HUDSON VALLEY REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL

By-Laws, Policies, and Procedures

Effective January 01, 2014

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HUDSON VALLEY REGIONAL MEDICAL ADVISORY COMMITTEE BY-LAWS

ARTICLE I: Name

The name of this organization shall be the Hudson Valley Regional Emergency Medical Advisory Committee (HVREMAC). The Hudson Valley Regional Emergency Medical Advisory Committee is a subcommittee of the Hudson Valley Regional Emergency Medical Services Council (HVREMSCO) established pursuant to Article 30 and Article 30 A of the New York State Public Health Law. It is comprised of representatives of organizations within the Emergency Medical Services (EMS) system of the Hudson Valley Region. It is established to provide medical guidance and advice on pre-hospital care and inter-facility transports to emergency care providers that operate in the Hudson Valley Region consisting of the six counties of Dutchess, Orange, Putnam, Rockland, Sullivan and Ulster.

ARTICLE II: Purpose

The role and purpose of the Hudson Valley Regional Emergency Medical Advisory Committee includes, but is not limited to, the following:

(i) to enhance and promote the highest quality of prehospital care for all patients in the Hudson Valley Region of New York State;

(ii) develop policies, procedures, and triage, treatment, and transportation protocols which are consistent with the standards of the state emergency medical advisory committee and which address specific local conditions;

(iii) develop a credentialing and continuing education process for physicians, physicians assistants, nurse practitioners and EMS personnel as appropriate;

(iv) review the credentials of, and approve, physicians and those appropriate to provide on line medical control;

(v) review the credentials of EMS personnel and approve those, as appropriate, to provide pre-hospital care

(vi) review the credentials of physicians assistants and nurse practitioners and approve those, as appropriate, to provide continuing medical education to EMS personnel;

(vii) coordinate the development of regional medical control systems;

(viii) participate in quality improvement activities addressing system-wide concerns;

(ix) to act as a body for representation regarding emergency medical care at the New York State Department of Health;

(x) to provide a member of the Hudson Valley Regional Emergency Medical Advisory Committee as representation at the State Emergency Medical Advisory Committee.

(xi) Develop a Regional Medical Control Plan that incorporates all of the above

ARTICLE III: Membership

The Hudson Valley Regional Emergency Medical Advisory Committee shall consist of Physician Emergency Department Director delegates from each recognized Medical Control facility in the Hudson Valley Region. The Hudson Valley Regional EMS Council shall appoint a Medical Director who shall sit as a voting member of the HVREMAC. The HVREMAC Chair-physician and the standing subcommittee Chair-physicians will be considered voting members if they are appointed and do not represent a Medical Control facility. Additionally, there shall be one (1) non-voting representative from the Westchester Regional Emergency Medical Advisory Committee. (Revised 3-13)

A designated alternate for each member is permissible provided that they are duly nominated by the constituent organization involved. Physician alternates must be physicians or independent licensed practitioners who fulfill the practice requirements set out in the appointment process of this document. The only voting members of the HVREMAC will be the physician representatives to the HVREMAC. Non-physician alternates of these physician members may not vote by proxy for the designated physician of the HVREMAC. (Revised 3-13)

ARTICLE IV: Standing Committees

Section One Standing Subcommittees

There shall be the following Standing Subcommittees – the members of which shall be appointed by the Chair of the HVREMAC:

- Evaluation Sub-committee
- Helicopter Sub-committee
- Protocol Sub-committee

The Chair and members of the Standing Subcommittees shall hold office at the pleasure of the Chair until their successors are appointed. The Chair of each subcommittee shall be a voting representative of the subcommittee, but not all of the members of the subcommittee need be voting representatives of the Regional Emergency Medical Advisory Committee provided, however, that a majority of each subcommittee shall be voting representatives of the Regional Emergency Medical Advisory Committee unless otherwise provided herein. Unless otherwise provided herein, a subcommittee shall consist of at least four (4) or more members; three (3) members thereof shall constitute a quorum for the transaction of business.

The Chair, with the approval of HVREMAC, shall establish Ad Hoc Committees as needed. The Chair, with the approval of HVREMAC, shall prospectively define the scope of activity and function of service of all Ad Hoc Committees. Representation on HVREMAC Committees shall be inclusive of all pre-hospital care sectors, as appropriate.

Section Two Evaluation Subcommittee

The mission of the Evaluation Subcommittee shall be to monitor and address quality improvement issues regarding prehospital care in the region. This subcommittee has the authority and confidentiality under the auspice of Quality Improvement to gather data necessary to review clinical care issues, and make appropriate determinations, in the region. This subcommittee shall meet at least quarterly at a place determined by the Chair of this subcommittee. The Subcommittee will formulate reports and recommendations on these issues and report back directly to the Hudson Valley Regional Emergency Medical Advisory Committee at the next Regional Emergency Medical Advisory Committee meeting.

Section Three Helicopter Subcommittee

The mission of the Helicopter Subcommittee shall be to address all issues of pertinence regarding the utilization of aeromedical resources throughout the Hudson Valley Region. The subcommittee will assist with the research, development and promulgation of guidelines for helicopter utilization as well. The Subcommittee will meet quarterly, or as often as issues dictate. The subcommittee will formulate reports and recommendations on pertinent issues and report back directly to the Hudson Valley Regional Emergency Medical Advisory Committee at the next Regional Emergency Medical Committee meeting.

Section Four Protocol Subcommittee

The mission of the Protocol Subcommittee will be the development, review and update of the Advanced Life Support protocols that guide the pre-hospital care to be provided by ALS providers in the Hudson Valley Region. This committee will also focus on medical control issues related to the 911 Emergency Response System and Specialty Referral Centers within the 911 Emergency Response System.

ARTICLE V: Meetings

Meetings of the Hudson Valley Regional Emergency Medical Advisory Committee and its subcommittees shall occur not less than four times annually or as frequently as business may require. A calendar of meetings shall be distributed at the beginning of each year. (Revised 3-13)

Only physician representatives as defined in Article III Membership (of this document) are eligible to vote. Voting is limited to one vote per recognized Medical Control facility. Designated physician alternates shall be counted as voting members for the purposes of quorum when their principal is not present. However, if the designated physician alternate is not a physician, they may not vote. All issues shall be decided by a simple majority of those present and voting, provided that a quorum is present. (Revised 3-13)

A quorum shall consist of 50% of the physician representatives of the Membership of the REMAC, but shall never be less than six (6). All votes shall be voice votes, unless a written vote is requested by a member of the HVREMAC. The Chair shall be empowered to allow for a written ballot in the event that a quorum cannot be achieved for two (2) successive meetings, when so directed by the membership of HVREMAC. (Revised 3-13)

For procedural issues that may arise during the regular activity of the HVREMAC that are not covered by these Bylaws, Robert's Rules of Order will be used.

Members of the Hudson Valley Regional Emergency Medical Advisory Committee shall receive no compensation for their participation at the meetings.

ARTICLE VI: Code of Ethics

Members of the Hudson Valley Regional Emergency Medical Advisory Committee shall comply with Section 74 (Code of Ethics) of the New York Public Officers Law. No member of the committee should have any interest, financial or otherwise, direct or indirect, or engage in any business or transaction or professional activity or incur any obligation of any nature, which is in substantial conflict with the proper discharge of his or her duties as a Committee member. Members should exercise their duties and responsibilities as Committee members in the public interest of the inhabitants of the State, regardless of their affiliation with, or relationship to, any facility, agency or program, category of provider, or interest group. The principles, which should guide the conduct of Committee members include, but are not limited to, the following:

A) A Committee member should endeavor to pursue a course of conduct which will not raise suspicion among the public that he or she is likely to be engaged in acts that are in violation of his or her trust as a Committee member.

B) No Committee member should permit his or her employment to impair his or her independence of judgment in the exercise of his or her duties as a Committee member.

C) No Committee member should disclose confidential information acquired by him or her in the course of his or her duties as a Committee member or, by reason of his or her position as a Committee member, use such information to further his or her personal interest.

D) No Council member should use or attempt to use his or her position as a Committee member to secure unwarranted privileges or exemptions for himself or herself or others.

E) No Committee member should engage in any transaction as a representative or agent of the State with any business entity in which her or she has direct or indirect financial interest that might reasonably tend to conflict with the proper discharge of his or her duties as a Committee member.

F) A Committee member should refrain from making personal investments in enterprises which he or she has reason to believe may be directly involved in decisions to be made by him or her as a Committee member or which will otherwise create substantial conflict between his or her duty as a Committee member to act in the public interest and his or her private interest.

ARTICLE VII : Conflict of Interest

Pending Regulations and Policy Matters

A) Disclosure at Committee Meetings: When a member of the committee or a subcommittee of the committee or his or her family has an interest, financial or otherwise, whether as owner, officer, director, fiduciary employee, consultant or supplier of goods or services to an EMS agency or program, the status of which might reasonably be affected by a regulation or policy matter which is before the committee, or when a member has an interest or association which might reasonably be construed as tending to embarrass the committee or subcommittee or elicit public suspicion that he or she might be engaged in acts in violation of his or her trust, he or she shall, at the time of formal consideration of such regulation or policy matter by the committee, disclose such interest or association to the committee so that the committee is fully aware of such member's interest or association. A committee member who discloses such interest or association may, but shall not be required to, abstain from participation in the discussion of, or vote on, such policy matters at the committee meeting. For the purposes of this Article, "family" shall include a spouse, children under 21 years of age, and any other relative in the member's household.

B) Disclosure of Committee Actions and Possible Conflicts at Committee Meetings: When the Chairperson of any committee which considered a regulation or policy matter reports the committee's deliberations and recommendations to the committee, the committee Chair shall indicate in the report all interests or associations disclosed by committee members and state how such members voted with respect to the committee's recommendations. A committee member who discloses such interests or association may, but shall not be required to, abstain from participation in the discussion of, or vote on, such regulations or policy matter at the committee meeting.

C) Disclosure and Possible Disqualification. When a matter is before the committee and a member has any interest or association which might reasonably be construed as tending to embarrass the committee or elicit public suspicion that he or she might be engaged in acts in violation of his or her trust as a Committee member, he or she shall, at the time of formal consideration of such matter by the Committee, disclose such interest or association so that the Chairperson and, if necessary, the Committee can then determine whether his or her participation in the discussion of such matter or the vote of the Committee thereon would be proper.

D) Procedure: After a motion is made concerning a matter and prior to discussion or vote, and at the request of the Chairperson, the committee members shall disclose all actual or potential conflicts and, when appropriate, explain the conflicts. In the case of conflicts constituting Possible Disqualification, the Chair shall rule upon such conflicts subject to appeal by motion to the Committee which may override the Chairperson's decision by the affirmation vote of a majority of those present, excluding those members who are the subject of the vote.

ARTICLE VIII: Amendments

These By-Laws may be amended by two thirds of the voting members of the Hudson Valley Regional Emergency Medical Advisory Committee, provided that the amendments have aged at least one meeting of the Hudson Valley Regional Emergency Medical Advisory Committee, and that the members of the Hudson Valley Regional Emergency Medical Advisory Committee have been notified at least ten (10) days in advance of the regularly scheduled meeting of the Hudson Valley Regional Emergency Medical Advisory Committee at which the amendments are to be considered.

ARTICLE IX: Process / Reporting Relation of HVREMAC

Hudson Valley Regional Emergency Medical Services Council. Decisions on medical matters made by REMAC will be sent to the Hudson Valley Regional EMS Council for advisement and information purposes only.

State Emergency Medical Advisory Committee (SEMAC). HVREMAC shall report to the State Emergency Medical Advisory Committee as required by Statute.

ARTICLE X: Attendance

Attendance is imperative for the HVREMAC to meet its statutory obligations. Therefore, HVREMAC members shall endeavor to attend all scheduled HVREMAC meetings. Delegates of the HVREMAC unable to attend a scheduled meeting shall arrange to have their designated alternate attend in their stead. Notification of the delegate's absence and designation of an approved alternate must be made to the Regional Office as soon as possible.

If, for some unforeseen reason either a physician representative or his/her alternate are unable to attend a scheduled HVREMAC meeting, notification must be made to the Regional office prior to the start of said meeting. If two meetings are missed, consecutive or otherwise, by a specific physician representative and/or his/her designee, said representative will be issued notification from the HVREMAC stating that a third absence, consecutive or otherwise, will result in a disqualification of HVREMAC privileges. If three meetings in a calendar year are missed by a specific physician representative and/or his/her designee, a letter will be generated and sent to the physician representative's sponsoring facility requesting designation of a replacement. The HVREMAC quorum will decrease by one person until the sponsoring facility designates a replacement delegate.

ARTICLE XI: Construction and Severability

If any part of these Bylaws is in conflict with Statute, the Statute shall prevail. If any part of these By-Laws is found to be in conflict with statute by a court of competent jurisdiction, the remainder shall stand.

HUDSON VALLEY REGIONAL MEDICAL ADVISORY COMMITTEE

MEDICAL CONTROL PLAN

SECTION 1: Introduction/ Overview

The Hudson Valley Regional Emergency Medical Advisory Committee (HVREMAC) serves as a standing committee of, and under the authority of, the Hudson Valley Regional EMS Council (HVREMSCO) in accordance with Article 30 of the New York State Public Health Law.

It functions in the geographical area encompassed by that regional council, and includes the counties of Dutchess, Orange, Putnam, Rockland, Sullivan, and Ulster.

This Medical Control Plan has been formulated in order to ensure the continuity of high-quality prehospital emergency medical care in this six-county area.

SECTION 2: Definition of Medical Control and Statement of Purpose

Medical Control is (a) the advice and direction provided by a physician or under the direction of a physician, as defined by NYS Policy statement 11-05 Medical Control and Oversight or its successors, to certified first responders, emergency medical technicians or advanced emergency medical technicians who are providing medical care at the scene of an emergency or en route to a health care facility and (b) indirect medical control including the written policies, procedures, and protocols for pre-hospital emergency medical care and transportation developed by the state emergency medical advisory committee, approved by the state council and the commissioner and implemented by the regional medical advisory committees. [1]

All aspects of the organization and provision of basic (including first responder) and advanced life support emergency medical services (EMS), require the active involvement and participation of physicians. Furthermore, every pre-hospital service that provides any level of life support must have an identifiable EMS Service Medical Director as per NYS Policy to ensure quality patient care.

- Refer to NYS Policies
    - 11-03; Providing Medical Direction
    - 11-05; Medical Control and Oversight

[1] NY State Department of Health-Policy Statement 95-1, “Providing Medical Control”, May 1995.

Additional responsibilities include involvement with design, operation, evaluation and ongoing revision of the system including initial patient access, dispatch, pre-hospital care, and delivery to the emergency department.[2]

Every EMS service that provides emergency medical services in the area(s) served by the Hudson Valley Regional EMS Council must select and identify a service medical director, as per NYS Policy, who has been approved by the HVREMAC as having met the appropriate qualifications as per the policies and procedures. The service medical director is directly responsible for the medical care provided by the certified EMS personnel of that EMS service, and provides and participates in the EMS service's quality improvement program. This is in accordance with Part 800 of the New York State Department of Health (DOH) Rules and Regulations and Article 30 of the New York State Public Health Law.

For all inter-facility transfer of patients, patient care is the direct responsibility of the referring hospital and transferring physician.

SECTION 3: Classification of Levels of Pre-Hospital Emergency Medical Care

The Hudson Valley Regional EMS Council recognizes the following classifications;

1. Certified First Responder / Emergency Medical Responder
2. Emergency Medical Technician – Basic
3. Emergency Medical Technician Critical Care – AEMT
4. Emergency Medical Technician – Paramedic

[2] American College of Emergency Physicians, "Medical Direction of Emergency Medical Services", September 1997.

SECTION 4: Requirements and Recommendations for Hudson Valley Regional Emergency Medical Care Providers

1. **Certified First Responder / Emergency Medical Responder:**
   A. Required to meet and maintain all qualifications and competency areas as required by the New York State DOH policy statement 00-09 and part 800 of the EMS code

2. **Emergency Medical Technician Basic:**
   A. Required to meet and maintain all qualifications and competency areas as required by the New York State DOH policy statement 00-10 and part 800 of the EMS code
   B. Required to maintain appropriate HVREMAC credentials for ancillary skills

3. **Emergency Medical Technician Critical Care / AEMT:**
   A. Required to meet and maintain all qualifications and competency areas as required by the new York State DOH policy statement 00-10 and part 800 of the EMS code
   B. Required to maintain current HVREMAC credentials;
   C. The AEMT/CC level is mandated to utilize a two tiered (AEMT-P) response system with simultaneous dispatch

4. **Emergency Medical Technician Paramedic:**
   A. Required to meet and maintain all qualifications and competency areas as required by the New York State DOH policy statement 00-10 and part 800 of the EMS code
   B. Required to maintain current HVREMAC credentials

SECTION 5: Procedure: HVREMSCO Authorization to Provide Advanced Life Support (ALS) Services

1. Any and all EMS agencies that are interested in providing Advanced Life Support (ALS) services must submit a written request for an application, including contact information for the service's executive officer and medical director, to the HVREMSCO office;
2. Upon receipt of the written request at the HVREMSCO office, the EMS Agencies' Executive Officer and Medical Director will each be contacted by the HVREMSCO office to attend a meeting with the HVREMSCO Executive Director at which time they will be provided with the appropriate instructions and application packet (see addendum);

3. After receiving the application packet, the service's Medical Director will be required to contact the Executive Director within 60 days to acknowledge the service's intent to proceed with the process;

4. Completed applications must be sent by certified mail to the Hudson Valley Regional EMS office, along with all supporting documentation (including point I, J, and K of section 6), and must contain a written explanation of how the service will meet all of the requirements for an ambulance service to provide ALS services (points A-K of Section 6);

5. Upon receipt of the application the Hudson Valley Regional EMS office staff shall review the application for completeness.

    - Incomplete applications shall be returned by certified mail to the applicant within 15 days, along with an explanation of any incomplete findings. The applicant will have 60 days from the date of the certified return receipt to amend/correct the application. Failure to complete the necessary corrections, and resubmit it to the HVREMSCO, in 60 days will automatically void the application, and the applicant must initiate a new application as previously identified.

    - When applications are deemed complete, the HVREMSCO executive director shall ensure that the following steps are initiated immediately;

6. The HVREMAC Chairperson in conjunction with the HVREMSCO Medical Director and Executive Director will appoint an unbiased Technical Advisory Group (TAG) to evaluate and verify all submitted information. After the TAG has had the opportunity to meet and verify all information submitted by the applicant, the TAG shall notify the HVREMSCO as follows:

- That the application and all submitted information and documentation has been verified for accuracy and may move forward :or

- That the application, or parts thereof, have inaccurate or insufficient information that does not allow it to be moved forward and needs to be addressed further by the applicant.

7. The HVREMSCO office will send appropriate notification of a public meeting regarding the possible ALS upgrade to all identified EMS services authorized by the New York State Department of Health to operate within the territory that the upgrading service is applying for. The TAG will accept testimony from anyone present, and written supporting documentation from all parties for a period of 30 days from the date of the meeting.

   It is the intent of the application process and public meeting to obtain information from an EMS system perspective from those who are directly involved with the provision of pre-hospital emergency care in the specific geographical location that is involved, and to evaluate the potential impact of the application either positively or negatively to the present EMS system. Statements of want, desire, feeling or other unsubstantiated sentiment are not acceptable, and will not determine the outcome of the application.

   - After the conclusion of the 30 day period the EMS Agency's Executive Officer and Medical Director will be required to meet with the HVREMAC TAG to address any identified areas of interest;

   - Upon completion of the evaluation process, the HVREMAC TAG will report their findings and make a formal recommendation to the HVREMAC at the next appropriate HVREMAC meeting;

   - The HVREMAC will then conduct an official vote to approve or deny the application; the results of the HVREMAC vote, whether to approve or deny the application, will then be forwarded as a seconded motion to the HVREMSCO for consideration.

   - All approvals to upgrade to an ALS level service will be granted for a one year provisional period and are subject to a mandatory HVREMAC review that will be conducted in six (6) months and again at one (1) year after the date of approval. Based upon the results of both of the mandatory reviews previously mentioned, the HVREMAC will then determine if the service's ALS approval will be granted permanent status, and will forward their recommendation to the HVREMSCO for their permanent consideration.

