Treatment and Resuscitation Protocol** for management of premature infants.

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MFR/EMT/SPECIALIST/PARAMEDIC

APGAR Scoring

1. Procedure for immediately evaluating a newborn baby.
 - A. Based on:
 - a. A – appearance (color)
 - b. P – pulse (heart rate)
 - c. G – grimace (reflex irritability to slap on sole of foot)
 - d. A – activity (muscle tone)
 - e. R – respiration (respiratory effort)
2. Each parameter gets a score of 0 to 2.
3. APGAR score should be checked at 1 minutes and 5 minutes post delivery.
4. In cases of depressed APGAR scores (below 7 or poorly responsive) refer to **Pediatric Newborn Assessment, Treatment and Resuscitation Protocol.**

APGAR SCORING

Sign	0	1	2
Appearance – skin color	Bluish or paleness	Pink or ruddy; hands or feet are blue	Pink or ruddy; entire body
Pulse – heart rate	Absent	Below 100	Over 100
Grimace – reflex irritability to foot slap	No response	Crying; some motion	Crying; vigorous
Activity – muscle tone	Limp	Some flexion of extremities	Active; good motion in extremities
Respiratory effort	Absent	Slow and Irregular	Normal: crying

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Adult Treatment Protocols
POISONING/OVERDOSE

Date: June 4, 2015

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Poisoning/Overdose

Pre-Medical Control

GENERAL MANAGEMENT OF TOXIC EXPOSURE (INCLUDING INGESTION)

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Use proper protective equipment and prepare for decontamination if necessary.
3. Remove clothing exposed to chemical (dry decon).
4. Identification of the substance (patient has been exposed to).

EMT/SPECIALIST/PARAMEDIC

5. Alert receiving hospital if patient may present HAZMAT risk.
6. Sample of drug or substance and any medication or poison containers should be brought in with patient if it does NOT pose a risk to rescuers.

PARAMEDIC

7. Refer to **Pain Management Procedure**

INHALATION EXPOSURES:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Dilute noxious gas inhaled (including carbon monoxide & smoke), ensure high concentration of oxygen is provided.
2. If suspected cyanide gas exposure, refer to **Cyanide Exposure Protocol** and contact medical control immediately.

EYE CONTAMINATION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Irrigate continuously with Normal Saline or tap water for 15 minutes (attempt to continue enroute) or as directed by Medical Control.
2. For alkali exposure, maintain continuous irrigation.

PARAMEDIC

3. If available, administer Tetracaine, 1-2 drops per eye to facilitate irrigation. Ensure patient does not rub eye.

<u>Tetracaine:</u>	
<input checked="checked" type="checkbox"/>	Included
<input type="checkbox"/>	Not Included

SKIN ABSORPTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Brush off dry chemicals before irrigation
2. Irrigate continuously with Normal Saline, or tap water for 15 minutes or as directed by Medical Control.

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INGESTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. If altered mental status, refer to **Altered Mental Status Protocol**.
2. If respiratory distress, refer to **Respiratory Distress Protocol**.
3. If the patient is seizing, refer to **Seizure Protocol**.

PARAMEDIC

4. If cardiac dysrhythmia, refer to appropriate dysrhythmia protocol.

ORGANOPHOSPHATE EXPOSURE (MALATHION, PARATHION)

MFR/EMT/SPECIALIST/PARAMEDIC

1. Administer Mark I Kit/Duo Dote auto injector per **CBRNE Nerve Agent/Organophosphate Pesticide Exposure Treatment Protocol**.
2. Mild or moderate symptoms
 - A. 1 Mark I Kit/Duo Dote auto injector
3. Severe signs & symptoms
 - B. 3 Mark I Kits/Duo Dote auto injectors
 - C. If 3 Mark I Kit/Duo Dote auto injectors are used, administer 1st dose of benzodiazepine, if available.

PARAMEDIC

4. If Mark I Kit/Duo Dote auto injector is not available, administer Atropine 2 mg IV/IM (if available) per each Mark I Kit/Duo Dote auto injector indicated (each Mark I Kit contains 2 mg of Atropine) repeated every 5 minutes until "SLUDGEM" symptoms improve or as directed. (Salivation, Lacrimation, Urination, Defecation, Gastrointestinal hypermotility, Emesis, Muscle twitching or spasm).

