

Wilderness EMS Institute

Operations Policy Manual

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I. WEMSI Medical Control Policy

Purpose: WEMSI provides medical care to patients in the specialized prehospital situations of wilderness, backcountry, and other delayed and prolonged transport contexts such as catastrophic disasters (referred to jointly as “the wilderness context” throughout the Operations Policy Manual).

The specific purpose of this policy is to establish criteria under which individuals may provide medical care under auspices of the Wilderness EMS Institute.

- Scope:**
1. This policy applies to all individuals, including Field Providers¹ who are authorized to provide direct patient care, and Wilderness Command Physicians who direct such care, under auspices of the Wilderness EMS Institute.
 2. Individuals shall only provide or direct patient care when accredited in accordance with the WEMSI Accreditation Policy.
 3. This policy shall apply to all WEMSI personnel unless overruled by specific and relevant state or federal law.²

- Medical Control:**
1. When faced with a patient care situation in the wilderness context, WEMSI-accredited Field Providers shall attempt to establish Medical Communication with, and obtain patient-specific medical control from, a WEMSI-accredited Wilderness Command Physician. If the delay in making such an attempt will adversely affect the patient, Field Providers may start acting on the basis of the WEMSI Protocols and Standing Orders. WEMSI Field Providers may accept patient-specific medical direction from a WEMSI Wilderness Command Physician only when there is Medical Communication between the Field Providers and the Wilderness Command Physician.
 2. As used in this policy, *Medical Communication* is a specific and circumscribed term defined in the WEMSI Medical Communication Policy.
 3. If unable to establish or maintain Medical Communication, WEMSI Field Providers shall use the WEMSI Protocols and WEMSI Standing Orders to guide their patient care; if the Protocols or Standing Orders do not address the problem at hand, Field Providers shall provide patient care in accordance with their training, their best judgment, and the patient’s best interests, and shall continue attempting to establish Medical Communication.
 4. WEMSI personnel are not authorized to act under remote or direct

¹ Term definitions are provided at the end.

² This edition of the WEMSI Policy Manual does not address operations outside of WEMSI’s home state of Pennsylvania. For states that are members of the Atlantic EMS Council (PA, NJ, DE, MD, DC, VA, WV) this may be addressed by a new mutual aid and reciprocity agreement that is in the planning stages. Once such an agreement is completed, this Manual will address such questions.

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medical control of physicians who are not WEMSI-accredited Wilderness Command Physicians.

5. When in the wilderness context, WEMSI Field Providers shall turn patient care over to a licensed but non-WEMSI physician at the patient's side, if and only if said physician (a) identifies self by name and by state license number in writing, and (b) signs a statement accepting all responsibility for the patient's care on a continuing basis
6. Once a patient is out of the wilderness context, WEMSI Field Providers are authorized to transfer patient care responsibility to (1) the physician directing a "street" EMS agency's (ground, air or water) ambulance crew, (2) a licensed physician in a health care facility, or (3) directly to a WEMS Wilderness Command Physician. A WEMSI Field Provider should continue to attend the patient and provide advice to the "street" EMS agency's physician and ambulance crew, except (1) when safety concerns dictate otherwise (e.g., aircraft payload limitations), or (2) the WEMSI Field Provider, preferably in consultation with a WEMSI Wilderness Command Physician, believes that the patient is stable, and that the WEMSI Field Provider's special training is unlikely to be needed during transportation to a health care facility.

Documentation:

All patient care by WEMSI Field Providers shall be documented using WEMSI Patient Record forms and Pennsylvania EMS report forms, and submitted to WEMSI for Quality Improvement review.