SECTION 6: Requirements for Hudson Valley Regional Advanced Life Support Services

A. Must meet all of the requirements of New York State Emergency Medical Services Code Part 800.5;

B. Must offer ALS service seven days a week, twenty-four hours a day appropriate to the highest level of ALS service authorized to provide. Services entering into agreements with secondary ALS Services to cover their operating area when temporarily unavailable (e.g., all ALS units operating on calls, multiple ALS patients, mechanical failure) must submit a copy of the agreement to the HVREMAC for review. All instances of an inability to provide continuous ALS coverage must be documented by the ALS Service and reported to the HVREMAC immediately following the lapse of coverage;

C. Services with a level of pre-hospital emergency medical care classification below Paramedic must utilize a Paramedic two-tiered priority response system with a simultaneous dispatch system;

D. Must utilize and adhere to current HVREMAC and New York State Department of Health approved triage, treatment, and transportation protocols, procedures, and standards of care;

E. Must coordinate direct medical control with an authorized Hudson Valley Regional Medical Control Hospital;

F. Must identify an authorized HVREMAC approved Medical Director to oversee service operations;

G. Must participate in the HVREMSCO Quality Improvement Program and Continuing Medical Education Program;

H. Must maintain appropriate and current State and Regional certifications and requirements for all personnel, services, and equipment;

I. Must submit documentation of a valid New York State Department of Health Ambulance Certification;

J. Must submit documentation of, and maintain, an approved New York State EMS Code Part 80 Plan (EMT-CC and EMT-P Services Only);

K. Must include a copy of the service's registrations with the NYS DOH CLEP program for Blood Glucometry, which must be signed by the same physician

L. that signs the service's New York State Emergency Services Code Part 80 agreement.

NOTE: If at any time an ALS service cannot meet any of the above listed requirements, the ALS service must immediately notify the HVREMAC in writing. Upon review of the matter, the HVREMAC will determine if a temporary re-classification of ALS service status is necessary.

GUIDELINES TO OBTAIN HVREMSCO AUTHORIZATION TO PROVIDE ADVANCED LIFE SUPPORT SERVICES

In accordance with the HVREMAC Medical Control Plan, agencies interested in providing ALS services within the Hudson Valley Region must submit each of the following:

1. Completed application that contains all pertinent agency information (Attached).
2. Completed Advanced Life Support Services Agreement (Attached).
3. Completed Medical Director Participation Agreement (Attached).
4. Completed Emergency Medical Services System Analysis for ALS Upgrades, including all supporting documentation (Attached)
5. Written explanation indicating how the service will satisfy all of the requirements of Points A-H as outlined in Section 6 of the HVREMAC Medical Control Plan (Attached).
6. The REMSCO has established a Uniform and Non-Waivable fee to be received with each application. This fee reflects the direct and real costs of the application review, the initial fee of $1,000.00 must accompany the initial application when submitted to the REMSCO.
    a. Any unused funds will be returned to the applicant with the detail of the expenditures.
7. The applicant shall demonstrate sufficient knowledge of the EMS system in the area to be able to describe the **positive and negative** impact the proposed agency shall have on the area and providers. The applicant shall submit a detailed narrative with assumptions, rationale and justifications to be appended to the application detailing overall impact on the following:

All existing ambulance and or emergency medical services within the proposed area in terms of but not limited to:

- response time (time the call was received to time on the scene);
- staffing;
- level of service;
- call volume for the past 12 months and the anticipated call volume for first 12 months of operation;
- mutual aid;
- quality assurance;
- medical direction;
- protocols;
- ability and quality of existing services;
- financial impact and any adverse impact the proposed service will have on existing services.

b. A description of the EMS system in the area of potential impact:
   - Provide a full description of the EMS system;
   - All existing EMS agencies, hospitals and other institutions that generate an EMS response;
   - Include participation agreements, mutual aid, and actual and projected response times for the proposed ALS agency and the existing ALS agencies for the past and next 12 months;
   - The description must also include:
     - Communications system interface;
     - Medical direction and control;
     - Proposed services impact, positive & negative on the community;
     - Impact on patient care and recruitment & retention of EMS personnel and;
     - Any possible economic benefit and improvements in service to be anticipated from the applicants operation.

8. Documentation of a valid New York State Department of Health Ambulance Certification.

9. An Agency must submit an approved New York State EMS Code, Part 80 Plan (EMT-CC and EMT-P services only) prior to activation of ALS status.

Note: *Upon receipt of this application the Service's Medical Director must contact the HVREMSCO Medical Director and/or Executive Director within 60 days to acknowledge the Service's intent to proceed with the upgrade process.*

Emergency Medical Services System Analysis for Advanced Life Support Upgrades

The Hudson Valley Regional EMS Medical Advisory Committee (HVREMAC) has developed this Emergency Medical Services (EMS) System Analysis for all EMS agencies that are interested in applying for authorization to provide Advanced Life Support (ALS) Services. The intent of this analysis is to gather pertinent information regarding the current status of EMS capabilities in the appropriate service area. The HVREMAC requires each applicant to provide all information that is available through the Freedom of Information Law. All requested information that the applicant is unable to provide must be supported with a written explanation as to the reason the information was unattainable. Failure to address any of the requested information will be considered an incomplete application and will be returned to the applicant for resubmission.

Name of Applying Service: _____

Type: ( ) Volunteer/Independent ( ) Volunteer Fire Dept. ( ) Commercial
( ) Hospital Based ( ) Other (Specify): _____

Name of Primary Dispatch Entity: _____

Type: ( ) 911 Center ( ) E-911 Center ( ) Public Safety Answering Point (PSAP)

( ) Other (Specify): _____

Address: _____

Contact Person: _____ Phone: _____

Name of Basic Life Support First Response Services (i.e., Police, Fire Department, and EMS):

1. _____

Type: ( ) Public Access Defibrillation ( ) NYS Certified First Responder ( ) NYS EMT-B

Address: _____

Contact Person: _____ Phone: _____

2. _____

Type: ( ) Public Access Defibrillation ( ) NYS Certified First Responder ( ) NYS EMT-B

Address: _____

Contact Person: _____ Phone: _____

3. _____

Type: ( ) Public Access Defibrillation ( ) NYS Certified First Responder ( ) NYS EMT-B

Address: _____

Contact Person: _____ Phone: _____

(Please list additional services on separate form)

Name of Mutual Aid Basic Life Support Ambulance Services: (i.e., Any Ambulance Service that Responds to your Primary Service Area when you're Service is Unavailable:

1. _____

Address: _____

Contact Person: _____ Phone: _____

2. _____

Address: _____

Contact Person: _____ Phone: _____

3. _____

Address: _____

Contact Person: _____ Phone: _____

(Please list additional services on separate form)

Name of Advanced Life Support Services: (i.e, EMT-CC, EMT-P)

1. _____

Address: _____

Contact Person: _____ Phone: _____

2. _____

Address: _____

Contact Person: _____ Phone: _____

3. _____

Address: _____

Contact Person: _____ Phone: _____

(Please list additional services on separate form)

Does your Service Participate in the NYS Epi-Pen Auto Injector Program?
( ) Yes ( ) No

Does your Service Participate in the HVREMAC BLS Nebulized Albuterol Program?
( ) Yes ( ) No

Name of Hospitals Patients are primarily Transported to:

1. _____

Address: _____

Contact Person: _____ Phone: _____

2. _____

Address: _____

Contact Person: _____ Phone: _____

3. _____

Address: _____

Contact Person: _____ Phone: _____

(Please list additional hospitals on separate form)

Statistics for Calls Service Responded to during each of the last three (3) Years:

Year: _____ Total Call Volume (including BLS, ALS, Transport, Non-Transport, Stand by)

Number of Calls in which your Service Responded out of Primary Service Area for Mutual Aid Requests: _____

Number of Calls within the Primary Service Area that were handled by a Mutual Aid Service: ____

Number of Calls that resulted in Basic Life Support Transports to a Hospital: _____

Number of Calls that resulted in Advanced Life Support Transports to a Hospital: _____

Number of Calls that Advanced Life Support was also Dispatched (Include ALS Requests and Simultaneous Dispatch):_____

Number of Calls that Advanced Life Support was cancelled:_____

Number of Calls that Advanced Life Support was unavailable:_____

Number of Calls in which your Service arrived at the Scene of the Call in less than eight (8) minutes from time of Initial dispatch: _____

Number of Calls in which your Service arrived at the Scene of the Call in greater than twelve (12) minutes from time of Initial dispatch: _____

Number of Calls in which your Service Responded in less than five (5) minutes from the Time of Initial Dispatch:_____

Statistics for Calls Service Responded to during each of the last three (3) Years (Continued):

Year: ____Total Call Volume (including BLS, ALS, Transport, Non-Transport, Stand by): _____

Number of Calls in which your Service Responded out of Primary Service Area for Mutual Aid Requests: _____

Number of Calls within the Primary Service Area that were handled by a Mutual Aid Service:_____

Number of Calls that resulted in Basic Life Support Transports to a Hospital: _____

Number of Calls that resulted in Advanced Life Support Transports to a Hospital:_____

Number of Calls that Advanced Life Support was also Dispatched (Include ALS Requests and Simultaneous Dispatch):_____

Number of Calls that Advanced Life Support was cancelled:_____

Number of Calls that Advanced Life Support was unavailable:_____

Number of Calls in which your Service arrived at the Scene of the Call in less than eight (8) minutes from time of Initial dispatch:_____

Number of Calls in which your Service arrived at the Scene of the Call in greater than twelve (12) minutes from time of Initial dispatch:_____

Number of Calls in which your Service Responded in less than five (5) minutes from the time of Initial Dispatch:_____

Statistics for Calls Service Responded to during each of the last three (3) Years (Continued):

Year: ____Total Call Volume (including BLS, ALS, Transport, Non-Transport, Stand by): _____

Number of Calls in which your Service Responded out of Primary Service Area for Mutual Aid Requests: _____

Number of Calls within the Primary Service Area that were handled by a Mutual Aid Service:____

Number of Calls that resulted in Basic Life Support Transports to a Hospital:_____

Number of Calls that resulted in Advanced Life Support Transports to a Hospital:_____

Number of Calls that Advanced Life Support was also dispatched (Include ALS Requests and Simultaneous Dispatch):_____

Number of Calls that Advanced Life Support was cancelled:_____

Number of Calls that Advanced Life Support was unavailable:_____

Number of Calls in which your Service arrived at the Scene of the Call in less than eight (8) minutes from time of Initial dispatch:_____

Number of Calls in which your Service arrived at the Scene of the Call in greater than twelve (12) minutes from time of Initial dispatch:_____

Number of Calls in which your Service Responded in less than five (5) minutes from the Time of Initial Dispatch:_____

Service Area Information:

Primary Service Area (i.e., Town, City, County, Fire District etc.): _____

_____

_____

Geographical Description: _____

_____

_____

_____

What, if any Geographical factors exist that may impact Response and/or Transport Times?

_____

_____

_____

Major Connecting Roadways: _____

_____

_____

Population Totals for the Last three (3) years: Year: _____ Total: _____

Year: _____ Total: _____

Year: _____ Total: _____

Socioeconomic Description: _____

_____

_____

_____

List all Non-Hospital Treatment Centers (i.e., Urgent Care), Long-Term Care (i.e., Nursing), and Rehabilitation Facilities that are covered by your Service:

Name: _____

Address: _____

Name: _____

Address: _____

Name: _____

Address: _____

(Please list additional facilities on a separate form)

System Resources:

As with any Advanced Life Support Program, the most significant cost is the startup or implementation costs. Included in these are training, salaries, housing, and equipment costs that must be considered. Ongoing costs include but are not limited to salary adjustments, continuing education, and equipment maintenance/replacement.

Please describe your Service's Revenue Considerations for anticipated Startup or Implementation Costs:

_____

_____

_____

_____

Please describe your Service's Revenue Consideration for anticipated Ongoing Costs:

_____

_____

_____

_____

What Funding Mechanisms will be utilized to secure Revenue (I.e., Patient Billing, Tax Subsidies, Donations, Fund Raising, etc.)?

_____

_____

_____

_____

How are the Costs of Advanced Life Support Services that are currently being provided to the Primary Response Area being covered (i.e., Patient Billing, Contract, etc.)?

_____

_____

_____

_____

Note:

Please attach all documentation that supports all of the above entered information along with written explanations of any information that you are unable to obtain and submit to the Hudson Valley Regional EMS Council office with a completed Advanced Life Support Upgrade application.

Application for an Ambulance Service to Upgrade To an Advanced Life Support (ALS) Service

Application must include a written explanation indicating how the service will satisfy all of the requirements of Points A-H as outlined in Section 6 of the HVREMAC Medical Control Plan (Attached) and must be submitted to the HVREMSCO Office.

Name of Ambulance Service: _____

Name of Chief Operations Officer(s): _____

Telephone Number: _____ FAX Number: _____

Address of Service: _____
Street PO BOX

_____
City County State Zip

Proposed Area of Operation: _____

Projected Date of ALS Operation: _____

Proposed Level of ALS Service (Check All That Apply):
( ) AEMT ( ) EMT-Critical Care ( ) EMT-Paramedic

The undersigned acknowledges that he/she has received and read the HVREMAC Medical Control Plan and certifies to the accuracy of the information contained on this agreement and within the attachments.

Service's Executive Officer:

Name: _____

Signature: _____ **Date:** _____

Service's Medical Director:

Name: _____

Signature: _____ **Date:** _____

Advanced Life Support Services Agreement

This Agreement, dated _____ by and between The Hudson Valley Regional Emergency Medical Services Council, INC. (Hereinafter the HVREMSCO) and _____
(Insert Name of Ambulance Service)
(Herein after the Agency). Whereas, the Agency desires to participate in and associate with the HVREMSCO as an Advanced Life Support Service and the HVREMSCO desires participation and association with said Agency, it is hereby agreed, in consideration for participation and association with said system as follows: Said Agency shall, as an Advanced Life Support Service, associated and participating in and/or with the HVREMSCO agrees to the following:

1. To maintain a valid New York State Department of Health Ambulance Certification;
2. To maintain an approved New York State EMS Code Part 80 Plan (EMT-CC and EMT-P Services Only);
3. To meet all requirements of the New York State EMS Code Part - 800.5;
4. To offer ALS service seven days a week, twenty four hours a day appropriate to the highest level of ALS service authorized to provide;
5. To utilize an AEMT-P (Paramedic) two-tiered priority response system with a simultaneous dispatch system if authorized to provide a level of pre-hospital emergency medical care classification below an AEMT-P (Paramedic) as indicated on page 5, section 6 of the HVREMSCO Medical Control Plan;
6. To utilize and adhere to current HVREMAC and New York State Department of Health approved triage, treatment, and transportation protocols, procedures, and standards of care;
7. To coordinate direct medical control with an authorized Hudson Valley Regional Medical Control Hospital;
8. To identify an authorized HVREMAC approved Medical Director to oversee service operations;
9. To participate in the HVREMSCO Quality Improvement Program and Continuing Medical Education Program;
10. To maintain appropriate and current State and Regional certification and requirements for all personnel, services, and equipment;
11. Understand that an individual or agency's privilege to provide Advanced Life Support Services may be revoked or suspended at any time by the HVREMAC;

12. To immediately notify the HVREMAC in writing and request a temporary re-classification of ALS services, if at any time the ALS service cannot meet any of the above listed requirements.

Service's Executive Officer:

Name: _____

Signature: _____ Date: _____

Service's Medical Director:

Name: _____

Signature: _____ Date: _____

HVREMSCO Medical Director:

Name: _____

Signature: _____ Date: _____

Medical Director Participation Agreement

As a Physician licensed by New York State, I

_____

(Physician's Name)

Agree to serve as the Medical Director in charge of the oversight and Coordination of all pre-hospital medical care provided by the New York State certified and Hudson Valley Regional Medical Advisory Committee (HVREMAC) credentialed Emergency Services personnel who are affiliated with the

_____

(Ambulance Service Name)

I assure that the above listed agency's provision of pre-hospital care will conform to New York State and HVREMAC approved triage, treatment, and transportation protocols. I will not be responsible for actions that may result in death or injury from gross negligence or deviation from current accepted protocols or standards by the provider.

I acknowledge my familiarity with New York Sate and HVREMAC approved triage, treatment and transportation protocols, medical control plan, training procedures and quality improvement policies and procedures and will expect the above agency's personnel to adhere to these guidelines for pre-hospital emergency care as required by the HVREMAC.

In conjunction with the HVREMAC, I will serve as the medical resource for continuing medical education (CME) and quality control of all pre-hospital emergency medical care. If I am unable to continue to serve as the Medical Director for the above listed agency, I will notify the HVREMAC in writing within 30 days.

I have read the above information and will follow these guidelines as written.

Physician Name: _____

Physician Signature: _____Date: _____

Address: _____

City: _____State: ____Zip Code: _____

Telephone (Mobile): _____
(Work): _____
(Fax): _____
E-mail: _____

SECTION 7: Classification of Hospitals

The HVREMSCO has divided participation of area emergency departments/services in pre-hospital medical control activities into two categories, Receiving Hospital, and Medical Control Hospital.

It is expected, however, that all hospitals with emergency departments/services receiving patients by ambulance will assume the responsibility of assuring familiarity of their medical and nursing staff with pre-hospital capabilities and levels of care, and cooperation with regional systems planning and development, Quality Improvement activities, etc.

Medical Control Hospitals within the HVREMSCO Region:

Dutchess County	Orange County
Northern Dutchess Hospital	Bon Secours Community Hospital
Mid Hudson Regional Hospital	Orange Regional Medical Center
Vassar Brothers Medical Center	St. Anthony Community Hospital
	St. Luke's Cornwall Hospital-Newburgh Campus
Putnam County	**Rockland County**
Putnam Hospital Center	Good Samaritan Hospital Nyack Hospital
Sullivan County	**Ulster County**
Catskill Regional Medical Center	Health Alliance of the Hudson Valley

Medical Control Hospitals Outside of the HVREMSCO Region:

Western Connecticut	Westchester County
Sharon Hospital	Hudson Valley Hospital Westchester Medical Center

NOTE: The listed hospitals that are outside of the HVREMSCO region have been authorized by the HVREMAC to provide direct / online medical control due to geographical variables and transportation concerns in each hospitals respective location.

Receiving Hospitals (Non-Medical Control) within the HVREMSCO Region:

Orange County	Ulster County
St. Luke's Cornwall Hospital (Cornwall)	Ellenville Regional Hospital

SECTION 8: Receiving Hospital – Definition, Recommended Roles and Responsibilities

A Receiving Hospital is an emergency department/service as defined under section 405 of the NYS hospital code that works in cooperation with Medical Control Hospitals to carry out systems implementation. It accepts and treats patients via EMS services that have been treated by EMS personnel under indirect/offline medical control and or from direct/online medical control from a designated Medical Control Hospital. Although Receiving Hospitals do not provide ALS on-line direction, exceptions may have to be made under rare circumstances such as multiple casualty incidents, communications failures, etc. Receiving Hospitals do cooperate in providing on-line medical direction to BLS providers, as needed within the established guidelines of Regional and State BLS protocols.

Functions of a Receiving Hospital:

1. Emergency department receiving and stabilization of ill or injured patients;
2. Participation in EMS training where appropriate;
3. Data collection and quality improvement activities as designated by part 405.19 item (f) of the NYS-Hospital Minimum Standards Code (NYS Hospital Code);
4. Participation in EMS system review and planning.

A Receiving Hospital will meet the following criteria:

1. Have an emergency department meeting all standards for emergency department/service as defined in Section 405 of the NYS Hospital Code;
2. Accept patients requiring BLS and or ALS services who may have received EMS care under physician direction originating from a medical control hospital;
3. Maintain, at a minimum, VHF/EMS Radio Base station and compatible telephones connected to regional communications systems to communicate with BLS and ALS units and medical control hospitals;
4. Assume the responsibility for the care and maintenance of necessary communications equipment within the institution;
5. Transfer patients when indicated according to established triage and transfer guidelines;
6. Familiarize staff members with approved Regional and State protocols;
7. Replace, on a one-for-one basis, non-pharmaceutical medical supplies used by field units for those patients brought to that facility;

8. Provide training opportunities to enhance EMS training and continuing medical education programs;
9. Coordinate quality improvement activities as defined in Part 405.19 item (f) of the NYS Hospital Code with the HVREMAC and the HVREMAC Quality Improvement Committee;
10. Provide on-line medical direction for BLS agencies that transport patients to their facility and to area BLS First Responder units as appropriate;
11. Participate in local and or regional EMS planning activities as appropriate.

A Receiving Hospital must designate an emergency department staff physician (preferably the emergency department medical director) who will be responsible for coordinating the pre-hospital EMS aspects of the emergency department/service. This physician shall have a strong commitment and dedication to the support and improvement of the pre-hospital EMS environment.

This physician and or physician designee will assume overall responsibility for carrying out the duties of the Receiving Hospital. In addition, he/she will also assume the following responsibilities:

1. Participate as a member of the appropriate county medical advisory committee;
2. Participate in educational programs and provide clinical internship for EMS providers as appropriate;
3. Direct quality improvement activities in the emergency department as they relate to pre-hospital EMS;
4. Coordinate the provision of medical direction for BLS providers that transport patients to their facility.

NOTE: Receiving Hospitals may request a designation as a Medical Control Hospital by satisfying the criteria for a Medical Control Hospital and submitting a written proposal for designation as a Medical Control Hospital to the HVREMAC. This proposal must include a description of the hospital's service area, population, and emergency department volume. This proposal will also address all of the components required of a Medical Control Hospital and explain how the hospital intends to meet these requirements. The HVREMAC will appoint a subcommittee to review the proposal and make recommendations to the HVREMAC, which will make its recommendation to the HVREMSCO for approval of medical control designation.

SECTION 9: Medical Control Hospital – Definition, Roles and Responsibilities

A Medical Control Hospital is an emergency department/service as defined under Section 405 of the NYS Hospital Code, which provides on-line ALS and BLS physician direction for patients that require transportation to that facility or to a Receiving Hospital.

