Joe Lombardo
Governor

Richard Whitley, MS
Director

DEPARTMENT OF HUMAN SERVICES

NEVADA DIVISION of PUBLIC and BEHAVIORAL HEALTH

Dena Schmidt
Administrator

Ihsan Azzam, Ph.D., M.D.
Chief Medical Officer

NOTICE OF PUBLIC HEARING

Lauara Lisk, Wendover Ambulance, 427 Mesa Street, West Wendover, Nevada 89883, IS REQUESTING A VARIANCE, # 790, FROM THE NEVADA STATE BOARD OF HEALTH REGULATIONS.

NOTICE IS HEREBY GIVEN THAT Lauara Lisk, Wendover Ambulance, located at 427 Mesa Street, West Wendover, Nevada 89883, has requested a variance from Nevada Administrative Code (NAC)450B. 384 and NAC 450B.461.

A public hearing will be conducted on September 5, 2025, at 9:00 am by the Nevada State Board of Health to consider this request. This meeting will be held online and at physical locations, listed below.

Physical Locations:
Southern Nevada Health District (SNHD)
Red Rock Trail Rooms A and B
280 S. Decatur Boulevard; Las Vegas, Nevada 89107

Nevada Division of Public and Behavioral Health (DPBH)
Hearing Room No. 303, 3rd Floor
4150 Technology Way; Carson City, Nevada 89706

Virtual Information:
Meeting Link:
https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjVmMTM4MTQtMmYyOC00NmVjLTg4NWQtOTVlZWU1MzUyZGZl%40thread.v2/0?context=%7b%22Tid%22%3a%22e4a340e6-b89e-4e68-8eaa-1544d2703980%22%2c%22Oid%22%3a%22768e443d-3be6-48f0-9bb0-7e72f1276b8d%22%7d

Please Note: If you experience technical difficulties connecting online, please call into the meeting to participate by phone.

Join by Phone:
1-775-321-6111
Phone Conference ID Number: 402 212 427#

Lauara Lisk, Wendover Ambulance, located at 427 Mesa Street, West Wendover, Nevada 89883, is requesting a variance from NAC 450B.384 and 450B.461 which states:

NAC 450B.384 states as follows:

The holder of a certificate issued pursuant to NAC 450B.360 shall not practice beyond the scope of the certificate unless authorized by the health authority which issued the certficate.

NAC 450B.461(2) states in pertinent part:

No advanced emergency technician (AEMT) or paramedic may administer any dangerous drug while serving as an attendant in a service unless the dangerous drug is named on the inventory of medication issued by the medical director of the service and:

(a) An order is given to the AEMT or paramedic by a physician or registered nurse supervised by a physician; or
(b) The AEMT or paramedic is authorized to administer the drug pursuant to a written protocol that is approved by the medical director of the service and on file with the Division.

Wendover Ambulance is requesting a variance to allow Advanced Emergency Medical Technicians (AEMTs) to administer Push Dose Epinephrine for hypotensive patients in critical conditions such as post-cardiac arrest, anaphylaxis, sepsis, and trauma. The agency cites rural staffing challenges and long transport times as justification, stating that Paramedics are not always available. Administration would occur only under direct online medical control, with AEMTs receiving specific training and Medical Director oversight.

The authority of the State Board of Health to consider and grant a variance from the requirements of a regulation is set forth at NRS 439.200 and NAC 439.200 – 439.280.

Persons wishing to comment upon the proposed variance may appear at the scheduled public hearing or may submit written testimony at least five days before the scheduled hearing to:

Secretary, State Board of Health
Division of Public and Behavioral Health
4150 Technology Way, Suite 300
Carson City, NV 89706

Anyone wishing to testify for more than five minutes on the proposed variance must petition the Board of Health at the above address. Petitions shall contain the following: 1) a concise statement of the subject(s) on which the petitioner will present testimony; 2) the estimated time for the petitioner's presentation.

This notice has also been posted at the following locations:

DIVISION OF PUBLIC AND BEHAVIORAL HEALTH (DPBH), 4150 TECHNOLOGY WAY, CARSON CITY, NV
DIVISION OF PUBLIC AND BEHAVIORAL HEALTH WEBSITE:

http://dpbh.nv.gov/Boards/BOH/Meetings/Meetings/

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DEPARTMENT OF HUMAN SERVICES
NEVADA DIVISION of PUBLIC and BEHAVIORAL HEALTH

Dena Schmidt
Administrator

Ihsan Azzam, Ph.D., M.D.
Chief Medical Officer

MEMORANDUM

DATE: **August 13, 2025**

TO: **John Pennell, Chair**
State Board of Health

FROM: **Dena Schmidt, Administrator**
Division of Public and Behavioral Health

RE: **Case # 790, Wendover Ambulance**

Regulation/Statutory Authority

Nevada Administrative Code (NAC) 450B.384 states:

> The holder of a certificate issued pursuant to NAC 450B.360 shall not practice beyond the scope of the certificate unless authorized by the health authority which issued the certificate.

NAC 450B.461(2) states in pertinent part:

> No advanced emergency medical technician (AEMT) or paramedic may administer any dangerous drug while serving as an attendant in a service unless the dangerous drug is named on the inventory of medication issued by the medical director of the service and:
>
> (a) An order is given to the AEMT or paramedic by a physician or registered nurse supervised by a physician;
> (b) The AEMT or paramedic is authorized pursuant to administer the drug pursuant to a written protocol that is approved by the medical director of the service and on file with the Division

Summary of Variance Request:

On May 23, 2025, Wendover Ambulance ("Applicant") submitted a request for a variance from the requirements of NAC 450B.461(2) to allow AEMT's to administer **Push Dose Epinephrine** for hypotensive patients in critical conditions such as post-cardiac arrest, anaphylaxis, sepsis, and trauma. The agency cites rural staffing challenges and long transport times as justification, stating that Paramedics are not

always available. Administration would occur only under direct online medical control, with AEMTs receiving specific training and Medical Director oversight.

Degree of risk to public health or safety:

Push Dose Epinephrine is a powerful vasoactive medication with significant risk, including hypertension, dysrhythmias, and dosing errors, especially in high-stress prehospital settings. AEMTs do not receive the pharmacological education or training depth of paramedics, and Push Dose Epinephrine is not currently recognized within their national scope of practice. Applicant proposes requiring online medical control for every administration, but this does not eliminate the risk of incorrect preparation, dilution, or administration, which can have severe consequences.

Exceptional and undue hardship:

While Applicant operates in a rural frontier area and faces legitimate staffing challenges, hardship alone does not override the need to comply with regulations designed to protect patient safety. Numerous rural EMS agencies face similar challenges, and statewide variances based on staffing alone would undermine the uniformity of care and training standards.

Intent of Regulation:

NAC 450B.384 and 450B.461 are intended to protect public safety by restricting the administration of medications, especially dangerous drugs to licensed providers within their scope of practice, and only under approved protocols. The regulation ensures a standardized and safe level of care across the state, following the National EMS Scope of Practice Model.

Staff Recommendation

DPBH staff recommend the State Board of Health **deny Case # 790**, Applicant's variance to NAC 450B.384 and NAC 450B.461 for the administration of **Push Dose Epinephrine** exceeds their authorized scope under the National EMS Scope of Practice Model and National protocols.

Impairment to the purpose of the regulation:

Approval of this variance would substantially impair the intent of NAC 450B.384 and 450B.461 by allowing AEMTs to operate beyond their nationally recognized training and scope. It would also set a precedent for expansion of AEMT practice through individual variances rather than through proper regulatory amendment processes.

Public Comments:

[Enter any public comments staff may have received before variance is heard]

Presenter:

Bobbie Sullivan, Emergency Medical Serivces Program Manager

Bureau of Behavioral Health Wellness and Prevention
4126 Technology Way, Suite 200 ● Carson City, NV 89706 ● (775) 684-4190 ● Fax (775) 684-4185 ● dpbh.nv.gov

Attachments:

None.

Bureau of Behavioral Health Wellness and Prevention
4126 Technology Way, Suite 200 ● Carson City, NV 89706 ● (775) 684-4190 ● Fax (775) 684-4185 ● dpbh.nv.gov

NEVADA STATE BOARD OF HEALTH

4150 Technology Way, Suite 300 CARSON CITY, NV 89706

APPLICATION FOR VARIANCE

Please check the appropriate box that pertains to the NAC for which you are requesting a variance.

☐ Division Administration
(NAC 439, 441A, 452, 453A, & 629)

☐ Health Care Quality & Compliance
(NAC 449, 457, 459 & 652)

☐ Child, Family & Community Wellness
(NAC 392, 394, 432A, 439, 441A, & 442)

☒ Office of State Epidemiology
(NAC 440,450B, 452, 453, 453A, & 695C)

☐ Public Health & Clinical Services
(NAC 211, 444, 446, 447, 583, & 585)

Date: _____

Name of Applicant: Wendover Ambulance Phone: 801-516-1747

Mailing Address: P.O. Box 2530

City: W. Wendover State: NV Zip: 89883

We do hereby apply for a variance to chapter/section 450B.384 and 450B.461 of the Nevada Administrative Code (NAC). (For example: NAC 449.204)

Title of section in question: 450B.384 EMT practice beyond scope of certificate prohibited.
450B.461 Restrictions on authority to administer

Statement of existing or proposed conditions in violation of the NAC:

AEMT Scope of Practice does not allow for the administration of Push Dose Epinephrine (Epi). It is not a Schedule IV controlled substance but meet the definition of "dangerous drug". Wendover Ambulance proposes to have AEMTs utilize Push Dose Epi under strict protocols and online medical direction for multiple conditions listed in the attached request document.

NEVADA DIVISION of PUBLIC and BEHAVIORAL HEALTH

NEVADA STATE BOARD OF HEALTH

4150 Technology Way, Suite 300 CARSON CITY, NV 89706

APPLICATION FOR VARIANCE

Date of initial operation (if existing): 10-01-1987

ATTENTION: Please read this section closely. Your request for variance will be examined against these criteria:

Any person who, because of unique circumstances, is unduly burdened by a regulation of the State Board of Health and thereby suffers a hardship and the abridgement of a substantial property right may apply for a variance from a regulation. (NAC 439.200(1))

1. The State Board of Health will grant a variance from a regulation only if it finds from the evidence presented at the hearing that:
    (a) There are circumstances or conditions which:
        (1) Are unique to the applicant;
        (2) Do not generally affect other persons subject to the regulation;
        (3) Make compliance with the regulation unduly burdensome; and
        (4) Cause a hardship to and abridge a substantial property right of the applicant; and
    (b) Granting the variance:
        (1) Is necessary to render substantial justice to the applicant and enable him to preserve and enjoy his property; and
        (2) Will not be detrimental or pose a danger to public health and safety.

2. Whenever an applicant for a variance alleges that he/she/they suffers or will suffer economic hardship by complying with the regulation, they must submit evidence demonstrating the costs of compliance with the regulation. The Board will consider the evidence and determine whether those costs are unreasonable. (NAC 439.240)

Therefore, it is important for your variance request to be as complete as possible. It is your responsibility to attach documentation supporting your variance request.

Statement of degree of risk of health: Risk will be minimal due to the training of AEMTs directed and overseen by Agency Medical Director. Strict protocols have been written and online medical control will be required. Several of the protocols are related to cardiac care and all AEMTs are currently and will maintain ACLS (advanced cardiac life support) certification. Due to staffing shortage, may only have AEMTs on ambulance and patients could suffer due to the long distances to hospital or helicopter for advance care.

NEVADA STATE BOARD OF HEALTH

4150 Technology Way, Suite 300 CARSON CITY, NV 89706

APPLICATION FOR VARIANCE

Please state in detail the circumstances or conditions which demonstrate that:

1. An exceptional and undue hardship results from a strict application of the Regulation:

See the attached request document for additional information.

2. The variance, if granted, would not:

   A. Cause substantial detriment to the public welfare.

See the attached request document for additional information.

   B. Impair substantially the purpose of the regulation from which the application seeks a variance.

See the attached request document for additional information.

The bureau may require the following supporting documents to be submitted with and as a part of this application:

Specific Request:

NEVADA STATE BOARD OF HEALTH
4150 Technology Way, Suite 300 CARSON CITY, NV 89706

APPLICATION FOR VARIANCE

1. Legal description of property concerned

_ 2. General area identification map

_ 3. Plot map showing locations of all pertinent items and appurtenances

_ 4. Well log (if applicable)

_ 5. Applicable lab reports

_ 6. Applicable engineering or construction/remodeling information

_ 7. Other items (see following pages)

This application must be accompanied by evidence demonstrating the costs of your compliance with regulations or specific statutory standards. Your request will be placed on the Board of Health agenda 40 days or more after receipt in this office if accompanied by the required fee (NAC 439.210). The application and supporting documentation will form the basis for the Division of Public and Behavioral Health staff report and recommendation(s) to the Board. Failure to respond to the above statements may cause the Board to deny consideration of the application at the requested Board meeting.

[X] I am/we are requesting this variance request be placed on the next regularly scheduled Board of Health agenda. It is understood that I/we can attend in person at either physical location in Carson City or Las Vegas or we may attend virtual.

Signature: _____

Printed Name: Lauara Lisk

Title: President/CEO/AEMT

Date: 05/20/2025

NEVADA STATE BOARD OF HEALTH
4150 Technology Way, Suite 300 CARSON CITY, NV 89706

APPLICATION FOR VARIANCE

PLEASE SUBMIT YOUR APPLICATION FOR VARIANCE BY USING ANY OF THE FOLLOWING METHODS:

MAIL TO:
Secretary, Nevada State Board of Health
Division of Public and Behavioral Health
4150 Technology Way, Suite 300
Carson City, NV 89706

FAX:
775-687-7570

EMAIL:
DPBH@health.nv.gov
StateBOH@health.nv.gov

Wendover Ambulance
427 Mesa Street
P.O. Box 2530
West Wendover, Nevada 89883
(775) 664-2081
Fax: (775) 664-2244
E-mail: lauara.wendoverambulance@gmail.com

NAC 439.200 states that "Any person who, because of unique circumstances, is unduly burdened by a regulation of the State Board of Health and thereby suffers a hardship and the abridgement of a substantial property right may apply for a variance from a regulation."

Wendover Ambulance is seeking a variance to Nevada Administrative Codes 450B.384 and 450B.461

The specific variance requested is:

> Allowing Wendover Ambulance Advanced Emergency Medical Technicians (AEMTs) to administer **Push Dose Epinephrine** to patients of Wendover Ambulance under a set of very strict Protocols, guidelines and training requirements under authority of the Medical Director.

1. The State Board of Health will grant a variance from a regulation only if it finds from the evidence presented at the hearing that:
    a. There are circumstances which:
        i. Are unique to the applicant.
        ii. Do not generally affect other persons subject to the regulation;
        iii. Make compliance with the regulation unduly burdensome; and
        iv. Cause a hardship to abridge a substantial property right of the applicant:
    b. Granting the Variance:
        i. Is necessary to render substantial justice to the applicant and enable him to preserve and enjoy his property; and
        ii. Will not be detrimental or pose a danger to public health and safety.

Wendover Ambulance will provide information to show that our agency has unique circumstances and is burdened by this regulation in regards to the use of Push Dose Epinephrine.

As some background information, Wendover Ambulance is headquartered in West Wendover, Nevada and began business in 1987. We are an ALS Agency and operate Paramedics and AEMTs (Advanced Emergency Medical Technicians) and EMTs (Emergency Medical Technicians). Like most other rural agencies in Nevada and in fact the whole country, recruitment and retention of Paramedics is difficult at best and so we operate with a combination of Paramedic and AEMT or Paramedic EMT. Larger metropolitan cities have a larger tax base and are in a better position to pay large salaries to Paramedics and so it is extremely difficult for rural agencies to provide the advanced care that is just as needed in rural areas as in the cities, Many times, there will be a call for a second or third ambulance so the subsequent ones will most likely only be staffed with AEMTs as the ALS provider. It is during these times that Wendover Ambulance needs the requested variance.

As some may already know, the state line between Wendover, Utah and West Wendover, Nevada bisects the two Cities and states of Nevada and Utah. This certainly causes some unique situations for our Agency. Because we provide Emergency Medical Services and Transportation to patients on both sides of the line, and transport to hospitals in the Salt Lake City area as well as Elko and Ely Nevada, we are licensed by the Nevada Department of Health as well as the Utah Department of Public Safety. All our Paramedics, AEMTs and EMTs are also licensed in each state.

Wendover is very rural, as the closest hospitals are more than 115 miles away – in any direction. We also cover the Ibapah Reservation 65 miles southeast of Wendover and it is considered a Frontier Area by HRSA. Each year Wendover has approximately 950 to 1000 patient calls.

We are governed by the EMS regulations of each state and for the most part they are similar, but a marked difference is the scope of practice of AEMTs. Utah has had a state EMS Medical Director, Dr. Peter Tailac since 2012 who has worked with the Utah State EMS Committee and various sub committees to establish state-wide EMS Protocols.

AEMTs in Nevada are currently allowed to administer Epinephrine in a few limited cases such as cardiac arrests and anaphylaxis and the protocols for them is in the 2013 protocols that we currently use. Our Medical Director wants us to follow the **2025 Wendover Ambulance Protocols** that have been submitted for your approval to Nevada EMS, but they have not been approved yet. Dr. Doyle feels strongly that the best practice includes the use of Push Dose Epinephrine and he wants us to be able to use this protocol as soon as it can be approved for a variance because it is unclear how much longer it will take to complete the approval process for the our 2025 Wendover Ambulance Protocols. Because our AEMTs have not been utilizing this protocol that includes Push Dose Epinephrine in addition to the traditional use. Dr. Gerard Doyle, our Medical Director, has had our Paramedic Training Officer develop a training plan for this particular medication. This plan includes training in current interventions for patients experiencing low blood pressure, and additionally our AEMTs will all be certified in current Advanced Cardiac Life Support (ACLS) guidelines. A copy of this approved training plan has been attached for your review.

The specific protocol is:

Adult – Push Dose Epinephrine
10mcg as needed to maintain a SBP (systolic blood pressure) >100mmHg after fluid bolus

Pediatric – Push Dose Epinephrine
1mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 +(age in years x2) mmHg after fluid bolus. *Birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x2), and over 10 years = 90mmHg.

In addition to anaphylaxis and cardiac arrest, the following conditions use this protocol:

- Shock, sepsis/fluid therapy
- Post cardiac arrest
- Drowning or submersion
- Toxic exposure – carbon monoxide
- Toxic exposure – cyanide
- Opiod/Overdose
- Temperature and Environmental Emergencies
- Toxic exposure – carbon monoxide
- Toxic exposure – cyanide
- Head Injury (Traumatic Brain Injury)
- Snake Bites

Copies of each of these protocols will be attached.

We will also require AEMTs to contact Online Medical Control for PERMISSION AND ORDERS PRIOR TO ADMINISTRATION OF PUSH DOSE EPINEPHRINE for any protocol. We will continue to review calls with medication usage for Quality Assurance. Before implementation, all our AEMTs will have satisfactorily completed training and passed examinations, both practical and didactic. All AEMTs will be individually approved by Dr. Doyle before they are allowed to follow the protocol.

