

	Adult Treatment Protocols	Release for Public Comment	Due	
3.1	Altered Mental Status	6/28/2022	8/29/2022	Revised
3.2	Stroke or Suspected Stroke	6/28/2022	8/29/2022	Revised
3.3A	Respiratory Distress	TBD		
3.3B	Respiratory Distress with Draw Up Epinephrine	TBD		
3.4	Seizures	6/28/2022	8/29/2022	Revised
3.5	Sepsis	6/28/2022	8/29/2022	Revised
3.6	Delirium with Agitated Behavior	6/28/2022	8/29/2022	Revised
3.7	Crashing Adult/Impending Arrest	6/28/2022	8/29/2022	Revised

**Altered Mental Status**

The purpose of this protocol is to provide for the assessment and treatment of patients with altered mental status. Consideration should be given to treatable and reversible causes due to hypoglycemia, opioid overdose or unknown etiology.

1. Follow **General Pre-hospital Care Protocol**.
2. **If patient is not alert or vital signs are unstable:**
  - a. Evaluate and maintain airway, provide oxygenation and support ventilations as needed per **Emergency Airway Procedure**.
  - b. If no suspected spinal injury, place the patient in recovery position.
3. If respiratory depression is present due to suspected opioid overdose, administer Naloxone per **Opioid Overdose Treatment and Prevention Protocol**.
4. Restrain patient if necessary, refer to **Patient Restraint Procedure**.
5. For a known diabetic, consider small amounts of oral glucose if unable to measure blood glucose level.



6. If the patient is demonstrating signs of hypoglycemia, measure blood glucose level.
  - a. If less than 60 mg/dL, administer oral glucose.

**MCA Approval of Blood Glucose Testing by specific MFR Agencies**  
**(Provide participating agency list to BETP)**

YES

NO



- b. Administer IV Dextrose 25 gm.
- c. Per MCA selection, if unable to start IV, when IV Dextrose is indicated, administer Glucagon.

**Glucagon 1mg IM**

Included

Not Included

- d. Recheck the blood glucose 10 minutes after glucose or Glucagon (Per MCA selection) administration.
7. If glucose is >250 mg/dL, administer Normal Saline IV Bolus, up to 1 L.
  - a. For patients with renal failure or heart failure, decrease volume to 500 mL
8. Contact medical control.



**If the patient is not alert and the cause is not immediately known, consider:**

**A – Alcohol**  
**E – Epilepsy**  
**I – Insulin**  
**O – Overdose**  
**U – Uremia**

**T – Trauma**  
**I – Ingestion**  
**P – Psych**  
**P – Phenothiazine**  
**S – Salicylates**

**C – Cardiac**  
**H – Hypoxia**  
**E – Environmental**  
**S – Stroke**  
**S - Sepsis**

**Altered Mental Status**

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1. Follow **General Pre-hospital Care Protocol**.
2. **If patient is not alert or vital signs are unstable:**
  - a. Evaluate and maintain airway, provide oxygenation and support ventilations as needed per **Emergency Airway Procedure**.
  - b. If no suspected spinal injury, place the patient in recovery position.
3. If respiratory depression is present due to suspected opioid overdose, administer Naloxone per **Opioid Overdose Treatment and Prevention Naloxone Administration Protocol**.
4. Restrain patient if necessary, refer to **Patient Restraint Procedure**.
5. For a known diabetic, consider small amounts of oral glucose if unable to measure blood glucose level.



6. If the patient is demonstrating signs of hypoglycemia, measure blood glucose level.
  - a. If less than 60 mg/dL, administer oral glucose.

**MCA Approval of Blood Glucose Testing by specific MFR Agencies**  
**(Provide participating agency list to BETP)**

YES

NO

~~7. If glucose is less than 60 mg/dL, and patient is demonstrating signs of hypoglycemia:~~



~~a. b. Administer IV Dextrose 25 gm.~~

~~b. c. Per MCA selection, if unable to start IV, when IV Dextrose is indicated, administer Glucagon.~~

**Glucagon 1mg IM**

Included

Not Included

~~d. Recheck the blood glucose 10 minutes after glucose or/ Glucagon ~~administration~~ (Per MCA selection) administration.~~

7. If glucose is >250 mg/dL, administer Normal Saline IV Bolus, up to 1 L.

8. a. For patients with renal failure or heart failure, decrease volume to 500 mL

9. 8. Contact medical control.