A Medical Control Hospital must meet the following criteria:

1. All of the components of the Receiving Hospital;
2. Designate a HVREMAC credentialed physician medical director to be in charge of overall coordination of medical control in that facility (See Qualifications and Responsibilities); the physician medical director is responsible for ensuring all medical control orders are delivered by HVREMAC credentialed physicians.
3. Must have a physician staff member, HVREMAC credentialed and authorized by the Medical Control facility to provide medical control, who is on-site and available 24 hours a day; and to utilize their medical control identifier in each instance medical control orders are provided;
4. Provide on-line physician direction for pre-hospital ALS management of patients requiring transport to a Medical Control Hospital or Receiving Hospital;

a. Medical Control Hospitals will notify Receiving Hospitals of medical control orders provided for patients being transported to their facilities.

5. Maintain VHF, UHF (if indicated by local EMS communication center) communication capabilities and telemetry receiving capabilities;
6. It is strongly recommended that all communications related to ALS calls be recorded, including telemetry;
7. Allocate the Medical Control Director and Physicians the time and resources to perform their required Medical Control duties;
8. Offer protocol driven Medical Control Contact Hours to EMS personnel on a quarterly basis, at a minimum. See appendix.
9. In order to maintain HVREMAC status as a Medical Control Facility the hospital must maintain a current Hudson Valley credentialed physician medical director. In the absence of a HVREMAC credentialed physician medical director the HVREMAC will re-designate the hospital as a HVREMAC Receiving Facility.
10. Notify the REMAC of any credentialed staff member changes.
11. Recommended participation in the HVREMAC Shadow Program.

SECTION 10: Medical Control Hospital Medical Control Director: Definition and Qualifications

Each Medical Control Hospital is to identify one physician as the Medical Control Director whose duty is the overall coordination and medical accountability of the medical control system in his/her facility. The Medical Control Director is responsible to the Regional Medical Director for all functions of the medical control system in that hospital.

Qualifications of a Medical Control Hospital Medical Control Director are as follows:

1. A New York State licensed physician who is currently practicing emergency medicine and has completed residency training[3];
2. Must be board certified in Emergency Medicine, or have current ACLS and ATLS certification.
3. HVREMAC credentialed and familiar with EMS system configuration, and communication;
4. Have a thorough knowledge of and strong dedication to the support and improvement of emergency medical services.

SECTION 11: Medical Control Hospital Medical Control Director: Responsibilities

The Medical Control Hospital Medical Control Director will:

1. Maintain HVREMAC Medical Control Credentials;
2. Maintain Knowledge levels appropriate for a Medical Control Hospital Medical Control Director, through continued education, as required by the Hudson Valley REMAC and NYS DOH;
3. Become a member of the HVREMAC and participate regularly at scheduled meetings and on its subcommittees or by a chosen designee;
4. Set and ensure compliance with patient care standards including communication standards as well as dispatch and medical protocols;

[3] In any out of State Hospital, that is approved by HVREMAC to provide Medical Control, the physician must be a licensed physician in that State.

5. Ensure adequate training and familiarity of all emergency department physician and nursing staff with:
    a. Pre-hospital medical control system and issues;
    b. Training and responsibilities of all levels of pre hospital EMS providers;
    c. Quality improvement concerns;
    d. NYS BLS protocols and HVREMAC protocols;
    e. Pre-hospital/hospital interface and cooperation;
6. Develop and implement an effective quality improvement program for continuous system and patient care improvement;
7. Direct and facilitate an on-going review of the medical control system and quality improvement program. Mediate pre-hospital issues and problems concerning medical control, as appropriate;
8. Participate and/or designate medical control physicians, physician assistants, or nurse practitioners to participate on local EMS agency quality improvement committees to assist such agencies with fulfilling their requirements as indicated in New York State Public Health Law Article 30, Section 3006;
9. Report any EMS personnel or ALS Agency complaint, protocol violations or lack of cooperation with other aspects of medical control and or quality improvement activities, to the HVREMSCO Executive Director as established in HVREMSCO protocols;
10. Ensure the qualifications of EMS personnel involved in patient care and dispatch are maintained on an ongoing basis through education, testing, and credentialing;
11. Ensure that HVREMSCO / NYS protocols and appropriate policies are made immediately available at the medical control telephone / radio base station.

SECTION 12: Medical Control Physician: Definition and Qualifications

The Medical Control Physician's primary role is to provide medical direction and advice to EMS personnel who are providing medical care at the scene of an emergency or enroute to a health care facility. Additionally, Medical Control Physicians review the quality of patient care that is being performed to identify areas of improvement or excellence.

Qualifications of a Medical Control Physician are as follows:

1. A New York State licensed physician who is currently practicing emergency medicine[4].
2. Credentialed by the HVREMAC.
3. Affiliated with a Hudson Valley Medical Control Facility.
4. Expertise with HVREMSCO/NYS triage, treatment and transportation protocols;
5. Knowledge of the design and operation of the Medical Control System;
6. Must be board certified in Emergency Medicine, or have current ACLS and ATLS certification.
7. Familiar with EMS system configuration and communication;
8. Have a thorough knowledge of and strong dedication to the support and improvement of emergency medical services.
9. Active involvement and knowledge of continuous quality improvement activities;
    a. Trained in and thoroughly familiar with:
        i. Communication systems;
        ii. EMS levels of training and responsibilities;
        iii. Responsibilities of a Medical Control Physician

[4] In any out of State Hospital, that is approved by HVREMAC to provide Medical Control, the physician must be a licensed physician in that State.

SECTION 13: Medical Control Physician: Responsibilities

The Medical Control Physician will:

1. Maintain Hudson Valley REMAC Medical Control Credentials;
2. Maintain knowledge levels appropriate for a Medical Control Physician, through continued education, as required by the Hudson Valley REMAC and NYS DOH;
3. Determine the patient's choice of medical facility and determine if patient's status permits transport to the facility of choice, or if the patient should be directed to a different, more appropriate facility. See appendix (A) for a list of current capabilities of hospitals within the HVREMAC system.
4. When a patient treated under Medical Control direction by the facility is being transported to any other hospital facility, the Medical Control Physician must notify the receiving hospital of the following:
    a. Patient's presenting problem and work-up;
    b. Medical control orders given to the ALS provider;
    c. All BLS and ALS treatment done for the patient under standing orders or on-line medical control;
    d. Patient's response to therapy;
5. Assist the Medical Control Hospital Medical Control Director with the coordination and implementation of the Medical Control system in his/her facility;
6. Offer continuing education to pre-hospital personnel as directed by the Medical Control Hospital Medical Control Director;
7. Collect and review data regarding the quality of pre-hospital patient care that is being provided by EMS personnel transporting patients to his/her facility and report to the Medical Control Hospital Medical Control Director; Coordinate local EMS agency quality improvement committees as directed by the Medical Control Hospital Medical Control Director.

SECTION 14: Medical Control Physician Assistants and Nurse Practitioners: Definition and Qualifications

New York State certified or licensed Physician Assistants and Nurse Practitioners may provide medical control under the supervision of an on-site Hudson Valley REMAC Medical Control Credentialed Physician.

Qualifications of a Medical Control Physician Assistant and/or Nurse Practitioner are as follows:

1. Expertise with HVREMSCO/NYS triage, treatment and transportation protocols;
2. Knowledge of the design and operation of the Medical Control System;
3. Experience in emergency department management of the acutely ill or injured patient;
4. Active involvement in the continuing education of pre-hospital medical personnel;
5. Active involvement and knowledge of continuous quality improvement activities;
6. It is recommended that each medical control physician assistant and nurse practitioner be trained in and thoroughly familiar with EMS levels of training and responsibilities as well as the responsibilities of a medical control physician.
7. Maintain Hudson Valley REMAC Medical Control Credentials

SECTION 15: Medical Control Physician Assistant and / or Nurse Practitioners: Responsibilities

The Medical Control Physician Assistant and/or Nurse Practitioner will:

1. Maintain knowledge levels appropriate for a Medical Control Physician Assistant and/or Nurse Practitioner, through continued education, as required by the Hudson Valley REMAC and NYS DOH;
2. Determine the patient's choice of medical facility and determine if patient's status permits transport to the facility of choice, or if the patient should be directed to a different, more appropriate facility;
3. When a patient treated under Medical Control direction by the facility is being transported to any other hospital facility, the Medical Control Physician Assistant or Nurse Practitioner providing medical direction must notify the receiving hospital of the following:
    a. Patient's presenting problem and work-up;
    b. Medical control orders given to the ALS provider;
    c. All BLS and ALS treatment done for the patient under standing orders or on-line medical control;
    d. Patient's response to therapy;
4. Assist the Medical Control Hospital Medical Director with the coordination and implementation of the Medical Control system in his/her facility;
5. Offer continuing education to pre-hospital personnel as directed by the Medical Control Hospital Medical Director;
6. Collect and review data regarding the quality of pre-hospital patient care that is being provided by EMS personnel transporting patients to his/her facility and report to the Medical Control Hospital Medical Director;
7. Coordinate local EMS agency quality improvement committees as directed by the Medical Control Hospital Medical Director;

SECTION 16: Service Medical Director: Definition and Qualifications

A New York State licensed physician, appointed by the system or the service, whose role is to provide medical expertise to the ambulance service's quality improvement and educational programs.

The Hudson Valley REMSCO requires that any agency providing pre-hospital care must have a Service Medical Director, as per NYS Policy, based upon the following list:

The Service Medical Director must meet all criteria of NYS DOH Policy 11-03 and its successor.

It is highly recommended that every First Responder Service also have a medical director.

HVREMSCO Qualifications of an ALS Service Medical Director are as follows:

1. Knowledge of the design and operation of pre-hospital EMS services, and commitment to the support and development of quality pre-hospital care;
2. Experience or training with medical control of pre-hospital EMS providers;
3. Experience in emergency department management of the acutely ill or injured patient;
4. Active involvement in the training of basic and advanced life support pre-hospital personnel;
5. Active involvement and knowledge of continuous quality improvement activities;
6. The service medical director must be approved by the HVREMAC to perform that role;
7. The service medical director of an ALS service authorized to practice in the Hudson Valley Region MUST be a HVREMAC credentialed physician.

8. The Service Medical Director may obtain HVREMAC credentials given the following:

    a. *Is a current Medical Control Physician practicing as an ER physician, and submits proof of employment, within the Hudson Valley Region.*

    OR

    b. *Is a New York State licensed physician*

        i. *Submit proof of affiliation with a hospital within the Hudson Valley Region or within a hospital domiciled in a county bordering the Hudson Valley Region.*

        ii. *Takes the HVREMAC Credentialing Exam*

        iii. *Submit a signed copy of the HVREMAC and NYS DOH Physician Verification Form*

    OR

    c. *Is a member of the Hudson Valley Regional Medical Advisory Committee*

SECTION 17: Service Medical Director: Responsibilities

The Service Medical Director:

1. Is directly responsible for the medical care provided by the certified EMS personnel for that EMS service;
2. Lends medical expertise to and coordinates the service's quality improvement process, including the medical review of specific EMS calls, the evaluation of patient care, etc., and insures that the service is compliant with HVREMSCO and NYS quality improvement requirements;
3. Assists in the design and implementation of continuing medical education and other service based educational programs;
4. Serves as a resource for any medical aspects of service related activities, policies, procedures, etc.
5. Maintain Hudson Valley REMAC Medical Control Credentials;

No physician may act as service medical director for more than 10 EMS services.

A ratio of physician to certified EMS personnel supervision must be provided as follows:

a) 500:1 for certified EMS personnel who provide Automated External Defibrillation (AED),

b) 100:1 for certified EMS personnel who provide advanced life support; provided that the maximum number of personnel to be supervised by an individual physician does not exceed 500 AED or 100 ALS personnel.

SECTION 18: Regional EMS Medical Advisory Committee (REMAC) – Organizational Structure and Responsibilities

The Hudson Valley REMAC shall consist of appointed Physician Emergency Department Director delegates from each of the Medical Control Hospitals in the Region. The Hudson Valley Regional EMS Council (HVREMSCO) shall appoint a Medical Director who is responsible for the overall coordination and operation of the HVREMAC. The HVREMAC shall nominate, on an annual basis, to the HVREMSCO, for the Council's consideration and approval, a physician to serve as HVREMAC Chairperson.

The HVREMAC shall:

1. Develop policies, procedures, and triage, treatment and transportation protocols which are consistent with the standards of the State Emergency Medical Advisory Committee (SEMAC) and which address specific local conditions;

2. Develop a medical control credentialing and continuing education process for physicians, physicians assistants, nurse practitioners, and EMS personnel as appropriate;

3. Review the credentials of physicians and approve those, as appropriate, to provide on-line medical control;

4. Review the credentials of EMS personnel and approve those, as appropriate, to provide pre-hospital care;

5. Review the credentials of physician assistants and nurse practitioners and approve those, as appropriate, to provide continuing medical education to EMS personnel;

6. Develop a fair process to remove the applicable medical control practice privileges of pre-hospital and hospital personnel as necessary;

7. Coordinate the development of the Regional Medical Control System;

8. Collect and review patient outcome information for the purpose of assessing pre-hospital care concerns and participate in quality improvement activities addressing system-wide concerns;

9. Make recommendations to the HVREMSCO on proposed new pre-hospital or hospital ALS providers;

10. Nominate a physician with demonstrated knowledge and experience in Emergency Medical Services to the New York State Commissioner of Health to serve as a member of SEMAC;

11. Develop and implement a Regional Medical Control Plan that incorporates all of the above.

SECTION 19: County Medical Advisory Committee: Roles and Responsibilities

Individual counties in the Hudson Valley Regional EMS Council Region may wish to establish individual County Medical Advisory Committees. These committees are recognized as advisory in nature and their participation is encouraged at the Hudson Valley Regional Medical Advisory Committee.

HUDSON VALLEY REGIONAL MEDICAL ADVISORY COMMITTEE POLICIES

SECTION 1: Clinical Judgment Policy

The Hudson Valley Regional EMS ALS Protocols are guidelines which should be used in conjunction with good clinical judgment. Since patients do not always fit into a rigid formula approach, situations may occur which are not included in these protocols. In situations where there is no existing protocol and a clear need for ALS exists, the ALS provider shall contact Medical Control who shall order the most appropriate treatment within the provider's scope of practice as defined by level of training, certification, and protocols.

SECTION 2: Protocol Exceptions Policy

Should a situation arise which fails to conform to the Regional ALS Protocols, the ALS Provider and on-line Medical Control Practitioner may agree upon an altered course of action. Should either the Medical Control Practitioner or the ALS Provider not agree upon carrying out the altered course of action, either has a right to refuse the action.

All implemented Medical Control Orders must be documented on the PCR and/or addendum.

In any instance where consensus about orders cannot be reached, then all standing orders as well as medical control orders, for which there is consensus, will be completed and documented.

Any issues for which consensus is not reached will be referred to quality assurance mechanisms via appropriate agency and HVREMAC policies.

While acting in a setting which falls beyond the scope of the ALS Protocols, no ALS Provider shall be faulted or suffer punitive action for:

- Following on-line Medical Control orders, provided the orders are within the ALS Provider's standard of care, scope of practice and qualifications.
- Refusing to follow an order which the ALS Provider believes to increase risk to the patient;
- Refusing to perform a procedure which is beyond the ALS Provider's standard of care, scope of training and qualifications.

Whenever an action occurs outside the ALS Protocols, the Medical Control Practitioner and the ALS Provider shall each generate and forward a report of the action to the HVREMAC within 3 days of the occurrence.

SECTION 3: Communications Policy

1) ALS Providers may contact Medical Control at any time.
2) The ALS Provider must contact Medical Control;
   a) Any time a medical control physician option is necessary for patient care
   b) Whenever there is a patient who requires ALS services or already has ALS services initiated, but refuses treatment or transport
   c) When an ALS Provider operates on the scene of an ALS call in excess of 20 minutes beyond patient access
3) When establishing communications with the hospital, the ALS provider should state the purpose of the contact:
   a) “medical control orders requested” (restricted to a medical control facility)
   b) “notification only”
4) ALS Providers must identify themselves by agency, level of certification, MAC number.

SECTION 4: Communications Failure Policy

1) In the situation where voice contact with medical control cannot be established by radio/telephone/cellular apparatus/telemetry, the ALS Provider will complete appropriate standing orders. At this point if the patient is unstable, e.g. (chest pain, AMS, severe respiratory distress, signs of hypoperfusion or hypotension with SBP <90), initiate any medical control options appropriate to the pertinent protocol[s]; however, **controlled substances may only be utilized as they appear in standing orders.** The ALS provider may only apply those for which the provider and agency have been approved.

2) Continuing attempts to establish voice contact should be made with any available Regional Medical Control Facility.

3) Upon completion of a call in which there has been a communication failure, medical control must be contacted and advised of the situation.

4) PCR documentation must include all attempts to contact medical control and reasons for communication failure.

5) Whenever an ALS provider is unable to establish communications with Medical Control, as defined above the ALS Provider will document the incident in detail and notify the Chief Operations Officer of the agency, or designee in writing. The case must be reviewed by the agency Medical Director and that review forwarded to HVREMS office (to the attention of QA/QI coordinator).

SECTION 5: Transfer of Care Policy

1. ALS Providers may transfer care of a patient to another provider within the following provisions:
    a. To an equal or higher level of care provider:
        i. When transport is by helicopter critical care team.
        ii. When transport is by another provider/service with the same level of qualifications.
        iii. When patient is turned over to an appropriate receiving facility.
        iv. When ALS capabilities are exceeded (ex. MCI) and patient is triaged to other ALS or BLS services.
    b. To a lower level of care provider:
        i. When the ALS Provider at the scene recognizes that there is no indication for ALS intervention. The ALS provider may release patients not having received, or not requiring ALS care, to Basic Life Support personnel for care and transportation to an appropriate receiving facility provided the presumptive diagnosis does not anticipate the need for ALS care. This can only be accomplished when the lower level provider accepts care.
        ii. When ALS capacity is exceeded (ex. MCI) and patients are triaged to other ALS or BLS services.
        iii. After providing ALS level care, in consultation with online medical control, and with the acceptance of the BLS medical provider. All documentation must include the number of the medical control practitioner.
        iv. When a coroner or other appropriate agency takes custody.

In each situation, the ALS Provider will document the type of incident on the PCR or appropriate supplemental document.

SECTION 6: Patients Who Refuse Care Policy

All adults with capacity have the right to refuse medical treatment and/or transport. It is the responsibility of the pre-hospital care provider to be sure that the patient is fully informed about their situation and the possible implications of refusing treatment or transport.[5]

When a patient or legal guardian/proxy refuses treatment or transport:

1. Refer to New York State Department of Health, Bureau of EMS Basic Life Support Protocol SC-5 “Refusing Medical Aid (RMA)”;

2. If an ALS provider has initiated any ALS procedures and/or administered any medications, the provider must consult Medical Control prior to allowing a patient to RMA or before sending the patient BLS.

    a. The Medical Control practitioner and Medical Control hospital must be noted in the PCR documentation.

SECTION 7: Supply and Inventory Procedures Policy

1. Agencies will be required to stock each ALS unit and maintain stock levels according to the minimum guidelines as set forth in the medication / supply list in the appendix.

2. Each ALS Unit is responsible for a daily inventory of all stock levels and medications and must keep a record of said inventory.

[5] New York State Department of Health, Bureau of EMS Statewide Basic Life Support Adult and Pediatric Treatment Protocols, 2003.

SECTION 8: Destination Decisions Policy

Patients shall be transported to the nearest appropriate hospital, as defined by state/regional protocols, medical condition, and patient choice. ALS providers must make every effort to educate and inform patients of the need to go to the most appropriate facility.

Medical Control must approve any anticipated deviation from this standard.

When transportation is not to the nearest appropriate hospital, the ALS Provider shall contact Medical Control at the intended receiving hospital to see if they are willing to accept that patient. All communications will be documented in accordance with the Communications Policy. If the intended receiving hospital is not a Medical Control hospital, the provider must contact medical control at any Medical Control Hospital.

When patients are transported to a hospital not providing the Medical Control for the transport, the Medical Control Practitioner will notify the clinical practitioner (Physician, Physician's Assistant, or Nurse Practitioner as appropriate) designated as in charge of the Receiving Hospital emergency department of the transport and the patient treatment/status.

SECTION 9: Ambulance Diversion Policy

See NYS DOH BEMS Policy Statement 06-01, Emergency Patient Destinations and Hospital Diversion.

Ambulance diversion is a hospital based decision and is not binding upon the ALS service. Diversion may not be appropriate if the hospital "on diversion" is the nearest appropriate hospital and the patient's well being may be compromised by a longer transport time.

SECTION 10: Inter Facility Transfers Policy

Patient care is the direct responsibility of the transferring hospital and physician for all inter-facility transfer of patients. It is the responsibility of the transferring hospital to determine and to ensure proper level of care during inter-facility transports.

SECTION 11: Record Keeping Policy

The documentation included on the Patient Care Report (PCR) provides vital information, which may be necessary for continued care at the hospital.