As of October 1, 2023, Nevada is part of the EMS Compact that encompasses more than 20 states. Utah has been a member of the Compact for many years. This Compact facilitates the day-to-day movement of EMS Personnel across state boundaries in the performance of their duties. It makes even more sense now for Wendover Ambulance to update their protocols to reflect current best practice field use of Push Dose Epinephrine, since the current protocols have been in place for the last 10 years and are limited in scope.

Nevada State EMS has taken the stance that Agencies must adhere to the National EMS Scope of Practice Model. Initially published in 2007 it was revised in 2019 by the National Association of State EMS Officials (NAEMSO). It was developed to provide guidance for States when developing their own EMS scope of practice legislation, rules and regulations. As well all know, it was meant to provide a *minimum* standard, not a maximum standard of care.

Epinephrine is not a controlled substance, but falls under the dangerous drug category per NAC 450B-461. We do not follow our narcotic storage protocol for those, instead, Epinephrine 1:1,000, Epinephrine 1:10,000, and Epinephrine 1mg/1ml is placed in our ambulance supply cabinet in the ambulance garage. Record of purchase and also each log is use is logged on the medication use list in the medication box in the ambulance. These utilize a numbered lock tag to secure them and the number on the lock tag before and after closing the box is logged on the medication control log.

To sum it up:

a. 1. – Unique – Wendover is very rural ambulance service with a service area more than 1,000 square miles serving the local population of approximately 7500 people that swells to double that on weekends due to the casino industry. The closest hospitals are at least 115 miles away in any direction as well as the closest ALS ambulance companies. (Elko and Salt Lake City).
a. 2. – Effect on other persons (Agencies) – Our variance request would not affect other persons subject to the regulation as we are only requesting Wendover Ambulance staff.
a. 3. – Unduly burdensome – The current regulation burdens Wendover Ambulance, our community and our patients by limiting the level of service we can provide. The rural area and limited resources make the hiring of Paramedics difficult and AEMTs are limited in their scope of practice. Many of our second crew calls are only staffed with AEMTs.
a. 4. – Hardship – Due to extended distances to hospital and limited Paramedics, the patients who receive care in our area may be deprived of appropriate prehospital care.
b. 1. – Necessary – Wendover Ambulance needs this variance to provide high quality care to appropriate patients and they have a right to expect that care.
b. 2. – The administration of **Push Dose Epinephrine** will not pose a danger to public health and safety. It would in fact do the opposite. Patients deserve to have appropriate healthcare and medications when they come to Wendover. All AEMTs are currently trained in currently ACLS and PALS guidelines, as well as additional medication administration and fluid resuscitation training.

STATEMENT OF DEGREE OF RISK OF HEALTH:

Wendover Ambulance responds to approximately 1000 patient calls per year. Many of those calls include motor vehicle accidents, falls, and other traumatic injuries resulting in patients in a hypotensive state. Many times, there are multiple calls at the same time and they transport patients to hospitals. Without the immediate availability of paramedics, and subsequent administration of **Push Dose Epinephrine**, patients will unnecessarily suffer increased damage and adverse deficits during treatment and transport to a hospital.

AN EXCEPTIONAL AND UNDUE HARDSHIP RESULTS FROM STRICT APPLICATION OF THE REGULATION:

The difficulty in recruiting and retaining paramedics in our rural community causes hardship. The back-up AEMTs are unreasonably limited in the care they can offer for treatment of hypotensive patients that do not improve with fluids as well as the other medical conditions previously mentioned.

THE VARIANCE, IF GRANTED WOULD NOT:

A. CAUSE SUBSTANTIAL DETRIMENT TO THE PUBLIC WELFARE.
   Approval of this variance would not cause detriment to the public welfare; it would have the opposite effect and provide citizens and visitors with exceptional prehospital medical care. The potential for damage is mitigated through continual, thorough training as well as the requirement that Online Medical Control is contacted before any push dose epinephrine is used.
B. IMPARE SUBSTANTIALLY THE PURPOSE OF THE REGULATION FROM WHICH THE APPLUICANT SEEKS A VARIANCE.
   The variance would not impair the purpose of the regulation. There have been updates to the NHTSA National Scope of Practice Model that now includes more Medical Director Approved medications for AEMTs.

In conclusion, Wendover Ambulance believe this variance will allow our AEMTs to provide a higher level of care needed for our patients while maintaining the highest standards of training and compliance as well under the continued direction and support of our Medical Director.

Sincerely,

Lauara Lisk
President

Wendover Ambulance
427 Mesa Street
P.O. Box 2530
West Wendover, Nevada 89883
(775) 664-2081
Fax: (775) 664-2244
E-mail: lauara.wendoverambulance@gmail.com

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4. Cause a hardship to abridge a substantial property right of the applicant:

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Nevada State EMS has taken the stance that Agencies must adhere to the National EMS Scope of Practice Model. Initially published in 2007 it was revised in 2019 by the National Association of State EMS Officials (NAEMSO). It was developed to provide guidance for States when developing their own EMS scope of practice legislation, rules and regulations. It was meant to provide a *minimum* standard, not a maximum standard of care.

Epinephrine is not a controlled substance, but falls under the dangerous drug category per NAC 450B-641. We do not follow our narcotic storage protocol for those, instead, Epinephrine 1:1,000, Epinephrine 1:10,000, and Epinephrine 1mg/1ml is placed in our ambulance supply cabinet in the ambulance garage. Record of purchase and also each use is logged on the medication use list in the medication box in the ambulance. These utilize a numbered lock tag to secure them and the number on the lock tag before and after closing the box is logged on the medication control log.

To sum it up:

a1 – Unique - Wendover is very rural ambulance service with a service area more than 1,000 square miles serving the local population of approximately 7500 people that swells to double that on the weekends due to the casino industry. The closest hospitals are at least 115 miles away in any direction as well as the closest ALS ambulance companies. (Elko and Salt Lake City).

a2 - Effect on other persons (Agencies) - Our variance request would not affect other persons subject to the regulation as we are only requesting for Wendover Ambulance staff.

a3 – Unduly burdensome - The current regulation burdens Wendover Ambulance, our community and our patients by limiting the level of service we can provide. The rural area and limited resources make the hiring of Paramedics difficult and AEMTs are limited in their scope of practice. Many of our second crew calls are only staffed with AEMTs.

a4 – Hardship – Due to extended distances to hospitals and limited Paramedics, the patients who receive care in our area may be deprived of appropriate prehospital care.

b1 – Necessary – Wendover Ambulance needs this variance to provide high quality care to appropriate patients and they have a right to expect that care.

b2 – The administration of **Push Dose Epinephrine** will not pose a danger to public health and safety. It would in fact do the opposite. Patients deserve to have appropriate healthcare and medications when they come to Wendover. All AEMTs are currently trained in the current ACLS and PALS guidelines, as well as additional medication administration and fluid resuscitation training.

STATEMENT OF DEGREE OF RISK OF HEALTH:

Wendover Ambulance responds to approximately 1000 patient calls per year. Many of those calls include motor vehicle accidents, falls and other traumatic injuries resulting in patients in a hypotensive state. Many times, there are multiple calls at the same time and they transport patients to hospitals. Without the immediate availability of paramedics, and subsequent administration of **Push Dose Epinephrine** patients will unnecessarily suffer increased damage and adverse deficits during treatment and transport to a hospital.

AN EXCEPTIONAL AND UNDUE HARDSHIP RESULTS FROM STRICT APPLICATION OF THE REGULATION:

The difficulty in recruiting and retaining paramedics in our rural community causes hardship. The back-up AEMTs are unreasonably limited in the care they can offer for treatment of hypotensive patients that do not improve with fluids as well as the other medical conditions previously mentioned.

THE VARIANCE, IF GRANTED WOULD NOT:

A. CAUSE SUBSTANTIAL DETRIMENT TO THE PUBLIC WELFARE.
Approval of this variance would not cause detriment to the public welfare; it would have the opposite effect and provide citizens and visitors with exceptional prehospital medical care. The potential for damage is mitigated through continual, thorough training as well as the requirement that Online Medical Control is contacted before any push dose epinephrine is used.

B. IMPARE SUBSTANTIALLY THE PURPOSE OF THE REGULATION FROM WHICH THE APPLICANT SEEKS A VARIANCE.
The variance would not impair the purpose of the regulation. There have been updates to the NHTSA National Scope of Practice Model that now includes more Medical Director Approved medications for AEMTs.

In conclusion, Wendover Ambulance believes this variance will allow our AEMTs to provide the higher level of care needed for our patients while maintaining the highest standards of training and compliance as well as the continued direction and support of our Medical Director.

Sincerely

Lauara Lisk

Lauara Lisk
President

Wendover Ambulance
Verification of Protocols

as of 5-08-24 (last license renewal)

Will be updated for next license renewal 7-01-2025

VERIFICATION OF CURRENT PROTOCOLS

Pursuant to NAC 450B.505(2):

2. The medical director of a service or fire-fighting agency shall:
    a. Establish medical standards which:
        i. Are consistent with the national standard which is prepared by the National Highway Traffic Safety Administration of the United States Department of Transportation as a national standard for the level of service for which a permit is issued to the service or an equivalent standard approved by the administrator of the Division and which are approved by the board;
        ii. Are equal to or more restrictive than the national standard prepared by the National Highway Traffic Safety Administration of the United States Department of Transportation or an equivalent standard approved by the Administrator of the Division and adopted by the state emergency medical system; and;
        iii. Must be reviewed and maintained on file by the Division or a physician active in providing emergency care who is designated by the Division to review and make recommendations to the Division.
    b. Direct the emergency care provided by any certified person who is actively employed by the service.

Date of Protocols currently in use: 6-01-2014

Medical Director who initiated Protocols: Dr. Gerard Doyle

Current Protocols on file: 06-01-2024

If the current Medical Director is NOT the Medical Director who initiated your protocols, please have the current Medical Director sign below indicating they have read and is in agreement with the protocols in use.

Medical Director (Print): Gerard Doyle 

Date: 8 May 24

Agency Representative: Lauara Lisk 

Date: 5-08-2024

Wendover Ambulance

Verification of Protocols

as of 5-08-24 (last license renewal)

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(3) Must be reviewed and maintained on file by the Division or a physician active in providing emergency care who is designated by the Division to review and make recommendations to the Division.

(b) Direct the emergency care provided by any certified person who is actively employed by the service.

Date of Protocols currently in use: 6-01-2014

Medical Director who initiated Protocols: Dr. Gerard Dopyle

Current Protocols on file: 06-01-2024

If the current Medical Director is NOT the Medical Director who initiated your protocols, please have the current Medical Director sign below indicating they have read and is in agreement with the protocols in use.

Gerard Doyle
Medical Director (Print)

Medical Director (Signature)

8 May 24
Date

Lauara Lisk
Agency Representative (Print)

Agency Representative (Signature)

5-08-2024
Date

Wendover Ambulance 2025 Protocols

West Wendover, Nevada
May 2025
Pending approval by Nevada EMS
Push Dose Epinephrine

Shock, Sepsis & Fluid Therapy
Symptomatic Bradycardia
Cardiac Arrest
Post Cardiac Arrest (ROSC)
Congestive Heart Failure/Pulmonary Edemia
Allergic Reaction/Anaphylaxis
Drowning or Submersion
Opiod/Overdose
Temperature and Environmental Emergencies
Toxic Exposure – Carbon Monoxide
Toxic Exposure – Cyanide
Head Injury (Traumatic Brain Injury)
Snake Bites

SHOCK, SEPSIS, & FLUID THERAPY
ALL PROVIDERS/EMT

Focused history and physical exam

- Blood glucose, oxygen saturation and temperature assessment
- Consider shock in patients with one or more of the following"
    - Vital signs: HR>100, SBP of <90mmHg for adults, SBP <70 = (age in years x2) mmHg for children, or RR >20 BPM
    - Skin signs: cold clammy skin, febrile, or delayed capillary refill
    - Mental status: altered, lethargic, or irritable (esp. in infants)

Evaluate for the source of shock including distributive (e.g. infection, anaphylaxis), hypovolemic (e.g. hemorrhagic, vomiting/diarrhea, heat exposure), neurologic (i.e. spinal injury), or cardiogenic

Sepsis Alert – Contact the hospital and initiate a Sepsis Alert if:

- Suspected or documented infection AND EITHER
- Two or more of the following criteria are met:
    - Temp>100.4 F (38 C) or <96.8 F (36 C)
    - RR >20 BPM
    - Heart Rate >90 bpm

  OR
- Signs of hypoperfusion – SBP <90mmHg or MAP <65mmHg or ETCO2 <25

Continuous cardiac, ETCO2, and Pulse Oximetry monitoring, when available

Obtain a 12 Lead EKG when available

Treatment Plan

- Address the underlying cause of shock, if possible
- Administer oxygen as needed to keep oxygen saturations between 90-94%
- Ensure patient warmth, resuscitate with warm IV fluids when available
- Pregnancy >20 weeks gestation – Transport in partial left decubitus position. Place wedge-shaped cushion or multiple pillows under patient's right hip and shoulders to elevate R side 30-45 degrees
- Pediatric lowest acceptable systolic blood pressure are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x2) and over 10 years = 90mmHg.

ADULT

AEMT

- Vascular access
- Insert 2 large bore IVs
- **Traumatic Shock – Permissive Hypotension**
  - If SBP>80-90 (intact radial pulse):
    - No IV fluid bolus
    - Place saline locks on IVs or run at TKO rate
  - If SBP <80-90:
    - Give fluid bolus 500mL at a time, reassess and repeat as needed to:
      - Maintain SBP to 80-90 mmHg **WITHOUT** a CLOSED HEAD INJURY
      - Maintain SBP to 110-120 mmHg **WITH** a CLOSED HEAD INJURY
  - Once minimum blood pressure has been achieved the patient should have a saline lock and no further fluid boluses should be administered unless the BP falls below the limits.
- **Cardiogenic Shock** – In patients with CHF, pulmonary edema, and cardiogenic shock, IV sluids should be withheld, to avoid worsening shock
  - Rapidly transport to hospital
- **Kidney Failure (i.e. dialysis patients) –** Give 500mL fluid boluses up to a maximum of 1 liter and reassess for reversal of the signs of shock
- **Non- Traumatic Shock –** Give IV NS bolus 500 ml at a time, reassess and repeat up to a maximum of 2 liters as required for reversal of signs of shock

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100mmHg after fluid bolus
  - **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
- Call OLMC if the patient remains hypotensive after 2 liters has been administered

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- Vascular access
- Insert 2 large bore IVs
- **Traumatic Shock –** Give fluid bolus of NS 20 mL/kg at a time (max 1L) reassess and repeat up to a maximum of 60 mL/kg total (Max 3L); Reassess for reversal of the signs of shock
  - If the patient remains hypotensive after 60mL/kg (max 3L) of NS call OLMC
- **Cardiogenic Shock** – In patients with CHF, pulmonary edema and cardiogenic shock, IV fluids should be withheld, to avoid worsening shock
  - Apply high-flow oxygen
  - Rapidly transport to the hospital
- **Kidney Failure (i.e. dialysis patients) –** Give 10 mL/kg fluid boluses (max 500 mL) up to a maximum of 20 mL/kg (max 1L) and reassess for reversal of the signs of shock Call OLMC if the patient remains hypotensive after 20 ml/kg has been administered
  - Call OLMC if the patient remains hypotensive after 20 ml/kg has been administered
- **Non-Traumatic Shock –** Provide 20mL/kg (max 1L) boluses up to a maximum of 60mL/kg and reassess for reversal of the signs of shock

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 1mcg/kg (max 50mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus
  - **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
- Call OLMC if the patient remains hypotensive after 60mL/kg (max 3L) of NS

PARAMEDIC

FOR USE ONLY IN NON-TRAUMATIC SHOCK

Epinephrine

- 0.1 – 0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PARAMEDIC

FOR USE ONLY IN NON-TRAUMATIC SHOCK

Epinephrine

- 0.05 – 1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

BRADYCARDIA (Symptomatic)
ALL PROVIDERS/EMT

Focused history and physical exam

- Assess for signs of poor perfusion, hypotension or other signs of shock, altered mental status, ischemic chest pain, or acute heart failure
- Obtain a blood glucose level.

Continuous ECG, ETCO2, 12 lead ECG (when stable), and Pulse Oximetry monitoring, blood pressure, when available

Treatment Plan

- Only treat bradycardia **IF** the patient is unstable (hypotension or signs of poor perfusion).
- If patient is a newborn, follow the ***Newborn Resuscitation Guideline.***
- Identify and treat the underlying cause, if possible. Potential causes include:
    - Hypoxia
    - Shock
    - 2nd or 3rd degree heart block
    - Toxin exposure (beta-blocker, calcium channel blocker, organophosphate, digoxin)
    - Electrolyte disorder (hyperkalemia)
    - Increased intracranial pressure (IC)
    - Hypothermia
    - Acute MI
    - Pacemaker failure
- Maintain airway – assist with breathing, and provide oxygen as necessary
- Ensure patient warmth.

Pediatric patient (<8-year-old)

- Aggressive oxygenation with high flow oxygen and assisted ventilations with a BVM, as indicated.
- Persistent heart rate <60/min and signs of poor perfusion following aggressive oxygenation and ventilation: ***Begin Chest Compressions***

Key Considerations

- In pregnant patients of >20 weeks' gestation: place wedge-shaped cushion or multiple pillows under patient's right hup to displace uterus to the leff, off of the vena cava.
- Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x2) and over 10 years = 90mmHg

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
Vascular access and fluid therapy	Vascular access and fluid therapy
Atropine 1 mg IV/IO Repeat as needed every 3 minutes Maximum total dose of 3 mg	**If indicated, consider atropine** 0.02 mg/kg IV/IO Maximum single dose of 0.5 mg Repeat Atropine every 3-5 minutes as needed until Max 1 mg for child and 2 mg for adolescents
RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL PERMITTED FOR PARAMEDICS WITHIN SCOPE	**RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL PERMITTED FOR PARAMEDICS WITHIN SCOPE**
Push Dose Epinephrine 10mcg as needed to maintain a SBP >100mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**	**Push Dose Epinephrine** 1mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x2) mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

SYMPTOMATIC BRADYCARDIA

Transcutaneous pacing (TCP) at an initial rate of 80 beats per minute if the patient does not respond to medications. Ensure mechanical and electrical capture.

Epinephrine 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

Contact OLMC for dosages above those provided or use of medication NOT firring the guideline parameters

PARAMEDIC

SYMPTOMATIC BRADYCARDIA

Transcutaneous pacing (TCP) at an initial rate of 100 beats per minute if the patient does not respond to medications. Ensure mechanical and electrical capture.