MANAGEMENT OF BITES AND STINGS

SPIDERS, SNAKES AND SCORPIONS:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Protect rescuers. Bring in spider, snake or scorpion if captured and contained or if dead for accurate identification.
2. Ice for comfort on spider or scorpion bite; DO NOT apply ice to snake bites.

BEEES AND WASPS:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Remove sting mechanism from honey bees only by scraping out. Do not squeeze venom sac if this remains on stinger.
2. Provide wound care.
3. Observe patient for signs of systemic allergic reaction. Treat anaphylaxis per **Anaphylaxis/Allergic Reaction Protocol**.

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POISONING/OVERDOSE

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DRUG< CHEMICAL< PLANT< MUSHROOM INGESTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Use protective eye equipment.
2. In situations of potential ingestion or inhalation of petroleum distillates, do NOT induce vomiting.
3. Monitor the patient's respiratory and mental status very closely.
4. If patient is alert and oriented, prepare for emesis; recover and save emesis. Use appropriate barriers according to universal precautions guidelines.

MFR/EMT/ SPECIALIST/PARAMEDIC

5. *In suspected opioid overdose with respiratory compromise, begin BLS airway ventilation.*
6. *Follow the Narcan Administration Procedure Protocol.*

Post Medical Control

SPECIALIST/PARAMEDIC

7. If Beta Blocker overdose is suspected AND the patient is bradycardic and hypotensive; per MCA selection administer Glucagon 1 mg IV/IM/IO. May be repeated after contact with Medical Control and if additional Glucagon is available.

<u>Glucagon</u>	
<input checked="checked" type="checkbox"/>	Included
<input type="checkbox"/>	Not Included

