



Office of Emergency Management (OEM)

Milwaukee County

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From: M. Riccardo Colella, DO, MPH, FACEP, Director of Medical Services, Office of Emergency Management

Section: Medical Services

To: EMS Field Providers, On-Line Medical Control Physicians

Subject: Standardized 10-99 Checklist with On-Line Medical Control

Purpose: To establish guidelines for terminating resuscitation once medical care is begun by MCEMS field providers and on-line medical control is established.

The decision to terminate resuscitation in the field is one of the most challenging decisions EMS providers and the on-line medical control physician (OLMCP) encounters; a decision that must be correct 100% of the time. Because of the myriad reasons that cause cardiac arrest and the variability with interpretation and decision making on termination, MCEMS will be implementing a 10-99 checklist that will be used by the OLMCP for every termination of resuscitation decision (attached). *To clarify, this checklist is used by the OLMCP to standardize the approach to 10-99; it is being shared with you to understand the checklist process and what will be asked.

You should anticipate a few changes in practice effective immediately:

- ETCO₂ must be used at the beginning of all resuscitations even before an advanced airway is inserted as the trend during care is helpful to assess futility.
- ETCO₂ value must be provided during your consultation with each rhythm check and should be considered another important vital sign to communicate to the OLMCP just like rhythm and pulse
- Prior to 10-99, the OLMCP will ask for a full 30 second pause for focused assessment and initiate a “challenge: response” set of questions to ensure a prudent decision to 10-99.

- The duration of resuscitation may increase to ensure we optimize survival opportunity. Use good crew resource management to ensure quality CPR is performed such as adequate staffing and frequent rotations of CPR functions.

As a reminder, a protocol exists for the MCEMS paramedic to terminate resuscitation for refractory asystole that does not require OLMCP consultation; please use this option when appropriate to avoid unnecessary utilization of the OLMCP.

<http://county.milwaukee.gov/ImageLibrary/User/jspitzer/EMSProtocols/Asystole0209.pdf>

Our MCEMS protocols for managing cardiac arrest are fairly detailed and autonomous, unless dynamic changes are occurring that require physician input, please focus the first several minutes of your attention on optimizing resuscitation activity and consult with the OLMCP after an adequate trial of resuscitation has been initiated.

Thanks for your continued commitment to our patients and resources and for our incredible resuscitation outcomes!!!

On-Line Medical Control Pre 10-99 Checklist (field version)

Medical Arrest 10-99

- High quality CPR performed
- Effective ventilations given
- Not pregnant >20 weeks EGA
- Mandatory capnography (including BVM) over at least 15 minutes of resuscitation time
 - If etCO₂ < 10 mmHg or decline of 25% from initial-ROSC unlikely
 - If etCO₂ between 10-30 mm Hg-this may indicate improvement
 - If etCO₂ > 30 –may signify unrecognized ROSC; careful assessment
- IV/IO access with clinically appropriate fluid bolus
- Medications were given appropriately
- No environmental hypothermia
- Perform 30 second pulse/respiration/ECG observation, heart tones prior to 10-99
- Clinical Death Exam confirmed IMMEDIATELY prior to 10-99 (Challenge-Response)
 - No agonal breaths
 - No central pulse
 - No motor effort
 - Poor ECG activity (asystole, wide or slow PEA < 30)
 - No pupil activity
- All on scene agree

Traumatic Arrest 10-99

- No response to paramedic initiated LSIs*
- High quality CPR performed
- Effective ventilations given
- Not pregnant >20 weeks EGA
- Mandatory capnography (including BVM)
 - If etCO₂ < 10 mmHg or decline of 25% from initial-ROSC unlikely
 - If etCO₂ between 10-30 mm Hg-this may indicate improvement
 - If etCO₂ > 30 –may signify unrecognized ROSC; careful assessment
- No environmental hypothermia
- Perform 30 second pulse/respiration/ECG observation/heart tones prior to 10-99
- Clinical Death Exam confirmed IMMEDIATELY prior to 10-99 (Challenge-Response)
 - No agonal breaths
 - No central pulse
 - No motor effort
 - Poor ECG activity (asystole)
 - No pupil activity
- All on scene agree

*LSIs may include ventilation, CPR, IV fluids, needle thoracostomy, pericardiocentesis, tourniquet hemorrhage control)