Contact OLMC for dosages above those provided or use of medication NOT firring the guideline parameters

Epinephrine 0.05-1mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP>70 + (age in yearsx2) mmHg

Push Dose Epinephrine 1mcg/kg (Max 50mcg) as needed to maintain a SBP>70 + (age in years x2) mmHg after fluid bolus

CARDIAC ARREST
ALL PROVIDERS/EMT

For Traumatic Arrest refer to General Trauma Management Guidelines

Focused history and physical exam

- Assess for evidence that resuscitation should not be attempted per the ***Death Determination Guideline.***

Continuous ECG, ETCO2, and Pulse Oximetry monitoring when available

Treatment Plan

- **Assess for presence of a pulse, respirations, and consciousness. If absent:**
    - **Begin chest compressions for 2 min**
    - **Apply AED and shock if advised.**
    - AEMT/PM: Apply cardiac monitor/defibrillator and shock if Vtach/Vfib

Key Considerations

- Effective chest compressions are critical
    - Consider ventilating adult patients with a pediatric BVM bag to avoid hyperinflation
    - Minimize interruptions in chest compressions
        - Precharge the defibrillator and countdown to rhythm check/defibrillation
        - Use a verbal 10 second countdown during any pause to limit hands-off time
    - Rate 100-120/min recommend metronome or CPR feedback
    - Depth: 2-2.5 inches (adult)/ 1/3 of chest depth (pediatric)
    - Allow full chest recoil after each compression
    - After each shock, immediately perform 2 minutes of chest compressions before checking rhythm/pulse
    - Rotate compressors every 2 minutes
    - If using mechanical CPR:
        - Apply device with minimum interruption in CPR
        - Check rhythm every 2 minutes. When an organized rhythm is present, check pulse (5 seconds only, use a verbal countdown)
        - Duration of resuscitation as below
- Consider the Pit Crew model as an approach to treatment
    - xPre-defined roles, as determined by a specific EMS agency, for members of an integrated team of first-responders, BLS, and ALS.
    - Designated individuals for chest compressions
    - Designated individuals for overall code leadership/management
    - Designated individual for airway management
    - Additional roles to be assigned as determined by specific agency based on provider availability include: IO/IV access, medication administration, CPR quality monitoring, cardiac rhythm monitoring, defibrillation
    - Consider transition of roles as additional providers become available to ensure maximal use of resources
    - Treatment of the adult cardiac arrest patient in the field is preferred in the majority of cases and is associated with improved outcomes
    - Assume cardiac origins for all adult arrests unless evidence to the contrary. Consider underlying causes and treat them when possible.
    - Duration of resuscitation. Consider prolonged attempts in patients with an initial shockable rhythm and a witnessed collapse
    - Initial shockable: <5% survival after 40 minutes of resuscitation attempt
    - Initial Asystole/PEA rhythms: <1% survival after 20 minutes of resuscitation attempt
- **H's & T's –** Treat as appropriate with confirmed or suspected Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hyperkalemia, Hypothermia, Hypoglycemia, or specific Toxins.

Pregnancy >20 weeks gestation

- Perform manual displacement of the uterus to the patients left. If unable to perform manual displacement, place wedge-shaped cushion or multiple pillows under patient's right hip to achieve 30 degree lateral tilt.
- Transport pregnant patients to the nearest emergency department without delay while attempting to

provide continuous compressions and defibrillation (if applicable). There is potential to perform an emergency cesarean section in the ED, which may save the fetus and the mother.

Pediatric Population

- Consider transport in pediatric arrest after 15 minutes of field resuscitation, including high-quality CPR, effective ventilations, and IV/IO access.
- Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years = 70mmHg + (age x 2), >10 years = 90mmHg.

As nationally-established cardiac care guidelines (e.g. ACLS, PALS) are updated, these may be integrated into performance, as per agency medical director.

ADULT

EMT

AED

- Defibrillate immediately if AED advises shock.
- Resume CPR immediately after each shock and continue for 2 minutes
- Check pulse and repeat shock if prompted by AED

Respiratory Management: Use a 30:2 compressions to ventilations ratio

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

AED

- Defibrillate immediately if AED advises shock.
- Resume CPR immediately after each shock and continue for 2 minutes
- Check pulse and repeat shock if prompted by AED

Respiratory Management:

- Place an NP or OP airway and use a 30:2 compressions to ventilation ratio

AEMT

ALL RHYTHMS

- Begin CPR
- Vascular access and fluid therapy.
- Consider placement of a supraglottic device without interrupting CPR
- **Epinephrine:** 1 mg (10 ml of 0.1 mg/ml / 1:10,000) IV/IO push every 2-4 min as long as the patient remains pulseless. Note that better outcomes are observed with earlier administration of epinephrine, with epinephrine given via IV route, and with shorter dosing intervals (2 min)
- Unless a clear response to epinephrine is observed, consider a ***limit of 3 total doses.***
- Consider NS 1000mL IV/IO bolus if hypovolemia suspected

SHOCKABLE RHYTHM (VF/VT) PRESENT

- **Defibrillation**
- **360 J** for a monophasic defibrillator or **120-360 J** for a biphasic, with escalating energy for subsequent shocks (Follow manufacturer's recommendations)
- Resume CPR immediately after shock and continue for 2 minutes
- Check rhythm and pulse every 2 min

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Anti-arrhythmics are indicated for shockable rhythms that are unresponsive to defibrillation**
- May administer either **ONE** of these anti-arrythmics:
- **Amiodarone** 300 mg IV/IO, second dose is 150 mg IV/IO after 5 min

AEMT

ALL RHYTHMS

- Begin CPR
- BVM, supraglottic airway, vascular access and fluid therapy
- **Epinephrine:** 0.01 mg/kg (0.1 mg/ml / 1:10,000) IV/IO every 2-4 min as long as the patient remains pulseless. Note that better outcomes are observed with earlier administration of epinephrine, with epinephrine given via IV route, and with shorter dosing intervals (every 2 min)
- Max dose = 1 mg (10ml)
- Unless a clear response to epinephrine is observed, consider a limit of 3 total doses.
- Consider NS 20 ml/kg IV/IO bolus if hypovolemia suspected reassess and repeat if needed to a Max of 60 mL/kg

SHOCKABLE RHYTHM (VF/VT) PRESENT

- **Defibrillation**
- **2 J/kg** for the first shock with either a monophasic or biphasic defibrillator. Second and subsequent shocks increase by 2 J/kg, up to a max dose 10 J/kg
- Resume CPR immediately after shock and continue for 2 minutes
- Check rhythm and pulse every 2 min

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Anti-arrythmics are indicated for shockable rhythms that are unresponsive to defibrillation**
- May administer either **ONE** these antiarrythmics:
- **Amiodarone** 5 mg/kg IV/IO (max 300 mg/dose). May repeat 2 more times every 5 min as needed. (Total max 450 mg)
- Contact OLMC before terminating resuscitative efforts in the field

PARAMEDIC

ALL RHYTHMS

May consider endotracheal intubation, if unable to adequately ventilate with supraglottic airway, ***per Airway and Tracheostomy Management Guideline.***

Intubation must not interfere with chest compressions

Special Circumstances

- Known or Suspected Hyperkalemia
  - Calcium Chloride 1 gram IV/IO over 2 min. May repeat every 5 min X2 OR Calcium Gluconate 3 grams IV/IO over 2 min
  - Sodium Bicarbonate 1 mEq/kg IV/IO may repeat every 5 min X2
- Polymorphic VT associated with long QT
  - Magnesium 2 gm IV/IO over 2 min

PARAMEDIC

ALL RHYTHMS

May consider endotracheal intubation, in unable to adequately ventilate with BVM (preferred) or supraglottic airway, ***per Airway and Tracheostomy Management Guideline.***

Intubation must not interfere with chest compressions

Special Circumstances

- Known or Suspected Hyperkalemia
  - Calcium Chloride 20 mg/kg IV/IO may repeat in 10 min (max 2 grams) OR Calcium Gluconate 100 mg/kg may repeat in 10 min (max 3 grams)
  - Sodium Bicarbonate 1 mEq/kg IV/IO (Max of 50 mEq). For <2 years of age 4.2% concentration.
- Polymorphic VT associated with long QT
  - Magnesium 50 mg/kg (Max = 2,000 mg) IV/O over 2 min

Contact OLMC for further orders or therapies

Anti-arrythmics are indicated for shockable rhythms that are unresponsive to defibrillation

- **Lidocaine** 1 mg/kg IV/IO/ET. May repeat every 3-5 min up as needed up to 3 mg/kg
    - Follow with continuous infusion (1 to 4 mg/minute) after return of perfusion
    - Contact OLMC before terminating resuscitative efforts in the field

Contact OLMC for further orders or therapies

Anti-arrythmics are indicated for shockable rhythms that are unresponsive to defibrillation

- **Lidocaine** 1 mg/kg IV/IO/ET. May repeat every 3-5 min up as needed up to 3 mg/kg
    - Maintenance 20-50 mcg/kg/min

Contact OLMC before terminating resuscitative efforts in the field

POST CARDIAC ARREST (ROSC)
ALL PROVIDERS/EMT

Focused history and physical exam

- Blood glucose assessment may be performed but need not be part of intra-arrest management

Continuous ECG, ETCO2, and Pulse Oximetry monitoring when available
Assist ventilations to maintain ETCO2 35-45mmHg
Document blood pressure after establishing ROSC
Prepare for transport while maintaining monitoring and re-checking for pulse periodically
Consider starting a post-ROSC bundle of care on scene (including above recommendations) prior to initiating transport due to high likelihood of early re-arrest:

- Acquire and transmit a 12-Lead EKG after establishing ROSC unless clear non-cardiac cause
- Consider putting mechanical CPR device in place for transport if available for use in case of re-arrest
- Consider mixing and hanging epinephrine drip for anticipated hypotension

Preferential transport to a STEMI/PCI receiving center, if available

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
Refer to airway management, vascular access and fluid therapy guidelines as needed	Refer to airway management, vascular access and fluid therapy guidelines as needed
RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL PERMITTED FOR PARAMEDICS WITHIN SCOPE	**RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL PERMITTED FOR PARAMEDICS WITHIN SCOPE**
Push Dose Epinephrine 10mcg as needed to maintain a SBP >100mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**	**Push Dose Epinephrine** 1mcg/kg (Max 50mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION** Birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x2) and over 10 years = 90mmHg
PARAMEDIC	**PARAMEDIC**
Epinephrine 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100mmHg	**Epinephrine** 0.05-1mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

CONGESTIVE HEART FAILURE/PULMONARY EDEMIA
ALL PROVIDERS

Focused history and physical exam

- Determine whether the patient (male or female) has taken erectile dysfunction medications such as Viagra, Levitra or Cialis within the last 24 hours as nitroglycerin is contraindicated in these patients.
- Assess blood glucose level.

Continuous cardiac monitoring, ETCO2, 12 lead ECG, and Pulse Oximetry monitoring when available

Treatment Plan

- Maintain airway; assist with breathing as necessary, provide oxygen as needed to target SpO2 90-94%

Key Considerations

- Do not use nitroglycerin if the patient has taken erectile dysfunction medications in the last 24 hours.
- In pregnant patients of >20 weeks gestation: Place wedge-shaped cushion or multiple pillows under patient's right hip and manually displace the uterus.
- Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x2) and over 10 years = 90mmHg

ADULT

EMT

Assist patient with prescribed nitroglycerin SL every 5 minutes, up to 3 doses, if dyspnea or chest pain persist and SBP >90mmHg

- Do not administer nitroglycerin if the patient (male or female) has taken erectile dysfunction medications within the last 24 hours

CPAP/BiPAP – Consider when the patient is awake, cooperative and SBP >90mmHg

- Explain the procedure to the patient
- **CPAP** – Provide 10 L/min oxygen and PAP at 10 cm H2O
- **BiPAP** – Provide 10 L/min oxygen and IPAP at 10 cm H2O with EPAP at 5 cm H2O

Contact OLMC to discuss further settings and treatment above the initial setup

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

CPAP/BiPAP – ONLY use when the patient is on the machine at home. Maintain home settings and bring machine with the patient. If unable to adequately ventilate, return to BVM

AEMT

- Supraglottic device, vascular access and fluid as needed
- IV access prior to nitrates is preferred if possible
- Limit fluid bolus to 250 – 500 mL NS
- **Nitroglycerin** 0.4 mg SL every 5 minutes (max of 3 doses) if dyspnea or chest pain persist and SBP >90mmHg

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 10 mcg as needed to maintain a SBP >100mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- Supraglottic device, vascular access and fluid as needed

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.05-1mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

ALLERGIC REACTION/ANAPHYLAXIS
ALL PROVIDERS/EMT

Focused history and physical exam
- Assess for evidence that resuscitation should not be attempted per the ***Death Determination Guideline.***

Cardiac monitor, ETCO2, and Pulse Oximetry monitoring, when available

Treatment Plan
- Eliminate the source of exposure, if possible. May require moving the patient to another location
- Maintain airway
- Apply a cold pack to bite or sting site as necessary
- Monitor closely for hypotension

Key Considerations
- If the patient has any respiratory distress and is conscious, treat and transport them in a safe position of comfort
- Determine if anaphylaxis is present:
    - **Non-anaphylaxis allergic reaction:** Symptoms involving only **one** organ system (i.e. itching, rash, or localized angioedema that does not involve the airway and is not associated with vomiting)
    - **Anaphylaxis:** More severe and is characterized by an acute onset involving:
        - **Hypotension** after exposure to a likely allergen OR
        - **Two or more** of the following occurring rapidly after exposure to a likely allergen:
            - Skin and/or mucosal involvement (urticaria, itching, face/lips/tongue swelling
            - Respiratory compromise (dyspnea, wheezing, stridor, hypoxemia)
            - Persistent gastrointestinal symptoms, particularly in infants/young children (vomiting, abdominal pain)
- **Do not delay administering epinephrine.** Give IM epinephrine as soon as the diagnosis of anaphylaxis has been established.

ADULT

EMT

Administer epinephrine 1 mg/ml (1:1000) for anaphylaxis by either:
- **Epinephrine auto injector IM (0.3 mg)**
- **Epinephrine 0.5mg IM** (0.5 mL of 1 mg/mL (1:1000)

May repeat epinephrine dose every 5 minutes as needed

O2 as needed to maintain SaO2 above 90%

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

Give or assist patient with **epinephrine auto injector ("Jr." 0.15 mg)** IM for serve respiratory distress and/or shock from anaphylaxis
- IF >25kg, use adult autoinjector (0.3 mg) IM

Administer **epinephrine 1 mg/ml (1:1000) 0.01 mg/kg max dose 0.3 mg** IM.
- If >25 kg, then give 0.3 mg IM

May repeat epinephrine dose every 5 minutes, as needed

For **<u>WHEEZING</u>**:

O2 as needed to maintain SaO2 above 90%

AEMT

- **Diphenhydramine** 1 mg/kg (Max 50 mg) IV/IO/IM for allergic reaction with urticaria/itching
- If **WHEEZING** is present:
  - **Albuterol** 2.5 mg nebulized every 10 minutes until symptoms improve
- If **STRIDOR** is present:
  - **Epinephrine (1 mg/mL, 1:1000) 2 mg** mixed with 3 mL of NS nebulized every 10 minutes until symptoms improve

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- **Diphenhydramine** 1 mg/kg (Max 50 mg) IV/IO/IM for allergic reaction with urticaria/itching
- If **WHEEZING** is present:
  - **Albuterol** 2.5 mg nebulized every 10 minutes until symptoms improve
- If **STRIDOR** is present:

- **Epinephrine (1 mg/mL, 1:1000) 2 mg** mixed with 3 mL of NS nebulized every 10 minutes until symptoms improve

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

DROWNING OR SUBMERSION
ALL PROVIDERS

Focused history and physical exam
- Blood glucose, core body temperature and oxygen saturation assessment
- Assess the scene for other environmental issues or possible toxins

Cardiac monitor, ETCO2, Pulse Oximetry monitoring, blood pressure when available

Treatment Plan
- Safely remove patient from the water
- Place patient supine
- Remove wet clothing and wrap in blankets
- Ensure patient warmth
- If concern for spinal injury refer to ***Spinal Motion Restriction Guideline.***
- Scuba divers "Dive Computer" or Dive Log Book should be transported with the patient

Key Considerations
- Airway maintenance is the primary consideration
- Unlike the "CAB" strategy used in standard cardiac arrest, patients suffering cardiac arrest from drowning require an "ABC" approach with emphasis on prompt airway management and supplemental ventilation
    - Initiate 5 rescue breaths followed by 30 chest compressions, then use a 30:2 compression: ventilation ratio for adults or 15:2 ratio for children
- There can be co-existing conditions depending on the type of submersion injury including trauma, hypothermia, and intoxication
- Hypotension is associated with a worse outcome, monitor closely and treat with ***Shock, Sepsis, and Fluid Therapy Guideline***
- Initiation of in-water ventilations may increase survival; however, in-water chest compressions are futile
- Submersion in cold water will often cause severe hypothermia, notify the receiving hospital so that appropriate resources can be mobilized
- Cardiac arrest due to drowning and hypothermia (temperature <30 C/86 F): consider direct transport to ECMO center and DO NOT rewarm the patient
    - <15 years: Primary Children's Medical Center
    - >15 years: University of Utah Medical Center or Intermountain Medical Center

ADULT

EMT

If breathing spontaneously apply oxygen at 15 LPM via non-rebreather mask to maintain oxygen saturations >95%

Ventilate with BVM when apneic or exhibiting respiratory distress. Consider a nasal or oral airway

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

If breathing spontaneously apply oxygen at 15 LPM via non-rebreather mask to maintain oxygen saturations >95%

Ventilate with BVM when apneic or exhibiting respiratory distress. Consider a nasal or oral airway

For **WHEEZING**:
- **Albuterol** 2.5 mg/3ml NS nebulized

AEMT

- Advanced airway, vascular access and fluid therapy
- Albuterol 2.5 every 10 minutes via nebulization for bronchospasm/wheezing until symptoms subside
- Reassess patient after each dose to determine need for additional dosing
- Consider CPAP in awake patient with respiratory distress
- For **WHEEZING**:
  - **Albuterol** 2.5 mg/3mL NS nebulized

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- Advanced airway, vascular access and fluid therapy
- Albuterol 2.5 every 10 minutes via nebulization for bronchospasm/wheezing until symptoms subside. Start with 1.25 mg if age <1 yr
- Reassess patient after each dose to determine need for additional dosing
- Consider CPAP in awake patient with respiratory distress
- For **WHEEZING**:
- **Albuterol** 2.5 mg/3mL NS nebulized

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 1 mcg/KG (Max 50 mcg) as needed to maintain a SBP >70 +(age in years x2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

Epinephrine 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

OPIOD/OVERDOSE
ALL PROVIDERS

Focused history and physical exam

- Assess blood glucose, temperature, and oxygen saturation
- Assess the time and circumstances of the ingestion
- Assess patient and scene for possible trauma and additional information on possible toxins, poisons, medications or other related concerns

Cardiac monitor, ETCO2, and Pulse Oximetry monitoring, when available
12-lead ECG, if available

Treatment Plan

- **Opioid Overdose:** Initial focus is on providing/assisting with adequate ventilation with BVM immediately.
- Initial dose of naloxone should be given IN (intranasal) while preparing for IV placement by AEMT/PM
- Dosing of naloxone should be focused on restoration of adequate spontaneous ventilation, not restoration of full consciousness. Excessive naloxone use can precipitate an acute withdrawal syndrome, putting both the patient and the emergency personnel at risk for injury
- Begin with small doses of naloxone (0.4 mg IN/IV) and titrate to adequate spontaneous ventilation

Key Considerations

Release on Scene

- Transport any pill bottles, open containers, or potential chemicals that may have been ingested
- Transport suicide notes or other pre-ingestion communications
- All oral opioid overdoses should be transported, as re-sedation will occur after naloxone administration
- May contact Poison control 1-800-222-1222
- With some new opiates, very large doses of naloxone may be required to restore respirations. If no results with 2-3 0.4 mg doses, consider a trial of 2 mg doses
- If other drugs are ingested in addition to opiates (such as alcohol or benzodiazepines), the response to naloxone may be incomplete
- Patients who have attempted suicide by overdose CANNOT be released and MAY be taken in against their will. Police may need to assist in ensuring the transport by providing “pink sheet” and assisting with patient control during transport
- In cases of reported **heroine-only** overdose, patients should be offered ED transport, but if they refuse they may be left on scene after naloxone administration if:
    - An attendant and second dose of naloxone is available or provided for any patient left on scene.
    - There is a responsible person on scene who is not intoxicated and can and will care for the patient.