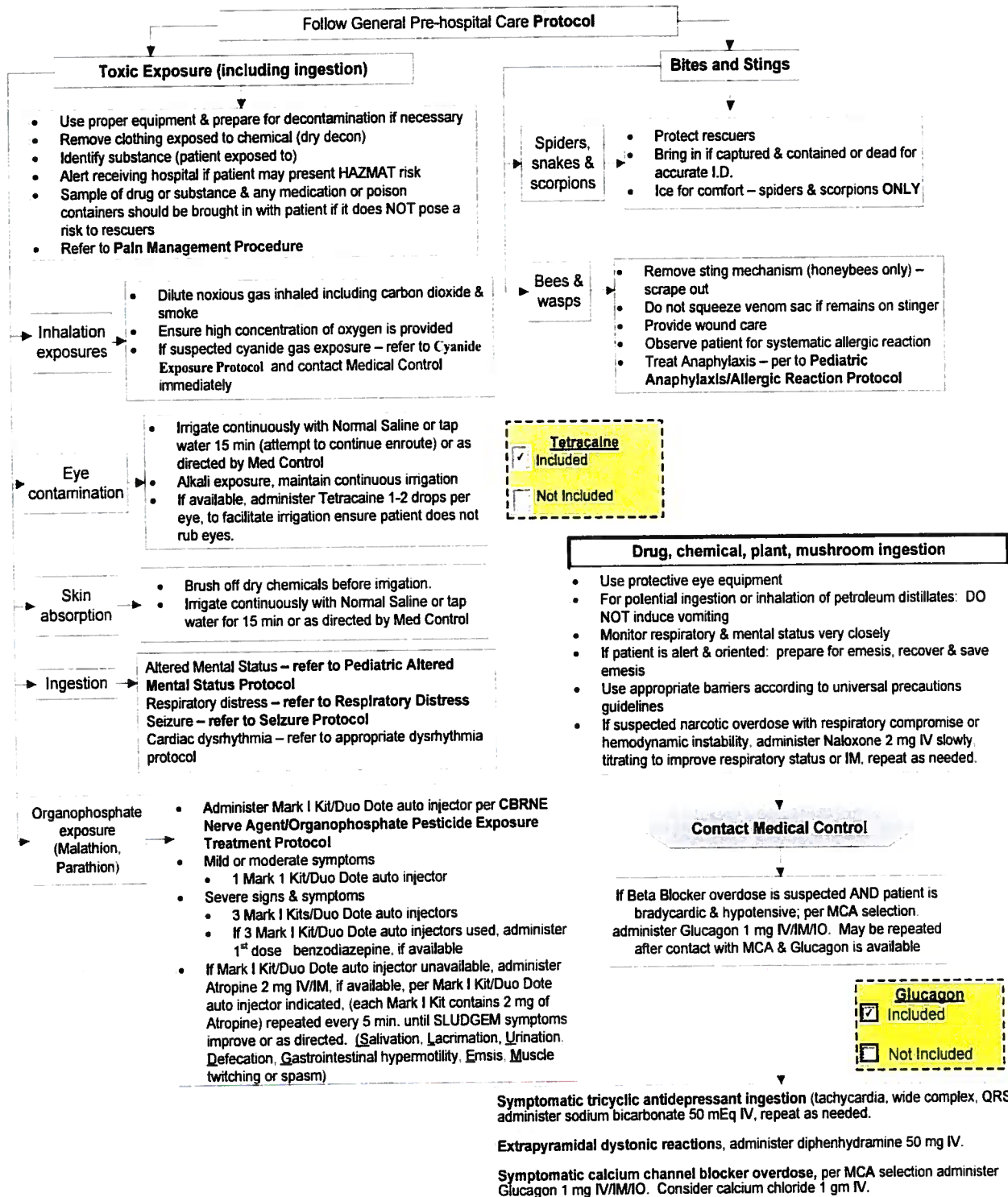
PARAMEDIC

8. For symptomatic tricyclic antidepressant ingestions (tachycardia, wide complex QRS), administer sodium bicarbonate 50 mEq IV, repeat as needed.
9. For extrapyramidal dystonic reactions, administer diphenhydramine 50 mg IV.
10. For symptomatic calcium channel blocker overdose, per MCA selection administer Glucagon 1 mg IV/IM/IO. Consider calcium chloride 1 gm IV.

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PSYCHIATRIC EMERGENCIES

Date: November 15, 2012

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Psychiatric Emergencies

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Assure scene is secure.
2. Follow **General Pre-hospital Care Protocol**.
3. Note history.
 - A. Current history: head injury, overdose/intoxication, central nervous system disease or infection, hypoglycemia, postictal state, or hypoxia.
4. If patient becomes violent or actions present a threat to patient's safety or that of others, restraint may be necessary. Refer to **Patient Restraint Procedure**.
5. If medical emergency, follow appropriate protocol.

Post-Medical Control

PARAMEDIC

1. If chemical restraint necessary, refer to **Patient Sedation Procedure**.

Definitions:

1. **Protective Custody** - The temporary custody of an individual by a law enforcement officer with or without the individual's consent for the purpose of protecting that individual's health and safety, or the health and safety of the public and for the purpose of transporting the individual if the individual appears, in the judgment of the law enforcement officer, to be a person requiring treatment. Protective custody is civil in nature and is not to be construed as an arrest. (330.1100c (7), Sec. 100c, Michigan Mental Health Code)
2. **Authority to Restrain** - EMS personnel are able to restrain and treat and transport an individual under authority of Sec 20969 of Public Act 368 which states: *"This part and the rules promulgated under this part do not authorize medical treatment for or transportation to a hospital of an individual who objects to the treatment or transportation. However, if emergency medical services personnel, exercising professional judgment, determine that the individual's condition makes the individual incapable of competently objecting to treatment or transportation, emergency medical services may provide treatment or transportation despite the individual's objections unless the objection is expressly based on the individual's religious beliefs."*

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Adult Treatment Protocols
RESPIRATORY DISTRESS

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WHEEZING, DIMINISHED BREATH SOUNDS (ASTHMA, COPD):
MFR/EMT/SPECIALIST

1. Assist the patient in using their own Albuterol Inhaler, if available

EMT/SPECIALIST

2. Administer Albuterol if available. Refer to **Nebulized Bronchodilators Procedure**.
3. Consider CPAP per MCA selection. Refer to **CPAP/BiPAP Procedure**.
4. Administer Epi-Pen (0.3 mg) in patients with impending respiratory failure unable to tolerate nebulizer therapy.