1. ALS providers must document all ALS procedures performed on an appropriate PCR or addendum (ex. PCR Continuation Form or other form approved by the HVREMSCO to be used in place of a PCR Continuation Form).
2. In all such cases, the ALS provider will document on a Patient Care Report (PCR):
    a. The Medical Control Practitioner MAC Number
    b. The name of the Medical Control Facility
    c. the time of communication
    d. all Medical Control orders implemented
    e. The ALS Provider will have the PCR signed by the authorized medical control practitioner or designee
3. ALS Providers must complete a PCR (and when appropriate, a PCR addendum) immediately following a call, and an authorized Medical Control practitioner (Physician, Physician's Assistant, or Nurse Practitioner as appropriate) from the Receiving Hospital Emergency Department (ED) must also sign the ALS PCR or PCR addendum. Providers must follow DOH BEMS policy 12-02 or 12-03, or their successors, as appropriate.
4. In cases where patients are transported to a hospital not providing the Medical Control for the transport, the ALS provider will document on a PCR addendum the name of the Medical Control Practitioner and Medical Control Facility as well as the time of communication and all Medical Control orders received or denied. The ALS Provider will have the PCR addendum signed by the clinical practitioner designated as in charge of the Receiving Hospital ED.

SECTION 12: Mandatory Reporting

The NYS DOH, Bureau of EMS mandates specific incident reporting responsibilities and requirements for all EMS services. Mandatory reporting of incidents must be performed as indicated in NY State EMS Code, Part 800, Section 21(q) 1-5 and Section 21(r), Part 80, 80.136 (k), NYS DOH, Bureau of EMS Policy Statement 98-11, NYS DOH, Bureau of EMS Policy Statement 09-08, and any other NYS DOH Policies and Procedures.

SECTION 13: Medically Facilitated Intubation (Replaces RSI)

MFI may only be performed by:

1. HVREMAC credentialed MFI Paramedics, **and**
2. on-duty at an HVREMAC MFI approved ALS agency, **and**
3. who are trained by the ALS agency to perform MFI **and**
4. approved by the agency Medical Director **and**
5. with the assistance of a second MFI trained Paramedic at the scene.

Consult the HVREMAC MFI Program (Appendix 5). Any agency wishing to participate in MFI must comply with the requirements in Appendix 5.

SECTION 14: Complaints or Concerns Policy and Procedures

Complaints or concerns can be made by a patient, the public, participating organizations or individual participants, including HVREMSCO staff members. All such complaints or concerns should be brought to the attention of the HVREMSCO Executive Director.

In order to handle complaints or concerns regarding participating organizations, or individual participants such as BLS or ALS Providers, Nurses and Physicians involved in pre-hospital ALS, the following procedure has been established:

Appropriate grounds for all complaints or concerns, include but are not limited to:

1. Practicing without proper NYS or HVREMSCO certification
2. Deviation from HVREMSCO ALS Protocols, including interim updates from Regional MAC. (HVREMSCO protocols, procedures, medications schedule, policies)

3. Unprofessional conduct (Including but not limited to: disrespect towards patients, families, fellow providers, intoxication while on duty, breaking patient confidentiality, etc.)
4. Immoral or indecent behavior
5. Fraud, falsification of records, unauthorized possession or misappropriation of property
6. Insubordination

Procedure for handling complaints or concerns:

1. Complaint or concern is brought to the attention of the HVREMSCO Executive Director, who may request written documentation of the complaint or concern.
2. HVREMSCO Executive Director may confer with the involved agency's chief operating officer and medical director, or hospital medical director, then with the individual involved in the complaint.
3. HVREMSCO Executive Director may confer with the Regional Medical Director, NYS Bureau of EMS representatives, and legal counsel.
4. HVREMSCO Executive Director in conjunction with the Regional Medical Director may choose any of the following options:
    a. Decide the complaint or concern is unwarranted, and report to the Evaluation Committee.
    b. Decide the complaint or concern is warranted, refer to the Evaluation Committee
    c. Decide the complaint or concern is warranted, resolved by discussion amongst, Executive Director, Regional Medical Director, and Evaluation Committee Chairperson, party making complaint, and involved individual / agency.
    d. If there is a serious infraction, the Executive Director will confer immediately with the Medical Director and Evaluation Committee Chairperson, then hold a meeting of same with the named party and one representative of his/her institution.
    e. The Evaluation Committee will meet within five (5) business days to review the results of the investigation and render a preliminary decision or course

of action. Disciplinary action may include: remediation, probation, probation with supervision, or suspension for a specified time period not to exceed 30 days.

f. The Evaluation Committee reports all serious infractions to the HVREMAC for a final decision.

5. Communication by the HVREMSCO Executive Director of warranted complaints will be by telephone, email and via written notification by certified mail.

6. The HVREMSCO Executive Director will notify all parties involved in a complaint of the outcome / resolution.

7. In cases where it is the consensus of opinion of the HVREMSCO Evaluation Committee that no follow-up action is warranted, the Chairman of the Evaluation Committee, or the Regional Medical Director, shall communicate that opinion in writing to all involved parties.

8. When the HVREMSCO Evaluation Committee renders a punitive decision or course of action, the HVREMSCO Executive Director will notify all involved parties in writing when the situation is resolved.

9. At their next regularly scheduled meeting, the HVREMSCO Evaluation Committee will review any cases and remediation processed through the above steps.

SECTION 15: EMS Disciplinary Policy and Procedures

The Evaluation Committee is a sub-committee of the Regional Medical Advisory Committee (REMAC). The Evaluation Committee consists of seven (7) members as follows:

Chairman of the Evaluation Committee

Regional Medical Director

Chairman of the HVREMAC

Regional Executive Director

Regional Quality Improvement Coordinator

Two (2) non-voting same-level providers or practitioners, agencies or institutions (based on the complaint)

A quorum of the committee shall be three voting members of which at least one must be a physician. The chairman of the committee shall appoint alternate physicians / providers should a conflict of interest arise.

All members of the committee must have no conflict of interest regarding the issue brought to the committee.

This Evaluation subcommittee under the auspice of Quality Improvement will gather data necessary to review clinical care issues, and make appropriate determinations, in the region. The Evaluation Committee's report shall become the basis for a consensus recommendation to the HVREMAC.

The decision of the Evaluation Committee shall be considered binding.

Disciplinary options of the Evaluation Committee include, but are not limited to: remediation, probation, probation with supervision, suspension for a specified time period, or recommendation of revocation of privileges to participate in the Hudson Valley Regional EMS System, to the HVREMAC. A record of each complaint or concern and the completion of the appropriate disciplinary steps shall be kept by the HVREMSCO staff.

The HVREMAC may conduct any subsequent investigations and/or hearings deemed warranted and shall issue a decision in the matter within 30 days of receipt of the consensus recommendation of the Evaluation Committee. The decision of the HVREMAC shall be considered final.

Appeals by the complainant or the named party should be directed at the New York State EMS Council Medical Advisory Committee, with notification to be sent to the Hudson Valley REMAC.

SECTION 16: Protocol Changes Policy

Any recommendations or request for changes in the Collaborative ALS Protocols should be referred in writing to the Hudson Valley Regional Medical Advisory Committee for review by the Protocol Committee. The HVREMAC representative will forward proposals through the Collaborative Protocol review process.

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HUDSON VALLEY REGIONAL MEDICAL ADVISORY COMMITTEE

REGIONAL CREDENTIALING AND Medical Control Contact Hour POLICIES AND PROCEDURES

SECTION 1: Program Administration

The Hudson Valley Regional Medical Advisory Committee (HVREMAC) evaluates candidates for REMAC credentialing and applicable Medical Control privileges against criteria established by the HVREMAC as indicated in the Hudson Valley Regional EMS Council Medical Control Plan. At the time of initial credentialing and upon re-credentialing, the applicant must meet one of the following criteria:

1. Currently certified New York State AEMT or Paramedic holding a Primary affiliation with a certified ALS agency authorized by the HVREMAC to operate in the Hudson Valley Region.

2. Current Physician, Physician Assistant, or Nurse Practitioner affiliated with a Hudson Valley Regional Medical Control Facility

3. Current Medical Director of an ALS agency, authorized by the HVREMAC to operate in the Hudson Valley Region, as defined the Hudson Valley Regional EMS Council Medical Control Plan

SECTION 2: Regional Credentialing Process

Any ALS Provider who wishes to operate in the Hudson Valley Region must:

1. Provide documentation of affiliation with any HVREMAC approved ALS Agency operating in the Hudson Valley Region, under whose auspice the provider will be practicing AND indicate agency of primary affiliation. No individual can be credentialed without a Primary ALS affiliation.

2. Provide documentation of holding required credentials that are both valid and current:
    a. Submitted by the ALS provider for INITIAL CREDENTIALING.
    b. Submitted by the agency of primary affiliation upon RE-CREDENTIALING, on behalf of the provider:

Credentialing and Re-credentialing Documents	AEMT	AEMT/CC AEMT/P	RN / NP PA / MD
HVREMAC Credentialing Application	X	X	X
Proof NYS AEMT Certification *	X	X	
Government Issued Photo Identification	X	X	X
Completed Agency Affiliation Form	X	X	
Current BCLS – Healthcare Provider	X	X	
Current PALS or PEPP		X	
Current ACLS		X	
Verification of NYS Licensure			X
Completed Medical Control Affirmation Form			X
*Applicants for initial HVREMAC credentialing may sit for the HVREMAC Credentialing Exam with proof of New York State BEMS on-site scoring. HVREMAC Credentials will only be issued on HVREMSCO receipt of certification card issued by New York State BEMS.			

3. Schedule an appointment with the Regional office for a credentialing examination, at least 24-hours in advance, when pursuing INITIAL credentialing.

4. Successfully achieve a passing grade on each module of the HVREMAC credentialing exam.

The REMAC will issue credentials upon receipt of above criteria, and will list the provider in the regional data bank for all affiliated agencies and will notate the agency of primary affiliation.

SECTION 3: Credentialing Examination

1. Written examinations are administered at the Hudson Valley Regional EMS office.

2. The HVREMAC exam will be an open book test; a grade of 90% per module will be considered passing.

3. Providers will be given two (2) hours to complete the exam; any questions not answered within the time allotted will be marked as incorrect

4. Providers will be supplied with copies of the Protocols and Policies and Procedure manuals: Electronic devices are not allowed.

The HVREMAC reserves the right to designate an alternatively approved electronic testing utility or off-site location. Pre-Registration is required.

1. Exams are administered only to:

    a. NYS certified Paramedics who are sponsored by an ALS agency authorized by the HVREMAC to practice in the Hudson Valley Region and who meet the requirements of Section 2.

    b. Medical Control representatives: Physicians, Physician's Assistants, and Nurse Practitioners sponsored by a HVREMAC designated Medical Control Facility.

    c. The Medical Director of a HVREMAC authorized ALS agency. Reference the HVREMAC Medical Control Plan.

The HVREMSCO shall use a five (5) module credentialing examination which will cover:

1. General Operations

2. Respiratory ALS Protocols

3. Cardiac ALS Protocols and CPR

4. Trauma ALS Protocols

5. General and Environmental ALS Protocols

All candidates must achieve a minimum score of 90% in each module.

SECTION 4: Retesting Policy

1. Candidates who fail the credentialing exam may be eligible for a retest, but not on the same day as their initial examination.

2. Candidates will be issued an Examination Retest Form that identifies the test scores and protocols that the candidate shows deficiencies in.

3. Authorized agents of the candidate's sponsoring ALS Agency must reauthorize, in signature, the ability of the candidate to take the credentialing exam.

    a. It is incumbent upon the authorizing ALS Agency to ensure that remediation of the provider has occurred prior to reauthorizing the provider to schedule a retest.

4. Candidates having failed two (2) or less module during the initial exam must retest the failed modules. A candidate having failed three (3) or more modules constitutes an exam failure and the candidates must retest the entire credentialing exam. The candidate is not eligible to take a second exam for a minimum of ten (10) business days from the date of the initial exam. The retest cannot be scheduled until the HVREMSCO is in receipt of the examination retest form.

5. Candidates who have failed any retest are not eligible for a new examination for thirty (30) Days from the date of their failed retest. Failure of any re-test will deem the Provider ineligible for a new certification examination until the authorizing agency submits detailed documentation of remediation, and a new letter of authorization.

SECTION 5: Reciprocity

Providers credentialed by a REMAC participating in the Collaborative Protocols are exempt from the full HVREMAC credentialing exam only. The REMAC issuing the provider credentials under the Collaborative Protocols must submit a letter of good standing to the HVREMSCO. The *provider is required to take only the general operating procedure portion* of the HVREMAC credentialing exam. A minimum passing grade of 90% must be achieved. All required materials and certifications must be submitted to the HVREMSCO office prior to sitting for the exam. Any candidate failing this section through reciprocity will be required to take the exam in its entirety.

SECTION 6: Maintaining Regional Credentials

1. All HVREMAC credentialed Paramedics are required to:

    A. Maintain a Primary affiliation with an ALS agency authorized to practice in the Hudson Valley Region. ALS Agencies must notify the Hudson Valley Regional EMS office of all new ALS provider/agency affiliations. This notification must occur before the provider is authorized to practice ALS skills in the field while acting on behalf of the agency.

    B. Maintain NYS DOH Bureau of EMS certification as a Paramedic

    C. Complete 24 hours of Physician Contact, 12 of which must be Medical Control Contact Hours (see section 7), during the three year period prior to the expiration date of the provider's HVREMAC credentials.

        i. It is the ALS provider's responsibility to submit verification of Physician / Medical Control Contact Hours earned to each ALS agency to which he/she is affiliated; it is the responsibility of the ALS agency to maintain the provider's documentation of contact hours for a period of three (3) years.

        ii. It is the responsibility of the provider, when changing his primary agency, to provide to the new primary agency his record of Physician / Medical Control Contact Hours.

    D. Maintain valid and current certifications as indicated for re-credentialing.

E. The provider's agency of primary affiliation must submit the provider's completed re-credentialing packet to the Regional office no less than forty-five (45) days prior to the provider's HVREMAC credential expiration date. It is the responsibility of the provider to meet recertification requirements and submit proof of such to their agency. For cases where the documentation was submitted via US Post, the postmark will be used to determine the submission date. In instances where the documentation is hand delivered, the HVREMSCO date stamp will be used to determine the submission date.

2. Provider Standing: Although all EMS agencies must monitor their own personnel for compliance, the HVREMAC is the definitive governing body for determining whether ALS providers are active, in "good standing" and subsequently credentialed to practice in the Hudson Valley Region.

SECTION 7: Accruing Medical Control Contact Hours & Non-Medical Control Physician Led Contact Hours

Medical Control Contact Hour credit will be issued to programs that are delivered by a medical control practitioner credentialed by any REMAC participating in the Collaborative Protocols.

Medical Control Contact Hours (MCCH) may be obtained in the following manner:

1. By attending Medical Control delivered programs
    a. Credit will be awarded for attending call audits, case presentations, and lectures offered by REMAC credentialed Medical Control Practitioners.
    b. Credit is offered for actual program length
    c. Providers who attend MCCH in any REMAC outside the Hudson Valley Region, participating in the Collaborative Protocols, must submit verification of such attendance directly to their agencies and electronically to the HVREMSCO.
2. Through Case Reviews
    a. ALS Providers may discuss and review their individual ALS cases, with Medical Control Practitioners in regions that participate in the Collaborative Protocols, for MCCH credit.
        i. The case under review / discussion must be a provider's individual case or one wherein the provider significantly participated in the care of the patient.

ii. The provider must have transported the patient to the Medical Control facility where the Medical Control Practitioner is located.

iii. The Medical Control practitioner has the sole discretion whether or not to award credit and must be comfortable with the review that occurred. The medical control practitioner may elect not to review cases due to volume in the emergency department.

iv. Each review will be awarded 0.25 hour credits provided a HVREMSCO Medical Control Contact Hour form is signed by the Medical Control practitioner.

v. A maximum of 8.0 credits (32 reviews) is permitted by this method.

b. Through the Medical Control Shadow Program-

c. Providers may earn no more than 8.0 Medical Control Contact Hours credit by participating in the HVREMAC shadow program and fulfilling all requirements. See Manual: HVREMAC Shadow Program.

3. Through QI Program participation

a. ALS providers may request MCCH allotment for Quality Improvement (QI) Committee participation that involves direct interaction with a Medical Control Practitioner credentialed by a REMAC participating in the Collaborative Protocol.

b. MCCH allotment will be awarded on a 1 credit per hour basis up to a maximum of 4.0 credit hours per instance for Quality Improvement Activities.

c. MCCH allotment will be awarded only if the following requirements are met:

i. Written documentation that includes the Medical Control representative's signature verifying the ALS provider's active QI committee involvement is submitted to the Regional Office;

ii. The agency that utilizes the ALS provider as a QI Committee member submits a current (within two years) HVREMAC approved QI plan to the Regional Office;

iii. A completed MCCH attendance form that includes the Medical Control representative's signature verifying the ALS provider's attendance to the QI committee meetings is submitted to the Regional Office.

Non-Medical Control Physician Led Contact Hours may be obtained in the following manner:

1. By attending Non-Medical Control Physician delivered programs
    a. Credit will be awarded for attending call audits, case presentations, and lectures offered by Non-Medical Control Physicians.
    b. Credit is offered for actual program length
    c. Providers who attend programs in any REMAC outside the HVREMSCO, participating in the Collaborative Protocols, must submit verification of such attendance directly to their agencies and electronically to the HVREMSCO.

SECTION 8: Requirements for Receiving Medical Control Contact Hour Approval by the HVREMSCO

1. All programs seeking Medical Control Contact Hour (MCCH) allotment must be pre-approved by the HVREMSCO office.

2. Each request must fully identify (A-G):

    A. The title of the program
    B. The name and credentials of the presenter
    C. A content outline and a brief description of its relevance to EMS providers
    D. The specific Collaborative ALS Protocols that the presentation will cover. If the presentation does not relate to any existing protocol, the presenter must indicate its relevance to the role or function of the EMS provider.
    E. Organizers of educational seminars that offer multiple presentations over the course of the seminar must indicate the title, presenter, descriptive narrative, and protocol reference for each presentation included in the seminar, in order to be eligible for MCCH allotment.
    F. A copy of all handouts or presentation materials should be included if possible, since this may include essential information needed to evaluate the appropriateness of the MCCH content to the certification level of the anticipated audience.
    G. Proof that the presenter is currently credentialed under a REMAC participating in the Collaborative protocols

3. All MCCH allotment requests should be either postmarked, or sent via email to the HVREMSCO **a minimum of fifteen (15) days prior** to the date of the program. The MCCH application **must be complete** and received on the MCCH request form provided by the HVREMSCO.

4. The HVREMSCO may reject any application not having all the required information provided by the organizer, and will notify the organizer that no MCCH allotment will be forthcoming until the information is provided.

5. A MCCH approval code must be obtained in advance of any program offering. Programs which are offered, which do not have an approval code will not be applied toward MCCH. Organizers that have been denied MCCH awards do not have approval to conduct credit-approved MCCH, in anticipation of receiving a retroactive approval and MCCH award. There are no retroactive MCCH approvals.

6. MCCH credit will not be allotted to any program delivered by non-credentialed Medical Control Practitioners. When a non-credentialed instructor participates or assists in the delivery of a program that portion of the program will be considered physician contact hours only. It is the responsibility of the credentialed Medical Control Practitioner to actively participate in the presentation and ensure that the delivery of the program is applicable and relevant to EMS.

7. All content delivered in the program must be relevant to EMS, and must be designed to cover content within the knowledge base, skills, and/or scope of practice of the EMS participants in attendance. The HVREMAC reserves the right to reject content and may require that the organizer hosting the educational program provide additional content information or documentation prior to awarding any MCCH allotment. Content should always reference the appropriate NYS DOH BLS Protocols, and/or Collaborative ALS Protocols relevant to the topic of the presentation.

8. All MCCH Credit approvals are awarded on an hourly basis, and programs should be designed accordingly. When a presentation does not last as long as its advertised duration, the MCCH Award should be reduced as appropriate, and the attending participants so advised. For suggestion on how to avoid presentations that do not maximize their planned hourly duration please see the HVREMAC MCCH Planning tool.

9. All organizers providing educational content and anticipating the allotment of HVREMAC MCCH are advised to plan and time presentations appropriately. Repeated failures to do so will result in the withdrawal of MCCH allotment approval until a written plan of corrective action is received and accepted by the HVREMAC.

10. Organizers that demonstrate repeated non-compliance issues tantamount to fraudulent content delivery or timeframes of delivery are liable to an immediate suspension of the ability to conduct HVREMAC approved Medical Control content. In addition, any HREMAC previously approved subsequent MCCH sessions scheduled by the organizer will be revoked until an acceptable remediation action plan is submitted by the organizer and approved by the REMAC.

11. The HVREMSCO will report any Certified Instructor Coordinator to the NYS DOH BEMS for investigation, who knowingly signs for a fraudulently submitted CME/MCCH document to be used for recertification.

12. The HVREMAC does not authorize CME content hours for EMS providers seeking to re-certify under the NYS DOH BEMS CME Recertification Program. Educational content to be utilized for NYS re-certification lies under the purview of the NYS Certified Instructor Coordinator providing oversight for the EMS Provider's recertification program.