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
EMT	**EMT**
Naloxone 0.4-2mg (per dose) IN (intranasal) for suspected opioid overdose. May repeat as necessary to maintain respirations	**Naloxone** 0.1 mg/kg (max 2mg per dose) IN (intranasal) for suspected opioid overdose. May repeat as necessary to maintain respirations
IM route may be used if unable to administer IN	IM route may be used if unable to administer IN

AEMT

- Advanced airway, vascular access and fluid therapy
- **Naloxone** 0.4-2mg (per dose) IV/IM/IO/IN for suspected narcotic overdose. May repeat as needed to maintain respirations

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- **Sodium bicarbonate** 1mEq/kg slow IV/IO push for tricyclic antidepressant overdose with sustained HR >120 bpm, QRS >0.10, hypotension unresponsive to fluids, or ventricular dysrhythmias
- **Epinephrine** 0.1-0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- Advanced airway, vascular access and fluid therapy
- **Naloxone** 0.1 mg/kg (Max 2 mg per dose) IV/IM/IO/IN for suspected narcotic overdose. May repeat as needed to maintain respirations

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus
- **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- **Sodium bicarbonate** for tricyclic antidepressant overdose: Contact OLMC
- **Epinephrine** 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

TEMPERATURE AND ENVIRONMENTAL EMERGENCIES
ALL PROVIDERS/EMT

Scene and patient management

- Remove patient from hot or cold environment, when possible
- Focused history and physical exam
- Body temperature and blood glucose assessment
- Assess level of consciousness; apply the ***Altered Mental Status Guideline*** if applicable
- Assess for underlying causes; medications, toxins, CNS lesions or other medical conditions

Cardiac monitor, ETCO2, and Pulse Oximetry monitoring when available

Treatment Plan

- **Heat Related**
  - Temperature elevation **WITHOUT** altered mental status (**Heat Exhaustion)**
    - Slow cooling with ice packs, wet towels, and/or fans to areas in the vicinity of carotid, femoral, brachial arteries
    - If patient is alert and not nauseated, oral rehydrated with water or balanced electrolyte solution
    - Severe muscle cramps may be relieved by gentle stretching of the muscles
  - Temperature elevation **WITH** altered mental status (**Heat Stroke)**
    - Aggressive cooling to unclothed patient utilizing fine mist water spray and fans in conjunction with ice packs to groin and axilla while maintaining modesty (NOT recommended for children and infants)
    - Aggressive cooling should be stopped if shivering begins
    - Monitor closely for dysrhythmia, recognize and treat with the appropriate ***Cardiac Patient Care Guideline***
  - Room temperature IV fluids should be administered for both heat exhaustion and heat stroke (AEMT and PM only)
  - Benzodiazepines may be used for shivering (AEMT and PM only)
- **Cold Related**
  - Protect patient from further heat loss (application of blankets, removal of wet clothing, warm environment etc.)
  - Suspicion of cardiac arrest in cold environment, assess for 30-45 seconds to confirm pulselessness
  - Measure body temperature and treat accordingly
    - **Severe <86 F (30 C)**
      - Use active external warming (heated oxygen, warm packs to neck, armpits, groin, etc.)
      - Administer warm IV fluids (AEMT/PM only)
      - Cardiac arrest: Chest compressions and ventilations. Limit defibrillation attempts to 3 and no external pacing. Likelihood of successful defibrillation improves as patient is warmed.
      - Pediatric cardiac arrest due to hypothermia (temperature <30 C/86 F): consider direct transport to Primary Children's Medical Center for ECMO and **do NOT rewarm** this patient
      - Handle the patient gently during transport because rough movement may precipitate dysrhythmias
    - **Moderate: 86-93F (30-34 C)**
      - Use warm packs to neck, armpits, and groin
      - Warm IV fluids (AEMT/PM only)
    - **Mild >93F (34 C)**
      - Warm with blankets, warm environment, etc.
      - Frostbite precautions – Do not rub or use dry external heat. Re-warm with 40 C water if possible
      - Warm IV fluids (AEMT/Pm only)

Key Considerations

- Avoid refreezing of cold extremities. If refreezing cannot definitely be voided during transport, do not

start the thawing process

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
Advanced airway, vascular access and fluid therapy	Advanced airway, vascular access and fluid therapy
Heat Emergencies Cool fluid therapy: 500 – 1000 cc NS bolus	**Heat Emergencies** Cool fluid therapy: 20 ml/kg Iv bolus
RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE	**RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE**
	Benzodiazepines for shivering
Midazolam IN/IM/IV/IO – 5 mg, may repeat once in 5 minutes, if needed. Total max dose: 10 mg	**Midazolam** • IN/IM: 0.2 mg/kg (max 5 mg), may repeat once in 5 minutes, if needed. Total max dose: 10 mg • IV/IO – 0.1 mg/kg (max 5 mg), may repeat once in 5 minutes, if needed. Total max dose: 10 mg
Cold Emergencies Warm fluid therapy: 500 – 1000 cc NS bolus	**Cold Emergencies** Warm fluid therapy: 20 cc/kg cc NS bolus
PARAMEDIC	**PARAMEDIC**
Cold emergencies • Withhold anti-arrhythmic meds until temperature >86 F (30 C)	**Cold emergencies** ○ Withhold anti-arrhythmic meds until temperature >86 F (30 C)
Heat emergencies • Benzodiazepines for shivering: ○ **Lorazepam** ▪ **IV/IO/IM –** 1-2mg, may repeat every 5 minutes, if needed	**Heat emergencies** • Benzodiazepines for shivering: ○ **Lorazepam** ▪ **IV/IO/IM –** 0.1mg/kg (max 2 mg), may repeat every 5 minutes, if needed. Total max dose: 4 mg

TOXIC EXPOSURE – CARBON MONOXIDE
ALL PROVIDERS/EMT

Scene and patient management
- Safely and rapidly remove patient from source of exposure
- Collect environmental CO levels if equipment is available

Focused history and physical exam
- Estimation of exposure time
- Pulse oximetry readings are unreliable in carbon monoxide exposures

Cardiac monitor and ETCO2, when available

Treatment Plan
- Administer 100% high-flow oxygen via non-rebreather mask
- Any exposure to carbon monoxide related to a closed space fire (such as a house fire) often also results in cyanide exposure

Key Considerations
- Patients with symptoms of headache, nausea, tachycardia, neurologic changes, or a CO monitor reading >10% should be transported

ADULT

AEMT

Advanced airway management, vascular access and fluid therapy

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION

PARAMEDIC

Epinephrine0.1-0.5 mcg/kg/min (7 to 35) mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

Advanced airway management, vascular access and fluid therapy

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION

PARAMEDIC

Epinephrine 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

TOXIC EXPOSURE - CYANIDE
ALL PROVIDERS/EMT

Scene Management

- If properly trained and equipped, safely and rapidly remove patient from the source of exposure
- Request HazMat response as appropriate
- Industries in which to consider cyanide exposure:
  - Electroplating and Metallurgy
  - Organic chemicals production
  - Photographic developing
  - Manufacture of plastics
  - Fumigation of ships
  - Some mining processes especially gold/copper
- Patients and EMS providers may be exposed to cyanide in the following ways;
  - Breathing air, drinking water, touching soil, or eating foods that contain cyanide
  - Breathing smoke during closed-space fires
  - Breathing air near a hazardous waste site containing cyanide
  - Eating foods naturally containing cyanide compounds, such as tapioca, lima beans, apricot seeds, and almonds. However, the portions eaten in the United States contain relatively low amounts of cyanide

Focused history and physical exam

- Be alert for exposure related signs and symptoms;
  - Acute dyspnea/tachypnea without cyanosis
  - Nausea/vomiting
  - Seizures
  - Hyper or hypotension
  - Total body erythema (redness)
  - Continuous monitor, ETCO2, and Pulse Oximetry monitoring when available

Treatment Plan

- Administer high flow oxygen immediately and continuously
- Pulse oximetry readings may not be accurate because of cyanide interaction
- Cardiac monitor and ETCO2, when available

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
Advanced airway management, vascular access and fluid therapy	Advanced airway management, vascular access and fluid therapy
RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE	**RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE**
Push Dose Epinephrine 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus	**Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus
CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION	**CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION**

PARAMEDIC

Epinephrine0.1-0.5 mcg/kg/min (7 to 35) mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PARAMEDIC

Epinephrine 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

HEAD INJURY (TRAUMATIC BRAIN INJURY)
ALL PROVIDERS/EMT

Focused history and physical exam
Cardiac monitor, ETCO2, and Pulse Oximetry monitoring when available

Treatment Plan

- Maintain airway. Administer oxygen to maintain SaO2 90-94%
- Consider spinal motion restrictions per the ***Spinal Motion Restriction Guideline***
- Elevate Head 30 degrees
- Monitor the level of consciousness during the transport
- **Severe TBI** (GCS <8 or AVPU "P" or "U"):
    - Adult: Consider endotracheal intubation for airway protection (Paramedic only)
    - Pediatrics: Continue effective BVM. Utilize airway adjuncts, if needed to ensure adequate chest rise, ventilation, and oxygenation
    - Target ETCO2: maintain 35-45 mmHg
    - **Do not hyperventilate** unless patient shows signs of herniation: unilateral pupillary dilation or posturing. In this case, increase respiratory rate by approx. 10% above normal target respiratory rate (see Mild Hyperventilation Guide). Target ETCO2: 30-35 mmHg
    - **Mild Hyperventilation Guide for Signs of Herniation**

Age	Normal Ventilation Rate	Mild Hyperventilation Rate
Neonate	40	44
Infant	30	33
Child	20	22
Adult	10	12

- Open skull fractures should be covered with dry sterile dressings. Do not apply pressure unless needed to stop severe hemorrhage

Key Considerations

- TBI may be painful. However, excessive pain medication can cloud serial neurological assessments. Pain medications should be generally avoided in a patient with altered mental status after TBI. If pain is severe, give small doses only until pain is manageable
- Patients with TBI may be confused or combative. Consider physical/chemical restraints if needed to protect patient or personnel.
- Loss of memory, prolonged confusion or altered mental status associated with trauma may indicate a significant head injury
- Avoid hypoxia (SaO2 should be 90-94%)
- Avoid over tightening of cervical collar (if placed) as this can cause increased intracranial pressure
- Do not allow the patient to be hypotensive. Try to keep adult SBP >110 using the ***Shock and Fluid Therapy Guideline***
- Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60 mmHg, 1 month to 1 year = 70 mmHg, 1 year to 10 years is = 70 mmHg + (age x2) and over 10 years = 90 mmHg

ADULT PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- Advanced airway, vascular access, and fluid therapy.
- Check blood pressure every 5-10 minutes
- Follow the Traumatic Brain Injury pressure management under the ***Shock and Fluid Therapy Guideline***

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION

PARAMEDIC

Persistent hypotension unresponsive to fluids:

- **Epinephrine**0.1-0.5 mcg/kg/min (7 to 35) mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- Advanced airway, vascular access, and fluid therapy.
- Check blood pressure every 5-10 minutes
- Initiate NS 20 ml/kg IV/IO for hypotension OR if unable to obtain blood pressure
- If hypotensive patient shows no improvement with initial treatment, may repeat NS 20 ml/kg IV/IO up to a total of 60 ml/kg

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION

PARAMEDIC

Persistent hypotension unresponsive to fluids:

- **Epinephrine** 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

SNAKE BITES
ALL PROVIDERS/EMT

Focused history and physical exam

- Identify and document the type of snake, appearance, location, and distinguishing marks
- Obtain an accurate time of injury
- Clarify any first aid provided by friend or family prior to arrival
- Coral Snakes in North America – "Red on touches yellow = Poison Fellow, Red on touches black = Safe with attack"
- Signs of envenomation include, paresthesia, metallic taste, chills, nausea, vomiting, headache, dysphagia, cramps, hypotension, fever, local edema, blebs, and discoloration

Continuous cardiac monitor, ETCO2, and Pulse Oximetry, when available

Treatment Plan

- Ensure scene safety by moving the patient to a safe distance, away from the snake
- Splint limb and place at the level of the heart
- Keep patient calm and movement to a minimum. You may need to treat for pain to help achieve this goal per ***Pain Management Guideline***
- Remove items that may constrict swelling tissue, such as rings or bracelets

Key Considerations

- Do not start the Ivin the affected limb
- Do not apply ice to the limb
- Do not try to capture the snake
- Do not bring a live snake to the ED
- Remember that snakes can reflexively envenomate up to 1 hour after death
- Pictures of the snake can be helpful
- Any snakebite can be dangerous and should be evaluated in the ED
- Watch for signs of shock and allergic reaction

ADULT

AEMT

Advanced airway, vascular access, and fluid therapy

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Push Dose Epinephrine 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINSTRATION

PARAMEDIC

Persistent hypotension unresponsive to fluids:

- **Epinephrine**0.1-0.5 mcg/kg/min (7 to 35) mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

Advanced airway, vascular access, and fluid therapy

RESTRICTED FOR AEMT USE PENDING VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

Persistent hypotension unresponsive to fluids:

Epinephrine 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

PARAMEDIC

Persistent hypotension unresponsive to fluids:

- **Epinephrine** 0.05-1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x2) mmHg

Wendover Ambulance

2025 Protocols

West Wendover, Nevada

May 2025

Pending Approval by Nevada EMS

Push Dose Epinephrine

Shock, Sepsis & Fluid Therapy

Symptomatic Bradycardia

Cardiac Arrest

Post Cardiac Arrest (ROSC)

Congestive Heart Failure/Pulmonary Edemia

Allergic Reaction/Anaphylaxis

Drowning or Submersion

Opioid/Overdose

Temperature and Environmental Emergencies

Toxic Exposure – Carbon Monoxide

Toxic Exposure – Cyanide

Head Injury (Traumatic Brain Injury)

Snake Bites

SHOCK, SEPSIS, & FLUID THERAPY

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam
  - Blood glucose, oxygen saturation and temperature assessment
  - Consider shock in patients with one or more of the following:
    - Vital signs: HR >100, SBP of <90mmHg for adults, SBP <70 + (age in years x 2) mmHg for children, or RR >20 BPM
    - Skin signs: cold clammy skin, febrile, or delayed capillary refill
    - Mental status: altered, lethargic, or irritable (esp. in infants).
- ❑ Evaluate for the source of shock including distributive (e.g. infection, anaphylaxis), hypovolemic (e.g. hemorrhagic, vomiting/diarrhea, heat exposure), neurologic (i.e. spinal injury), or cardiogenic
- ❑ **Sepsis Alert** – Contact the hospital and initiate a Sepsis Alert if:
  - Suspected or documented Infection AND EITHER
  - Two or more of the following criteria are met:
    - Temp >100.4 °F (38°C) or <96.8°F (36°C)
    - RR >20 BPM
    - Heart Rate >90 bpm

  OR
  - Signs of hypoperfusion – SBP <90mmHg or MAP <65mmHg or ETCO2 <25
- ❑ Continuous cardiac, ETCO2, and pulse oximetry monitoring, when available
- ❑ Obtain a 12 Lead EKG when available
- ❑ **Treatment Plan**
  - Address the underlying cause of shock, if possible
  - Administer oxygen as needed to keep oxygen saturations between 90-94%.
  - Ensure patient warmth, resuscitate with warm IV fluids when available
  - Pregnancy >20 weeks gestation - Transport in partial left lateral decubitus position. Place wedge-shaped cushion or multiple pillows under patient's right hip and shoulders to elevate R side 30-45 degrees
  - Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

ADULT

AEMT

- ❑ Vascular access
- ❑ Insert 2 large bore IVs
- ❑ **Traumatic Shock – Permissive Hypotension**
- ❑ If SBP >80-90 (intact radial pulse):
- ❑ No IV fluid bolus
- ❑ Place saline locks on IVs or run at TKO rate
- ❑ If SBP <80-90:
- ❑ Give fluid bolus 500mL at a time, reassess and repeat as needed to:
- ❑ Maintain SBP to 80-90 mmHg **WITHOUT** a CLOSED HEAD INJURY.
- ❑ Maintain SBP to 110-120 mmHg **WITH** a CLOSED HEAD INJURY.
- ❑ Once minimum blood pressure has been achieved the patient should have a saline lock and no further fluid boluses should be administered unless the BP falls below the limits.
- ❑ **Cardiogenic Shock** - In patients with CHF, pulmonary edema, and cardiogenic shock, IV fluids should be withheld, to avoid worsening shock
- ❑ Rapidly transport to hospital
- ❑ **Kidney Failure (i.e. dialysis patients)** - Give 500mL fluid boluses up to a maximum of 1 liter and reassess for reversal of the signs of shock
- ❑ **Non-Traumatic Shock** – Give IV NS bolus 500 ml at a time, reassess and repeat up to a maximum of 2 liters as required for reversal of signs of shock

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
- ❑ Call OLMC if the patient remains hypotensive after 2 liters has been administered

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- ✆ Vascular access
- ✆ Insert 2 large bore IVs
- ✆ **Traumatic Shock** – Give fluid bolus of NS 20 mL/kg at a time (max 1L) reassess and repeat up to a maximum of 60 mL/kg total (Max 3L); Reassess for reversal of the signs of shock
- ✆ If the patient remains hypotensive after 60mL/kg (max 3L) of NS call OLMC
- ✆ **Cardiogenic Shock** - In patients with CHF, pulmonary edema and cardiogenic shock, IV fluids should be withheld, to avoid worsening shock
- ✆ Apply high-flow oxygen
- ✆ Rapidly transport to the hospital
- ✆ **Kidney Failure (i.e. dialysis patients)** - Give 10 mL/kg fluid boluses(max 500mL) up to a maximum of 20mL/kg (max 1L) and reassess for reversal of the signs of shock
- ✆ Call OLMC if the patient remains hypotensive after 20 ml/kg has been administered
- ✆ **Non- Traumatic Shock** - Provide 20mL/kg (max 1 L) boluses up to a maximum of 60mL/kg and reassess for reversal of the signs of shock

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
- ✆ Call OLMC if the patient remains hypotensive after 60mL/kg (max 3L) of NS

❑

PARAMEDIC FOR USE ONLY IN NON-TRAUMATIC SHOCK	PARAMEDIC FOR USE ONLY IN NON-TRAUMATIC SHOCK
❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg	✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

BRADYCARDIA (Symptomatic)

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam
  - Assess for signs of poor perfusion, hypotension or other signs of shock, altered mental status, ischemic chest pain, or acute heart failure.
  - Obtain a blood glucose level.
- ❑ Continuous ECG, ETCO2, 12 lead ECG (when stable), and pulse oximetry monitoring, blood pressure, when available
- ❑ **Treatment Plan**
  - Only treat bradycardia **IF** the patient is unstable (hypotension or signs of poor perfusion).
  - If patient is a newborn, follow the ***Newborn Resuscitation Guideline***.
  - Identify and treat the underlying cause, if possible. Potential causes include:
    - Hypoxia
    - Shock
    - 2nd or 3rd degree heart block
    - Toxin exposure (beta-blocker, calcium channel blocker, organophosphate, digoxin)
    - Electrolyte disorder (hyperkalemia)
    - Increased intracranial pressure (ICP)
    - Hypothermia
    - Acute MI
    - Pacemaker failure
  - Maintain airway - assist with breathing, and provide oxygen as necessary
  - Ensure patient warmth.
- ❑ **Pediatric patient** (<8-year-old)
  - Aggressive oxygenation with high flow oxygen and assisted ventilations with a BVM, as indicated.
  - Persistent heart rate <60/min and signs of poor perfusion following aggressive oxygenation and ventilation: ***Begin Chest Compressions***
- ❑ **Key Considerations**
  - In pregnant patients of >20 weeks' gestation: place wedge-shaped cushion or multiple pillows under patient's right hip to displace uterus to the left, off of the vena cava.
  - Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

ADULT	**PEDIATRIC (<15 years of Age)** NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	AEMT
❑ Vascular access and fluid therapy	❑ Vascular access and fluid therapy
❑ **Atropine** 1 mg IV/IO ❑ Repeat as needed every 3 minutes ❑ Maximum total dose of 3 mg	❑ **If indicated, consider Atropine** 0.02 mg/kg IV/IO ❑ Maximum single dose of 0.5 mg Repeat Atropine every 3-5 minutes as needed until Max 1 mg for child and 2 mg for adolescents.