PARAMEDIC

5. Administer Bronchodilator per **Nebulized Bronchodilators Procedure**.
6. Administer Epinephrine 1:1,000, 0.3 mg (0.3 ml) IM in patients with impending respiratory failure unable to tolerate nebulizer therapy.
7. Per MCA Selection, if a second nebulized treatment is needed, administer Prednisone **OR** Methylprednisolone.

<u>Medication Options:</u>	
<u>Prednisone</u>	
50 mg tablet PO	
<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
<u>Methylprednisolone</u>	
125 mg IV	
<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

8. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**.

Post -Medical Control:

Asthma:

1. Consider Epinephrine 1:1000, 0.3 mg (0.3 ml) IM in patients with impending respiratory failure unable to tolerate nebulizer therapy.
2. Consider Magnesium Sulfate 2gms slowly IV in refractory Status Asthmaticus. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 to 250 ml of NS and infusing over approximately 10 minutes.

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Adult Treatment Protocols
RESPIRATORY DISTRESS

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Respiratory Distress

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Allow patient a position of comfort.
3. **Determine the type of respiratory problem involved:**

STRIDOR/UPPER AIRWAY OBSTRUCTION:

MFR/EMT/SPECIALIST/PARAMEDIC

1. Complete Obstruction:
 - a. Follow **Emergency Airway Procedure**.
2. Partial Obstruction: epiglottitis, foreign body, anaphylaxis:
 - A. Follow **Emergency Airway Procedure**.
 - B. Consider anaphylaxis (see **Anaphylaxis/Allergic Reaction Protocol**).
 - C. Transport in position of comfort.

CLEAR BREATH SOUNDS:

PARAMEDIC

1. Possible hyperventilation, metabolic problems, MI, pulmonary embolus
 - A. Obtain 12-lead ECG, if available.

CRACKLES (CHF/PULMONARY EDEMA):

MFR/EMT/SPECIALIST/PARAMEDIC

1. Refer to the **Pulmonary Edema/CHF** protocol in the adult cardiac protocols.

RHONCHI (SUSPECTED PNEUMONIA):

MFR/EMT/SPECIALIST/PARAMEDIC

1. Sit patient upright.

EMT/SPECIALIST

2. Consider CPAP per MCA selection. Refer to **CPAP/BiPAP Procedure**.

SPECIALIST/PARAMEDIC

3. Consider NS IV/IO fluid bolus up to 1 liter, wide open if tachycardia, repeat as needed.

PARAMEDIC

4. Consider CPAP/BiPAP (if available) per **CPAP/BiPAP Procedure**.

ASYMETRICAL BREATH SOUNDS:

PARAMEDIC

1. If evidence of tension pneumothorax and patient unstable, consider decompression (refer to **Pleural Decompression Procedure**)

Michigan
Adult Treatment Protocols
SEIZURES

Date: November 15, 2012

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Seizures

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. **IF PATIENT IS ACTIVELY SEIZING:**
 - A. Protect patient from injury.
 - B. Do not force anything between teeth.

SPECIALIST/PARAMEDIC

- C. If blood glucose is found to be less than 60 mg/dl or hypoglycemia is suspected:
 - a. Administer dextrose 50%, 25 gms (50 ml) IVP.
 - b. If no IV access, per MCA selection, administer glucagon 1 mg IM

PARAMEDIC

- D. If patient is pregnant (eclampsia)
 - a. If seizure occurs, administer Magnesium Sulfate 2 gm over 10 minutes IV/IO until seizure stops. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.
 - b. If eclampsia seizure does not stop after magnesium, then administer benzodiazepine as specified in E below.
- E. Administer Midazolam 10 mg IM prior to IV start, if patient is actively seizing.
- F. If IV already established and Midazolam IM has not been administered, administer Midazolam, Lorazepam or Diazepam slow IV push until seizure stops, per MCA selection.

