



Portage County EMS Patient Care Guidelines



Return of Spontaneous Circulation

Note:

- These guidelines are based on (or adapted from) the most current *American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care*

Priorities	Assessment Findings
Chief Complaint	Collapsed, unresponsive, no pulse, not breathing normally
OPQRST	Witnessed? Estimated down time. Circumstances/trauma. Location of patient. Antecedent symptoms/signs (chest pain, difficulty breathing). Environmental factors, medication-related problems or overdose. Arrest due to hypoxia.
Associated Symptoms/ Pertinent Negatives	Bystander-initiated CPR. Pre-arrival CPR instructions from dispatch? Public access AED use.
SAMPLE	Does the patient have any allergies to medications? History of heart disease? Current cardiac medications?
Initial Exam	Check ABCs and correct immediately life-threatening problems.
Detailed Focused Exam	General: Vital signs Skin: Warm/cold, signs of trauma? HEENT: Airway patent, foreign bodies (e.g. dentures), neck swelling or trauma, trachea in midline? Chest: Spontaneous respirations, subcutaneous air or crepitation, or deformity? Lungs: Equal breath sounds, difficulty bagging or ventilation? Cardiovascular: Absence of heart sounds, carotid or femoral pulses? Abdomen: Distended? Extremities: Neurological: Unresponsive to verbal and painful stimulation?
Goals of Therapy	Support of ABCs status post-arrest. Preserve neurologic function.
Monitoring	BP, HR, RR, EKG, SpO ₂ , ETCO ₂

EMERGENCY MEDICAL RESPONDER (EMR) / EMERGENCY MEDICAL TECHNICIAN (EMT) / ADVANCED EMT (AEMT)

- Closely monitor and support ABCs
- Provide supplemental oxygen to maintain an SpO₂ of 94%
 - Support ventilation if needed with BVM

- *Contact Medical Control for additional orders.*

INTERMEDIATE

- Limit supplemental oxygen to amount needed to maintain SpO₂ of 94%
- Establish IV or IO access if not already done
- Reassess the need for airway devices
 - Maintain advanced airway if the patient remains unconscious
 - If the patient wakes up, the airway may be removed. Use the procedures for removing advanced airway devices in the *Respiratory Distress Guidelines*.
- Acquire a 12-lead EKG and transmit to receiving hospital.

- Consider an antiarrhythmic post-ROSC only if the patient continues to have significant ectopy or relapsing VF/VT
 - **Amiodarone** 150 mg IV/IO[1] over 10 minutes. May repeat 150 mg every 10 minutes as needed
- Consider treatment for STEMI (*Acute Coronary Syndrome and STEMI Destination Guidelines*), if indicated

Contact Medical Control for the following:

- Consider transport direct to a cardiac catheterization lab for a confirmed STEMI
- Additional medication orders

PARAMEDIC

- Consider RSI/RSA procedure[2] for patients with unstable or compromised airways or persistent unconsciousness after ROSC
- Administer sedation/paralytic per RSI/RSA procedure to maintain advanced airway device
 - Consider extubation and allowing the patient to awaken if the level of consciousness is quickly improving after ROSC
- Consider an antiarrhythmic post-ROSC only if the patient continues to have significant ectopy or relapsing VF/VT
 - **Amiodarone** 150 mg IV/IO[1] over 10 minutes. May repeat 150 mg every 10 minutes as needed or start a drip at 1 mg/min or
- See *Hypovolemia, Shock and Suspected Sepsis Guidelines* for hypotension
- For persistent hypotension, administer normal saline fluid boluses (250 – 1000 ml)
- Consider **norepinephrine** (preferred) in the non-trauma patient for persistent hypotension or MAP[3] < 60 mmHg after the administration of a reasonable fluid bolus (minimum of 250 ml).
 - Start at 0.5 – 2 mcg/min and titrate in 5 mcg/kg/min increments to a systolic BP > 90 mmHg or a MAP ≥ 60 mmHg with good patient mentation, to a maximum of 30 mcg/min
 - Continue fluid administration and norepinephrine titration.
 - If signs of pulmonary edema develop, decrease fluids to KVO.
- Consider **dopamine** for persistent hypotension after maximum dose of norepinephrine
 - Continue norepinephrine at the maximal dose
 - Start at 10 mcg/kg/min and titrate in 5 mcg/kg/min increments to a systolic BP > 90 mmHg or a MAP ≥ 60 mmHg with good patient mentation, to a maximum of 20 mcg/kg/min
 - Continue fluid administration and dopamine titration.
 - If signs of pulmonary edema develop, decrease fluids to KVO.
- Consider nasogastric tube (NGT) procedure for gastric decompression

Contact Medical Control for the following:

- Additional medication orders or consultation

FOOTNOTES:

[1] **Lidocaine** may be substituted for amiodarone during a medication shortage. Lidocaine 1 – 1.5 mg/kg IO/IV repeated in 5 – 10 mins up to 3 mg/kg.

[2] RSI/RSA requires 2 paramedics at the patient's side

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