**If the patient is not alert and the cause is not immediately known, consider:**

**A – Alcohol**

**E – Epilepsy**

**I – Insulin**

**T – Trauma**

**I – Ingestion**

**P – Psych**

**C – Cardiac**

**H – Hypoxia**

**E – Environmental**

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Protocol Source/References:



**Michigan**  
**ADULT TREATMENT**  
**ALTERED MENTAL STATUS**

Initial Date: 11/15/2012

Revised Date: 9/20/2019

REVISED 2022-PUBLIC COMMENT READY

Section 3-1

O – Overdose

U – Uremia

P – Phenothiazine

S – Salicylates

S – Stroke

S - Sepsis<sup>[BE(CI)]</sup>

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Protocol Source/References:

## ***Stroke or Suspected Stroke***

1. Follow **General Pre-hospital Care Protocol**.
2. Measure blood glucose, if blood glucose is less than 60 mg/dL, treat per **Altered Mental Status Protocol**.
3. If seizure, follow **Seizure Protocol**.
4. Utilize the Cincinnati Pre-hospital Stroke Scale (CPSS) or other validated MCA approved stroke scale that includes but is not limited to assessment of:
  - 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”)  
**Any deficit in a validated stroke scale is considered positive for stroke.**
  - D. Follow **Destination and Diversion Protocol** for facility selection and early alerting requirements.
5. Document time last seen normal for patient.
6. Minimize scene time.
7. Make contact with destination hospital, notify as soon as possible and begin transport.
8. If available, encourage a family member to either accompany the patient or go to the receiving facility as soon as possible.
-  7. Initiate vascular access. (**DO NOT** delay scene time for IV.) Preferentially with a 20 gauge or larger.
-  8. Monitor ECG. (**DO NOT** delay scene time for ECG monitoring.)

## Stroke or Suspected Stroke

1. Follow **General Pre-hospital Care Protocol**.
2. Measure blood glucose, if blood glucose is less than 60 mg/dL, treat per **Altered Mental Status Protocol**.
- 4-3. If seizure, follow **Seizure Protocol**.
- 2-4. Utilize the Cincinnati Pre-hospital Stroke Scale (CPSS) or other validated MCA approved stroke scale that includes but is not limited to assessment of: - 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")**Any deficit in a validated stroke scale the CPSS is considered positive for** BE(C1) **stroke.**
  - D. Follow **Destination and Diversion Protocol** for facility selection and early alerting requirements.



- ~~If the patient is demonstrating signs of hypoglycemia, measure blood glucose level.~~
- a. ~~If less than 60 mg/dL, administer oral glucose~~ BE(C2).
  - DELETED CHECK BOX**
  - b. ~~Treat per **Altered Mental Status Protocol**.~~

~~4. If seizure, follow **Seizures Protocol**.~~

5. Document time last seen normal for patient, ~~if known~~.

~~6. Minimize scene time.~~

~~7. -Make contact with destination hospital, notify ~~destination hospital~~ as soon as possible and begin transport.~~

~~6-8. If available, encourage a family member to either accompany the patient or go to the receiving facility as soon as possible.~~



7. Initiate vascular access. (**DO NOT** delay scene time for IV.) Preferentially with a 20 gauge or larger.



8. Monitor ECG. (**DO NOT** delay scene time for ECG monitoring.)

**ALGORITHM DELETED**

## Seizures

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.

 C. Administer Midazolam 10 mg IM prior to IV start or 5 mg IN

 D. If blood glucose is found to be less than 60 mg/dL or hypoglycemia is suspected:

- a. Administer Dextrose 25 gm IV.
- b. If no IV access, per MCA selection, administer glucagon 1 mg IM

**Glucagon included?**

Yes  No

 E. If patient is pregnant (eclampsia)

- a. Administer Magnesium Sulfate 4 gm over 10 minutes IV/IO until seizure stops. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 4 gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.
- b. If eclamptic seizure does not stop after magnesium, then administer benzodiazepine as specified below.