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION
- ❑

PARAMEDIC

SYMPTOMATIC BRADYCARDIA

- ❑ **Transcutaneous pacing (TCP)** at an initial rate of 80 beats per minute if the patient does not respond to medications. Ensure mechanical and electrical capture.
- ❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg
- ✆ **Contact OLMC for dosages above those provided or use of medication NOT fitting the guideline parameters.**

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x 2) mmHg after fluid bolus
- ❑ CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION
- ❑
- ❑

PARAMEDIC

SYMPTOMATIC BRADYCARDIA

- ✆ **Transcutaneous pacing (TCP)** at an initial rate of 100 beats per minute, if the patient does not respond to medications. Ensure mechanical and electrical capture.
- ✆ **Contact OLMC for dosages above those provided or use of medication NOT fitting the guideline parameters**
- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg
- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus

CARDIAC ARREST

ALL PROVIDERS / EMT

For Traumatic Arrest refer to General Trauma Management Guidelines

- ❑ Focused history and physical exam
  - Assess for evidence that resuscitation should not be attempted per the ***Death Determination Guideline***.
- ❑ Continuous ECG, ETCO2, and Pulse Oximetry monitoring when available
- ❑ **Treatment Plan**
  - **Assess for presence of a pulse, respirations, and consciousness. If absent:**
    - **Begin chest compressions for 2 min**
    - **Apply AED and shock if advised.**
    - AEMT/PM: Apply cardiac monitor/defibrillator and shock if Vtach/Vfib
- ❑ **Key Considerations**
  - Effective chest compressions are critical
    - Consider ventilating adult patients with a pediatric BVM bag to avoid hyperinflation
    - Minimize interruptions in chest compressions
      - Precharge the defibrillator and countdown to rhythm check/defibrillation
      - Use a verbal 10 second countdown during any pause to limit hands-off time
    - Rate: 100-120/min recommend metronome or CPR feedback
    - Depth: 2-2.5 inches (adult) / 1/3 of chest depth (pediatric)
    - Allow full chest recoil after each compression
    - After each shock, immediately perform 2 minutes of chest compressions before checking rhythm/pulse
    - Rotate compressors every 2 minutes
    - If using mechanical CPR:
      - Apply device with minimum interruption in CPR
      - Check rhythm every 2 minutes. When an organized rhythm is present, check pulse(5 seconds only, use a verbal countdown)
      - Duration of resuscitation as below
  - Consider the Pit Crew model as an approach to treatment
    - Pre-defined roles, as determined by a specific EMS agency, for members of an integrated team of first responders, BLS, and ALS.
    - Designated individuals for chest compressions
    - Designated individual for overall code leadership/management
    - Designated individual for airway management

- Additional roles to be assigned as determined by specific agency based on provider availability include: IO/IV access, medication administration, CPR quality monitoring, cardiac rhythm monitoring, defibrillation
- Consider transition of roles as additional providers become available to ensure maximal use of resources
- Treatment of the adult cardiac arrest patient in the field is preferred in the majority of cases and is associated with improved outcomes
- Assume cardiac origins for all adult arrests unless evidence to the contrary. Consider underlying causes and treat them when possible.
- Duration of resuscitation. Consider prolonged attempts in patients with an initial shockable rhythm and a witnessed collapse
- Initial shockable: <5% survival after 40 minutes of resuscitation attempt
- Initial Asystole/PEA rhythms: <1% survival after 20 minutes of resuscitation attempt

- **H's & T's** - Treat as appropriate with confirmed or suspected Hypovolemia, Hypoxia, Hydrogen ion (Acidosis), Hyperkalemia, Hypothermia, Hypoglycemia, or specific Toxins.

❑ Pregnancy >20 weeks gestation
- Perform manual displacement of the uterus to the patients left. If unable to perform manual displacement, place wedge-shaped cushion or multiple pillows under patient's right hip to achieve 30 degree lateral tilt.
- Transport pregnant patients to the nearest emergency department without delay while attempting to provide continuous compressions and defibrillation (if applicable). There is potential to perform an emergency cesarean section in the ED, which may save the fetus and the mother.

❑ Pediatric Population
- Consider transport in pediatric arrest after 15 minutes of field resuscitation, including high-quality CPR, effective ventilations, and IV/IO access.
- Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years = 70mmHg + (age x 2), >10 years = 90mmHg.

❑ As nationally-established cardiac care guidelines (e.g. ACLS, PALS) are updated, these may be integrated into performance, as per agency medical director.

ADULT	**PEDIATRIC (<15 years of Age)** **NOTE: Pediatric weight based dosing should not exceed adult dosing.**
EMT	**EMT**
❑ **AED** • Defibrillate immediately if AED advises shock. • Resume CPR immediately after each shock and continue for 2 minutes • Check pulse and repeat shock if prompted by AED ❑ **Respiratory Management:** Use a 30:2 compressions to ventilations ratio	❑ **AED** • Defibrillate immediately if AED advises shock • Resume CPR immediately after each shock and continue for 2 minutes • Check pulse and repeat shock if prompted by AED ❑ **Respiratory Management:** • Place an NP or OP airway and use a 30:2 compressions to ventilation ratio
❑ **AEMT** **ALL RHYTHMS** ○ Begin CPR	❑ **AEMT** **ALL RHYTHMS** ○ Begin CPR

- Vascular access and fluid therapy.
- Consider placement of a supraglottic device without interrupting CPR
- **Epinephrine:** 1 mg (10 ml of 0.1 mg/ml/1:10,000) IV/IO push every 2-4 min as long as the patient remains pulseless. Note that better outcomes are observed with earlier administration of epinephrine, with epinephrine given via IV route, and with shorter dosing intervals (every 2 min)
- Unless a clear response to epinephrine is observed, consider a ***limit of 3 total doses***.
- Consider NS 1000 mL IV/IO bolus if hypovolemia suspected

SHOCKABLE RHYTHM (VF/VT) PRESENT

- **Defibrillation**
- **360J** for a monophasic defibrillator or **120-360J** for a biphasic, with escalating energy for subsequent shocks (Follow manufacturer's recommendations)
- Resume CPR immediately after shock and continue for 2 minutes
- Check rhythm and pulse every 2 min

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Anti-arrhythmies are indicated for shockable rhythms that are unresponsive to defibrillation**
- May administer either **ONE** of these anti-arrhythmics
- **Amiodarone** 300 mg IV/IO; second dose is 150 mg IV/IO after 5 min

- BVM, supraglottic airway, vascular access and fluid therapy
- **Epinephrine:** 0.01 mg/kg (0.1 mg/ml / 1:10,000) IV/IO every 2-4 min as long as the patient remains pulseless. Note that better outcomes are observed with earlier administration of epinephrine, with epinephrine given via IV route, and with shorter dosing intervals (every 2 min)
- Max dose = 1 mg (10 ml)
- Unless a clear response to epinephrine is observed, consider a limit of 3 total doses.
- Consider NS 20 ml/kg IV/IO bolus if hypovolemia suspected, reassess and repeat if needed to a Max of 60 mL/kg

SHOCKABLE RHYTHM (VF/VT) PRESENT

- **Defibrillation**
- **2 J/kg** for the first shock with either a monophasic or biphasic defibrillator. Second and subsequent shocks increase by 2 J/kg, up to a max dose 10 J/kg
- Resume CPR immediately after shock and continue for 2 minutes
- Check rhythm and pulse every 2 min

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- **Anti-arrhythmies are indicated for shockable rhythms that are unresponsive to defibrillation**
- May administer either **ONE** these antiarrhythmics
- **Amiodarone** 5 mg/kg IV/IO (max 300mg/dose). May repeat 2 more times every 5 min as needed. (Total max 450mg)

- Contact OLMC before terminating resuscitative efforts in the field

PARAMEDIC

ALL RHYTHMS

- ❑ May consider endotracheal intubation, if unable to adequately ventilate with supraglottic airway, ***per Airway and Tracheostomy Management Guideline.***
- ❑ Intubation must not interfere with chest compressions.
- ❑ Special Circumstances
  - Known or Suspected Hyperkalemia
    - Calcium Chloride 1 gram IV/IO over 2 min. May repeat every 5 min X2 OR Calcium Gluconate 3 grams IV/IO over 2 min
    - Sodium Bicarbonate 1 mEq/kg IV/IO may repeat every 5 min X2
  - Polymorphic VT associated with long QT
    - Magnesium 2 gm IV/O over 2 min

✆ Contact OLMC for further orders or therapies

- ❑ **Anti-arrhythmics are indicated for shockable rhythms that are unresponsive to defibrillation**
  - **Lidocaine** 1 mg/kg IV/IO/ET. May repeat every 3-5 min up as needed up to 3 mg/kg.
    - Follow with continuous infusion (1 to 4 mg/minute) after return of perfusion.
  - Contact OLMC before terminating resuscitative efforts in the field

PARAMEDIC

ALL RHYTHMS

- ❑ May consider endotracheal intubation, if unable to adequately ventilate with BVM (preferred) or supraglottic airway, ***per Airway and Tracheostomy Management Guideline.***
- ❑ Intubation must not interfere with chest compressions.
- ❑ Special Circumstances
  - Known or Suspected Hyperkalemia
    - Calcium Chloride 20 mg/kg IV/IO may repeat in 10 min (max 2 grams) OR Calcium Gluconate 100 mg/kg IV/IO may repeat in 10 min (max 3 grams)
    - Sodium Bicarbonate 1 mEq/kg IV/IO (Max of 50 mEq). For <2 years of age use 4.2% concentration.
  - Polymorphic VT associated with long QT
    - Magnesium 50 mg/kg (Max = 2,000 mg) IV/O over 2 min

- ❑ **Anti-arrhythmics are indicated for shockable rhythms that are unresponsive to defibrillation**
  - **Lidocaine** 1 mg/kg IV/IO/ET. May repeat every 3-5 min up to 3 mg/kg.
    - Maintenance 20-50 mcg/kg/min

✆ Contact OLMC for further orders or therapies

POST CARDIAC ARREST

RETURN OF SPONTANEOUS CIRCULATION (ROSC)

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam
  - Blood glucose assessment may be performed but need not be part of intra-arrest management
- ❑ Continuous ECG, ETCO2, and pulse oximetry monitoring, when available
- ❑ Assist ventilations to maintain ETCO2 35-45mmHg
- ❑ Document blood pressure after establishing ROSC
- ❑ Prepare for transport while maintaining monitoring and re-checking for pulse periodically
- ❑ Consider starting a post-ROSC bundle of care on scene (including above recommendations) prior to initiating transport due to the high likelihood of early re-arrest:
  - o Acquire and transmit a 12-Lead EKG after establishing ROSC unless clear non-cardiac cause
  - o Consider putting mechanical CPR device in place for transport if available for use in case of re-arrest
  - o Consider mixing and hanging epinephrine drip for anticipated hypotension
- ❑ Preferential transport to a STEMI/PCI receiving center, if available.

ADULT

AEMT

- ❑ Refer to airway management, vascular access and fluid therapy guidelines as needed

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- ✆ Refer to airway management and vascular access and fluid therapy guidelines as needed

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP: 70 + (age in years x 2) mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

- ✆ Birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

PARAMEDIC	PARAMEDIC
❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg	✓ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

CONGESTIVE HEART FAILURE / PULMONARY EDEMA

ALL PROVIDERS

- ❑ Focused history and physical exam
  - Determine whether the patient (male or female) has taken erectile dysfunction medications such as Viagra, Levitra or Cialis within the last 24 hours as nitroglycerin is contraindicated in these patients.
  - Assess blood glucose level.
- ❑ Continuous cardiac monitoring, ETCO2, 12 lead ECG, and pulse oximetry monitoring, when available
- ❑ **Treatment Plan**
  - Maintain airway; assist with breathing as necessary, provide oxygen as needed to target SpO2 90-94%.
- ❑ **Key Considerations**
  - Do not use nitroglycerin if the patient has taken erectile dysfunction medications in the last 24 hours.
  - In pregnant patients of >20 weeks gestation: Place wedge-shaped cushion or multiple pillows under patient's right hip and manually displace the uterus.
  - Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

ADULT

EMT

- ❑ Assist patient with prescribed nitroglycerin SL every 5 minutes, up to 3 doses, if dyspnea or chest pain persist and SBP >90 mmHg
  - Do not administer nitroglycerin if the patient (male or female) has taken erectile dysfunction medications within the last 24 hours
- ❑ **CPAP/BiPAP** – Consider when the patient is awake, cooperative and SBP>90 mmHg
  - Explain the procedure to the patient
  - **CPAP** - Provide 10 L/min oxygen and PAP at 10 cm H2O
  - **BIPAP** – Provide 10 L/min oxygen and IPAP at 10 cm H2O with EPAP at 5 cm H2O
- ⊘ Contact OLMC to discuss further settings and treatment above the initial setup.

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

- ❑ **CPAP/BiPAP** – ONLY use when the patient is on the machine at home. Maintain home settings and bring machine with the patient. If unable to adequately ventilate, return to BVM

AEMT

- ❑ Supraglottic device, vascular access and fluid as needed
- ❑ IV access prior to nitrates is preferred if possible
- ❑ Limit fluid bolus to 250–500 mL NS
- ❑ **Nitroglycerin** 0.4 mg SL every 5 minutes (max of 3 doses) if dyspnea or chest pain persist and SBP >90 mmHg.

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- ❑ Supraglottic device, vascular access and fluid as needed

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x 2) mmHg after fluid bolus

CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

ALLERGIC REACTION / ANAPHYLAXIS

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam.
- ❑ Cardiac monitor, ETCO2, and pulse oximetry monitoring, when available.
- ❑ **Treatment Plan**
  - Eliminate the source of exposure, if possible. May require moving the patient to another location
  - Maintain airway.
  - Apply a cold pack to bite or sting site as necessary.
  - Monitor closely for hypotension.
- ❑ Key Considerations
  - If the patient has any respiratory distress and is conscious, treat and transport them in a safe position of comfort
  - Determine if anaphylaxis is present:
    - **Non-anaphylactic allergic reaction:** Symptoms involving only **one** organ system (i.e. itching, rash, or localized angioedema that does not involve the airway and is not associated with vomiting)
    - **Anaphylaxis:** More severe and is characterized by an acute onset involving:
      - **Hypotension** after exposure to a likely allergen OR
      - **Two or more** of the following occurring rapidly after exposure to a likely allergen:
        - ➢ Skin and/or mucosal involvement (urticaria, itching, face/lips/tongue swelling
        - ➢ Respiratory compromise (dyspnea, wheezing, stridor, hypoxemia)
        - ➢ Persistent gastrointestinal symptoms, particularly in infants/young children (vomiting, abdominal pain)
  - **Do not delay administering epinephrine.** Give IM epinephrine as soon as the diagnosis of anaphylaxis has been established.

ADULT

EMT

- ❑ **Administer epinephrine 1 mg/ml (1:1000)** for anaphylaxis by either:
  - **Epinephrine auto injector IM (0.3 mg)**
  - **Epinephrine 0.5mg IM** (0.5 mL of 1 mg/mL (1:1000)
- ❑ May repeat epinephrine dose every 5 minutes as needed
- ❑ O2 as needed to maintain SaO2 above 90%.

PEDIATRIC (<15 years of Age)

NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

- ❑ Give or assist patient with **epinephrine auto injector ("Jr." 0.15 mg)** IM for severe respiratory distress and/or shock from anaphylaxis.
  - If >25kg, use adult autoinjector (0.3 mg) IM
- ❑ Administer **epinephrine 1 mg/ml (1:1000) 0.01mg/kg max dose 0.3 mg** IM.
  - If > 25 kg, then give 0.3 mg IM
- ❑ May repeat epinephrine dose every 5 minutes, as needed
- ❑ For **WHEEZING**:
- ❑ O2 as needed to maintain SaO2 above 90%.