II. WEMSI Accreditation Policy

1. All individuals seeking accreditation as WEMSI Field Providers or Wilderness Command Physicians shall submit evidence that they have obtained and are maintaining certification or licensure in their home states as EMS providers or physicians.
2. Those seeking accreditation to provide advanced wilderness medical care in the field shall submit evidence that they have obtained and are maintaining accreditation to provide Advanced Life Support (ALS) Emergency Medical Services care in their home states.
3. Those seeking to provide basic or advanced wilderness medical care in the field shall submit evidence that they have successfully completed a Wilderness EMT course that meets the educational objectives of the WEMSI Wilderness EMT Curriculum, including all required clinical training, or equivalent training. The WEMSI Education Officer shall establish procedures for determining equivalence.
4. Those seeking WEMSI accreditation at any level shall complete an interview and oral examination, based on guidelines provided by the Personnel Evaluation Officer, appropriate to their level of care.
 - a. For Field Provider applicants, this interview and oral examination shall be provided by an accredited WEMSI Wilderness Command Physician selected by WEMSI, and the ALS Coordinator or the ALS Coordinator's designate.
 - b. For Wilderness Command Physician applicants, this interview and oral examination shall be provided by an accredited WEMSI Wilderness Command Physician selected by WEMSI, and the Medical Command Officer or the Medical Command Officer's designate.
 - c. Those conducting the shall provide a written summary of the interview and oral examination and a formal recommendation to approve or not approve to the WEMSI Medical Director.
5. The WEMSI Medical Director shall be the final arbiter of all accreditation decisions. WEMSI accreditation is not a property right, it is permission to use the WEMSI Medical Director's and Wilderness Command Physicians' medical licenses, and may be denied or withdrawn without due process of law.
4. Those seeking WEMSI accreditation as Field Providers must complete an application for accreditation established by the WEMSI Operations Director, including, but not limited to, the following information:
 - a. Current certification or license (copies of relevant certificates required).
 - b. Present affiliation, which must with a recognized ALS or BLS

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- EMS service, with a medical practice, or with a hospital.
- c. Endorsement of affiliate EMS service's medical director, the medical practice's lead physician, or the hospital service supervisor.
 - d. Completion of a WEMSI Wilderness EMT Course, or equivalent as determined by the WEMSI Education Officer.
 - e. A letter of endorsement from a WEMSI-accredited Wilderness Command Physician.
5. Those seeking WEMSI accreditation as Wilderness Command Physicians must complete an application for accreditation established by the WEMSI Operations Director, including but not limited to:
- a. Current medical license(s), including a Pennsylvania license and main practice state license, if not in Pennsylvania.
 - b. Current and valid DEA Controlled Substances Registration Certificate.
 - c. Specialty board certification(s), or evidence of board eligibility.
 - d. Evidence of malpractice insurance and claims history.
 - e. Completion of a WEMSI Wilderness Command Physician Course, or equivalent as determined by the WEMSI Medical Command Officer.
 - f. A letter of endorsement from a WEMSI-accredited Wilderness Command Physician.

III. WEMSI Medical Communication Policy

Purpose: This policy lays out the communication parameters required for adequate patient-specific medical direction (“on-line command,” “direct medical control”) in the wilderness context, where technical difficulties may make “direct” voice contact difficult or impossible. Such Medical Communication must provide accurate, bi-directional voice or text data transfer.

Scope: This policy applies to all patient-specific messages by WEMSI-accredited Wilderness Command Physicians and WEMSI-accredited Field Providers. This includes messages between WEMSI-accredited Wilderness Command Physicians and WEMSI-accredited Field Providers. It also applies to WEMSI-accredited Wilderness Command Physicians if requested to provide patient-specific medical direction or advice to field providers who are not accredited by WEMSI.

- Policy:**
1. Medical Communication—Voice
 - a. Medical Communication exists when a Wilderness Command Physician and Field Provider can speak directly to one another: real-time bi-directional voice communication. Examples are as follows:
 - when the Wilderness Command Physician and Field Provider are in direct proximity (e.g., the Wilderness Command Physician is looking over the medic’s shoulder); or
 - when the Wilderness Command Physician and Field Provider are close but not in direct physical proximity, and can still speak to one another by voice (e.g., shouting down a cave passage); or
 - when the Wilderness Command Physician and Field Provider are not in proximity, but may speak with one another via technical means that enable accurate real-time bi-directional voice communications (e.g., radio, telephone, field phone, or combinations of these three).
 - b. Digital voice retransmission equipment, sometimes used as a single-frequency alternative to automatic repeater stations, is considered the same as other forms of electronic voice communication for the purposes of this policy.
 - c. This does not require a full-duplex communications mode; an alternate unidirectional communications mode, such as the standard radio communications mode where one cannot listen while pressing the push-to-talk button, is acceptable.
 - d. All medical voice communication shall be in standard American English. Standard medical terms, abbreviations, and acronyms are acceptable provided they are understood by both parties.
 - e. Should voice communications quality be marginal (due to such

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factors as poor communications equipment or channel quality), personnel shall use the ASTM Standard Practice for Phonetics.