F. If IV already established and Midazolam IM/IN has not been administered, administer Midazolam 5 mg IV/IO

G. If seizures persist

a. Repeat Midazolam 5mg IV/IO/IM/IN



b. Contact medical control

3. **IF PATIENT IS NOT ACTIVELY SEIZING** and has/is:

A. Altered level of consciousness, refer to **ALTERED MENTAL STATUS PROTOCOL**.

B. Alert

- a. Monitor for changes
-  b. Obtain vascular access.

## Seizures

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.

 C. Administer Midazolam 10 mg IM prior to IV ~~start~~ start ~~[KK(C1)]~~ or 5 mg IN

 D. If blood glucose is found to be less than 60 mg/dL or hypoglycemia is suspected:

- a. Administer Dextrose 25 gm IV.
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- b. If eclamptic seizure does not stop after magnesium, then administer benzodiazepine as specified below.

F. If IV already established and Midazolam IM/IN has not been administered, administer Midazolam 5 mg IV/IO

- a. ~~Midazolam 5 mg IV/IO~~ **OR**
- b. ~~Lorazepam 2 mg slow IV push until seizure stops, per MCA selection~~ [BE(C2)]

G. If seizures persist

- a. ~~Per MCA selection [KK(C3)] R,~~ repeat Midazolam 5mg IV/IO/IM/IN **OR**
- b. ~~Lorazepam 2 mg slow IV push until seizure stops~~



e.b. Contact medical control

3. **IF PATIENT IS NOT ACTIVELY SEIZING** and has/is:

- A. Altered level of consciousness, refer to **ALTERED MENTAL STATUS PROTOCOL**.
- B. Alert

- a. Monitor for changes
- S** b. Obtain vascular access.

DRAFT

## **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 14 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 minute
  - E. SBP  $<90$  mmHg or evidence of hypoperfusion

### **Treatment**

1. Follow **General Pre-Hospital Care** protocol.
2. Place patient in supine position.
3. Start large bore IV catheter.
4. Start second large bore IV catheter, if time permits.
5. Place on cardiac monitor and treat rhythm according to appropriate protocol.
6. Place on continuous pulse oximetry.
7. Measure blood glucose.
8. 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.
9. If hypotension persists, refer to **Shock Protocol**.
10. Measure ETCO<sub>2</sub> level. If CO<sub>2</sub>  $< 25$ , report level to the receiving facility as soon as possible.

## **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 14 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.

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4. Start second large bore IV catheter, if time permits.
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6. Place on continuous pulse oximetry.
7. Measure blood glucose.
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9. If hypotension persists, refer to **Shock Protocol**.
10. ~~(Optional)~~ Measure ETCO<sub>2</sub> level. If CO<sub>2</sub>  $< 25$ , report level to the receiving facility as soon as possible.

**NOTE: ALGORITHM REMOVED.**

***Aliases: Excited Delirium, Acute Extreme Agitation; Uncontrollable Imminent Threat to Self and Others; Agitated Delirium; Acute Psychosis***

Indications: Patient who is an imminent physical threat to personnel and/or themselves and level of agitation is such that transport may place all parties at risk. Excited delirium syndrome (ExDS) is a life-threatening constellation of symptoms including, but not limited to, severe agitation and vital sign abnormalities (tachycardia, hyperthermia). These patients are usually an imminent physical threat to personnel and/or themselves.

**Treatment**

1. Ensure ALS response
2. Follow **General Pre-hospital Care Protocol**
3. Ensure appropriate personnel available to provide patient and provider safety. Refer to **Patient Restraint Procedure**.
4. Obtain history, when possible, perform visual patient assessment, looking for cause of behavior (i.e., visible trauma, stroke symptoms, etc.). If an alternate cause of the behavior is likely, transition to the **Altered Mental Status Protocol** or other applicable protocol.
5. For patients who are uncontrollably agitated despite de-escalation techniques, prepare for airway management and administer:
  - a. **Ketamine 4 mg/kg IM** maximum single dose 500 mg (3-5 minute onset).
-  6. Once adequate sedation is obtained
  - a. Continuously monitor SpO2 and Capnometry- see **End Tidal Carbon Dioxide Monitoring (Capnometry & Capnography)**.
  - b. Obtain temperature.
    - i. If hyperthermic, provide cooling – ice packs to neck, axilla and groin, fluids to skin
  - c. Establish IV per the **IV Therapy Procedure** and provide fluid bolus of up to 2 L of NS.
  - d. Monitor EKG, consider 12-lead if any evidence of hyperkalemia (peaked T waves, prolonged PR, widened QRS)
-  7. Continuously monitor patient, for potential need of airway management and treatment of hemodynamic compromise.
-  8. Contact medical control if additional sedation is required.