AEMT

- ❑ **Diphenhydramine** 1 mg/kg (Max 50 mg) IV/IO/IM for allergic reaction with urticaria/itching
- ❑ If **WHEEZING** is present:
- ❑ **Albuterol** 2.5 mg nebulized every 10 minutes until symptoms improve
- ❑ If **STRIDOR** is present:
  Epinephrine (1 mg/mL, 1:1000) 2mg mixed with 3 mL of NS nebulized every 10 minutes until symptoms improve

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- ❑ **Diphenhydramine** 1 mg/kg (Max of 50 mg) IV/IO/IM for allergic reaction with urticaria/itching
- ❑ If **WHEEZING** is present:
- ❑ **Albuterol** 2.5 mg nebulized every 10 minutes until symptoms improve.
- ❑ If **STRIDOR** is present:
  Epinephrine (1 mg/mL, 1:1000) 2mg mixed with 3 mL of NS nebulized every 10 minutes until symptoms improve

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

DROWNING OR SUBMERSION

ALL PROVIDERS

- ❑ Focused history and physical exam
  - Blood glucose, core body temperature and oxygen saturation assessment.
  - Assess the scene for other environmental issues or possible toxins.
- ❑ Cardiac monitor, ETCO2, pulse oximetry monitoring, blood pressure when available.
- ❑ **Treatment Plan**
  - Safely remove patient from the water
  - Place patient supine
  - Remove wet clothing and wrap in blankets
  - Ensure patient warmth
  - If concern for spinal injury refer to ***Spinal Motion Restriction Guideline.***
  - Scuba divers "Dive Computer" or Dive Log Book should be transported with the patient.
- ❑ **Key Considerations**
  - Airway maintenance is the primary consideration.
  - Unlike the "CAB" strategy used in standard cardiac arrest, patients suffering cardiac arrest from drowning require an "ABC" approach with emphasis on prompt airway management and supplemental ventilation.
    - Initiate 5 rescue breaths followed by 30 chest compressions, then use a 30:2 compression: ventilation ratio for adults or 15:2 ratio for children
  - There can be co-existing conditions depending on the type of submersion injury including trauma, hypothermia, and intoxication.
  - Hypotension is associated with a worse outcome, monitor closely and treat with ***Shock, Sepsis, and Fluid Therapy Guideline***
  - Initiation of in-water ventilations may increase survival; however, in-water chest compressions are futile.
  - Submersion in cold water will often cause severe hypothermia, notify the receiving hospital so that appropriate resources can be mobilized.
  - Cardiac arrest due to drowning and hypothermia (temperature <30 C/86 F): consider direct transport to ECMO center and DO NOT rewarm the patient
    - <15 years: Primary Children's Medical Center
    - >15 years: University of Utah Medical Center or Intermountain Medical Center

ADULT

EMT

- ❑ If breathing spontaneously apply oxygen at 15 LPM via non-rebreather mask to maintain oxygen saturations >95%
- ❑ Ventilate with BVM when apneic or exhibiting respiratory distress. Consider a nasal or oral airway

AEMT

- ❑ Advanced airway, vascular access and fluid therapy
- ❑ Albuterol 2.5 every 10 minutes via nebulization for bronchospasm/wheezing until symptoms subside
- ❑ Reassess patient after each dose to determine need for additional dosing
- ❑ Consider CPAP in awake patients with respiratory distress
- ❑ For **WHEEZING**:
  Albuterol 2.5 mg/3ml NS nebulized

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10 mcg as needed to maintain a SBP >100 mmHg after fluid bolus
  CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

- ✆ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

- ❑ If breathing spontaneously apply oxygen at 15 LPM via non-rebreather mask to maintain oxygen saturations >95%
- ❑ Ventilate with BVM when apneic or exhibiting respiratory distress. Consider a nasal or oral airway
- ❑ For **WHEEZING**:
  - **Albuterol** 2.5 mg/3ml NS nebulized

AEMT

- ❑ Advanced airway, vascular access and fluid therapy
- ❑ Albuterol 2.5 every 10 minutes via nebulization for bronchospasm/wheezing until symptoms subside. Start with 1.25 mg if age <1yr
- ❑ Reassess patient after each dose to determine need for additional dosing
- ❑ Consider CPAP in awake patients with respiratory distress
- ❑ For **WHEEZING**:
  Albuterol 2.5 mg/3ml NS nebulized

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus
  CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION

PARAMEDIC

- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

OPIOID/OVERDOSE

ALL PROVIDERS

- ❑ Focused history and physical exam
  - Assess blood glucose, temperature, and oxygen saturation.
  - Assess the time and circumstances of the ingestion.
  - Assess patient and scene for possible trauma and additional information on possible toxins, poisons, medications or other related concerns.
- ❑ Cardiac monitor, ETCO2, and pulse oximetry monitoring, when available.
- ❑ 12-lead ECG, if available
- ❑ **Treatment Plan**
  - **Opioid Overdose:** Initial focus is on providing/assisting with adequate ventilation with BVM immediately.
  - Initial dose of naloxone should be given IN (intranasal) while preparing for IV placement by AEMT/PM.
  - Dosing of naloxone should be focused on restoration of adequate spontaneous ventilation, not restoration of full consciousness. Excessive naloxone use can precipitate an acute withdrawal syndrome, putting both the patient and the emergency personnel at risk for injury.
  - Begin with small doses of naloxone (0.4 mg IN/IV) and titrate to adequate spontaneous ventilation.
- ❑ **Key Considerations**
- ❑ **Release on Scene**
  - Transport any pill bottles, open containers, or potential chemicals that may have been ingested.
  - Transport suicide notes or other pre-ingestion communications.
  - All oral opioid overdoses should be transported, as re-sedation will occur after naloxone administration.
  - May contact Poison Control 1-800-222-1222
  - With some new opiates, very large doses of naloxone may be required to restore respirations. If no results with 2-3 0.4 mg doses, consider a trial of 2 mg doses.
  - If other drugs are ingested in addition to opiates (such as alcohol or benzodiazepines), the response to naloxone may be incomplete.
  - Patients who have attempted suicide by overdose CANNOT be released and MAY be taken in against their will. Police may need to assist in ensuring the transport by providing "pink sheet" and assisting with patient control during transport.
  - In cases of reported **heroin-only** overdose, patients should be offered ED transport, but if they refuse they may be left on scene after naloxone administration if:
    - An attendant and second dose of naloxone is available or provided for any patient left on scene.
    - There is a responsible person on scene who is not intoxicated and can and will care for the patient.

ADULT

EMT

- ❑ **Naloxone** 0.4–2 mg (per dose) IN (intranasal) for suspected opioid overdose. May repeat as necessary to maintain respirations.
- ❑ IM route may be used if unable to administer IN

AEMT

- ❑ Advanced airway, vascular access and fluid therapy
- ❑ **Naloxone** 0.4–2 mg (per dose) IV/IM/IO/IN for suspected narcotic overdose. May repeat as needed to maintain respirations

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
- ❑

PARAMEDIC

- ❑ **Sodium bicarbonate** 1 mEq/kg slow IV/IO push for tricyclic antidepressant overdose with sustained HR >120 bpm, QRS >0.10, hypotension unresponsive to fluids, or ventricular dysrhythmias
- ✆ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

- ❑ **Naloxone** 0.1 mg/kg (max 2mg per dose) IN (intranasal) for suspected opioid overdose. May repeat as needed to maintain respirations
- ❑ IM route may be used if unable to administer IN

AEMT

- ✆ Advanced airway, vascular access and fluid therapy
- ✆ **Naloxone** 0.1 mg/kg (max 2 mg per dose) IV/IM/IO/IN for suspected narcotic overdose. May repeat as needed to maintain respirations

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ✆ **Sodium bicarbonate** for tricyclic antidepressant overdose: Contact OLMC
- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

TEMPERATURE AND ENVIRONMENTAL EMERGENCIES

ALL PROVIDERS / EMT

- ❑ Scene and patient management
  - Remove patient from hot or cold environment, when possible
  - Focused history and physical exam
  - Body temperature and blood glucose assessment.
  - Assess level of consciousness; apply the ***Altered Mental Status Guideline*** if applicable.
  - Assess for underlying causes; medications, toxins, CNS lesions or other medical conditions.
- ❑ Cardiac monitor, ETCO2, and pulse oximetry monitoring when available
- ❑ **Treatment Plan**
  - **Heat Related**
    - Temperature elevation **WITHOUT** altered mental status **(Heat Exhaustion)**
      - Slow cooling with ice packs, wet towels, and/or fans to areas in the vicinity of carotid, femoral, brachial arteries.
      - If patient is alert and not nauseated, oral rehydration with water or balanced electrolyte solution.
      - Severe muscle cramps may be relieved by gentle stretching of the muscles.
    - Temperature elevation **WITH** altered mental status **(Heat Stroke)**
      - Aggressive cooling to unclothed patient utilizing fine mist water spray and fans in conjunction with ice packs to groin and axilla while maintaining modesty (NOT Recommended for children and infants)
      - Aggressive cooling should be stopped if shivering begins.
      - Monitor closely for dysrhythmia, recognize and treat with the appropriate ***Cardiac Patient Care Guideline***
    - Room temperature IV fluids should be administered for both heat exhaustion and heat stroke (AEMT and PM only)
    - Benzodiazepines may be used for shivering (AEMT and PM only)
  - **Cold Related**
    - Protect patient from further heat loss (application of blankets, removal of wet clothing, warm environment, etc.).
    - Suspicion of cardiac arrest in cold environment, assess for 30-45 seconds to confirm pulselessness.
    - Measure body temperature and treat accordingly
      - **Severe: <86°F (30°C)**
        - ➢ Use active external rewarming (heated oxygen, warm packs to neck, armpits, groin, etc.)
        - ➢ Administer warm IV fluids (AEMT/PM only)
        - ➢ Cardiac arrest: Chest compressions and ventilations. Limit defibrillation attempts to 3 and no external pacing. Likelihood of successful defibrillation improves as the patient is warmed.
        - ➢ Pediatric cardiac arrest due to hypothermia (temperature <30 C/86 F): consider direct transport to Primary Children's Medical Center for ECMO and **do NOT rewarm** this patient.
        - ➢ Adult cardiac arrest due to hypothermia (temperature <30 C/86 F): consider direct transport to Nevada Medical Center or Intermountain Medical Center for ECMO and **do NOT rewarm** this patient.
        - ➢ Handle the patient gently during transport because rough movement may precipitate dysrhythmias.

- **Moderate: 86-93°F (30-34°C)**
  - Use warm packs to neck, armpits, and groin
  - Warm IV fluids (AEMT/PM only)
- **Mild: >93°F (34°C)**
  - Warm with blankets, warm environment, etc.
  - Frostbite precautions – Do not rub or use dry external heat. Re-warm with 40°C water if possible.
  - Warm IV fluids (AEMT/PM only)

❑ **Key Considerations**
- Avoid refreezing of cold extremities. If refreezing cannot definitely be avoided during transport, do not start the thawing process.

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
• Advanced airway, vascular access and fluid therapy **Heat Emergencies** • Cool fluid therapy: 500 – 1000 cc NS bolus RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE • **Midazolam** • IN/IM/IV/IO – 5 mg, may repeat once in 5 minutes, if needed. Total max dose: 10mg **Cold Emergencies** • Warm fluid therapy: 500 – 1000 cc NS bolus	▪ Advanced airway, vascular access and fluid therapy **Heat Emergencies** ▪ Cool fluid therapy: 20 ml/kg IV bolus RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE ▪ Benzodiazepines for shivering: ▪ **Midazolam** ▪ IN/IM: 0.2 mg/kg (max 5 mg), may repeat once in 5 minutes, if needed. Total max dose: 10 mg ▪ IV/IO - 0.1 mg/kg (max 5 mg), may repeat once in 5 minutes, if needed. Total max dose: 10 mg ▪ **Cold Emergencies** ▪ Warm fluid therapy: 20 cc/kg NS bolus
PARAMEDIC	**PARAMEDIC**
❑ **Cold emergencies** • Withhold anti-arrhythmic meds until temperature >86°F (30°C)	❑ **Cold emergencies** • Withhold anti-arrhythmic meds until temperature >86°F (30°C)

Heat Emergencies

- Benzodiazepines for shivering:
  - **Lorazepam**
    - **IV/IO/IM** – 1-2mg, may repeat every 5 minutes, if needed.

Heat Emergencies

- Benzodiazepines for shivering:
- **Lorazepam**
  - **IV/IO/IM** – 0.1mg/kg (max 2 mg), may repeat every 5 minutes, if needed. Total max dose: 4 mg.

TOXIC EXPOSURE - CARBON MONOXIDE

ALL PROVIDERS / EMT

- ❑ Scene and patient management
  - Safely and rapidly remove patient from source of exposure.
  - Collect environmental CO levels if equipment is available.
- ❑ Focused history and physical exam
  - Estimation of exposure time.
  - Pulse oximetry readings are unreliable in carbon monoxide exposures
- ❑ Cardiac monitor and ETCO2, when available
- ❑ **Treatment Plan**
  - Administer 100% high-flow oxygen via non-rebreather mask.
  - Any exposure to carbon monoxide related to a closed space fire (such as a house fire) often also results in cyanide exposure.
- ❑ **Key Considerations**
  - Patients with symptoms of headache, nausea, tachycardia, neurologic changes, or a CO monitor reading >10% should be transported.

ADULT

AEMT

- ❑ Advanced airway management, vascular access and fluid therapy

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- ✆ Advanced airway management, vascular access and fluid therapy

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg(Max 50 mcg) as needed to maintain a SBP>70 + (age in years x 2) mmHg after fluid bolus
- ✆ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

TOXIC EXPOSURE - CYANIDE

ALL PROVIDERS / EMT

- ❑ Scene Management
  - If properly trained and equipped, safely and rapidly remove patient from the source of exposure.
  - Request HazMat response as appropriate.
  - Industries in which to consider cyanide exposure:
    - Electroplating and Metallurgy
    - Organic chemicals production
    - Photographic developing
    - Manufacture of plastics
    - Fumigation of ships
    - Some mining processes especially gold/copper
  - Patients and EMS providers may be exposed to cyanide in the following ways;
    - Breathing air, drinking water, touching soil, or eating foods that contain cyanide.
    - Breathing smoke during closed-space fires.
    - Breathing air near a hazardous waste site containing cyanide.
    - Eating foods naturally containing cyanide compounds, such as tapioca, lima beans, apricot seeds and almonds. However, the portions eaten in the United States contain relatively low amounts of cyanide.
- ❑ Focused history and physical exam
  - Be alert for exposure related signs and symptoms;
    - Acute dyspnea/tachypnea without cyanosis
    - Nausea/vomiting
    - Seizures
    - Hyper or hypotension
    - Total body erythema (redness)
    - Cardiac monitor, ETCO2, and Pulse Oximetry monitoring when available
- ❑ **Treatment Plan**
  - Administer high flow oxygen immediately and continuously
  - Pulse oximetry readings may not be accurate because of cyanide interaction
  - Cardiac monitor and ETCO2, when available

ADULT	PEDIATRIC (<15 years of Age) NOTE: Pediatric weight based dosing should not exceed Adult dosing.
AEMT	**AEMT**
❑ Advanced airway, vascular access and fluid therapy **RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE** ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**	✆ Advanced airway, vascular access and fluid therapy **RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE** ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x 2) mmHg after fluid bolus ✆ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**
PARAMEDIC	**PARAMEDIC**
❑ **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg	✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

HEAD INJURY (TRAUMATIC BRAIN INJURY)

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam
- ❑ Cardiac monitor, ETCO2, and Pulse Oximetry monitoring when available
- ❑ **Treatment Plan**
  - Maintain airway. Administer oxygen to maintain SaO2 90-94%.
  - Consider spinal motion restrictions per the ***Spinal Motion Restriction Guideline***
  - Elevate head 30 degrees.
  - Monitor the level of consciousness during the transport
  - **Severe TBI** (GCS <8 or AVPU "P" or "U"):
    - Adult: Consider endotracheal intubation for airway protection (Paramedic only)
    - Pediatrics: Continue effective BVM. Utilize airway adjuncts, if needed to ensure adequate chest rise, ventilation, and oxygenation.
    - Target ETCO2: maintain 35-45 mmHg
    - **Do not hyperventilate** unless patient shows signs of herniation: unilateral pupillary dilation or posturing. In this case, increase respiratory rate by ~10% above normal target respiratory rate (see Mild Hyperventilation Guide). Target ETCO2: 30-35 mmHg.

Mild Hyperventilation Guide for Signs of Herniation

Age	Normal Ventilation Rate	Mild Hyperventilation Rate
Neonate	40	44
Infant	30	33
Child	20	22
Adult	10	12

  - Open skull fractures should be covered with dry sterile dressings. Do not apply pressure unless needed to stop severe hemorrhage.
- ❑ **Key Considerations**
  - TBI may be painful. However, excessive pain medications can cloud serial neurological assessments. Pain medications should generally be avoided in a patient with altered mental status after TBI. If pain is severe, give small doses only until pain is manageable.
  - Patients with TBI may be confused or combative. Consider physical/chemical restraints if needed to protect patient or personnel.
  - Loss of memory, prolonged confusion or altered mental status associated with trauma may indicate a significant head injury.
  - Avoid hypoxia (SaO2 should be 90-94%).
  - Avoid over tightening of cervical collar (if placed) as this can cause increased intracranial pressure
  - Do not allow the patient to be hypotensive. Try to keep adult SBP >110 using the ***Shock and Fluid Therapy Guideline.***
  - Pediatric lowest acceptable systolic blood pressures are birth to 1 month = 60mmHg, 1 month to 1 year = 70mmHg, 1 year to 10 years is = 70mmHg + (age x 2) and over 10 years = 90mmHg.

AEMT

- ❑ Advanced airway, vascular access, and fluid therapy
- ❑ Check blood pressure every 5-10 minutes.
- ❑ Follow the Traumatic Brain Injury pressure management under the ***Shock and Fluid Therapy Guideline.***

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

AEMT

- ✆ Advanced airway, vascular access, and fluid therapy
- ✆ Check blood pressure every 5-10 minutes.
- ✆ Initiate NS 20 ml/kg IV/IO for hypotension OR if unable to obtain blood pressure
- ✆ If hypotensive patient shows no improvement with initial treatment, may repeat NS 20 ml/kg IV/IO up to a total of 60 ml/kg

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x 2) mmHg after fluid bolus
- ✆ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Persistent hypotension unresponsive to fluids:**
  - **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

PARAMEDIC

- ❑ **Persistent hypotension unresponsive to fluids:**
  - ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

SNAKE BITES

ALL PROVIDERS / EMT

- ❑ Focused history and physical exam
  - Identify and document the type of snake, appearance, location, and distinguishing marks.
  - Obtain an accurate time of injury.
  - Clarify any first aid provided by friends or family prior to arrival.
  - Coral Snakes in North America – "Red on touches Yellow = Poison Fellow, Red on touches Black = Safe with attack".
  - Signs of envenomation include paresthesia, metallic taste, chills, nausea, vomiting, headache, dysphagia, cramps, hypotension, fever, local edema, blebs, and discoloration.
- ❑ Continuous cardiac monitor, ETCO2, and pulse oximetry, when available.
- ❑ **Treatment Plan**
  - Ensure scene safety by moving the patient to a safe distance, away from the snake.
  - Splint limb and place at the level of the heart.
  - Keep patient calm and movement to a minimum. You may need to treat for pain to help achieve this goal per ***Pain Management Guideline***.
  - Remove items that may constrict swelling tissue, such as rings or bracelets.
- ❑ **Key considerations**
  - Do not start the IV in the affected limb.
  - Do not apply ice to the limb.
  - Do not try to capture the snake.
  - Do not bring a live snake to the ED.
  - Remember that snakes can reflexively envenomate up to 1 hour after death.
  - Pictures of the snake can be helpful.
  - Any snakebite can be dangerous and should be evaluated in the ED.
  - Watch for signs of shock and allergic reaction.

ADULT

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

AEMT

- ❑ Advanced airway, vascular access, and fluid therapy

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ❑ **Push Dose Epinephrine** 10mcg as needed to maintain a SBP >100 mmHg after fluid bolus
- ❑ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Persistent hypotension unresponsive to fluids:**
  - **Epinephrine** 0.1–0.5 mcg/kg/min (7 to 35 mcg/min in a 70 kg patient) IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >100 mmHg

AEMT

- ✆ Advanced airway, vascular access, and fluid therapy

RESTRICTED FOR AEMT USE PENDNG VARIANCE APPROVAL. PERMITTED FOR PARAMEDICS WITHIN SCOPE

- ✆ **Push Dose Epinephrine** 1 mcg/kg (Max 50 mcg) as needed to maintain a SBP >70 + (age in years x 2) mmHg after fluid bolus
- ✆ **CONTACT MEDICAL CONTROL PRIOR TO ADMINISTRATION**

PARAMEDIC

- ❑ **Persistent hypotension unresponsive to fluids:**
  - ✆ **Epinephrine** 0.05–1 mcg/kg/min IV/IO infusion for hypoperfusion. Titrate to maintain a SBP >70 + (age in years x 2) mmHg

Letters of Support

Agency Medical Director

Utah State EMS Medical Director

Utah Bureau of EMS

1 May, 2025

Bobbie Sullivan
Program Manager, Emergency Medical Services Program
Division of Public and Behavioral Health
Nevada Department of Health and Human Services
4126 Technology Way, STE 100
Carson City, NV 89706

Dear Ms. Sullivan:

I am writing to express my unequivocal support for the variance requests for EMS protocols by the Wendover Ambulance service. Specifically, I have been the volunteer EMS director for Wendover Ambulance for over 10 years, and also am faculty at one of their primary (if not their only) receiving facilities.