Medication Options:

(Choose One)

- | | |
|-------------------------------------|------------------------------------|
| <input checked="" type="checkbox"/> | Midazolam 5 mg IV/IO |
| | OR |
| <input type="checkbox"/> | Lorazepam - 4 mg IV/IO |
| | OR |
| <input type="checkbox"/> | Diazepam - 10 mg IV/IO or rectally |

Glucagon

1 mg IM

- | | |
|-------------------------------------|--------------|
| <input checked="" type="checkbox"/> | Included |
| <input type="checkbox"/> | Not Included |

- G. If seizures persist, per MCA selection, repeat Midazolam, Lorazepam or Diazepam at the same dose or contact medical control for further instructions.

MFR/EMT/SPECIALIST/PARAMEDIC

3. **IF PATIENT IS NOT CURRENTLY SEIZING, BUT HAS ALTERED MENTAL STATUS REFER TO ALTERED MENTAL STATUS PROTOCOL.**

IF PATIENT IS ALERT:

SPECIALIST/PARAMEDIC

4. Obtain vascular access.

Post-Medical Control

Actively seizing:

1. Additional **Dextrose** 50%, 25 gms (50 ml) IVP.

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Adult Treatment Protocols
SEPSIS

Date: May 31, 2012

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Sepsis

It is the purpose of this policy to recognize and treat sepsis early to promote optimal care and survival of patients who may be septic. This protocol applies to patients 18 years and above with a clinical suspicion of systemic infection who have 2 or more of the inclusion criteria. These patients are defined as meeting criteria for suspicion of sepsis and should be evaluated and treated per this protocol.

INCLUSION CRITERIA

1. Clinical suspicion of systemic infection, and two or more of the following:
 - A. Hyperthermia temp $>38^{\circ}\text{C}$ (100.4 F)
 - B. Hypothermia temp $<36^{\circ}\text{C}$ (96.8 F)
 - C. Heart rate $>90\text{bpm}$
 - D. Respiratory rate <10 or >20 per min
 - E. SBP <90 mmHg or evidence of hypoperfusion

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-Hospital Care** protocol.
2. Place patient in supine position.
3. Administer high flow oxygen via non-rebreather, unless contraindicated.

SPECIALIST/PARAMEDIC

4. Start 1 large bore IV catheter.
5. Start 2nd large bore IV catheter, if time permits.

PARAMEDIC

1. Place on cardiac monitor and treat rhythm according to appropriate protocol.
2. Place on continuous pulse oximetry.
3. Measure blood glucose.
4. If the patient meets inclusion criteria, administer a NS IV/IO fluid bolus up to 1 liter, wide open. Reassess the patient, repeat boluses to a maximum of 2 L NS as long as vital sign abnormalities persist.
5. **(Optional)** Measure blood Lactic Acid level. Report level to the receiving facility during patient report. If ≥ 4.0 mmol/L report this information as soon as practical.

Post Radio

PARAMEDIC

6. Consider Dopamine Drip (Inotropin) 400 mg in 250 ml of NS if the patient remains hypotensive <90 mmhg after the 2 L NS bolus. Titrate to maintain a systolic BP above 90 mmHg.

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Adult Treatment Protocols
SHOCK

Date: May 31, 2012

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Shock

Assessment: Consider multiple etiologies of shock (hypovolemic, distributive – neurogenic, septic and anaphylactic, and cardiogenic)

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Control major bleeding
3. Position patient:
 - A. Left lateral recumbent if 3rd trimester pregnancy.
 - B. Elevate legs 10-12 inches.
4. Remove all transdermal patches using gloves.
5. **Immediate load and transport for unstable patients.**
6. Follow local MCA transport protocol.