**Aliases: Excited Delirium, Acute Extreme Agitation; Uncontrollable Imminent Threat to Self and Others; Agitated Delirium; Acute Psychosis**

Indications: Patient who is an imminent physical threat to personnel and/or themselves and level of agitation is such that transport may place all parties at risk. Excited delirium syndrome (ExDS) is a life-threatening constellation of symptoms including, but not limited to, severe agitation and vital sign abnormalities (tachycardia, hyperthermia). These patients are usually an imminent physical threat to personnel and/or themselves.

**Treatment**

1. Ensure ALS response
2. Follow **General Pre-hospital Care Protocol**
3. Ensure appropriate personnel available to provide patient and provider safety~~Coordinate with on scene law enforcement before any physical patient contact.~~ Refer to **Patient Restraint Procedure**.
4. Obtain history when possible, and perform visual patient assessment, looking for signs of cause of behavior (i.e., visible trauma, stroke symptoms, etc.). ~~looking for symptoms of ExDS.~~ If an alternate cause of the behavior is likely, transition to the **Altered Mental Status Protocol** or other applicable protocol.
5. For Ppatients who are uncontrollably agitated despite other de-escalation techniques<sup>[BE(C1)]</sup>, prepare for airway management and administer:
  4. ~~If the patient remains combative, following restraint by law enforcement:~~
    - a. Per MCA selection, aAdminister Ketamine 4 5-mg/kg IM maximum single dose 500 mg (3-5 minute onset). <sup>[BE(C2)]</sup>  
**NOTE: Deleted CHECK BOX**
6. Once adequate sedation is obtained
  - a. Continuously monitor SpO2 and Capnometry- **see End Tidal Carbon Dioxide Monitoring (Capnometry & Capnography).**
  - b. Obtain temperature.
    - i. If hyperthermic, provide cooling – ice packs to neck, axilla and groin; fluids to skin
  - c. Once safe, eEstablish IV per the IV Therapy Procedure and Pprovide fluid bolus of up to 2 L of NS.
  - e.d. Monitor EKG, consider 12-lead if any evidence of hyperkalemia (peaked T waves, prolonged PR, widened QRS)
- 5-7. Restrain patient per the Patient Restraint Procedure in anticipation of the sedation wearing off. Continuously monitor patient, anticipating decreasing sedation and potential for potential need of airway management and treatment of hemodynamic compromise.
- 6-8. Additional sedation as needed, per Patient Sedation Procedure. Contact medical control if additional sedation is required.

**Purpose:** EMS frequently encounters patients that are critically ill and quickly deteriorating to the point of cardiac or respiratory arrest. Deterioration can often occur while packaging and loading these patients. It is important to rapidly recognize the deteriorating patient and take immediate action where you encounter the patient to stabilize the condition before loading and transporting. The following timeline provides a prioritization of the goal-directed treatments to stabilize the patient and prevent deterioration.

## 1. Criteria

### a. Inclusion:

- i. **Patient in whom cardiac or respiratory arrest appears imminent**
- ii. Patient with provider impression of critical illness, including new onset altered mental status, airway compromise or severe respiratory distress/failure, and/or signs and symptoms of shock/poor perfusion.

### b. Exclusion:

- i. Life-threatening trauma

## 2. Critical Actions (within First 5 Minutes)

### a. Airway

- i. Insert Nasopharyngeal or Oropharyngeal Airway as indicated/tolerated if not following commands (GCS motor <6) or no response to verbal stimuli per the **Emergency Airway Procedure**.

### b. Breathing

- i. If respiratory failure or distress, sit patient up if tolerated and not contraindicated by suspected spine injury.
- ii. Provide high-flow oxygen per the **Oxygen Administration Procedure**.
- iii. If respirations are <10 per minute, ventilate by BVM at 15LPM. Two-person, two-handed technique is most effective and is highly recommended if the number of providers allows.