As you know, Wendover serves a large rural catchment area with essentially no local healthcare support, and no local hospital. They rely heavily on critical care air medical transport rendezvouses because of this, and additionally, because of limited support available locally, this service is the only option for early institution of relatively advanced medical interventions in time critical illnesses such as trauma, shock states, cardiac arrest, seizures and acute behavioral emergencies. The variances that are being requested are essential for this care. In addition, these requests are well within the scope of practice according to Utah guidelines and we have the endorsement of Dr. Peter Taillac, the current EMS Medical Director for the State of Utah, for these protocols.

From my standpoint as a physician, there is an excellent evidence-base in the medical literature for the prehospital use of medications and protocols discussed in these requests.

For instance, American Epilepsy Society guidelines recommends that EMS personnel use midazolam, (or lorazepam or diazepam) as first-line treatment for status epilepticus. Additionally, an overwhelming majority of patients with status epilepticus did not receive adequate treatment. Higher midazolam doses were not associated with respiratory harm, and patients do not derive clinical benefit despite the risks of prolonged seizures. Wendover also has limited law enforcement response for behavioral emergencies and EMS crews can be at risk from agitated patients for behavioral emergencies and EMS crews can be at risk from agitated patients; a midazolam protocol for prehospital agitation will be associated with reduced agitation and a low rate of adverse events, as reported by other EMS system.

Other medications requested by Wendover in these variances have similar support, and given the unique logistical and other factors demand serious consideration for adaptation. As their medical director, I will ensure that these protocols utilize continuous monitoring of oxygen saturation,

blood pressure and heart rate when those medications are administered. This will allow crews to frequently reassess patients. Finally, several protocols will require online medical control (done via radio to the University of Utah ED physicians on duty) as well as documentation of use and dose, time, and patient response to each administration for later case review by me and Wendover personnel.

I look forward to hearing any thoughts, questions or comments you have regarding these variances and trust that we can ensure the best care for the residents of the Wendover area and it's many visitors.

Sincerely,

Gerard Doyle, MD MPH

May 16, 2025

To: Secretary, State Board of Health Division of Public and Behavioral Health
4150 Technology Way, Suite 300
Carson City, NV 89706

Re: Support for Wendover Ambulance Variance Request to Allow Midazolam to be Administered by Advanced EMTs Under Medical Director-Approved Protocol

As the Utah State EMS Medical Director, I would like to lend my strong support to Wendover Ambulance in seeking a Nevada variance to allow Advanced EMTs (AEMTs) to administer push-dose epinephrine to certain hypotensive patients, under protocols approved by their medical director.

Wendover Ambulance does not always have a paramedic on duty and in many cases their patients are cared for and transported by AEMTs. Their transport times are long, as their nearest hospital is over 100 miles away. Hypotensive patients should be afforded appropriate medical care en route to the hospital. **Push-dose epinephrine can be lifesaving in these patients.**

Utah has allowed AEMTs to safely administer push-dose epinephrine for several years. Such administration is reflected in our Utah State EMS Protocol Guidelines[1]. Essentially all of our rural EMS agencies allow this in their local protocols. Over this extended period, we have had no issues with inappropriate or unsafe administration of push-dose epinephrine by trained AEMTs.

As of 2019, the National Highway Traffic Administration National EMS Scope of Practice Model has allowed administration of "Medical Director-Approved Medications."[2] The administration of intravenous push-dose epinephrine is within the national scope of practice for AEMTs and is thus allowed by most states.

I fully support and recommend approval of this Nevada variance for Wendover Ambulance to allow AEMTs to administer push-dose epinephrine under a medical director-approved protocol. I am available at any time for questions regarding this issue: ptaillac@utah.gov / 801-803-3217

Peter Taillac, MD, FACEP, FAEMS
Medical Director
Office of Emergency Medical Services and Preparedness
Department of Health and Human Services

1. https://ems.utah.gov/operations-and-response/ems-operations/medical-directionems-protocol-guidelines/
2. https://www.ems.gov/assets/National_EMS_Scope_of_Practice_Model_2019.pdf (page 36, please note the footnote on that page: "and others defined by state/local protocol")

4/28/2025

To Whom It May Concern,

On behalf on the Bureau of Emergency Medical Services, I am writing to express strong support for Wendover Ambulance's request to authorize Advanced Emergency Medical Technicians (AEMTs) to administer Push-Dose Epinephrine under the 2023 Utah EMS Protocol Guidelines.

Push-Dose Epinephrine is a critical intervention for managing per-arrest hypotension, bradycardia with signs of poor perfusion, and severe shock states. Early administration can mean the difference between recovery and irreversible organ damage or death.

The Utah EMS Protocols outline clear parameters for Push-Dose Epinephrine use by AEMTs including appropriate dosing and requirements for Online Medical Control (OLMC) support where indicated. Wendover Ambulance has demonstrated a commitment to high standards of training and patient care, and we are confident that their AEMTs are well-prepared to safely and effectively manage this medication.

Expanding access to Push-Dose Epinephrine for AEMTs will strengthen Wendover Ambulance's ability to deliver high-quality prehospital care, especially in a rural area where advanced interventions during transport can have a profound impact on patient outcomes.

We fully support this advancement and encourage approval of Wendover Ambulance's request.

Respectfully,

Mark Herrera
EMS Ed., Rural Outreach, & SSoC Program Manager
Utah Bureau of EMS
801-232-9138
markherrera@utah.gov
ems.utah.gov

Letters of Support

Agency Medical Director

Utah State EMS Medical Director

Utah Bureau of EMS

HEALTH
UNIVERSITY OF UTAH

Department of Emergency Medicine
30 N 1900 E Rm 1C026
Salt Lake City, UT 84132

1 May, 2025

Bobbie Sullivan
Program Manager | Emergency Medical Services Program
Division of Public and Behavioral Health
Nevada Department of Health and Human Services
4126 Technology Way, STE 100
Carson City, NV 89706

Dear Ms Sullivan:

I am writing to express my unequivocal support for the variance requests for EMS protocols by the Wendover Ambulance service. Specifically, I have been the volunteer EMS director for Wendover Ambulance for over 10 years, and also am faculty at one of their primary (if not their only) receiving facilities.

As you know, Wendover serves a large rural catchment area with essentially no local healthcare support, and no local hospital. They rely heavily on critical care air medical transport rendezvouses because of this, and additionally, because of limited support available locally, this service is the only option for early institution of relatively advanced medical interventions in time critical illnesses such as trauma, shock states, cardiac arrest, seizures and acute behavioral emergencies. The variances that are being requested are essential for this care. In addition, these requests are well within the scope of practice according to Utah guidelines and we have the endorsement of Dr. Peter Taillac, the current EMS Medical Director for the State of Utah, for these protocols.

From my standpoint as a physician, there is an excellent evidence-base in the medical literature for the prehospital use of the medications and protocols discussed in these requests.

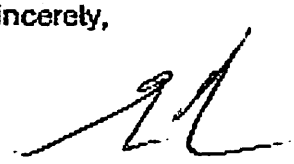
For instance, American Epilepsy Society guidelines recommends that EMS personnel use midazolam, (or lorazepam or diazepam) as first-line treatment for status epilepticus. Additionally, an overwhelming majority of patients with status epilepticus did not receive adequate treatment. Higher midazolam doses were not associated with respiratory harm, and patients do not derive clinical benefit despite

the risks of prolonged seizures. Wendover also has limited law enforcement response for behavioral emergencies and EMS crews can be at risk from agitated patients; a midazolam protocol for prehospital agitation will be associated with reduced agitation and a low rate of adverse events, as reported by other EMS systems.

Other medications requested by Wendover in these variances have similar support, and given the unique logistical and other factors demand serious consideration for adaptation. As their medical director, I will ensure that these protocols utilize continuous monitoring of oxygen saturation, blood pressure and heart rate when these medications are administered. This will allow crews to frequently reassess patients. Finally, several protocols will require online medical control (done via radio to the University of Utah ED physicians on duty) as well as documentation of use and dose, time, and patient response to each administration for later case review by me and Wendover personnel.

I look forward to hearing any thoughts, questions or comments you have regarding these variances and trust that we can ensure the best care for the residents of the Wendover area and it's many visitors.

Sincerely,



Gerard Doyle, MD MPH

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Public Safety

JESS L. ANDERSON
Commissioner

May 16, 2025

To: Secretary, State Board of Health Division of Public and Behavioral Health
4150 Technology Way, Suite 300
Carson City, NV 89706

Re: Support for Wendover Ambulance Variance Request to Allow Push-Dose Epinephrine to be Administered by Advanced EMTs Under Medical Director-Approved Protocols

As the Utah State EMS Medical Director, I would like to lend my strong support to Wendover Ambulance in seeking a Nevada variance to allow Advanced EMTs (AEMTs) to administer push-dose epinephrine to certain hypotensive patients, under protocols approved by their medical director.

Wendover Ambulance does not always have a paramedic on duty and in many cases their patients are cared for and transported by AEMTs. Their transport times are long, as their nearest hospital is over 100 miles away. Hypotensive patients should be afforded appropriate medical care en route to the hospital. **Push-dose epinephrine can be lifesaving in these patients.**

Utah has allowed AEMTs to safely administer push-dose epinephrine for several years. Such administration is reflected in our Utah State EMS Protocol Guidelines[1]. The majority of our rural EMS agencies allow this in their local protocols. Over this period, we have had no issues with inappropriate or unsafe administration of push-dose epinephrine by trained AEMTs.

As of 2019, the National Highway Traffic Administration National EMS Scope of Practice Model has allowed administration of "Medical Director-Approved Medications."[2] The administration of intravenous push-dose epinephrine is within the national scope of practice for AEMTs and is thus allowed by most states.

I fully support and recommend approval of this Nevada variance for Wendover Ambulance to allow AEMTs to administer push-dose epinephrine under medical director-approved protocols. I am available at any time for questions regarding this issue: ptaillac@utah.gov / 801-803-3217.

Peter Taillac, MD, FACEP, FAEMS
Medical Director
Office of Emergency Medical Services and Preparedness
Department of Health & Human Services

1. https://ems.utah.gov/operations-and-response/ems-operations/medical-directionems-protocol-guidelines/
2. https://www.ems.gov/assets/National_EMS_Scope_of_Practice_Model_2019.pdf (page 36, please note the footnote on that page: "and others defined by state/local protocol")

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Public Safety

JESS L. ANDERSON
Commissioner

4/28/2025

To Whom It May Concern,

On behalf of the Bureau of Emergency Medical Services, I am writing to express strong support for Wendover Ambulance's request to authorize Advanced Emergency Medical Technicians (AEMTs) to administer Push-Dose Epinephrine under the 2023 Utah EMS Protocol Guidelines.

Push-Dose Epinephrine is a critical intervention for managing peri-arrest hypotension, bradycardia with signs of poor perfusion, and severe shock states. Early administration can mean the difference between recovery and irreversible organ damage or death.

The 2023 Utah Protocols outline clear parameters for Push-Dose Epinephrine use by AEMTs, including appropriate dosing and requirements for Online Medical Control (OLMC) support where indicated. Wendover Ambulance has demonstrated a commitment to high standards of training and patient care, and we are confident that their AEMTs are well-prepared to safely and effectively manage this medication.

Expanding access to Push-Dose Epinephrine for AEMTs will strengthen Wendover Ambulance's ability to deliver high-quality prehospital care, especially in a rural area where advanced interventions during transport can have a profound impact on patient outcomes.

We fully support this advancement and encourage approval of Wendover Ambulance's request.

Respectfully,

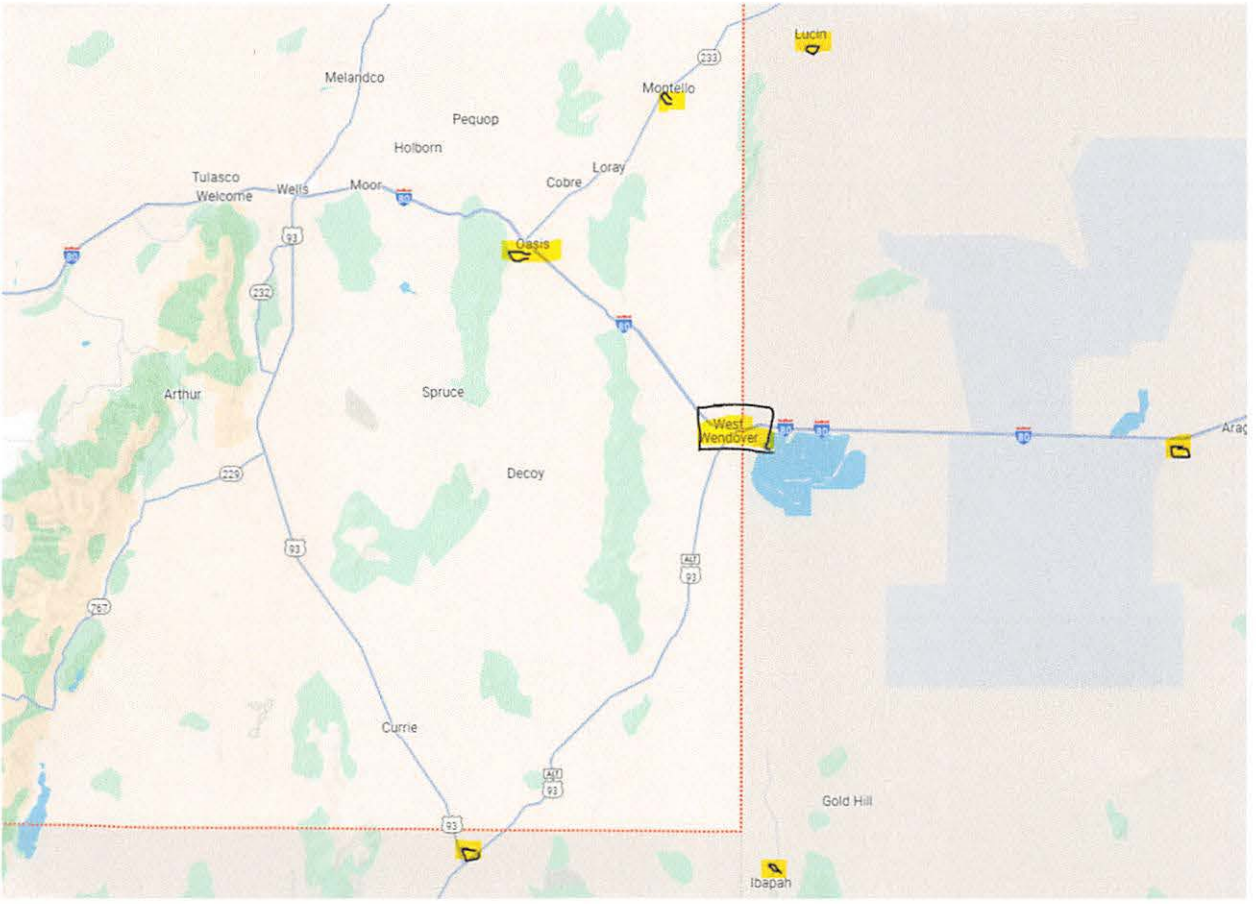
MARK HERRERA
EMS Ed., Rural Outreach, & SSoC Program Manager
Utah Bureau of EMS
801-232-9138
markherrera@utah.gov
ems.utah.gov

Wendover Ambulance

service area map

Utah and Nevada

Nevada **Utah**



Wendover Ambulance Service area:

West –MM 380 I-80 - ½ way to Wells, NV
North – SR 233 to Montello , NV
North – Pilot Mtn Rd. to Lucin, UT
South – Alt 93 Loges Junction – ½ way to Ely, NV
South – Alt 93, NV to Ibapah Rd, UT
East – mm 56 I-80 – ½ way to Tooele, UT

Wendover Ambulance Lesson Plan

Push Dose Epinephrine

WENDOVER AMBULANCE LESSON PLAN

PUSH DOSE EPINEPHRINE

PURPOSE: TO FAMILIARIZE ADVANCED EMTS ON THE PROPER ADMINISTRATION AND UTILIZATION OF PUSH DOSE EPINEPHRINE. THIS WILL BE ACCOMPLISHED BY SVNCHRONUS AND ASVNCHRONUS TRAINING, ONLINE TESTING AND IN PERSON SKILLS TESTING

LESSON PLAN: Will review the following information regarding the use of Push Dose Epinephrine

1. **Breakdown of pathophysiology of medication**
    a. Including how Push Dose Epinephrine effects the cardiovascular system
2. **Appropriate uses for Push Dose Epinephrine**
    a. Review of the following protocols:
        i. Shock, Sepsis & Fluid Therapy
        ii. Bradycardia (Symptomatic)
        iii. Post-Cardiac Arrest Care/ROSC
        iv. Congestive Heart Failure/Pulmonary Edema
        v. Allergic Reaction/Anaphylaxis
        vi. Drowning or Submersion
        vii. Opiod/Overdose
        viii. Toxic Exposure – Carbon Monoxide
        ix. Toxic Exposure – Cyanide
        x. Head Injury – TBI
        xi. Snake Bites
3. **Review of Potential Adverse Effects of Push Dose Epinephrine**
    a. Cardiac Arrythmias
    b. Hypertension
    c. CNS effects
    d. Other effects:
        i. Nausea/Vomiting
        ii. Diaphoresis
        iii. Weakness
4. **Management of Potential Adverse Effects of Midazolam**
    a. Airway management including BVM if necessary
    b. Hemodynamic management with appropriate fluids
5. **Required Patient monitoring after administration**
    a. ETC02
    b. Blood Pressure
    c. SP02
    d. 4-Lead Cardiac Monitoring
6. **Review of physical administration**

a. Dosing
b. Concentration
c. Physical practice of drawing
d. Safe IV medication administration

7. **Testing- Students will be required to pass Didactic and Psychomotor testing at 80% or higher**
    a. **Written test reviewing**
        i. Action
        ii. Indications
        iii. Contraindications
        iv. Side Effects
        v. Dosing
        vi. Adverse Reaction Management
        vii. Patient Scenarios where Push Dose Epinephrine may or may not be appropriate for use
    b. **Psychomotor Testing to include**
        i. Patient Scenarios
            1. Appropriate for using Push Dose Epinephrine
            2. Inappropriate for using Push Dose Epinephrine
            3. Management of adverse effects ·
    c. **Advanced Cardiac Life Support**
        i. **AEMTS will be required to hold AHA ACLS and PALS certifications by December 31, 2025**
            1. Can be accomplished by
            • In Person Training Class
            • Online didactic with in person skills pass off

Wendover Ambulance Lesson Plan

Push Dose Epinephrine

WENDOVER AMBULANCE LESSON PLAN

PUSH DOSE EPINEPHRINE

PURPOSE: TO FAMILIARIZE ADVANCED EMTS ON THE PROPER ADMINISTRATION AND UTILIZATION OF PUSH DOSE EPINEPHRINE. THIS WILL BE ACCOMPLISHED BY SYNCHRONUS AND ASYNCHRONUS TRAINING, ONLINE TESTING AND IN PERSON SKILLS TESTING

