

EMS Adding Value Through New Roles

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EMS Medical Director

Washtenaw/Livingston Medical Control Authority

Goals

- Discuss the need for expanded roles in EMS
- Discuss how our system has filled various roles
- Discuss the components of expanded role programs
- Discuss the development of our newest expanded role, Community Paramedicine
- Present the impact of the CP program

Washtenaw/Livingston MCA

- 26 MFR or BLS first response non-transporting services
- Huron Valley Ambulance
- Livingston County EMS
- UM Survival Flight
- 2 Level 1 trauma centers, SJMH and UMMC
- Level 1 Pediatric trauma center, CS Mott
- Chelsea, SJ-Brighton, SJ-Livingston, VA

Interfacility Patient Transfers

- Defines scope of practice for providers during transport
- BLS - IV fluids, PCA pump, TPN/Lipids
- ALS – Lidocaine, Aminophylline, Antibiotics, Potassium, NaHCO₃, Dopamine
- Paramedics may refuse transport if not comfortable
- Alternatives
 - Hospital Staff
 - Ground specialty care unit
 - Air Medical
- Alternatives felt to be inadequate

MICU Capability

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MICU Protocols
MICU TRANSPORT CAPABILITIES

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Mobile Intensive Care Unit Transport Capabilities

The Mobile Intensive Care Unit (MICU) has advanced capabilities to meet your transport needs. The MICU staff has been trained to transport critical but stable patients. Patient care and treatment are provided through State of Michigan approved protocols and 24-hour on call physician medical direction.

If the patient's stability and treatment fall within the following criteria as covered by the MICU's protocols, the MICU will be able to immediately accept your patient. If the patient is outside of these criteria, the MICU staff will contact our on-call physician and discuss whether the MICU is capable of transporting your patient. Usually the MICU is able to transport. However, if the MICU staff and physician decide the patient is outside our capabilities, we will work with you to explore other transport options, among which are having your hospital staff accompany the patient in the MICU, or utilizing helicopter transport.

MEDICATIONS

The following medications are covered by standard protocols, and are pre-approved for transport by the MICU:

Vasoactive Medications - Amiodarone, Dobutamine, Dopamine, Milrinone, Neosynephrine, Nicardipine, Nitroprusside, Nitroglycerin, Norepinephrine.

Beta Blockers - Esmolol, Labetolol

Thrombolytics - Retavase, Streptokinase, TNKase, tPA.

Paralytics - The MICU is able to maintain paralysis with non-depolarizing neuromuscular blockers initiated at the sending facility, with drugs provided by the sending facility.

Other Medications - Other medications covered by protocol – Acetylcysteine, Aggrastat, Amiodarone, Blood products, Cardizem, Heparin, Insulin, Integrilin, Lidocaine, Magnesium Sulfate, Mannitol, Midazolam, Morphine, Nesiritide, Octreotide, Oxytocin, Phenytoin, Procainamide, Propofol, ReoPro, Somatostatin, Valium, and Vasopressin. Other medications not listed above will be reviewed by the MICU on-call physician.

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VENTILATOR PATIENTS

The MICU is equipped with a transport ventilator with multiple capabilities including CPAP and BiPAP. Patients need to be stable on the ventilator or device with appropriate oxygenation. Patients with a PEEP greater than 10 will require review by the MICU on-call physician prior to transport.

ADDITIONAL CAPABILITIES

The MICU has additional capabilities to care for patients with special needs such as maintaining chest tubes, central lines, pacemakers and monitoring invasive line pressures.

PATIENT CONDITION AND STABILITY

The patient must be hemodynamically stable prior to transport.

Our goal is to provide the best and safest transport environment for our patients. While recognizing there is often urgency in transferring a patient to another facility, we see it as essential for safe treatment that a patient be as stable as possible before leaving a facility in a mobile unit.

MICU Medication Box

- Morphine
- Diazepam
- Midazolam
- Fentanyl
- Vecuronium
- Propofol
- Norepinephrine (Levophed)
- Ketamine

Expanded Roles

- Paramedic Critical Care Transport (MICU)
- HAZMAT Medical Treatment
- Bicycle Paramedic
- Tactical EMS
- Technical Rescue Treatment
- Community Paramedicine

Components of Expanded Role Programs

- Program Policy
 - Medical director appointment
 - EMS operational leaders
 - Educational leaders
 - Personnel requirements
 - Specialized required equipment/medications
 - Training, initial and continuing
 - Documentation

Components of Expanded Role Programs

- Medical Director roles/responsibilities
 - Medical director or designee available 24/7
 - On-line direction
 - Triage
 - Conflict resolution
- Required Equipment
- Medication Box contents and exchange
- Treatment Protocols

Components of Expanded Role Programs

- Medical Direction
- EMS Operational Leaders
- Education, Initial and Continuing
- Personnel Requirements
- Equipment / Medications
- Treatment Protocols
- Documentation / Reporting
- Quality Improvement

Community Paramedic

- Program goals +
- Flexible medical direction
- Education, initial and continuing
- Equipment
 - I-stat Hgb and chemistries, INR, UA, Preg
 - Medication box ++
- Treatment protocols
- Phone first then VeeSee – On-line video medical direction
- Documentation and QI

Community Paramedic Capability

- Low acuity 911 patients
- Frequent EMS user management
- Post acute care management
- After hours episodic care
- Hospice patient evaluation and treatment
- ECF episodic care
- Incapacitated patient assessment
- Home safety assessment

Community Paramedic Medications

- amoxicillin/clavulanate PO
- trimethoprim/sulfamethoxazole DS (Bactrim) PO
- clindamycin (Cleocin) PO
- cephalexin (Keflex) PO
- ciprofloxacin (Cipro) PO
- diphenhydramine (Benadryl) PO
- phenazopyridine (Pyridium) PO
- azithromycin (Zithromax) PO
- penicillin V potassium PO
- furosemide (Lasix) PO
- oxymetazoline (Afrin) 0.05%
- potassium chloride (K-lor) PO
- meclizine (Antivert) PO
- ondansetron (Zofran ODT)
- acetaminophen (Tylenol) PO & oral suspension
- ibuprofen (Motrin) PO & oral suspension
- Phenergan IM

CP Impact on Transport Rate

	ALS 2016-18		CP 2016-18	
Total 26A/O	12244		1993	
Transported	12049	98.4%	945	47.4%
Treated in Place	195	1.6%	1048	52.6%

Estimated 1016 patients avoided transport and ED visit

Estimated savings in ambulance transport and ED treatment cost of \$2.5M

Available Resources

- Washtenaw/Livingston MCA Protocols
- <https://www.washtenaw.org/886/Washtenaw-Livingston-Medical-Control-Aut>
- iPhone, iPad, Android Application
 - Search in the App Store for Washtenaw / Livingston MCA