SPECIALIST/PARAMEDIC

7. Obtain vascular access (in a manner that will not delay transport).
 - A. The standard NS IV/IO fluid bolus volume will be normal saline up to 1 liter, wide open, repeated as necessary, unless otherwise noted by protocol. IV/IO fluid bolus is contraindicated in patients with pulmonary edema.
 - B. Repeat IV/IO fluid bolus as necessary.
8. For hemorrhagic conditions, IV/IO fluid bolus is indicated only when signs of poor perfusion (e.g., lack of radial pulse) are present. Patient should be closely monitored. Fluid should be slowed to TKO upon evidence of improved perfusion.
9. Consider establishing a second large bore IV of Normal Saline enroute to hospital, if possible.

PARAMEDIC

10. Obtain 12-lead ECG if available.

Post-Medical Control

SPECIALIST/PARAMEDIC

1. Additional IV/IO fluid bolus.

PARAMEDIC

2. If BP is less than 100 mmHg and signs/symptoms of cardiogenic or spinal shock, administer Dopamine 5-20 mcg/kg/min. Generally start at 5 mcg/kg/min, and increase every 10 minutes by an additional 5 mcg/kg/min until BP greater than 100 mmHg. DO NOT exceed 20 mcg/kg/min unless ordered by medical control.

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Adult Treatment Protocols
SOFT TISSUE AND ORTHOPEDIC INJURIES

Date: May 31, 2012

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Soft Tissue & Orthopedic Injuries

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. If appropriate, stabilize cervical spine and immobilize patient per **Spinal Injury Assessment Protocol**.
3. Assess and maintain adequacy of neurovascular function before and after immobilization.
4. Attempt to control bleeding.
 - A. Utilize direct pressure.
 - B. Use dressing and bandaging as needed.
 - C. Elevate for additional control.
 - D. Consider tourniquet use when applicable (refer to **Tourniquet Application Procedure**).
 - E. Consider FDA and MCA approved hemostatic agents.
5. Assess pain on 1-10 scale.
6. Immobilize or splint orthopedic injuries as appropriate
 - A. Traction splinting is for isolated femur fractures
 - B. Straighten severely angulated fractures if distal extremity has signs of decreased perfusion.
 - C. Consider pelvic binder (if available) for suspected pelvis fracture with hypotension.
7. **Partial/complete amputations and/or severe crush injuries**
 - A. Cover wounds with sterile gauze dressings moistened with normal saline.
 - B. Align in anatomical position if indicated. Splint and elevate extremity.
 - C. Recoverable amputated parts should be brought to hospital as soon as possible.
 - D. Wrap amputated part in sterile gauze dressing moistened with normal saline. Seal in a plastic bag and, if available, place bag in container of ice and water. DO NOT place part directly on ice.
 - E. Continuous monitoring of circulation, sensation, and motion distal to the injury during transport.
8. Impaled objects are left in place and stabilized. Removal of impaled objects is only with approval of medical control.
9. Follow local MCA transport protocol.

PARAMEDIC

10. If Analgesia indicated:
 - A. Administer narcotic analgesic per **Pain Management Procedure**.
 - B. Reassess and document 1-10 pain score after each dose of analgesia.

Post-Medical Control:

PARAMEDIC

1. Consideration sedation per **Patient Sedation Procedure**.

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Adult Treatment Protocols
SPINAL INJURY ASSESSMENT