13. All Original and Medical Control Practitioner signed MCCH rosters, complete with all presenter signatures must be received by the HVREMSCO Office within **five (5) business days** of the date of the presentation. Failure to provide said documentation within the prescribed time period may result in the HVREMAC withholding the MCCH allotment for attendees until such time as the verification paperwork is secured. Repeated delays by an organizer in forwarding required documents will lead to a suspension of any HVREMAC MCCH allotments for said organizer.

    Note: Providers requiring this MCCH credit for recertification or credentialing may be adversely affected by this delay, and the organizer offering the MCCH should be aware of the ramifications that missing, lost, or not submitted documentation may have on the EMS provider.

14. The HVREMAC must approve any distance learning program seeking MCCH allotment. Organizers and presenters, including Medical Control Practitioners, must account and attest to the attendance and participation by all those present.

    A. Since this type of offering may have participants physically present in a common classroom where they are able to sign a session roster, the previously discussed submission criteria will apply.

    B. For any session where the participants are not present in a common area, i.e. they sign on via computer/internet at a remote location, the organizers, presenters, and Medical Control Practitioner will document all participant's verified names and MAC numbers on a HVREMSCO Roster, and

countersign attesting to such attendance. Organizers must submit this roster to the HVREMSCO as previously identified.

15. Auditing of MCCH programs may be performed by the HVREMSCO or their representatives, and their findings reported to the Regional Office and/or REMAC. For purposes of audit and reporting, the following will be deemed mandatory reporters as agents of the HVREMSCO:

    A. All HVREMSCO staff
    B. All REMAC members
    C. All HVREMSCO Delegates
    D. All Members of the HVREMSCO Training Committee
    E. Any NYS DOH Certified Instructor Coordinator or Certified Lab Instructor affiliated with a HVREMSCO area Course Sponsor.
    F. Any Regional Faculty

    Other than any of the aforementioned who are **assigned** by the HVREMSCO to audit a specific presentation, any party witnessing inappropriate content, presentations, presenters, or MCCH allotment of hours must report same to the regional office for follow-up.

16. No Medical Control Contact Hours offered in the Hudson Valley Region may be advertised as **"Medical Control Contact Hours Pending".** All MCCH program announcements must list the HVREMAC Approval number. Organizers must be cognizant of the importance of MCCH offerings, and that the failure to provide approved and appropriate programs to an EMS Provider may have significant ramifications for the provider's ability to recertify or re-credential.

SECTION 9: Pro-Rating Medical Control Contact Hour Requirements

1. ALS providers that obtain HVREMAC credentials and begin to function in the Hudson Valley region within the three year certification period will receive pro-rated Physician Medical Control Contact Hour requirements based on the expiration date of their NYS DOH BEMS certificate. Note that 50% of hours must be Medical Control Contact Hours (MCCH).

2. FIGURE 1: Pro-Rated Physician / Medical Control Credit Scale

Months Active	PC/MCCH	Months Active	PC/MCCH	Months Active	PC/MCCH
36	24	24	16	12	8
35	23	23	15	11	7
34	23	22	15	10	7
33	22	21	14	9	6
32	21	20	13	8	5
31	21	19	13	7	5
30	20	18	12	6	4
29	19	17	11	5	3
28	19	16	11	4	3
27	18	15	10	3	2
26	17	14	9	2	1
25	17	13	9	1	1

3. Process for pro-rating Medical Control Contact Hour allotment:

    A. Physician / MCCH allotment will be pro-rated as indicated in this section.

    B. Pro-rated Physician / MCCH allotment will only be awarded if all other credentialing requirements are met.

    C. Pro-rating will be awarded for providers who are on military leave or providers with anticipated inactivity for six (6) months or more *and* who have given written notification to the Regional office.

    D. If the provider has previously been credentialed in the Hudson Valley region in the prior year, the provider must have remained in "good standing" at the end of their prior credentialing period.

    E. The HVRESMCO Executive Director in concert with the HVREMAC Chair will have the authority and flexibility to determine MCCH eligibility for maintaining credentials.

SECTION 10: Requests for Periods of Inactivity

The HVREMAC recognizes that circumstances may arise which render a provider unable to participate in HVREMAC credentialing activities. For this reason the HVREMAC allows for periods of inactivity. The approval of inactive status is granted with the understanding that the provider may not be active in credentialing activities for a prolonged period of time. Any Physician / MCCH which are pro-rated will be pro-rated according to Figure 1.

1. Requests for inactivity will be granted in the following circumstances:

    A. Pursuant to NYS BEMS Policy 09-02 and its successors, providers will be granted a period of inactivity and Physician / MCCH pro-rated accordingly. Extension of HVREMSCO credentials will be granted, upon written notification to the HVREMSCO, that the ALS provider has requested an extension of certification to NYS BEMS. The provider must provide a copy of the new NYS BEMS certification card to the HVREMSCO office within three (3) weeks of the request. Verification of extension may be accomplished through a finding of "good standing" in the New York State Health Care System database.

B. ALS providers that become inactive or anticipate becoming inactive in the Hudson Valley Region for up to 12 months, regardless of the reason, must notify the Regional office, in writing, of their request to become inactive.

   i. Upon HVREMSCO receipt of notification by the requesting ALS provider, all agencies to which the provider is affiliated will receive written notice from the Regional office and the requestor will be place on the inactive ALS provider list. The ALS provider is required to abstain from any ALS practice, within the Hudson Valley Region, while on inactive status.

   ii. Written notification, for the purpose of this section, includes electronic notification.

C. Inactive ALS providers may request in writing to become active again at any time provided their HVREMAC credentials have not expired during the period of inactivity. If the ALS provider's HVREMAC required credentials expire during the period of inactivity or if the period of inactivity exceeds twelve (12) month duration, the ALS provider will be required to complete the HVREMAC credentialing process, including credentialing exam, in its entirety.

D. Any Physician / MCCH earned during a period of inactivity will be counted toward the pro-rated Physician / MCCH requirements.

E. At all times during inactive status the provider must maintain a primary agency affiliation.

F. Upon receipt and review of written request to return to active status, the ALS provider and all agencies to which the provider is affiliated, will receive written confirmation of reactivation from the Regional office and the ALS provider will be returned to active status.

G. The ALS provider will be responsible for obtaining only Physician / MCCH for the time period that the provider is active within the Hudson Valley Region; see Figure 1.

SECTION 11: Re-Credentialing Process

1. ALS provider HVREMAC credentials run concurrent with and expire with the provider's NYS DOH BEMS AEMT certificate. In order to receive updated HVREMAC credentials all ALS Providers must:
    a. Complete all of the mandatory Physician / MCCH requirements
    b. Maintain current New York State AEMT provider certification,
    c. Maintain all HVREMAC required credentials,
    d. Remain in "good standing,"
    e. Maintain a primary affiliation with a HVREMAC approved ALS agency
    f. Submit re-credentialing packet to HVREMSCO through their primary agency.
    g. Submit a colored photo for their HVREMAC card once every two (2) renewal cycles
2. Physician / MCCH verification, as determined by MCCH master attendance sheets, will be maintained by the HVREMSCO. It is the responsibility of the ALS provider to complete all HVREMAC requirements.
3. HVREMAC credentials are only valid when accompanied by current NYS DOH BEMS ALS provider certification. It is the responsibility of the ALS provider in conjunction with their primary agency to submit updated contact information, other required certifications and photo identification or any changes of such to the Hudson Valley Regional EMS Office. Failure to do so may result in an immediate suspension of HVREMAC credentials.

Re-Certification Process for Medical Control Credentialed Providers

1. Medical Control representative credentials are issued on a biennial basis becoming effective on January 1 and continuing through January 31st of the second year. Medical Control Facilities must verify Medical Control representatives operating at their facility annually and on a schedule to be determined by the HVREMSCO.

SECTION 12: Credentialing Non-Compliance

1. All ALS providers are required to maintain valid, current, appropriate and required certifications. In the event of a lapsed certification of BCLS, ACLS, or PALS / PEPP a provider will have sixty (60) days past the date of expiration to renew the certification.
    A. Forty-five (45) days prior to the date of a provider's expiring certification or HVREMAC Credentials, the provider and Primary agency will be notified of the pending expiration.
    B. Sixty (60) days after a provider's expired certification, HVREMAC Credentials will be *suspended*. The provider and all agencies to which the provider is affiliated will be notified of the suspension
    C. On receipt of current certifications by the Hudson Valley Regional EMS Office the provider will be returned to active status and all agencies to which the provider is affiliated will be notified.
    D. At the time of renewal the ALS provider must possess valid and current ACLS, PALS/PEPP and BCLS certifications. The grace period does not extend through expiring HVREMAC credentials.
2. All Physician / MCCH must be completed forty-five (45) days prior to the ALS provider's expiration date. However, Physician / MCCH completed within the 45 days to the provider's credential expiration timeframe will count towards required Physician / MCCH. If a provider's Physician / MCCH are satisfied, Physician / MCCH will then count towards the next credentialing period.
3. In the event a provider's re-credentialing materials are not submitted by the required submission date:
    A. The ALS provider is immediately placed "on notice" to complete all requirements by the provider's credential expiration date. All agencies to which the provider is affiliated will be notified. The provider must not only complete all required materials, but also take the re-credentialing exam with a passing score of 90% or greater in all modules.
    B. If required materials are not received by the credentialing expiration date, the provider is immediately suspended. The provider and all agencies to which the provider is affiliated will be notified.
    C. When all re-credentialing materials are submitted less than sixty (60) days past the provider's HVREMAC Credential Expiration date:

i. The provider must schedule and complete the HVREMAC Credentialing Exam with a passing score of 90% or greater in all modules.

ii. Upon successful completion of credentialing exam, the provider will be returned to active status and all agencies to which the provider is affiliated will be notified.

D. When all re-credentialing materials are submitted greater than sixty (60) days but less than one (1) year from the provider's HVREMAC expiration date:

i. The provider will remain on a mandatory six (6) month suspension from the date of credentialing expiration, during which time the provider is NOT authorized to provide ALS care in the Hudson Valley Region.

ii. The provider must *re-apply for HVREMAC credentials*

iii. The provider must schedule and complete the HVREMAC Credentialing Exam with a passing score of 90% in all modules

4. Providers are required to maintain a Primary Agency Affiliation.

A. *Each HVREMAC approved ALS agency* must submit to the HVREMSCO office the Provider Affiliation Form for any change of affiliated provider status with that agency. Agencies must notify the HVREMSCO office of provider affiliation changes within five (5) business days.

B. Providers have thirty (30) days, from time of primary affiliation change, to re-affiliate with a Primary Agency.

C. After thirty (30) days without a primary agency the provider's HVREMAC credentials will be *suspended*.

i. If a provider then affiliates with a primary agency within one year of losing primary affiliation, all credentialing requirements remain in force. Pro-rating of MCCH will not be considered.

ii. Providers who lack a Primary Agency for a period of one year or greater will be required to re-take the HVREMAC Credentialing Examination, meet all credentialing requirements.

iii. Providers who lack a Primary Agency for a period of one year and whose NYS BEMS ALS certification expires during the period of suspension must re-apply and complete the process for HVREMAC Credentialing.

SECTION 13: Disciplinary Action and Notification

1. Disciplinary action against an agency knowingly using non-credentialed or suspended individuals to provide ALS care:

    A. Any agency found to be using non-credentialed or suspended individuals to provide ALS level care; will be immediately reported to the HVREMSCO Executive Director, HVREMSCO Medical Director and to the HVREMAC Chair.

    B. The HVREMSCO Medical Director will ensure that the service immediately ceases to utilize the non-credentialed or suspended individual, and a mandatory meeting will be scheduled for no more than five (5) business days after the reported violation is received by the HVREMSCO.

        i. The meeting must involve the HVREMSCO Medical Director, the HVRESMCO Executive Director, the Agency Medical Director of the Service in question, the Chief Operating Officer of the agency in question, the HVREMAC Chair and two additional HVREMAC members appointed by the HVREMAC Chair and are not affiliated with the agency and/or the agency's primary county of operation.

        ii. At this meeting the involved service must provide a written plan of corrective action for review by the HVREMSCO and the HVREMAC. The HVREMAC Chair, in consultation with the HVREMSCO and HVREMAC representatives present, will decide if any further action is indicated, or if the matter is to be remanded to the full HVREMAC for possible revocation of the service's qualification to provide ALS level care.

2. Notification of the suspension or revocation of an individual's ALS privileges.

    A. Any individual, who has had a suspension or a mandatory revocation of their privileges, will have their status changed in the Hudson Valley Portal a notification will go out to all affiliated agencies and the provider.

    B. A letter will be sent to all primary and secondary agencies and their announcing his/her suspension. Upon successful re- qualification, including the correction of the reason for suspension, the status of the individual will be updated on the Hudson Valley Portal. Notification will be sent to all primary and secondary agencies announcing his/her status change.

3. Re-instatement following suspension / revocation.

    A. Correct the reason for suspension / revocation.

    B. Any penalties pertaining to the suspension / revocation must be met.

    C. There will be no pro-rated Medical Control Contact Hours during a period of suspension / revocation

    D. The provider must hold and provide proof of required certifications. Proof of certification may include current copies in HVREMSCO files.

4. The HVRESMCO Executive Director in concert with the HVREMSCO Medical Director or HVREMAC Chair will have the authority to issue or temporarily suspend HVREMAC credentials. Should the HVREMSCO Executive Director, HVRENSCO Medical Director or HVREMAC Chair temporarily suspend credentials, they will immediately refer the issue to the Evaluation Sub-Committee.

HUDSON VALLEY REGIONAL MEDICAL ADVISORY COMMITTEE

MEDICAL CONTROL SHADOW PROGRAM POLICIES AND PROCEDURES

SECTION 1: Purpose

Over the past several years, ALS providers requested alternative methods for completing the Medical Control Contact Hour (MCCH) component of their regional credentialing requirements.

One resolution is to schedule a number of hours to “shadow” a Medical Control Practitioner during a regular Emergency Department shift. This idea was first trialed at various Emergency Departments throughout the region on an individual request basis. The HVREMSCO received positive reviews from both the medical control practitioner and the EMS providers involved in this process.

Expounding on this concept, the HVREMAC has approved the enclosed addendum to the Regional Credentialing and Continuing Medical Education Policies and Procedures.

The goal of this addendum is two-fold. First, it is intended to allow for an alternative method for providers to fulfill their medical control contact requirement. Second, it is intended to encourage interaction between medical control practitioners and EMS providers. This interaction continues to be a primary goal of the HVREMAC; and is the intention behind requiring medical control contact hours.

The HVREMAC reserves the right to deny an application or revoke the privilege of this program at anytime for any reason.

SECTION 2: Eligibility

1. Agency Eligibility:
    A. Any ambulance service authorized by the HVREMAC to provide Advanced Life Support Services may apply to participate in this program.

    B. Applicants must submit a written request for program participation to the HVREMAC for consideration. All applications must be signed by an authorized representative of the applying service, must affirm compliance to these guidelines, and must verify the agency's willingness to meet the following requirements:

        i. Designate an agency representative to coordinate, schedule, and oversee participating EMS providers;

        ii. Develop an agreement with a facility meeting the requirements outlined in Section 9 of the HVREMSCO Medical Control Plan to allow EMS providers to shadow a HVREMAC credentialed medical control practitioner (physician, physicians assistant, and nurse practitioner);

        iii. Provide documentation of all personnel's completed shadowing rotations to the HVREMAC during the CME verification process.

2. Provider Eligibility:
    A. Providers participating in this program must meet the following requirements.

    B. Advanced Life Support provider as defined in Section 4 of the HVREMSCO Medical Control Plan;

    C. Maintain an affiliation with an agency that has been approved to participate in the program;

    D. Maintain HVREMAC credentials and maintain good standing.

3. Medical Control Practitioner Eligibility:
    A. Any practitioner meeting the requirements outlined in Sections 12 and 14 of the HVREMSCO Medical Control Plan may participate in this program.

4. Facility Eligibility:
    A. Any facility meeting the requirements outlined in Section 9 of the HVREMSCO Medical Control Plan can be utilized for this program.

SECTION 3: Program Guidelines

The medical control shadow rotation affords the EMS provider the opportunity to experience how the Emergency Department operates, to witness the continuation of care, and most importantly, to have interaction with medical control practitioners.

The primary goal of the shadow program is to facilitate interaction between EMS personnel and medical control practitioners. ***EMS providers are not to perform skills***. Instead, EMS providers should observe the roles of Medical Control Practitioners.

Credit will be awarded on an hour for hour basis up to a maximum of eight (8) medical control contact credits per regional continuing medical education cycle.

Violation of these guidelines may result in suspension of program participation, termination of program participation and/or disqualification of any MCCH allotment earned through the program.

Responsibilities of the EMS provider during the Shadow Rotation:

1. The EMS provider must report directly to the Emergency Department upon arrival at the hospital. EMS providers are only to report on the date and at the time assigned by the agency coordinator;

2. EMS providers must report on time and comply with the established dress code (enclosed);

3. Prior to the conclusion of the Shadow Program rotation, the provider must complete *no less than one completed patient profile form (enclosed) for each hour of the Shadow Program rotation* and submit all forms to their agency designated representative for inclusion in to the provider's MCCH file;

4. *A HVREMSCO MCCH verification form must be completed for the rotation and must be signed by the medical control practitioner*. A copy of this form must be submitted to the agency designated coordinator for inclusion in to the provider's HVREMSCO Credentialing file;

5. The EMS provider will strictly adhere to all hospital policies regarding conduct, access control, and patient privacy;

6. EMS providers should observe how patients are received, triaged, and treated in the Emergency Department setting while interacting directly with Medical Control Practitioners;

7. At no time should the EMS provider be responsible for patient care. ***EMS providers are not to perform skills.*** Instead, EMS providers should observe the roles of Medical Control Practitioners.

8. Medical control practitioners, facility administration, HVREMSCO staff and agency representatives reserve the right to remove the participant from the shadow program at any time for violation of the program guidelines.

Responsibilities of Medical Control during the Shadow Rotation:

1. Provide a safe and effective learning environment;

2. Provide direct supervision of the EMS provider;

3. Provide explanation regarding equipment used in the Emergency Department;

4. Involve EMS providers in the evaluation and treatment decisions employed when receiving patients presenting to the Emergency Department;

5. Discuss relevant factors regarding pre-hospital care interventions and explain the Emergency Department's role in the continuum of care;

6. Provide authorized signature at completion of the rotation.

SECTION 4: Learning Objectives

Participants in the shadow program will:

Observe and understand in-hospital assessments and management of a variety of patient presentations including, but not limited to:

- Abdominal Pain
- Altered Mental Status
- Behavioral Emergencies
- Cardiovascular Emergencies
- Endocrine Emergencies
- Environmental Emergencies
- Fracture Reduction and Post Care
- Geriatric Emergencies
- Hypoperfusion
- Metabolic Disorders
- Misc. Trauma Emergencies
- Misc. Medical Emergencies
- Pain Management
- Respiratory Emergencies
- Toxicological Emergencies
- Traumatic Injuries

It is understood that participants in this program may not have the opportunity to see all of these presentations.

Participants should also observe how Medical Control must function in the following areas:

- Charting
- Communications
- Diplomacy
- Empathy and Patient Advocacy
- Provision of On-line Medical Control
- Time Management
- Supervision of Health Care Providers

SECTION 5: Provider Dress Code

Professional attire and conduct is a must. The provider dress code will be strictly followed or the EMS provider will be dismissed from the rotation site.

- No jeans
- No sneakers
- No excessive jewelry (not more than two earrings, no facial jewelry)
- All clothing shall be neat, clean, and well pressed
- Button up shirt
- Hands must be neat and clean. Fingernails should be trimmed.
- Hair must be clean, neatly combed, and of a natural color.
- Dress pants or skirts (no shorter than 1 inch above the knees)
- HVREMSCO credential card present (on person)
- ID tag if provided by agency or facility
- Excessive perfume / cologne should be avoided

Alternative Dress Code:

EMS providers may wear duty uniforms if permitted by their agency and the facility.

FORM: Medical Control Shadow Program Patient Profile

Provider Name:_____ **MAC #:** _____

Rotation Site:_____ **Date:** _____

Medical Control Practitioner: _____

Demographic Data:	**PMHX & HPI:**
Age:	
Chief Complaint:	
Male ❒ Female ❒ Pediatric ❒	
Signs & Symptoms:	
Assessment Notes:	
Additional Findings:	
Treatments Given:	

APPENDIX 1:

CONSIDERATIONS WHEN PLANNING EDUCATIONAL CONTENT FOR ANY CONTINUING MEDICAL EDUCATION

SECTION 1: Purpose

At the heart of any successful EMS System are all of the EMS Providers that are involved in providing patient care, whether that is a Certified First Responder at the scene of an accident or the Emergency Physician or Nurse in the hospital where the patient will be treated. For those in the pre-hospital environment, the two key components responsible for their competency are the:

1. Quality of the NYS DOH Certification programs they complete and the,
2. Quality and relevance of the Continuing Medical Education (CME) programs they attend.