2. Medical Communication—Data

a. Medical Communication exists when a Wilderness Command Physician and Field Provider can exchange data messages or digital information with one another that include text data. Though some unidirectional or bi-directional non-text information may be transmitted, the data must include bi-directional voice or text data to be Medical Communication. EKG or other telemetry by itself would not constitute Medical Communication as it does not include bi-directional voice or text data. However, communication need not be real-time if the medical mission can still be performed successfully. Potential examples of data Medical Communication are as follows:

- hand-written or typed notes;
- facsimile;
- imagery, electronic or otherwise;
- voice recordings;
- machine transmissions such as teletype or TTD;
- wireless data transmissions using international Morse code, or CCITT alphabets 5 (Baudot) or 7 (ASCII) (e.g., HF radio, VLF cave radio, VHF/UHF packet data systems)

b. Medical data communication that uses written or recorded language shall be in standard American English. Standard medical abbreviations are acceptable provided they are known to both parties.

c. Should recorded voice or data communications quality be marginal (due to such factors as poor communications equipment or channel quality), personnel shall use the ASTM Standard Practice for Phonetics.

3. Medical Communication—Relay

To be Medical Communication, a relay or series of relays must:

- transmit all messages word-for-word;
- read back the message word-for-word from the recipient to the originator;
- have an acknowledgment from the originator to the recipient that the message was returned intact; and
- have a written or typed log of the message at the originator, and at the recipient. Logs may be kept at intermediate relay stations but are not required.

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Policy Manual Approvals:

WEMSI Medical Director

Date

WEMSI Operations Director

Date

WEMSI Communications Officer

Date

Appendix A: Medical Communication Background

Medical care is best delivered with a qualified physician at the patient's side. An alternative level of care is having field providers providing care based on standing orders. Intermediate between the two is having a physician direct care through two-way communication with field providers in the field: not as good as having a physician present, but better than field providers directed only by standing orders.

Traditional EMS requires immediate, bi-directional, real-time voice communication for field providers to act on the direction of a remote physician. This requires sophisticated communications equipment. It also requires sophisticated system design. In the wilderness and in the backcountry, sophisticated communications infrastructures are seldom available. Nonetheless, wilderness and backcountry patients deserve the benefit of physician control of their care when possible. Despite technical limitations of the wilderness/backcountry context, physicians can and should, with adaptations, provide medical control to field providers. For WEMSI, instead of "direct" communication for on-line medical control, we use the term "Medical Communication" to signify the situations when field providers in the field may accept and act on orders from a remote physician. This policy outlines and defines how patient-specific medical control can be accomplished through Medical Communication.

Accurate, Immediate, and Bi-directional Communication for Urban EMS

Patient-specific medical control ("on-line command") generally requires "direct" communication between the physician and the out-of-hospital providers in the field. The legal definition of this "direct" communication varies from publication to publication and from state to state. Used in its precise meaning, "direct" communication only occurs when the physician and field provider

are standing near one another. However, communications equipment such as two-way radios, telephone, and cellular phones provide communications that are so similar to direct communication as to substitute for it.

"Direct medical control" for traditional urban EMS supports information interchange that has three important characteristics. First, it is without intermediaries that might introduce significant errors: it is accurate. Second, it allows real-time (instant) interactive exchanges: it is immediate. Third, it allows both physician and medic to initiate communications and send and receive information: it is bi-directional. The two-way nature of medical communication is essential to the proper functioning of patient-specific medical control. Some aspects of medical communication, such as EKG telemetry, may be unidirectional. The usual radio or telephone connection between hospital ED physician and urban medic is accurate, immediate, and bi-directional.