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**State of Michigan**  
**ADULT TREATMENT**  
**CRASHING ADULT/IMPENDING ARREST**

Initial Date: April 21, 2021  
REVISED 2022-PUBLIC COMMENT READY

Section 3-7

- iv. If respirations are >10 but inadequate, apply CPAP for respiratory distress/hypoxia per the **CPAP/BiPAP Procedure**.
- v. Respirations may be assisted with BVM in sitting position if patient tolerates.
- vi. Consider PPV by BVM if not following commands or SpO<sub>2</sub> <90%

c. Monitoring – ECG, SpO<sub>2</sub>, continuous/waveform EtCO<sub>2</sub>, NIBP(cycle every 3 minutes)

### 3. Immediate actions within First 10 Minutes

#### a. Circulation

- i. Electrical Therapy (cardioversion or pacing) if dysrhythmia is primary cause of shock per the **Electrical Therapy Protocol**
- ii. Emergent IV/IO access, per **IV Therapy Procedure**.
- iii. Administer normal saline up to 1 liter bolus, infused under pressure unless signs of pulmonary edema, per the **Shock Protocol**
- iv. Consider push-dose Epinephrine per the **Shock Protocol** (prepared by mixing 1 mL of 0.1 mg/mL diluted with 9 mL normal saline)

### 4. Actions within First 15 Minutes

#### a. Re-assess response to treatments

#### b. Circulation

- i. Repeat fluid bolus up to 2-liter total, if indicated
- ii. If bradycardia, consider Atropine 1 mg IV/IO, if indicated
- iii. Consider push-dose Epinephrine per the Shock Protocol (prepared by mixing 1 mL of 0.1 mg/mL diluted with 9 mL normal saline)

### 5. Actions within First 20 Minutes

#### a. Re-assess response to treatments

MCA Name: [Click here to enter text.](#)

MCA Board Approval Date:

Page 2 of 3

MCA Implementation Date: [Click here to enter text.](#)



**State of Michigan  
ADULT TREATMENT  
CRASHING ADULT/IMPENDING ARREST**

Initial Date: April 21, 2021

REVISED 2022-PUBLIC COMMENT READY

Section 3-7

- b. Circulation – continue fluids/vasopressors (push-dose) as indicated by **Shock Protocol** or medical control order
- c. Airway – insert advanced airway, if indicated, per **Emergency Airway Protocol**.

**6. Once critical and immediate actions have been completed; move the patient to ambulance for transport. Transport may be initiated earlier per provider discretion as critical and immediate actions are performed.**

**Notes:**

- 1. The specific lengths of time listed are approximate to provide a sense of urgency and to prioritize actions. Provider safety is of utmost importance. Care for these patients should be given as quickly as possible, but safety considerations and the scene environment may lead to times that are longer than these stated goals. When conditions make it impossible to meet these goals, the reasons should be documented.
- 2. Actions listed should be simultaneous and not in any specific order. As critical actions are performed, transport may be initiated. However, transport should not supersede initiation of life saving intervention.
- 3. The concepts/actions listed can also be used in conjunction with the **Return of Spontaneous Circulation (ROSC)** protocol to prioritize key interventions prior to transport of cardiac arrest patients with ROSC.

**MCA Quality Improvement Performance Parameters:**

- 1. Review all cases of cardiac arrest witnessed by (in presence of) EMS providers for compliance with this protocol to prevent patient deterioration.
- 2. Ensure that specific treatments also follow other appropriate protocols, e.g. Airway Management, Shock, Tachycardia, Bradycardia, etc.

MCA Name: [Click here to enter text.](#)

MCA Board Approval Date:

Page 3 of 3

MCA Implementation Date: [Click here to enter text.](#)



CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING  
ARREST - ADULT

Crashing Patient / Patient in Extremis — Adult

Initial Date: ~~January 16,~~ April 21, 2021  
REVISED 2022-PUBLIC COMMENT READY

Section 3-7

**Purpose:** EMS frequently encounters patients that are critically ill and quickly deteriorating to the point of cardiac or respiratory arrest. Deterioration can often occur while packaging and loading these patients. It is important to rapidly recognize the deteriorating patient and take immediate action where you encounter the patient to stabilize the condition before loading and transporting. The following timeline provides a prioritization of the goal-directed treatments to stabilize the patient and prevent deterioration.