Aside from the initial certification programs EMS Providers attend, an increasing number of providers seek to achieve their mandatory three-year (3) re-certification requirement through a NYS DOH Bureau of EMS CME option. This option contains mandatory core hours that may only be taught / approved by a NYS Certified Instructor Coordinator (CIC), and other non-core hours that may be taught by other appropriately qualified practitioners.

There are also additional Physician & Medical Control requirements for Advanced Life Support (ALS) Providers that must be maintained each year for them to achieve the credentialing required by the HVREMAC to practice at their respective level of care. In the Hudson Valley Region, the specific type of CME ALS providers require is either Physician Contact Hours (PCH) or Medical Control Contact Hours (MCCH).

When we use the term "CME" colloquially, we can be talking about it being used for NYS Certification, or HVREMSCO Credentialing. This is a very important distinction to be aware of, since CME has now transitioned from an amenity offered by local hospitals for EMS, often as a marketing tool, to a mandatory educational component for the EMS Provider to continue to practice. Any agency that offers CME must understand this, and that the NYS DOH or the HVREMSCO has jurisdiction over whether the CME an agency is offering is acceptable for meeting credentialing requirements for either the purposes of the NYS DOH or the HVREMSCO.

With that in mind, the HVREMSCO wants to provide information to any Agency offering CME for EMS Providers, so that they can ***provide high-quality usable*** CME content for the intended audience. We hope that this will help to avoid some potential pitfalls that can have negative ramifications for both the Agency offering the CME or for the EMS Provider attending.

SECTION 2: Content Requirements

When planning for the content to be offered in a CME session, organizers should consult with both the HVREMSCO and the NYS DOH BEMS websites to see what categories of CME EMS providers are required to attend for their recertification or their credentialing. **With proper planning, many EMS providers may be able to use the CME sessions offered for both their NYS DOH Re-Certification, and for HVREMSCO Credentialing.**

Please note: When reviewing the CME content for a NYS DOH BEMS re-certification program you will note that it is divided into the following:

- **CORE Content:** This is very specific content in a number of designated categories, and must be under the oversight of a NYS Certified Instructor Coordinator (CIC). While the CIC may not have to actually provide the lecture themselves, they are to ensure that the content conforms to the NYS DOH specifications, and that the duration (hours) of the presentation has been verified. If the content or the hours are not appropriate, or the CME was not under the CIC oversight, ***it may not count!*** That might mean that an EMS Provider does not have the necessary content to qualify for re-certification or NYS funding.

- **NON-CORE Content**. When an agency conducts presentations classified as "Non-Core" there is an almost limitless array of possible content topics, without the financial or oversight issues associated with "CORE" content. Consulting the NYS DOH BEMS website can help to identify some general content areas in which an agency may want to plan their presentations.

Is your planned content appropriate for the EMS personnel attending?

Content offered must be reviewed for appropriateness for the level of audience attending. Here is a very common example scenario encountered by EMS Providers attending some scheduled CME sessions: Often Physicians have voluntarily offered CME sessions, but in a number of these sessions they have used pre-existing "canned" lectures. Unfortunately many of these have content initially designed for physicians or other clinicians above the educational level of our EMS Providers. Some of these sessions were on the fringe of the EMS Provider's level of comprehension, but many went well beyond. Regrettably, they were not considered an appropriate level of content for the EMS Provider.

CME offered without factoring these considerations, may be of good intent, but will not truly address the needs of the EMS providers. We want to make sure that both the Agency offering the CME and the EMS provider that require it both benefit.

A final word about content:

Often a hospital may need to offer specific CME sessions to support a special designation or service they offer, such as being a *Stroke Center*. This requires the hospital to offer two (2) CME sessions a year to the EMS Providers on the subject of stroke. When you realize that there are at least ten (10) hospitals in the HVREMSCO area with that designation (*so the potential for 20 Stroke CME presentations*), plus at least another ten (10) in adjacent regions, you can see how the EMS Providers may become saturated with that one topic. While the Hospital may meet their NYS DOH requirement, the EMS Providers cannot use most of the repeated Stroke CME presentations. Varying the time (day versus evening) may distribute these repeated content CME presentations to a more broad-based cross section of the EMS providers, and result in less repetition in a traditional CME time slot.

SECTION 3: Timeframes

Organizers may find it difficult to accurately assess how long it will take to deliver the content of the CME they are offering, especially when allowing for questions and comments from their audience.

Some CME sessions are fairly accurate in hours, and a few have even gone longer than anticipated. ***However, most have not only run shorter, but have been approximately 50% (or more) shorter than the announced duration.*** In such cases, attendees are given two (2) hours of CME for a session lasting only one (1) hour. The organizer providing the CME may feel the audience is pleased that they are getting out early, and they may be right. ***However, providing an approval form that awards two (2) hours of attendance when only one (1) has taken place is fraudulent.***

Since some EMS Providers are enrolled in a New York State DOH Recertification Program, with clearly defined content requirements and minimum hourly requirements, they are subject to review and audit. The auditing can be from the NYS DOH and/or the NYS Office of the Comptroller, especially since state funds are often involved in the

student's recertification. Fraudulent time sheets for CME sessions can result in a number of penalties, and may include loss of certification by the provider who knowingly submits the fraudulent CME time sheet, and suspension or revocation of a Course Sponsor if they were at all complicit in the offering, submission, or oversight.

Thus, efforts must be made to both content and time frame, for CME offerings, in a more realistic manner. Here are some suggestions that might help:

- **Modularize the content**. Breaking content down into sub-sections and planning the essential information to be the first modules to be delivered will insure that the key components are covered in the session. Developing a few smaller modules of "enhancement" material, will allow for their introduction if the essential information is delivered quicker than anticipated, so that the CME session meets the time frames planned. In this manner, no essential information will be left out, and if there is not enough time to introduce the "enhanced" material there will be no educational content compromised.

- **Pre-Plan a Scenario or series of questions.** Based upon your presentation content, you may want to plan out a mock scenario to use on the attendees to see if they can "tie it all together". Do they understand the principles stressed and know how to use them? A series of questions posed to the attendees can also help to assess if they benefited from the material.

- **Review some actual calls related to the content presented**. Having a few actual EMS calls that were done, and reviewing them with the attendees will reinforce the presentation.

While these are only suggestions, they may help to keep CME presentation meet the advertised CME hours and eliminate any of the ramifications associated with not being of a long enough duration. As a rule it is safer being longer than being shorter!

SECTION 4: Presenters

The individual(s) presenting a CME must meet certain requirements based on the type of CME. We already mentioned the role of a NYS DOH CIC.

Medical Control Contact Hours (MCCH) can only be presented by a Physician, Physician Assistant, or Nurse Practitioner who has been credentialed by the HVREMSCO to provide Medical Control.

If a presenter does not have Regional Medical Control credentials, regardless of their licensure, the CME cannot qualify for regionally required MCCH.

Occasionally, organizers will apply for MCCH for a CME actually presented by a non-credentialed individual, but state that a Medical Control Credentialed individual will be "in attendance". **Unless the Medical Control Credentialed Practitioner is actually presenting at least 50% of the CME it will not be eligible for MCCH allotment.** For example: If a two (2) hour Medical Control CME is offered, the Medical Control Practitioner must actually present sixty (60) minutes or more to be allotted MCCH.

SECTION 5: Documentation

Once an approved CME session is completed, the original attendance roster for the CME session must be signed by the presenter(s) and forwarded to the HVREMSCO within five (5) days.

Until this documentation has been received, no individual CME credit will be awarded to the attendees. The HVREMSCO receiving this document might be crucial to a provider who needs the CME credit to qualify for their NYS DOH Recertification or their HVREMSCO Credentials. Please note: In both cases, failure to secure this documentation in a timely manner may not just affect their NYS re-certification or HVREMSCO credentialing, but their continued employment as well.

While the HVREMSCO will make every effort to assist organizers and providers when occasional problems arise, the attendees will be informed that the reason they cannot receive the credit is because the Agency presenting the CME in question has not provided the necessary documentation.

SECTION 6: Conclusion

We all benefit from CME when it is appropriate in content, time, and provided by an individual knowledgeable in the subject matter and possessing the proper credentials.

Many dedicated organizers (agencies, hospitals, groups, specialists, etc…) have a long history of providing CME sessions that meet or exceed these expectations.

We hope that this document will provide the additional information needed for all organizers to provide successful and compliant CME sessions.

If your organization ever has any question as to whether or not a planned CME presentation will be useable please do not hesitate to contact the HVREMSCO for assistance.

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APPENDIX 2:

HVREMAC MEDICAL PROCEDURES REFERENCE

SECTION1: Airway Control

Any references to airway control will include the use of supplemental oxygen, oropharyngeal airways, nasopharyngeal airways, bag-valve-masks with supplemental oxygen, flow restricted oxygen powered ventilation devices, foreign body removal, tracheal suctioning, gastric decompression, endotracheal intubation (ETI), nasotracheal intubation (NTI), combitube (or similar device), laryngeal mask airway (LMA), pleural decompression, continuous positive airway pressure (CPAP), and/or cricothyrotomy. *Procedures may only be performed consistent with the providers' level of training and certification.*

SECTION 2: Endotracheal Intubation

Endotracheal Intubation Confirmation from either Orotracheal or Nasotracheal Intubation routes must include clinical signs for primary confirmation including:

1. direct visualization of the ETT passing through the vocal cords (orotracheal);
2. visual inspection of the chest for the presence of symmetrical chest rise;
3. auscultation at the epigastrum for absence of gurgling sounds;
4. auscultation at the anterior and lateral chest walls for the presence of bilateral breath sounds; and
5. continuous End Tidal CO_2 ($ETCO_2$) waveform capnography monitoring (see Section 3). The capnography device must have the ability to print and/or store the data of the continuous waveform monitoring documentation as well as QA/QI purposes. The ability to print the data should be accomplished at the hospital whenever possible.

Note: When performing Nasotracheal Intubation:

1. administer single dose of Oxymetazoline (Afrin) spray into each nostril;
2. lubricate endotracheal tube with 2% Lidocaine (Viscous) gel prior to procedure.

SECTION 3: Waveform Capnography

See NYS SEMAC Advisory, 08-01; Confirmation of ETT Required Capnography

Continuous waveform capnography monitoring is required for all out of hospital adult and pediatric patients who require endotracheal intubation. The capnography device must have the ability to print and/or store the data for continuous waveform monitoring documentation as well as QA/QI purposes. The ability to print the data should be accomplished at the hospital whenever possible.

SECTION 4: Cricothyrotomy

Cricothyrotomy is an invasive surgical procedure that is intended to be used only by Paramedics who demonstrate expertise performing the procedure at a minimum of once every year in a clinical lab setting. Cricothyrotomy is to be performed only in circumstances where the Paramedic is unable to ventilate a patient by any other method as a result of a complete airway obstruction (i.e., severe facial trauma, angio edema, irremovable foreign body). Cricothyrotomy may be performed with a large bore over-the-needle catheter or with a REMAC approved device such as the “Quick Trach” or “Nu-Trake” devices.

SECTION 5: Pleural Decompression

Pleural Decompression is an invasive surgical procedure that is intended to be used only by AEMT-CCs and Paramedics who demonstrate expertise performing the procedure at a minimum of once every year in a clinical lab setting. Pleural decompression is to be performed only for the treatment of a tension pneumothorax when the patient presents with evidence of the following signs resulting from suspected trauma:

A. Respiratory distress with absent lung sounds; AND
B. Cardiovascular compromise as evidenced by;
    i. Hypotension
    ii. Cardiopulmonary arrest

SECTION 6: Medically Facilitated Intubation (replaces RSI)

MFI may only be performed by:

1. HVREMAC credentialed MFI Paramedics, **and**
2. on-duty at an HVREMAC MFI approved ALS agency, **and**
3. who are trained by the ALS agency to perform MFI **and**
4. approved by the agency Medical Director **and**
5. with the assistance of a second MFI trained Paramedic at the scene.

Consult the HVREMAC MFI Program (Appendix 5)

SECTION 7: Venous / Osseous Access and Infusion

1. Intravenous Access (with or without Saline Lock) refers to surgical cannulation of a peripheral vein including external jugular cannulation with an over-the-needle-catheter to deliver medication and/or fluids or withdraw blood specimens for laboratory analysis.

2. Intravenous Infusion refers to administration of normal saline with a Micro-Drip or Macro-Drip administration device through an intravenous access site.
   To administer medications or maintain venous access, the ALS provider should use a catheter of sufficient size to keep the vein open (KVO) and deliver medication as needed along with Micro-Drip administration tubing and run according to the recommended infusion rate. To replace fluid volume, or replace body electrolytes, the ALS provider should use the largest catheter that can be introduced into the patient's vein along with Macro-Drip administration tubing and run according to the recommended infusion rate.

3. Intraosseous Access is primarily for critical medical and trauma patients for whom peripheral IV access is not available, and it is recognized that IV access is needed urgently for delivery of fluids and/or medications. This procedure may be performed as a standing order only in cardiac arrest, respiratory arrest, and in cases with unstable patients where the provider is unable to obtain peripheral IV access following two attempts. In other cases, Medical Control must be consulted. *Peripheral IV sites must be considered prior to intraosseous access. The following is from the Collaborative Protocol: "…* Intraosseous infusion may only be used in cases of critical patients where IO access may be lifesaving. If IO access is started in a conscious patient, the IO should be flushed with Lidocaine (2%) 40 mg (2 mL) for adults, or 1 mg/kg for pediatric patients…".

4. Intraosseous Infusion refers to administration of normal saline with a Micro-Drip or Macro-Drip administration device through an intraosseous access site run according to the recommended infusion rate. To administer medications the ALS provider should use Micro-Drip administration tubing. To replace fluid volume the ALS provider should use Macro-Drip administration tubing, or in the case of a pediatric patient, Micro-Drip administration tubing, or preferably Macro-Drip administration tubing along with a pediatric burette or soluset.

5. KVO (Keep Vein Open) Rate refers to administration of normal saline at an approximate rate of 1 drip every 2 seconds when using Micro-Drip administration tubing and one drip every 10 to 15 seconds when using Macro-Drip administration tubing.

SECTION 8: Cardioversion, Pacing, and Cardiac Monitoring

Synchronized cardioversion is the treatment of choice for supraventricular and ventricular tachydysrhythmias when the patient is unstable or the dysrhythmia is refractory to drug therapy when the patient is stable. The synchronizer circuit must be turned on and there must be capture marks on the QRS complexes or the defibrillator will not synchronize correctly. If there are no marks, adjust the EKG size accordingly. *Biphasic cardioversion is an acceptable option if used according to the specific manufacturer's instructions.*

External pacing is the treatment of choice in profound bradydysrhythmias. The pacing circuit monitors the QRS complexes similar to the synchronizing circuit in cardioversion, but it determines the rate and provides pacing if it is slower than the specified rate (usually 60 BPM). For this reason, the patient cables must be in place and good QRS complexes must be sensed. During pacing, the patient should be visually monitored at all times and should be assessed for both electrical and mechanical capture. Skeletal muscle twitching should be expected, but it is not an indication of pacing capture.

Cardiac Monitoring shall be performed on all patients where indicated by the patient's clinical condition. AEMT-CC and AEMT-P services are required to utilize defibrillators, which are capable of continuous EKG monitoring. AEMT-CC and AEMT-P services are required to utilize defibrillators capable of continuous EKG monitoring, 12-Lead EKG acquisition, and computer recognition of EKG changes associated with Acute Myocardial Infarction.

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APPENDIX 3:

MEDICATION INFORMATION

0.9% Normal Saline

Class:
Isotonic Crystalloid Solution

Description:
Normal Saline contains 154mEq/L of sodium ions and approximately 154mEq/L of chloride ions. Because the concentration of sodium is near that of the blood, the solution is considered isotonic.

Mechanism of Action:
Normal Saline replaces water and electrolytes.

Indications:
Heat related problems (heat exhaustion, heat stroke).

Contraindications:
The use of 0.9%NaCl should not be considered in patients with congestive heart failure because circulatory overload can easily be induced.

Precautions:
When large amounts of Normal Saline are administered, it is quite possible for other physiological electrolytes to become depleted.

Side Effects:
Rare in therapeutic doses.

Interactions:
Few in the emergency setting.

Activated Charcoal with Sorbitol (ex: Insta-Char™ / Actidose ™)

Class:
Adsorbent

Description:
Activated charcoal is used to adsorb ingested toxins that cannot be removed through emesis, or after emesis has been induced, to adsorb remaining toxins.

Mechanism of Action:
Adsorbs toxins by chemical binding and prevents gastrointestinal adsorption.

Indications:
Poisoning following emesis, or when emesis is contraindicated.

Contraindications:
None in severe poisoning.

Precautions:
Use with caution in patients with altered mental status. May adsorb ipecac before emesis; if ipecac is administered, wait at least 10 minutes to administer Activated Charcoal.

Side Effects:
Nausea and vomiting, constipation.

Interactions:
None reported in the emergency setting.

Adenosine

Class:
Antiarrhythmic

Description:
Adenosine is a naturally occurring nucleoside that slows AV conduction through the AV node. It has an exceptionally short half-life and a relatively good safety profile.

Mechanism of Action:
Adenosine decreases conduction of the electrical impulse through the AV node and interrupts AV re-entry pathways in PSVT. The half-life of Adenosine is about 5 seconds. Because of its rapid onset of action and very short half-life, the administration of Adenosine is sometimes referred to as chemical cardioversion.

Indications:
Adenosine is used in PSVT refractory to common vagal maneuvers.

Contraindications:
Adenosine is contraindicated in patients with second or third degree heart block, sick sinus syndrome, or those with known hypersensitivity to the drug.

Precautions:
Adenosine typically causes arrhythmias at the time of cardioversion; in extreme cases transient asystole may occur. Adenosine should be used cautiously in patients with asthma.

Side Effects:
Facial flushing, headache, shortness of breath, dizziness and nausea.

Interactions:
Methylxanthines (Aminophylline and Theophylline) may decrease the effectiveness of Adenosine, requiring larger doses. Dipyridamole (Persantine) can potentiate the effects of Adenosine.

Albuterol Sulfate (ex: Proventil ™, Ventolin ™)

Class:
Sympathetic Agonist

Description:
Albuterol is a sympathomimetic that is selective for Beta-2 adrenergic receptors.

Mechanism of Action:
Albuterol is a selective Beta-2 agonist with a minimal number of side effects. It causes prompt bronchodilation and has a duration of action of approximately 5 hours.

Indications:
Bronchial asthma, reversible bronchospasm associated with COPD and emphysema.

Contraindications:
Known hypersensitivity to the drug.

Precautions:
Use caution when administering this drug to elderly patients and those with cardiovascular disease or hypertension. If possible, peak flow rate should be measured before and after administration.

Side Effects:
Palpitations, anxiety, dizziness, headache, nervousness, tremor, hypertension, arrhythmias, chest pain, nausea, vomiting.

Interactions:
The possibility of developing unpleasant side effects increases when administered with other sympathetic agonists. Beta blockers may blunt the effects of Albuterol.

Amiodarone (ex: Cordarone ™)

Class:
Antiarrhythmic Agent

Description:
Amiodarone is a Class III Antiarrhythmic agent used to treat ventricular arrhythmias unresponsive to other antiarrhythmics.

Mechanism of Action:
Amiodarone prolongs the action potential duration in all cardiac tissues.

Indications:
Ventricular fibrillation, ventricular tachycardia.

Contraindications:
Breast-feeding patients in cardiogenic shock, severe sinus node dysfunction resulting in marked bradycardia, second or third degree AV block, symptomatic bradycardia, or known hypersensitivity.

Precautions:
Amiodarone should be used with caution in patients with latent or manifest heart failure because failure may be worsened by its administration.

Side Effects:
Hypotension, bradycardia, increased ventricular beats, prolonged P-R interval, prolonged QRS complex, prolonged Q-T interval. The patient should also be monitored for signs of pulmonary toxicity such as dyspnea and cough.

Interactions:
Amiodarone may react with Warfarin, Digoxin, Procainamide, Quinidine, and Phenytoin.

Aspirin (ex: Bayer ™, Bufferin ™, Ecotrin ™)

Class:
Platelet Aggregator Inhibitor

Description:
Aspirin is an anti-inflammatory agent and an inhibitor of platelet function.

Mechanism of Action:
Aspirin blocks the formation of the substance thromboxane A_2, which causes platelets to aggregate and arteries to constrict.

Indications:
Aspirin is used for new chest pain suggestive of acute myocardial infarction.

Contraindications:
Known hypersensitivity. Aspirin is relatively contraindicated in patients with active ulcer disease and asthma.

Precautions:
Aspirin can cause GI upset and bleeding. Aspirin should be used with caution in patients who report allergies to NSAIDS.

Side Effects:
Heartburn, GI bleeding, nausea, vomiting, wheezing, and prolonged bleeding.

Interactions:
When administered together, aspirin and other anti-inflammatory agents may cause an increased incidence of side effects. Administration of aspirin with antacids may reduce blood levels by reducing absorption.

Atropine Sulfate

Class:
Anticholinergic

Description:
Atropine is a parasympatholytic that is derived from parts of the *Atropa Belladonna* plant.