Date: July 18, 2014

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Spinal Injury Assessment

Pre-Medical Control

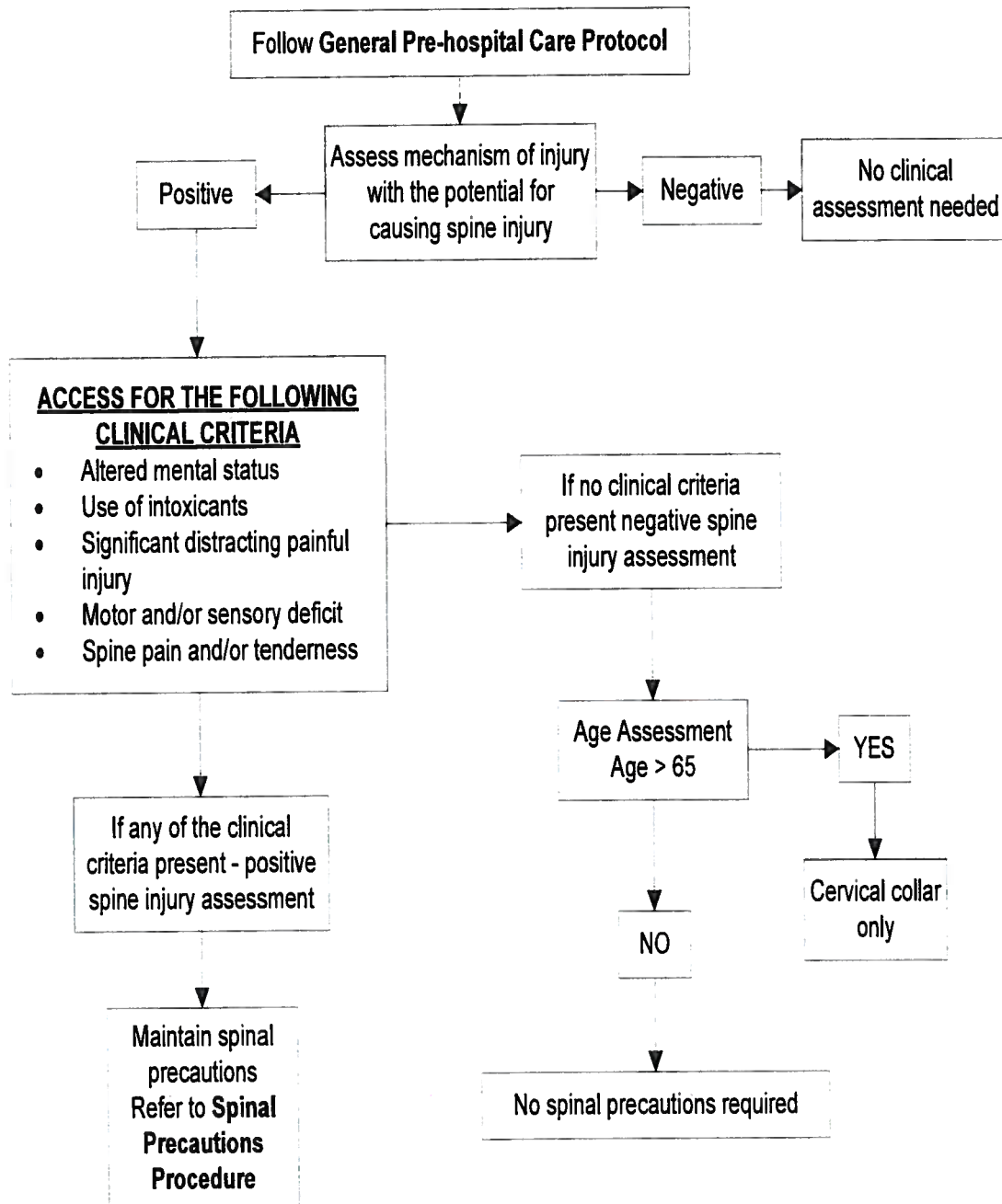
MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care protocol**.
2. Assess the mechanism of injury.
3. A patient with a negative mechanism does not need a spine injury clinical assessment
4. Patients with mechanism of injury with the potential for causing spine injury shall have a spine injury clinical assessment performed.
5. Clinical criteria are used as the basis for assessment. If any of the clinical criteria are present or if the assessment cannot be completed, the patient has a positive spine injury assessment.
6. If the mechanism of injury with the potential for causing spine injury exists, the following clinical criteria are assessed:
 - A. Altered mental status
 - B. Use of intoxicants
 - C. Significant distracting painful injury
 - D. Motor and/or sensory deficit
 - E. Spine pain and/or tenderness
7. If any of the clinical criteria are present the patient has a positive spine injury assessment. If none of the clinical criteria are present the patient has a negative spine injury assessment.
8. Patients with a positive spine injury assessment should have spinal precautions maintained during movement and transport. Refer to **Spinal Precautions Procedure**.
9. Patients over the age of 65 with a mechanism of injury with the potential for causing spine injury will have a cervical collar applied even if the spinal injury clinical assessment is negative. Refer to **Spinal Precautions Procedure**.