While such communications are the ideal, they may not always be available in the backcountry. However, other forms of communication may be adequate to legitimately support patient-specific medical control.

Modification for the Wilderness/Backcountry Context

In the wilderness/backcountry context, immediate communications are not always possible. An extreme example is during the initial stages of a cave rescue. In such a case, written notes between the physician at the surface and the medic underground convey all medical (and other) information.

Wilderness rescue operations often last for hours or days. Therefore, a delay of minutes (or even hours) will not invalidate the value of a link between physician and field providers. Provided that information is passed accurately both ways, even written messages can be a

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valid method of medical control. Personnel in the field must have written standing orders to follow in the gaps between such communications. However, written standing orders do not negate the value of a physician's patient-specific medical control.

The two critical requirements for Medical Communication are that it is accurate and that it is bi-directional. Delays should be minimized but Medical Communication need not be immediate.

Traditional EMS, which emphasizes the real-time nature of direct medical control, does not permit relaying of messages. There is good reason for this. The classic game of "gossip" illustrates the problem: a message is started at one corner of a classroom and whispered from

one student to another. When the message arrives at the far corner of the classroom, it is unrecognizable. In wilderness search and rescue, however, relays are common. Backpackable automatic repeaters are sometimes used, but not always available or in the right location. A rescuer at the top of a mountain uses a handheld radio to relay messages from people on one side to those on the other side. Because of the problems of relaying accurate messages, reliable relay protocols have evolved. They involve composing a written message at one end, transmitting it word-for-word through the relay, then reading it back to the originator word-for-word for confirmation. This protocol has provided reliable error-free communication for military and search and rescue operations for many years.

Appendix B: Definitions

Accurate: as used in this manual, allowing verbal or text information to be communicated without errors in meaning.

Bi-directional: as used in this manual, allowing both physician and medic to initiate communications and send and receive information.

Field Provider: as used in this manual, includes both basic level (e.g., first aid, First Responder, EMT-Basic, with wilderness training) and advanced level (e.g., Nurses, Paramedics, Physician's Assistants, Nurse Practitioners), but not physicians, who are independently licensed to practice medicine.

Wilderness Context: as used in this manual, the specialized prehospital situations of wilderness, backcountry, and other delayed and prolonged transport contexts such as catastrophic disasters, in which EMS delivery is complicated by one or more of the following four factors:

- remoteness as far as logistics and access;
- a significant delay in the delivery of care to the patient;
- an environment that is stressful to both patients and rescuers; or
- lack of equipment and supplies.

Wilderness Command Physician: as used in this manual, licensed physicians who have training in remotely directing care for sick or injured persons; who have training in doing so for the specialized prehospital situations of wilderness, delayed, or prolonged transport contexts (the WEMSI Wilderness Command Physician class); and who have been accredited by the Wilderness EMS Institute to remotely direct other wilderness medical treatment by WEMSI Field Providers.

Wilderness EMT: as used in this manual, individuals trained as Emergency Medical Technicians who care for sick or injured persons in the specialized prehospital situations of wilderness, delayed, or prolonged transport contexts. Wilderness EMTs are trained in accordance with U.S. D.O.T. HS 900-075 Training Curriculum for Emergency Medical Technicians and ASTM F1287-90 Standard Practice for the Training of the Emergency Medical Technician (Basic), or the subsequent D.O.T. EMT-Basic Training Program.

Wilderness First Responder: as used in this manual, first responders who may care for sick or injured persons in the wilderness contexts, including catastrophic disasters. Wilderness First Responders are trained as First Responders in accordance with ASTM F1287-90 Standard Guide for Performance of First Responders Who Provide Medical Care and ASTM F1453-92 Standard Guide for the Training and Evaluation of First Responders Who Provide Medical Care. They have additional training in applying their training in the wilderness context.

Wilderness Medic: as used in this manual, a Wilderness EMT who has completed training to the standards of the Wilderness EMT Curriculum of the Wilderness EMS Institute, who is an active EMT-Paramedic or equivalent, who has achieved a high level of competence in providing wilderness medical care, and who has been accredited by the Wilderness EMS Institute to administer medications and other wilderness medical treatment.