Mechanism of Action:
Atropine is a potent parasympatholytic and is used to increase the heart rate in hemodynamically significant bradycardias. Atropine acts by blocking acetylcholine receptors, thus inhibiting parasympathetic stimulation. Atropine has positive chronotropic properties, and little or no inotropic effect. It plays an important role as an antidote in organophosphate poisonings. Atropine is also used in the treatment of respiratory emergencies due to its bronchodilation and drying of respiratory tract secretions.

Indications:
Hemodynamically significant bradycardia, and asystole.
Bronchial asthma, reversible bronchospasm associated with chronic bronchitis and emphysema.
Organophosphate overdose.

Contraindications:
Known hypersensitivity.

Precautions:
Atropine may worsen the bradycardia associated with second-degree type II and third-degree AV blocks. In these instances, pacing should be attempted prior to administration of Atropine
For respiratory use: Use caution when administering this drug to elderly patients and those with cardiovascular disease or hypertension. If possible, peak flow rate should be measured before and after administration.

Side Effects:
Blurred vision, dilated pupils, dry mouth, tachycardia, drowsiness, confusion, palpitations, anxiety, dizziness, headache, nervousness, rash, nausea, and vomiting.

Interactions:
There are few interactions in the pre-hospital setting.

Calcium Chloride 10%

Class:
Calcium supplement

Description:
Calcium Chloride provides elemental calcium in the form of the cation. Calcium is required for many physiological activities.

Mechanism of Action:
Calcium Chloride replaces calcium in cases of hypocalcemia. It causes a significant increase in myocardial contractile force, and increases ventricular automaticity. Calcium Chloride is an antidote for Magnesium Sulfate, and can minimize the some of the side effects of calcium channel blocker usage.

Indications:
Acute hyperkalemia, acute hypocalcemia, calcium channel blocker toxicity.

Contraindications:
Calcium may precipitate Digitalis toxicity in patients taking Digoxin.

Precautions:
Flush IV line between administrations of Calcium Chloride and Sodium Bicarbonate to avoid precipitation.

Side Effects:
Bradycardia, arrhythmias, syncope, nausea, vomiting, cardiac arrest.

Interactions:
Flush IV line between administrations of Calcium Chloride and Sodium Bicarbonate to avoid precipitation. Calcium Chloride can cause elevated Digoxin levels, and Digitalis toxicity in those patients receiving Digitalis preparations.

Dextrose 10%

Class:
Carbohydrate

Description:
Dextrose is used to describe the 6-carbon sugar D-glucose, which is the principal form of carbohydrate used by the body.

Mechanism of Action:
Dextrose supplies supplemental glucose in cases of hypoglycemia.

Indications:
Hypoglycemia, coma of unknown origin.

Contraindications:
There are no major contraindications to the administration of Dextrose for suspected hypoglycemia.

Precautions:
It is important to obtain a Glucometer reading and obtain a blood sample prior to administration of Dextrose. Infiltration can cause local tissue necrosis. Dextrose should be used with caution in patients with increased intracranial pressure, because the Dextrose load may worsen cerebral edema.

Side Effects:
Tissue necrosis, phlebitis at the injection site.

Interactions:
There are no interactions in the emergency setting.

Diazepam (ex: Valium ™)

Class:
Anticonvulsant and Sedative

Description:
Diazepam is a benzodiazepine that is frequently used as an anticonvulsant, sedative, and hypnotic.

Mechanism of Action:
Diazepam is used primarily for its anticonvulsant properties. It suppresses the spread of seizure activity through the motor cortex of the brain, but appears not to abolish the abnormal discharge focus. It is used in the management of anxiety and stress. It is effective in treating the tremors and anxiety associated with alcohol withdrawal. It is an effective skeletal muscle relaxant, and induces amnesia.

Indications:
Diazepam is used in major motor seizures, status epilepticus, pre-medication prior to cardioversion, skeletal muscle relaxant, and acute anxiety states.

Contraindications:
Known hypersensitivity

Precautions:
Because Diazepam is a relatively short-acting drug, seizure activity may recur. Injectable Diazepam can cause local venous irritation.

Side Effects:
Hypotension, drowsiness, headache, amnesia, respiratory depression, blurred vision, nausea, vomiting.

Interactions:
Diazepam is incompatible with many medications. Whenever Diazepam is given intravenously in conjunction with other drugs, the IV line should be adequately flushed. The effects of Diazepam can be additive when used in conjunction with other CNS depressants and alcohol.

Diltiazem (ex: Cardizem ™)

Class:
Calcium Channel Blocker

Description:
Diltiazem is a calcium ion antagonist, causing a relaxation of vascular smooth muscle, and slowed conduction through the AV node. Diltiazem has a nearly equal effect on vascular smooth muscle and AV conduction.

Mechanism of Action:
Diltiazem causes relaxation of vascular dilation and slows conduction through the AV node. It slows the rapid ventricular rate associated with atrial fibrillation and atrial flutter. It is also used in the treatment of angina because of its negative inotropic effect and because it dilates the coronary arteries.

Indications:
Rapid ventricular rates associated with atrial fibrillation and atrial flutter, angina pectoris, PSVT refractory to Adenosine.

Contraindications:
Severe hypotension, cardiogenic shock, ventricular tachycardia, Wolff-Parkinson-White syndrome.

Precautions:
Diltiazem can cause systemic hypotension. Calcium chloride can be used to prevent the hypotensive effects of calcium channel blockers and in the management of calcium channel blocker overdose.

Side Effects:
Diltiazem can cause nausea, vomiting, dizziness, headache, bradycardia, heart block, hypotension, and asystole.

Interactions:
Diltiazem should not be administered to patients receiving intravenous beta-blockers because of an increased risk of congestive heart failure, bradycardia, and asystole.

Diphenhydramine (ex: Benedryl ™)

Class:
Antihistamine

Description:
Diphenhydramine is a potent antihistamine that blocks H1 and H2 histamine receptors.

Mechanism of Action:
Diphenhydramine blocks the effects of H1 receptor stimulation (bronchoconstriction, visceral contractions) and that of H2 receptor stimulation (peripheral vasodilation and secretion of gastric acids). Diphenhydramine is also useful in the treatment of dystonic reactions accompanying phenothiazine use.

Indications:
Anaphylaxis, Allergic reactions, Dystonic (extrapyramidal) reactions due to phenothiazines

Contraindications:
Asthma, nursing mothers

Precautions:
The primary drug for treatment of severe allergic reactions is epinephrine, as it reverses the effects of histamines. Diphenhydramine will block histamine receptors, preventing subsequent stimulation.

Side Effects:
Sedation, dries bronchial secretions, blurred vision, headache, palpitations, tachycardia

Interactions:
Potentiation can occur by the administration of CNS depressants, other antihistamines, narcotics, and alcohol.

Dopamine (ex: Intropin ™)

Class:
Sympathetic Agonist

Description:
Dopamine is a naturally occurring catecholamine. It acts on alpha, beta-1, and Dopaminergic adrenergic receptors. Its effect on alpha-receptors is dose dependent.

Mechanism of Action:
Dopamine's effect on beta-1 receptors causes a positive inotropic effect on the heart. Dopamine also acts on alpha-adrenergic receptors causing peripheral vasoconstriction. Dopamine maintains renal and mesenteric blood flow because of its effect on the Dopaminergic receptors. Dopamine increases both systolic and pulse pressure. There is usually less effect on the diastolic pressure.

Indications:
Hemodynamically significant hypotension not resulting from hypovolemia, and cardiogenic shock.

Contraindications:
Dopamine should not be used as the sole agent in the management of hypovolemic shock unless fluid resuscitation is well under way. Pheochromocytoma.

Precautions:
Dopamine can induce or worsen SVT and ventricular arrhythmias. Dopamine should not be administered in the presence of tachyarrhythmias or ventricular fibrillation.

Side Effects:
Nervousness, headache, dysrhythmias, palpitations, chest pain, dyspnea, nausea, vomiting.

Interactions:
Dopamine can be deactivated by alkaline solutions. If a patient is taking a monoamine oxidase inhibitor, the dose should be reduced. Dopamine can cause hypotension when used concomitantly with Phenytoin.

Epinephrine

Class:
Sympathetic Agonist

Description:
Epinephrine is a naturally occurring catecholamine. It is a potent alpha- and beta-adrenergic stimulant with more profound beta effects.

Mechanism of Action:
Epinephrine works directly on alpha- and beta-adrenergic receptors with effects of increased heart rate, cardiac contractile force, increased electrical activity in the myocardium, systemic vascular resistance, increased blood pressure, and increased automaticity. It also causes bronchodilation. Effects usually appear within 90 seconds of administration, and last only a short duration.

Indications:
Bronchial asthma, exacerbation of COPD, anaphylaxis.

Contraindications:
Underlying cardiovascular disease, hypertension.

Precautions:
Epinephrine should be protected from light. It also tends to be deactivated by alkaline solutions.

Side Effects:
Palpitations, anxiety, tremulousness, headache, dizziness, nausea, vomiting, myocardial oxygen demand.

Interactions:
Effects can be intensified in patients taking antidepressants

Etomidate (ex: Amidate ™)

Class:
General anesthetic and adjunct to general anesthesia

Description:
Etomidate is a short-acting, intravenously administered sedative hypnotic. Etomidate has a rapid onset of action and recovery. It has minimal cardiac and respiratory-depressive effects and causes no histamine release, so it is useful in patients with compromised cardiopulmonary function.

Mechanism of Action:
Etomidate appears to facilitate GABAminergic neurotransmission by increasing the number of available GABA receptors, possibly by displacing endogenous inhibitors of GABA binding. Etomidate produces clinical responses such as hypnosis, elevations in arterial carbon dioxide tension, reduced cortisol plasma levels, and a transient 20—30% decrease in cerebral blood flow. Its effects are at least partially due to depression of the brainstem reticular formation.

Indications:
Induction of general anesthesia.

Contraindications:
Use with caution in the elderly and in patients with hepatic disease because they are more likely to develop etomidate-related adverse reactions.

Precautions:
Use with caution during lactation.

Side Effects:
Skeletal muscle: Myoclonic skeletal muscle movements, tonic movements. *Respiratory:* Apnea of short duration, hyperventilation or hypoventilation, ***laryngospasm.*** *CV:* Either hypertension or hypotension; tachycardia or bradycardia; arrhythmias. *GI:* Postoperative N&V. *Miscellaneous:* Eye movements, averting movements, hiccoughs, snoring.

Interactions:
Etomidate potentiates the effects of CNS depressants such as ethanol, general anesthetics, local anesthetics, antidepressants, H_1-blockers, opiate agonists, skeletal muscle relaxants, phenothiazines, barbiturates, and benzodiazepines. Concurrent use of antihypertensive agents and etomidate can result in hypotension. This is particularly true if any of the following agents are used with etomidate: calcium-channel blockers, diazoxide, mecamylamine.

Fentanyl (ex: Fentora ™, Onsolis ™)

Class:
Opioid analgesic

Description:
Produces analgesia and euphoria by binding to opiate receptors.

Mechanism of Action:
Binds to opiate receptors in the CNS, altering the response to and perception of pain, produces CNS depression.

Indications:
Induction/maintenance of anesthesia, supplement to regional/local anesthesia, preoperative and postoperative analgesia.

Contraindications:
Hypersensitivity; cross-sensitivity among agents may occur, known intolerance.

Precautions:
Geriatric, debilitated, or critically ill patients; diabetes; severe renal, pulmonary or hepatic disease; CNS tumors; increased intracranial pressure; head trauma; adrenal insufficiency; undiagnosed abdominal pain; hypothyroidism; alcoholism; cardiac disease (arrhythmias); pregnancy and lactation.

Side Effects:
Respiratory depression, apnea, rigidity and bradycardia; if these remain untreated, respiratory arrest, circulatory depression or cardiac arrest could occur. Other adverse reactions that have been reported are hypertension, hypotension, dizziness, blurred vision, nausea, emesis, laryngospasm and diaphoresis

Interactions:
Avoid use in patients who have received MAO inhibitors within the previous 14 days (may produce unpredictable, potentially fatal reactions), concomitant use of CYP3A4 inhibitors including ritonavir, ketoconazole, itraconazole, clarithromycin, nelfinavir, nefazodone, diltiazem, aprepitant, fluconazole, fosamprenavir, verapamil, and erythromycin may result in increased plasma levels and increased risk of CNS and respiratory depression.

Nalbuphine, buprenorphine, or pentazocine may decrease analgesia.
Grapefruit juice is a moderate inhibitor of the CYP3A4 enzyme system; concurrent use may increase blood levels and the risk of respiratory and CNS depression.

Furosemide (ex: Lasix ™)

Class:
Diuretic

Description:
Furosemide is a potent diuretic that inhibits sodium and chloride reabsorption in the kidneys and causes venous dilation.

Mechanism of Action:
Furosemide is a loop diuretic that inhibits sodium and chloride reabsorption in the kidneys. Furosemide first causes venous dilation within 5 minutes of administration, reducing preload and decreasing cardiac work. Diuretic effects begin 5-15 minutes after administration.

Indications:
Congestive Heart Failure, Pulmonary Edema.

Contraindications:
Use in pregnancy should be limited to life threatening situations in which the benefits of administration outweigh the risks. It should not be administered to patients who are allergic to the sulfa class of medications.

Precautions:
Dehydration, electrolyte depletion, and hypotension can result from excessive doses. Blood pressure should be frequently monitored. Furosemide should be protected from light.

Side Effects:
Headache, dizziness, hypotension, volume depletion, potassium depletion, arrhythmias, diarrhea, nausea, vomiting.

Interactions:
Furosemide should not be administered in the same line as Amrinone, as a precipitate will form. Administration with other diuretics can lead to severe volume depletion and electrolyte imbalance.

Glucagon

Class:
Hormone and Anti-hypoglycemic

Description:
Glucagon is a hormone secreted by the alpha cells of the pancreas. It is used to increase the blood glucose level in cases of hypoglycemia in which an IV cannot immediately be placed.

Mechanism of Action:
Glucagon causes a breakdown of stored glycogen to glucose, and inhibits the synthesis of glycogen from glucose. A return to consciousness following the administration of Glucagon usually takes from 5-20 minutes. Glucagon is only effective if there are sufficient stores of glycogen in the liver. Glucagon exerts a positive inotropic action on the heart and decreases renal vascular resistance.

Indications:
Hypoglycemia, Beta-Blocker overdoses.

Contraindications:
Known hypersensitivity.

Precautions:
Glucagon is only effective if there are sufficient stores of glycogen in the liver. Glucagon should be administered with caution to patients with a history of cardiovascular or renal disease.

Side Effects:
Hypotension, dizziness, headache, nausea, vomiting.

Interactions:
There are few interactions reported in the emergency setting.

Ipratropium Bromide (ex: Atrovent ™)

Class:
Anticholinergic

Description:
Ipratropium is an anticholinergic that is chemically related to atropine.

Mechanism of Action:
Ipratropium is a parasympatholytic used in the treatment of respiratory emergencies. It causes bronchodilation and dries respiratory tract secretions. Ipratropium acts by blocking acetylcholine receptors, thus inhibiting parasympathetic stimulation.

Indications:
Bronchial asthma, reversible bronchospasm associated with chronic bronchitis and emphysema.

Contraindications:
Known hypersensitivity.

Precautions:
Use caution when administering this drug to elderly patients and those with cardiovascular disease or hypertension. If possible, peak flow rate should be measured before and after administration.

Side Effects:
Palpitations, anxiety, dizziness, headache, nervousness, tremor, hypertension, arrhythmias, chest pain, nausea, vomiting.

Interactions:
There are few interactions in the prehospital setting.

Ketorolac (ex: Toradol ™)

Class:
Analgesic

Description:
Potent nonsteroidal anti-inflammatory analgesic, that does not possess any sedative or anxiolytic activities.

Mechanism of Action:
Inhibits prostaglandin synthesis, producing peripherally mediated analgesia, also has antipyretic and anti-inflammatory properties.

Indications:
Short-term management of pain

Contraindications:
Hypersensitivity, cross-sensitivity with other NSAIDs may exist, active or history of peptic ulcer disease or GI bleeding, known alcohol intolerance, cerebrovascular bleeding, advanced renal impairment or at risk for renal failure due to volume depletion, concurrent use of pentoxifylline or probenecid, lactation.

Precautions:
Cardiovascular disease or risk factors for cardiovascular disease, heart failure, coagulation disorders, mild-to-moderate renal impairment, hepatic impairment.

Side Effects:
Drowsiness, *anaphylaxis*

Interactions:
Concurrent use with aspirin may decrease effectiveness, May increase serum lithium levels and increase risk of toxicity. Increase bleeding risk with arnica, chamomile, clove, dong quai, feverfew, garlic, ginger, ginkgo, Panax ginseng.

Lidocaine

Class:
Antiarrhythmic

Description:
Lidocaine is an amide-type local anesthetic. It is frequently used to treat life-threatening dysrhythmias.

Mechanism of Action:
Lidocaine depresses depolarization and automaticity in the ventricles, and increases the ventricular fibrillation threshold by increasing phase IV repolarization.

Indications:
Ventricular tachycardia, ventricular fibrillation, malignant premature ventricular contractions.

Contraindications:
Second and third degree heart blocks, ventricular escape beats.

Precautions:
CNS depression may occur when the drug exceeds 300mg/hr. Exceedingly high doses can result in coma and death.

Side Effects:
Drowsiness, seizures, confusion, hypotension, bradycardia, heart blocks, nausea, vomiting, and respiratory and cardiac arrest.

Interactions:
Lidocaine should be used with caution when administered concomitantly with Procainamide, Phenytoin, Quinidine, and beta-blockers as drug toxicity may result.

Lidocaine (Viscous) 2% Gel

Class:
anesthetics (topical/local)

Description:
Contains a local anesthetic agent and is administered topically. Lidocaine Hydrochloride Oral Topical Solution USP, 2% (Viscous) contains lidocaine HCI. .

Mechanism of Action:
Produces local anesthesia by inhibiting transport of ions across neuronal membranes, thereby preventing initiation and conduction of normal nerve impulses.

Indications:
Produces local anesthesia to facilitate nasotracheal intubation

Contraindications:
There are no contraindications in the pre-hospital setting when used to facilitate nasotracheal intubation.

Precautions:
There are no precautions in the pre-hospital setting when used to facilitate nasotracheal intubation.

Side Effects:
Stinging, burning and/or decreased or absent gag reflex.

Interactions:
There are no interactions in the pre-hospital setting when used to facilitate nasotracheal intubation.

Lorazepam (ex: Ativan ™)

Class:
Anticonvulsant, antianxiety, analgesic agent

Description:
Lorazepam is a benzodiazepine used in the management of status epilepticus, as an adjunct in the management of anxiety or insomnia, and for preoperative sedation.

Mechanism of Action:
Lorazepam depresses the CNS by potentiating GABA, an inhibitory neurotransmitter. Therapeutic effects include sedation, decreased anxiety, and decreased seizure activity. Lorazepam is absorbed and eliminated faster than other benzodiazepines.

Indications:
Lorazepam is used in the management of status epilepticus and as an adjunct in the management of anxiety or insomnia. Lorazepam is also used for preoperative sedation and as an antiemetic prior to chemotherapy. Lorazepam decreases preoperative anxiety and provides amnesia.

Contraindications:
Hypersensitivity, CNS depression, comatose, uncontrolled severe pain, narrow-angle glaucoma, pregnancy, and lactation.

Precautions:
Lorazepam should be used with caution in patients with severe hepatic/renal/pulmonary impairment, myasthenia gravis, history of suicide or drug abuse, geriatric or debilitated patients.

Side Effects:
CNS: Dizziness, drowsiness, lethargy, hangover, headache, mental depression, paradoxical excitation. *EENT:* Blurred vision. *RESP:* Respiratory depression. *CV:* Rapid IV use may cause apnea, cardiac arrest, bradycardia, and hypotension. *GI:* Constipation, diarrhea, nausea, vomiting. *Derm:* Rash. *Misc:* Physical/psychological dependence, tolerance.

Interactions:
Additive CNS depression with other CNS depressants including alcohol, antihistamines, opioid analgesics, and other sedative/hypnotics including other benzodiazepines. Lorazepam may decrease the efficacy of levodopa. Probenecid may decrease metabolism or Lorazepam, enhancing its actions. Smoking may increase metabolism and decrease effectiveness.

Magnesium Sulfate

Class:
Antiarrhythmic, Mineral, Electrolyte

Description:
Magnesium Sulfate is a salt that dissociates into the Magnesium cation and the sulfate anion when administered. Magnesium is an essential element in numerous biochemical reactions that occur within the body.

Mechanism of Action:
Magnesium Sulfate acts as a physiological calcium channel blocker and blocks neuromuscular transmission. A decreased magnesium level is associated with cardiac arrhythmias, symptoms of cardiac insufficiency, and sudden death. Hypomagnesemia can cause refractory ventricular fibrillation. Magnesium Sulfate is also a central nervous system depressant effective in the management of seizures associated with eclampsia.

Indications:
Magnesium Sulfate is used in refractory ventricular fibrillation, pulseless ventricular tachycardia, post-myocardial infarction for prophylaxis of arrhythmias, and torsade de pointes or multiaxial ventricular tachycardia. It is also used in severe bronchospasm, and in eclampsia.