**1. Criteria**

**a. Inclusion:**

- i. Patient in whom cardiac or respiratory arrest appears imminent**
- ii. Patient with provider impression of critical illness, including new onset altered mental status, airway compromise or severe respiratory distress/failure, and/or signs and symptoms of shock/poor perfusion.**

~~**Criteria: A. Patient in whom cardiac or respiratory arrest appears imminent.**~~

~~**B. Patient with provider impression of extremis critical illness, including new onset altered mental status, airway issues compromise or, severe respiratory distress/failure, and/or signs and symptoms of shock/poor perfusion.**~~

~~**b. Exclusion Criteria:**~~

~~**Ai.** Life-threatening trauma~~

~~**Goals:** EMS frequently encounters patients that are critically ill and in extremis and quickly deteriorating to the point of cardiac or respiratory arrest. Deterioration can often occur while packaging and loading these patients. It is important to rapidly recognize the deteriorating patient and take immediate action where you encounter the patient to stabilize the~~

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MCA Board Approval Date: \_\_\_\_\_

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CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING ARREST - ADULT

Crashing Patient / Patient in Extremis — Adult

Initial Date: ~~January 16,~~ April 21, 2021  
REVISED 2022-PUBLIC COMMENT READY

Section 3-7

~~condition before loading and transporting. Adherence to BLS/ACLS algorithms is strongly encouraged [SG1][MS2]. The following timeline provides a prioritization of the goal-directed treatments to stabilize the patient and prevent deterioration.~~

Notes:

~~1. The specific lengths of time listed are approximate to provide a sense of urgency and to prioritize actions. Provider safety is of utmost importance. Care for these patients should be given as quickly as possible, but safety considerations and the scene environment may lead to times that are longer than these stated goals. When conditions make it impossible to meet these goals, the reasons should be documented.~~

~~2. Actions listed should be simultaneous and not in any specific order. As critical actions are performed, transport may be initiated. However, transport should not supersede initiation of life saving intervention.~~

~~3. The concepts/actions listed can also be used in conjunction with the **Return of Spontaneous Circulation (ROSC)** protocol to prioritize key interventions prior to transport of cardiac arrest patients with ROSC.~~

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÷ **2. A. Immediate Critical Actions (within First 5 Minutes)**

a.4. Airway

i. a. Insert Nasopharyngeal (or ~~O~~Oropharyngeal )Airway as indicated/tolerated if not following commands (GCS motor <6) or no response to verbal stimuli per the **Emergency Airway Procedure**.

b. . Breathing

i. . If respiratory failure or distress, sit patient up if tolerated and not contraindicated by suspected spine injury.

MCA Name: Washtenaw/Livingston

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ADULT TREATMENT

CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING ARREST - ADULT

Crashing Patient / Patient in Extremis — Adult

Initial Date: January 16, April 21, 2021
REVISED 2022-PUBLIC COMMENT READY

Section 3-7

ii. Provide high-flow oxygen per the Oxygen Administration Procedure.

iii. If respirations are <10 per minute, ventilate by BVM at 15LPM. Two-person, two-handed technique is most effective and is highly recommended if the number of providers allows.

iv. If respirations are >10 but inadequate, and patient is alert enough to safely permit, apply CPAP for respiratory distress/hypoxia per the CPAP/BiPAP Procedure.

v. Respirations may be assisted with BVM in sitting position if patient tolerates.

vi. Consider PPV by BVM if not following commands or SpO2 <90%

c3. Monitoring – ECG, SpO2, continuous/waveform EtCO2 (if nasal prong adapter available), NIBP (if available) (cycle every 3 minutes)

3B. Immediate Actions within First 10 Minutes

a4. Circulation

ia. Electrical Therapy (cardioversion or pacing) if dysrhythmia is primary cause of shock per the Electrical Therapy Protocol.

ii. Emergent IV/IO access, per IV Therapy Procedure.