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Adult Treatment Protocols
SPINAL INJURY ASSESSMENT

Date: July 18, 2014

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Adult Treatment Protocols
SYNCOPE

Date: November 15, 2012

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Syncope

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Follow **General Pre-hospital Care Protocol**.
2. Place patient supine
 - A. If third trimester pregnancy, position patient left lateral recumbent.
3. If patient's mental status remains altered, refer to **Altered Mental Status Protocol**.

EMT/SPECIALIST/PARAMEDIC

4. Measure blood glucose if less than 60 mg/dl, refer to **Altered Mental Status Protocol**.

SPECIALIST/PARAMEDIC

5. Administer NS IV fluid bolus up to 1 liter wide open. Repeat as indicated.

PARAMEDIC

6. Obtain 12-lead ECG, if available.

Post Medical Control

SPECIALIST/PARAMEDIC

7. Additional IV fluids as ordered.

Michigan
Adult Treatment Protocols
EXCITED DELIRIUM

Date: October 1, 2014

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Excited Delirium

Purpose: In conjunction with Law Enforcement, provide timely and appropriate treatment to deal with the physically combative patient. As with any critically ill patient, treatment should proceed concurrently with evaluation for precipitating causes or additional pathology.

Indications: Defined as an imminent physical threat to personnel and/or themselves.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Scene Survey – Responder safety is the top priority. If Law Enforcement not on-scene, call for assistance.
2. Closely monitor risk level to patient and EMS personnel. Initiate verbal coaching.
3. Coordinate patient restraint management with Law Enforcement, if possible. Refer to **Physical Patient Restraints Procedure**.

PARAMEDIC

4. If the patient remains combative, administer Midazolam 10 mg IM or 5 mg IN.
5. Transport. Request Law Enforcement to accompany to hospital. All patients should be transported on a cardiac monitor and pulse oximeter, and capnography, if possible.
6. Treat other medical problems (hypoglycemia, vomiting, etc.) as indicated.

Notes:

- As referenced in ACEP's White Paper (2009) on Excited Delirium, the physically combative, agitated patient may require chemical restraint. Excited Delirium is characterized by extreme agitation, confusion and hallucinations, erratic behavior, profuse diaphoresis, elevated vital signs, hyperthermia, unexplained strength and endurance, and behaviors that include clothing shedding, shouting out, and extreme thrashing when restrained. It is often found in correlation with alcohol and illicit drug use, and in those patients with preexisting mental illness.
- The most immediate threat to patients experiencing this syndrome is sudden apnea and cardiac arrest, usually after thrashing against physical restraint. This is thought to commonly be the cause of "in-custody" sudden death.
- It is paramount that patient exhibiting symptoms of this syndrome be effectively and quickly physically restrained, and then calmed using Midazolam and verbal coaching.

MCA Name: **Manistee County MCA**
MCA Board Approval Date: **Dec 3, 2014**
MDCH Approval Date:
MCA Implementation Date: **Dec 15, 2014**



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EXCITED DELIRIUM

Date: October 1, 2014

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- The likelihood of sudden apnea and death increases the longer these patients are allowed to struggle against restraint. Managing these patients therefore requires a coordinated effort among all responders and Law Enforcement personnel.
- Because excited delirium patients can quickly progress to apnea and death, responders must monitor their vital signs closely. When possible this must include use of pulse oximetry, ECG monitoring, and if possible, capnography. This latter monitoring tool provides the best, and most immediate, measure of respiratory rate and depth, and ventilatory sufficiency.
- EMS personnel should be especially vigilant if a combative patient suddenly becomes quiet. This will often be the first sign that apnea has occurred. Patients who experience apnea and cardiac arrest may first complain of an inability to breathe.
- Restraint techniques should be utilized that allow patient monitoring, and which can be removed rapidly should apnea and cardiac arrest ensue.
- Excited delirium can mimic several medical conditions, including hypoxia, hypoglycemia, stroke, or intracranial bleeding. Blood glucose should be measured, when possible. A thorough exam to rule out other causes should be completed, when possible. **Refer to Altered Medical Status Protocol.**