Contraindications:
Shock, persistent severe hypertension, third degree AV block, routine dialysis patients, known hypocalcemia.

Precautions:
Magnesium Sulfate should be administered slowly to minimize side effects. Use with caution in patients with known renal insufficiency. Hypermagnesemia can occur, Calcium Chloride should be available as an antidote if serious side effects occur.

Side Effects:
Flushing, sweating, bradycardia, decreased deep tendon reflexes, drowsiness, respiratory depression, arrhythmia, hypotension, hypothermia, itching, and rash.

Interactions:
Magnesium Sulfate can cause cardiac conduction abnormalities if administered in conjunction with digitalis.

Methylprednisolone (ex: Solu-Medrol ™, Medrol ™)

Class:
Corticosteroid and Anti-inflammatory

Description:
Methylprednisolone is a synthetic steroid with potent anti-inflammatory properties. It is related to the natural hormones secreted in the adrenal cortex.

Mechanism of Action:
The pharmacological effects of steroids are vast and complex. Effective as anti-inflammatory agents, they are used in the management of allergic reactions, asthma, and anaphylaxis. Methylprednisolone is considered an intermediate-acting steroid with a plasma half-life of 3 to 4 hours.

Indications:
Severe anaphylaxis, asthma, or COPD, urticaria, and spinal cord injury.

Contraindications:
There are no major contraindications in the use of Methylprednisolone in the emergency setting.

Precautions:
A single dose is all that should be given in the prehospital setting. Long-term steroid therapy can cause gastrointestinal bleeding, prolonged wound healing, and suppression of adrenocortical steroids.

Side Effects:
Fluid retention, congestive heart failure, hypertension, abdominal distention, vertigo, headache, nausea, malaise, and hiccups.

Interactions:
There are few interactions in the prehospital setting.

Metoprolol (ex: Lopressor ™)

Class:
Selective Beta-Blocker

Description:
Metoprolol is a selective beta1-adrenoreceptor blocking agent. It is a white, practically odorless, crystalline powder made available in ampules mixed with sodium chloride and water for injection.

Mechanism of Action:
Metoprolol affects beta1 adrenoreceptors, chiefly located in cardiac muscle. However at higher doses also inhibits beta2-adrenoreceptors, chiefly located in the bronchial and vascular musculature. Effects of Metoprolol include slowing of the sinus rate and decreasing AV nodal conduction resulting in reduction of heart rate and cardiac output, reduction of systolic blood pressure, reduction of reflex orthostatic tachycardia, and inhibition of catecholamine-induced tachycardia.

Indications:
Acute Myocardial Infarction, Angina Pectoris, and Hypertension.

Contraindications:
Metoprolol is contraindicated in sinus bradycardia, heart block, cardiogenic shock, systolic blood pressure <100mmHg, or moderate-to-severe cardiac failure.

Precautions:
Patients with Bronchospastic Diseases, Diabetes and Hypoglycemia, or Thyrotoxicosis should in general not receive beta blockers.

Side Effects:
Tiredness and dizziness, depression, confusion, short-term memory loss, headache, insomnia, diarrhea, nausea, gastric pain, shortness of breath, wheezing, bradycardia, congestive heart failure, hypotension, rash, tinnitus.

Interactions:
In hypertension and angina patients with congestive heart failure controlled by digitalis and diuretics, Metoprolol should be administered with extreme caution since beta blockade caries the potential of further decreasing myocardial contractility and precipitating more sever failure.

Midazolam

Class:
Sedative and Hypnotic

Description:
Midazolam is a benzodiazepine with strong hypnotic and amnestic properties.

Mechanism of Action:
Midazolam is a potent but short-acting benzodiazepine used as a sedative and hypnotic. It is three to four times more potent than Diazepam. Its onset of action is approximately 1.5 minutes when administered IV. Midazolam has impressive amnestic properties, and like other benzodiazepines, it has no effect on pain.

Indications:
Midazolam is used as a premedication before cardioversion and other painful procedures.

Contraindications:
Known hypersensitivity, narrow angle glaucoma, shock, depressed vital signs, and alcoholic coma.

Precautions:
Emergency resuscitative equipment must be available prior to the administration of Midazolam. Midazolam has more potential than the other benzodiazepines to cause respiratory depression and respiratory arrest.

Side Effects:
Laryngospasm, bronchospasm, dyspnea, respiratory depression and arrest, drowsiness, altered mental status, amnesia, bradycardia, tachycardia, premature ventricular contractions, and retching.

Interactions:
The effects of Midazolam can be accentuated by CNS depressants such as narcotics and alcohol.

Morphine Sulfate

Class:
Narcotic Analgesic

Description:
Morphine is a potent CNS depressant and analgesic.

Mechanism of Action:
Morphine acts on opiate receptors in the brain, providing analgesia and sedation. It increases peripheral venous capacitance and decreases venous return. Morphine also decreases myocardial oxygen demand.

Indications:
Severe pain associated with myocardial infarction, kidney stones, etc., and pulmonary edema.

Contraindications:
Volume depletion, severe hypotension, hypersensitivity, undiagnosed head injury or abdominal pain.

Precautions:
Morphine has a high tendency for addiction and abuse. Morphine can cause severe respiratory depression in high doses, especially in patients with respiratory impairment. Narcan should be available as an antagonist.

Side Effects:
Nausea, vomiting, abdominal cramps, blurred vision, constricted pupils, altered mental status, headache, respiratory depression.

Interactions:
CNS depression can be enhanced when administered with antihistamines, antiemetics, sedatives, hypnotics, barbiturates, and alcohol.

Naloxone (ex: Narcan ™)

Class:
Narcotic Antagonist

Description:
Naloxone is an effective narcotic antagonist.

Mechanism of Action:
Naloxone is chemically similar to narcotics, however it has only antagonistic properties. Naloxone competes for opiate receptors in the brain, and displaces narcotic molecules from opiate receptors. It can reverse respiratory depression from narcotic overdose.

Indications:
Complete or partial reversal of depression caused by narcotics. Naloxone can also be used in the treatment of coma of unknown origin.

Contraindications:
Known hypersensitivity.

Precautions:
Naloxone should be administered cautiously to patients who are known or are suspected to be physically dependent on narcotics. Abrupt and complete reversal by Naloxone can cause withdrawal type effects.

Side Effects:
Hypotension, hypertension, ventricular arrhythmias, nausea, vomiting.

Interactions:
Naloxone may cause narcotic withdrawal in the narcotic dependent patient. Only enough of the drug should be given to reverse respiratory depression.

Nitroglycerine (ex: Nitro-Stat ™, Nitro-Bid ™)

Class:
Nitrate

Description:
Nitroglycerine is a potent smooth muscle relaxant used in the treatment of angina pectoris.

Mechanism of Action:
Nitroglycerine is a rapid smooth muscle relaxant that reduces cardiac work and to a lesser degree dilates the coronary arteries. This results in increased coronary blood flow and improved perfusion of the myocardium. Pain relief following Nitroglycerine administration usually occurs within 1 to 2 minutes, with therapeutic effects up to 30 minutes later.

Indications:
Chest pain associated with angina pectoris, acute myocardial infarction, and acute pulmonary edema.

Contraindications:
Hypotension, increased intracranial pressure.

Precautions:
Patients taking Nitroglycerine may develop a tolerance to the drug necessitating a higher dose. Headache from vasodilation of the cerebral vessels is common. Nitroglycerine deteriorates rapidly once opened. Nitroglycerine should be protected from light.

Side Effects:
Headache, dizziness, weakness, tachycardia, hypotension, orthostasis, skin rash, dry mouth, nausea, vomiting.

Interactions:
Nitroglycerine can cause hypotension in patients who have recently ingested alcohol. It can cause orthostatic hypotension when used in conjunction with beta-blockers.

Nitrous Oxide (ex: Nitronox™)

Class:
Analgesic and Anesthetic Gas

Description:
Nitronox is a blended mixture of 50 % Nitrous Oxide and 50% Oxygen that has potent analgesic effects.

Mechanism of Action:
Nitrous Oxide is a CNS depressant with analgesic properties. The effects dissipate within 2-5 minutes after cessation of administration. Nitronox must be self administered through a modified demand valve. It is effective in treating many varieties of pain, including those from trauma. The high concentration of oxygen delivered with nitrous oxide will increase the oxygen amount in the blood, thus reducing hypoxia.

Indications:
Pain of musculoskeletal origin, burns, suspected ischemic chest pain, states of severe anxiety including hyperventilation.

Contraindications:
Nitronox should not be used with any patient who cannot understand verbal instructions or who is intoxicated with alcohol or other drugs. It should not be administered to any patient with a head injury who exhibits altered mental status. Nitronox should not be administered to COPD patients, as it tends to diffuse into closed spaces more readily than carbon dioxide or oxygen, thereby causing blebs to swell, and possibly rupture. Nitronox should also not be administered to patients with pneumothorax or tension pneumothorax, as the gas will accumulate and increase the size of the injury.

Precautions:
Nitronox should be used only in well-ventilated areas. Nitrous oxide exists in a liquid state inside the gas cylinder. Heat will cause the gas to vaporize, making the cylinder and lines cool to the touch. In very cold environments (less than 21 degrees F) the liquid may be slow to vaporize, and administration impossible.

Side Effects:
Dizziness, lightheadedness, altered mental state, hallucinations, nausea, and vomiting.

Interactions:
Nitronox can potentiate the effects of other CNS depressants such as narcotics, sedatives, hypnotics, and alcohol.

Ondansetron Hydrochloride (ex: Zofran™)

Class
Selective 5-HT_3 receptor antagonist.

Description
Ondansetron hydrochloride (HCl) is the racemic form of ondansetron and a selective blocking agent of the serotonin 5-HT_3 receptor type.

Mechanism of Action
Ondansetron's mechanism of action has not been fully characterized. The released serotonin may stimulate the vagal afferents through the 5-HT3 receptors and initiate the vomiting reflex. Ondansetron selectively antagonizes 5-HT_3 receptors.

Indications
Nausea and vomiting prevention.

Contraindications
History of Long QT syndrome, hypersensitivity to drug/class.

Precautions:
Category B in pregnancy- animal studies showed no harm. Human studies – not done, but unlikely to harm fetus. Caution in liver failure patients.

Side Effects:
Headache, dizziness, diarrhea, agitation, and prolonged QT interval.

Interactions:
Apomormphine, methadone, fluconazole, phenytoin, carbamazepine, rifampicin, and tramadol.

Oxymetazoline (ex: Afrin ™)

Class:
Nasal Antihistamine/Decongestant

Description:
Oxymetazoline is a selective alpha-1 agonist and partial alpha-2 agonist that shrinks blood vessels in the nasal passages.

Mechanism of Action:
Oxymetazoline is a sympathomimetic that selectively agonizes α1 and partially α2 adrenergic receptors. Since vascular beds widely express α1 receptors, the action of oxymetazoline results in vasoconstriction. In addition, the local application of the drug also results in vasoconstriction due to its action on endothelial postsynaptic α2 receptors. Vasoconstriction of vessels results in relief of nasal congestion in two ways: First, it increases the diameter of the airway lumen; second, it reduces fluid exudation from postcapillary venules

Indications:
Used prior to nasotracheal intubation as a vasoconstrictor of the nasal blood vessels.

Contraindications:
There are no contraindications in the pre-hospital setting when used to facilitate nasotracheal intubation.

Precautions:
There are no contraindications in the pre-hospital setting when used to facilitate nasotracheal intubation.

Side Effects:
Burning, stinging, increased nasal discharge, dryness inside the nose, sneezing, nervousness, nausea, dizziness , headache. Potential serious side effects are: tachycardia or bradycardia.

Interactions:
There are no interactions in the pre-hospital setting when used to facilitate nasotracheal intubation.

Sodium Bicarbonate

Class:
Alkalinizing Agent

Description:
Sodium Bicarbonate is a salt that provides bicarbonate to buffer metabolic acidosis.

Mechanism of Action:
Sodium Bicarbonate increases pH by providing the bicarbonate buffer (a weak base). Making the urine more alkaline enhances Tricyclic Antidepressant excretion. Sodium Bicarbonate is used to increase the pH of the urine and thereby speed excretion from the body.

Indications:
Tricyclic antidepressant overdose, Phenobarbital overdose, severe acidosis refractory to hyperventilation, and known hyperkalemia.

Contraindications:
There are no absolute contraindications.

Precautions:
Sodium Bicarbonate can cause metabolic alkalosis when administered in large quantities. It is important to calculate the dosage based on weight and size.

Side Effects:
There are few side effects when used in the emergency setting.

Interactions:
Most catecholamines and vasopressors (e.g., Epinephrine and Dopamine) can be deactivated by alkaline solutions such as Sodium Bicarbonate. Calcium Chloride should not be administered in conjunction with Sodium Bicarbonate, as a precipitate will form.

Succinylcholine (ex: Anectine ™)

Class:
Depolarizing Neuromuscular Blocker

Description:
Succinylcholine is a short acting, depolarizing skeletal muscle relaxant used to facilitate endotracheal intubation.

Mechanism of Action:
Like acetylcholine, Succinylcholine combines with cholinergic receptors in the motor nerves to cause depolarization. Neuromuscular transmission is thus inhibited, which renders the muscles unable to be stimulated by acetylcholine. Complete paralysis is obtained within 60 to 90 seconds, and persists for approximately 4 to 5 minutes. Effects then begin to fade, and a return to normal is seen within 6 minutes. Muscle relaxation begins in the eyelids and the jaw, and then progresses to the limbs, abdomen, diaphragm, and intercostals. *Succinylcholine has no effect on consciousness.*

Indications:
Succinylcholine is used to achieve temporary paralysis when endotracheal intubation is indicated, and muscle tone or seizure activity prevents it.

Contraindications:
Known hypersensitivity, penetrating eye injuries, and narrow-angle-glaucoma.

Precautions:
Succinylcholine should not be administered unless personnel skilled in endotracheal intubation are present and ready to perform the procedure. Oxygen and emergency resuscitative drugs should be readily available. Cardiac arrest and ventricular arrhythmias have been reported when Succinylcholine was administered to patients with severe burns and severe crush injuries.

Side Effects:
Succinylcholine can cause wheezing, respiratory depression, apnea, aspiration, arrhythmias, bradycardia, sinus arrest, hypertension, hypotension, increased intraocular pressure, increased intracranial pressure.

Interactions:
Lidocaine, Procainamide, beta-blockers, magnesium sulfate, and other neuromuscular blockers enhance the effects of Succinylcholine.

Tetracaine ½% Ophthalmic Drops (ex: Altacaine ™, Opticaine ™)

Class:
Ophthalmic Anesthetic

Description:
Tetracaine is an ester-type local anesthetic with an intermediate to long duration of action.

Mechanism of Action:
Tetracaine, like all local anesthetics, causes a reversible blockade of nerve conduction by decreasing nerve membrane permeability to sodium. This decreases the rate of membrane depolarization thereby increasing the threshold for electrical excitability.

Indications:
Ophthalmic anesthesia

Contraindications:
Use Tetracaine with caution in patients with known ester type anesthetic hypersensitivity.

Precautions:
After Tetracaine is applied to the eye, *do not rub or wipe the eye until the anesthetic has worn off and feeling in the eye returns*. To do so may cause injury or damage to the eye.

Side Effects:
Dizziness or drowsiness; increased sweating; irregular heartbeat; muscle twitching or trembling; nausea or vomiting; shortness of breath or troubled breathing; unusual excitement, nervousness, or restlessness; unusual tiredness or weakness, Burning, stinging, redness, or other irritation of eye.

Interactions:
The vagal effects and respiratory depression induced by opiate agonists may be increased by local anesthetics. Use of local anesthetics with rapid onset vasodilators, such as nitrates, may result in hypotension. Local anesthetics may enhance the effect of CNS depressive agents.

Vecuronium Bromide

Class:
Non-depolarizing Neuromuscular Blocker

Description:
Vecuronium is a derivative of Pancuronium and is used to provide muscle relaxation to facilitate endotracheal intubation.

Mechanism of Action:
Vecuronium is one-third more potent that Pancuronium with a shorter duration of effect. Vecuronium competes with acetylcholine for cholinergic receptor sites on the post junctional membrane. This competition results in paralysis of muscle fibers served by the occupied neuromuscular junction. It does not cause an initial depolarization wave, as does Succinylcholine. The onset is about 1 minute, with good to excellent intubation conditions within 2-3 minutes.

Indications:
Vecuronium is used to achieve temporary paralysis when endotracheal intubation is indicated, and muscle tone or seizure activity prevents it.

Contraindications:
Known hypersensitivity.

Precautions:
Vecuronium should not be administered unless personnel skilled in endotracheal intubation are present and ready to perform the procedure. Oxygen and emergency resuscitative drugs should be readily available.

Side Effects:
Vecuronium can cause wheezing, respiratory depression, apnea, aspiration, arrhythmias, bradycardia, sinus arrest, hypertension, hypotension, increased intraocular pressure, increased intracranial pressure.

Interactions:
Lidocaine, Procainamide, beta-blockers, magnesium sulfate, and other neuromuscular blockers enhance the effects of Vecuronium.

APPENDIX 4:

REQUIRED EQUIPMENT LIST BY TYPE OF ADVANCED LIFE SUPPORT SERVICE

REQUIRED				
ITEM	**QUANTITY**	**AEMT**	**CC**	**P**
12-14G 2" Over-The-needle Catheter for Pleural Decompression	2		X	X
14G IV Catheter	3	X	X	X
16G IV Catheter	3	X	X	X
18G IV Catheter	3	X	X	X
20G IV Catheter	3	X	X	X
22G IV Catheter	3	X	X	X
24G IV Catheter	3	X	X	X
1cc Syringes	3		X	X
3cc Syringes	3		X	X
5cc Syringes	3		X	X
10cc Syringes for ET Sets	2	X	X	X
10cc Syringes for Medication Administration	3		X	X
20cc Syringes	2		X	X
18G Needles	3		X	X
23G IM Needles	3		X	X
27G SQ Needles	3		X	X
2.5 Uncuffed Endotracheal Tube	2	X	X	X
3.0 Uncuffed Endotracheal Tube	2	X	X	X
3.5 Uncuffed Endotracheal Tube	2	X	X	X
4.0 Uncuffed Endotracheal Tube	2	X	X	X
4.5 Uncuffed Endotracheal Tube	2	X	X	X
5.0 Endotracheal Tube	2	X	X	X
6.0 Endotracheal Tube	2	X	X	X
7.0 Endotracheal Tube	2	X	X	X
8.0 Endotracheal Tube	2	X	X	X
Adult End-Tidal Monitor (Waveform Capnography Capable)	1	X	X	X
Adult Rescue Airway Device Such As: Combitube/ Laryngeal Mask Airway/ King Airway Device	1	X	X	X
Adult Laryngoscope Handles	2	X	X	X
Adult Magill Forceps	1	X	X	X
Adult Stylet	2	X	X	X
Automated External Defibrillator	1	X		

REQUIRED				
ITEM	**QUANTITY**	**AEMT**	**CC**	**P**
EKG Monitor/Defibrillator with Pacing and 12-Lead Capabilities	1		X	X
Adult Pacing Pads or Paddles	1	X	X	X
Defibrillation Gel/Defibrillation Pads	1	X	X	X
Electrodes	20	X	X	X
Monitor Cables (4 Lead)	1		X	X
Monitor Cables (12 Lead)	1		X	X
Treatment Cable	1	X	X	X
Pediatric Pacing Pads	1		X	X
Pediatric Defibrillation paddles or Pads	1 pair		X	X
Spare EKG Battery	1		X	X
Spare EKG Paper	1		X	X
Glucometer	1		X	X
Glucometer Strips	5		X	X
Hand Held Nebulizers	3	X	X	X
Adult and Pediatric Intraosseous Needles	2	X	X	X
Macintosh Laryngoscope Blades	4 Asst Sizes	X	X	X
Macrodrip Administration Sets	4	X	X	X
Meconium Aspirator	1	X	X	X
Microdrip Administration Sets	6	X	X	X
Dial-a-Flow Administration Set or FDA Approved Equivalent	1		X	X
Miller/Wisconsin Laryngoscope Blades	4 Asst Sizes	X	X	X
Needle Cricothyrotomy Kit or FDA Approved Equivalent	1			X
Pediatric End-Tidal Monitor (Waveform Capnography Capable)	1	X	X	X
Pediatric Magill Forceps	1	X	X	X
Pediatric Stylette	2	X	X	X
Pulse Oximeter with Adult and Pediatric Sensors	1	X	X	X
Spare Batteries for Laryngoscope Handle	1 set	X	X	X
Tourniquets	2	X	X	X
Vacutainer or Equivalent Blood Tube Holder	2	X	X	X
Water Soluble Lubricant	6 packets	X	X	X

RECOMMENDED				
ITEM	**QUANTITY**	**AEMT**	**CC**	**P**
Broslow Tape or Equivalent	1	X	X	X
CPAP Device	1	X	X	X
Large Spare Laryngoscope Bulbs	2	X	X	X
Pediatric Burette or Soluset	1	X	X	X
Small Spare Laryngoscope Bulbs	2	X	X	X

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