iii. Administer NSS normal saline up to 1 liter bolus, infused under pressure unless signs of pulmonary edema, per the Shock Protocol

iv. Consider push-dose Epinephrine per the Shock Protocol (prepared by mixing 1 mL of 0.1 mg/mL diluted with 9 mL normal saline)



**CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING  
ARREST - ADULT**

**Crashing Patient / Patient in Extremis — Adult**

Initial Date: ~~January 16,~~ April 21, 2021

REVISED 2022-PUBLIC COMMENT READY

Section 3-7

**4C. Actions within First 15 Minutes**

a1. Re-assess response to treatments

b2. Circulation

ia. Repeat ~~NSS up to~~ fluid bolus up to 2 liter total, ~~for adults~~ if indicated

ib. If bradycardia, consider Atropine 0.5 mg IV/IO, if indicated

iii. Consider push-dose Epinephrine per the Shock Protocol (prepared by mixing 1 mL of 0.1 mg/mL diluted with 9 mL normal saline) ~~c. If no response to fluids (SBP < 80 and decreased LOC), administer Epinephrine per Shock Protocol~~

**5D. Actions within First 20 Minutes**

a1. Re-assess response to treatments

b2. Circulation – continue fluids/vasopressors (push dose) as indicated by **Shock Protocol** or medical control order

c3. Airway – insert advanced airway, if indicated, per **Emergency Airway Protocol**.

**6E. Once critical and immediate actions have been completed; move the patient to ambulance for transport. Transport may be initiated earlier per provider discretion as critical and immediate actions are performed.**

**Notes:**

MCA Name: ~~Washtenaw/Livingston~~

MCA Board Approval Date: \_\_\_\_\_

MCA Implementation Date: Click here to enter text.



**ADULT TREATMENT**

**CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING ARREST - ADULT**

**Crashing Patient / Patient in Extremis — Adult**

Initial Date: ~~January 16~~, April 21, 2021  
**REVISED 2022-PUBLIC COMMENT READY**

Section 3-7

1. The specific lengths of time listed are approximate to provide a sense of urgency and to prioritize actions. Provider safety is of utmost importance. Care for these patients should be given as quickly as possible, but safety considerations and the scene environment may lead to times that are longer than these stated goals. When conditions make it impossible to meet these goals, the reasons should be documented.

2. Actions listed should be simultaneous and not in any specific order. As critical actions are performed, transport may be initiated. However, transport should not supersede initiation of life saving intervention.

3. The concepts/actions listed can also be used in conjunction with the **Return of Spontaneous Circulation (ROSC)** protocol to prioritize key interventions prior to transport of cardiac arrest patients with ROSC.

**Notes:**

~~1. The specific lengths of time listed are approximate to provide a sense of urgency and to prioritize actions. Provider safety is of utmost importance. Care for these patients should be given as quickly as possible, but safety considerations and the scene environment may lead to times that are longer than these stated goals. When conditions make it impossible to meet these goals, the reasons should be documented.~~

~~2. Actions listed should be simultaneous and not in any specific order.~~

~~3. Follow appropriate shock protocol for push dose Epinephrine 0.01 mg/mL (prepared by mixing 1 mL of 0.1 mg/mL diluted with 9 mL NSS)~~

**MCA Quality Improvement Performance Parameters:**

MCA Name: Washtenaw/Livingston

MCA Board Approval Date: \_\_\_\_\_

MCA Implementation Date: Click here to enter text.



**ADULT TREATMENT**

**CRASHING PATIENT/IMMINENT CARDIAC/RESPIRATORY IMPENDING  
ARREST - ADULT**

**Crashing Patient / Patient in Extremis — Adult**

Initial Date: January 16, April 21, 2021  
REVISED 2022-PUBLIC COMMENT READY

Section 3-7

1. Review all cases of cardiac arrest witnessed by (in presence of) EMS providers for compliance with this protocol to prevent patient deterioration.
2. Ensure that specific treatments also follow other appropriate protocols, e.g. Airway Management, Shock, Tachycardia, Bradycardia, etc.

DRAFT

MCA Name: Washtenaw/Livingston

MCA Board Approval Date: \_\_\_\_\_

MCA Implementation Date: Click here to enter text.