LESSON PLAN: Will review the following information regarding the use of Push Dose Epinephrine

1. **Break down of pathophysiology of medication**
    a. Including how Push Dose Epinephrine effects the cardiovascular system
2. **Appropriate uses for Push Dose Epinephrine**
    a. Review of the following protocols:
        i. Shock, Sepsis & Fluid Therapy
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        iv. Congestive Heart Failure/Pulmonary Edema
        v. Allergic Reaction/Anaphylaxis
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        vii. Opiod/Overdose
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        ix. Toxic Exposure -Cyanide
        x. Head Injury – TBI
        xi. Snake Bites
3. **Review of Potential Adverse Effects of Push Dose Epinephrine**
    a. Cardiac Arrythmias
    b. Hypertension
    c. CNS effects
    d. Other effects:
        i. Nausea/Vomiting
        ii. Diaphoresis
        iii. Weakness
4. **Management of Potential Adverse Effects of Midazolam**
    a. Airway management including BVM if necessary

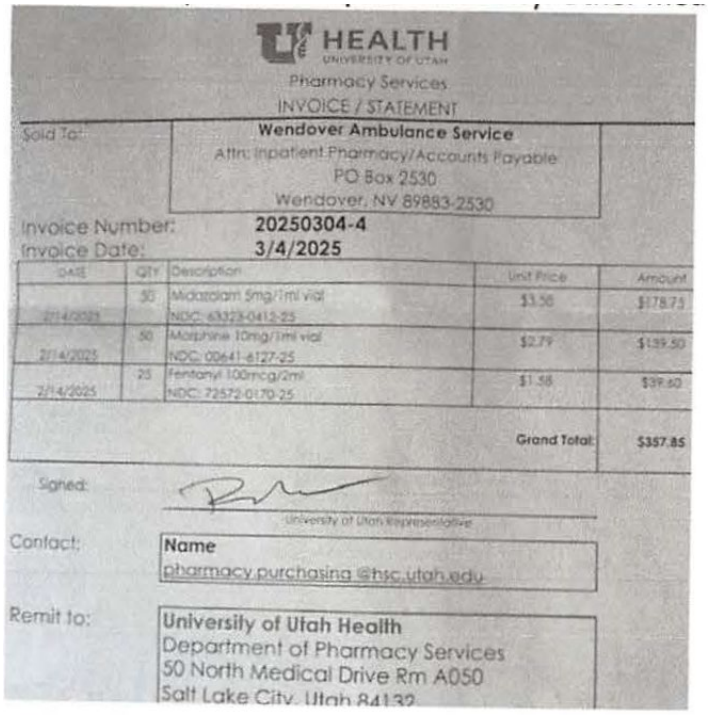
b. Hemodynamic management with appropriate fluids

5. **Required Patient monitoring after administration**
    a. ETCO2
    b. Blood Pressure
    c. SPO2
    d. 4-Lead Cardiac Monitoring
6. **Review of physical administration**
    a. Dosing
    b. Concentration
    c. Physical practice of drawing
    d. Safe IV medication administration
7. **Testing- Students will be required to pass didactic and psychomotor testing with 80% or higher**
    a. Written test reviewing
        i. Action
        ii. Indications
        iii. Contraindications
        iv. Side Effects
        v. Dosing
        vi. Adverse Reaction Management
        vii. Patient Scenarios where Push Dose Epinephrine may or may not be appropriate for use
    b. Psychomotor Testing to include
        i. Patient Scenarios
            1. Appropriate for using Push Dose Epinephrine
            2. Inappropriate for using Push Dose Epinephrine
            3. Management of adverse effects
    c. Advanced Cardiac Life Support Training
        i. All AEMTS and Paramedics will hold current AHA ACLS certifications by DECEMBER 31, 2025
            1. Can be done as
                a. In person class as scheduled
                b. Online with in person skills sign off

Wendover Ambulance

Narcotics and Medication handling

Narcotics are purchased through the U of U Hospital in-house pharmacy with RX from Medical Control – Dr. Doyle and picked up at the hospital Pharmacy. Other medications from vendor Henry Schein with a RX on file from Dr. Doyle:



HEALTH
UNIVERSITY OF UTAH
Pharmacy Services
INVOICE / STATEMENT

Sold To: **Wendover Ambulance Service**
Attn: Inpatient Pharmacy/Accounts Payable
PO Box 2530
Wendover, NV 89883-2530

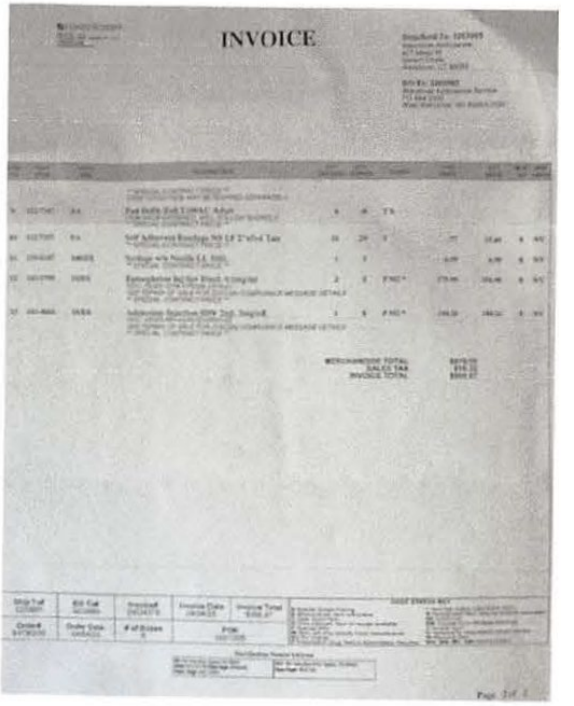
Invoice Number: **20250304-4**
Invoice Date: **3/4/2025**

DATE	QTY	Description	Unit Price	Amount
2/14/2025	50	Midazolam 5mg/1ml vial NDC: 63323-0412-25	$3.55	$177.75
2/14/2025	50	Morphine 10mg/1ml vial NDC: 00641-6127-25	$2.79	$139.50
2/14/2025	25	Fentanyl 100mcg/2ml NDC: 72572-0170-25	$1.58	$39.60
			Grand Total:	$357.85

Signed: _____
University of Utah Representative

Contact: **Name**
pharmacy.purchasing@hsc.utah.edu

Remit to: **University of Utah Health**
Department of Pharmacy Services
50 North Medical Drive Rm A050
Salt Lake City, Utah 84132

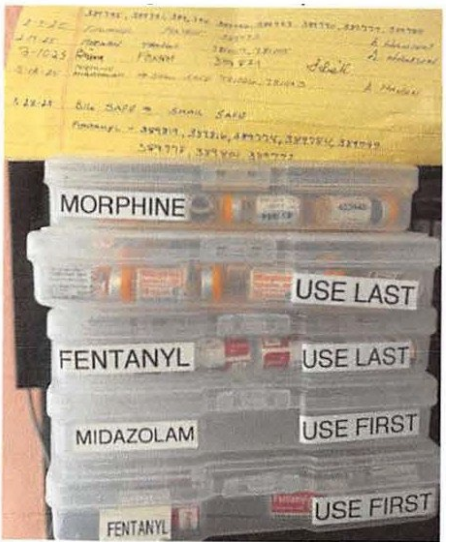


INVOICE

Medications are logged and marked with a consecutive numbered tag:

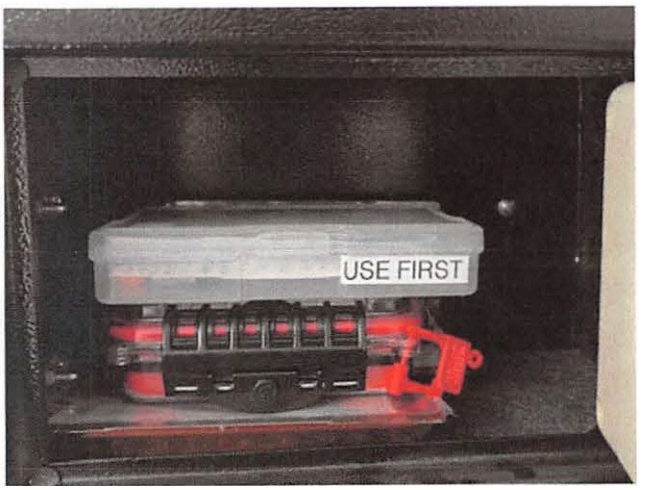
Then they are put into the big safe in Manager's Office:

When medication is moved from big safe, to small safe, the following record is kept:

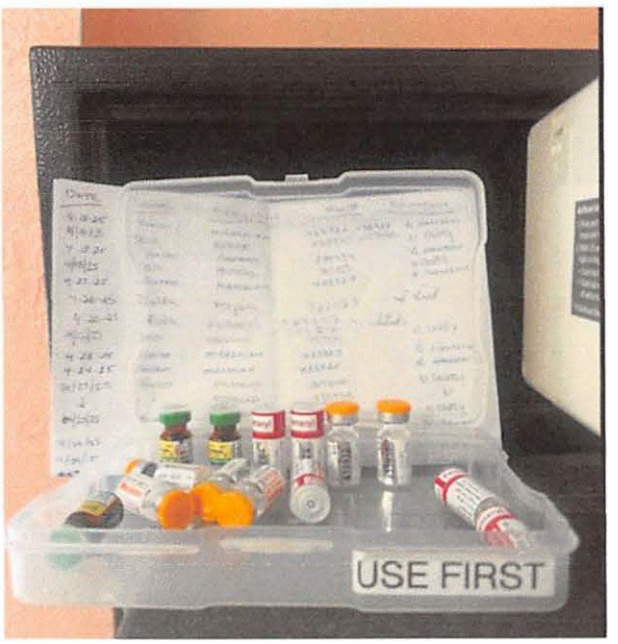


Record keeping and audits are integral to a successful program. Once the narcotics are delivered to Wendover, they are logged and kept in the Big Safe that is in the Manager's office. Only two people have access to that safe – the Owner, Lauara Lisk and Operations Manager Darin Hanson. The door lock to the Owner's office is an electronic lock and has limited access by Owner and Managers. Ambulances are equipped with small combo safes that are attached to the wall.

There is a smaller safe in the manager's office that is bolted to the wall and has a limited amount of controlled substance for use to re-stock the ambulances after a call when Lauara or Darin are not available. Only three crew leads have the combination to this safe:



When Crew Leaders take medications from the small safe, the following documentation is done:



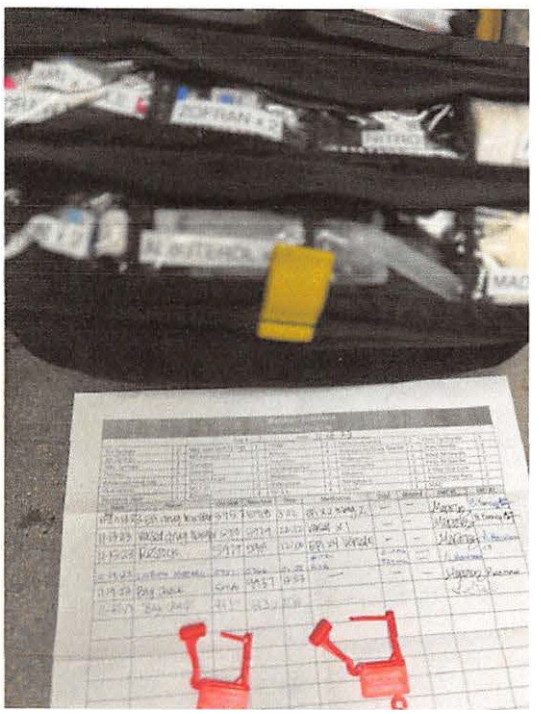
All ambulances have combination lock safes for the controlled substances, dangerous drugs:

These are the individual locked boxes for controlled Substances that are in each ambulance lock safe:

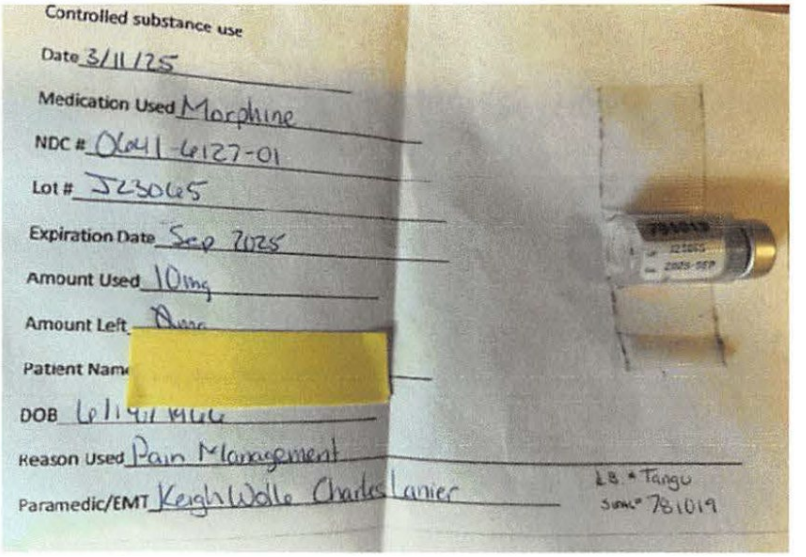
Medications are logged as seen here:

Crew on-scene bag with AEMT medications:

Inside the AEMT medications bag with control log:



In our ambulance bay we have a small safe that is bolted to the wall for the used/wasted medications that we track and account for. The used vial is taped to a control form with the patient and call info and deposited into that wall safe. Every couple of weeks the contents are taken out, the vial removed and the forms scanned to records systems. The vials are then disposed of by either Lauara or Darin at t he University of Utah Hospital Pharmacy used medications depository.



Office Security - electronic lock to Owner's Office:

NAC 450B.461

Restrictions on authority to administer

Licensed Ambulance equipment and supply list from NV EMS website

CONTROLLED SUBSTANCES AND DANGEROUS DRUGS

NAC 450B.461 Restrictions on authority to administer. (NRS 450B.120**,** 450B.180**,** 450B.1915**,** 450B.197**,** 453.375**,** 454.213**)**

1. No paramedic may administer any controlled substance as defined in the preliminary chapter of NRS to a patient while serving as an attendant in a service **unless** the controlled substance is named on the inventory of medication issued by the medical director of the service and:

(a) An order is given to the paramedic by a physician or a registered nurse supervised by a physician; or

(b) The paramedic is authorized to administer the controlled substance pursuant to a written protocol that is approved by the medical director of the service and on file with the Division.

2. No advanced emergency medical technician or paramedic may administer any dangerous drug while serving as an attendant in a service **unless** the dangerous drug is named on the inventory of medication issued by the **medical director** of the service and:

(a) An order is given to the advanced emergency medical technician or paramedic by a physician or a registered nurse supervised by a physician; **or**

(b) The advanced emergency medical technician or paramedic **is authorized** to administer the drug **pursuant to a written protocol** that is approved by the **medical director** of the service and **on file with the Division**.

3. An emergency medical technician shall not administer or assist in administering any dangerous drug.

4. As used in this section, "dangerous drug" has the meaning ascribed to it in NRS 454.201.

(Added to NAC by Bd. of Health, eff. 8-1-91; A by R182-01, 3-5-2002; R024-14, 10-24-2014; R068-16, 1-27-2017)

Note added by applicant: Protocol verification and approval signed by medical director and provided with annual permit renewal.

State of Nevada EMS Program Inspection Form
AMBULANCE UNIT

Permit No.	Agency Name					Level
	Address					Unit #
Year	Make	Type	Color	License #	Vin/Serial #	Insp. Date

Type of Inspection :			Return to		Odometer
New	Regular	Corrective	Service	Replacement of	

Basic Life Support

Airway/Ventilation	Min.	Y/N	Cat.
Fixed Oxygen (500 lbs. min.)	1		A
Portable Oxygen (500 lbs. min.)	1		A
Adult Nasal Cannula	4		A
Child & Infant Nasal Cannula **	2		
Adult Non Rebreather Mask	4		A
Child Non Rebreather Mask	2		A
Infant Non Rebreather Mask **	2		
Bag Valve Mask with O2 Reservoir Adult & Child	1ea		A
OPA's Size 0 - 5 / equiv.	1ea		A
NPA's 16F - 34F / equiv.	1ea		A
Fixed Suction	1		A
Portable Suction / battery operated	1		A
Tonsillar Suction	2		A
Suction Tubing	2		A
Flexible Suction Cath. W/ airflow ctrl	2		B
Bulb Syringe not in OB Kit	1		B

Immobilization Devices			
Backboard Impervious	2		A
KED or equiv.	1		A
Straps (3 per Board) / Spider Straps	2		A
C-Collars (Adult-Tall,Reg,No-Neck Short,Pedi, No-Neck or Adjustable)	2ea		A
Adult & Pedi Traction Splint	1		A
Pediatric Backboard **	1		
Head Immobilizers	2		A
Splints for Extremities / Arms & Legs	2ea		B

Dressing	Min.	Y/N	Cat.
ABD- Trauma Dressings	2		A
4x4's	20		A
5x9's or equiv.	5		A
Triangular Bandage	2		B
Roller Gauze	4		A
Occlusive Dressing	2		A
Burn Dressing Various Sizes	2		A
Tape/Hypoallergenic Various Sizes	2		B
Survival/Thermal Blanket **	1		

Patient Assessment			
AED or SAED with Adult & Pedi Pads	1		A
Adult BP Cuff	1		A
Pulse Ox with Adult & Pedi Probes **	1		
Child BP Cuff	1		A
Infant BP Cuff **	1		
Adult Stethoscope	1		A
Pediatric Stethoscope **	1		
Pen Flashlight	1		B
Thermometer	1		B

Obstetrical/Child			
Obstetrical Kit (sterile)	2		A
Infant Swaddler	2		B
Current Broselow Tape or equiv.	1		B
Meconium Aspirator **	1		
Infant Warming Device **	1		
Child Restraint System **			

Miscellaneous Items

PPE Gowns, Glasses, Gloves etc.	2		A
Drinking Water, 1000 ml	1		B
Hot & Cold Packs	2		B
Hemostatic Agent **	1		
Emesis Basin / Bags	2		B
Mounted Sharps Container	1		A

Tourniquet	1		B
Ring Cutter **	1		
Supply of Clean Linen	2		A
Trauma Scissors	1		A
Irrigation Solution1000 ml	1		B
Chem Strips/Glucometer **	1		

					Unit #		
ILS EQUIPMENT	**Min.**	**Y/N**	**CAT.**	**ALS EQUIPMENT**	**MIN.**	**Y/N**	**CAT.**
IV Administration Sets Macro Drip	**2**		**A**	Monitor/Defibrillator-Adult and Pedi Pads	**1**		**A**
Buretrol or equiv.	**1**		**A**	Chest Decompression Kit	**1**		**A**
Capnography Adult **	**1**			Needle Cricothyroidotomy Kit	**1**		**A**
Capnography Pedi **	**2**			Nasogastric Tubes Various Sizes	**2ea**		**B**
End Tidal CO2 Detector	**2**		**B**	Endotracheal Intubation Kit	**1**		**A**
IV Catheters Various Sizes	**2ea**		**A**	Endotracheal Tubes 2.5 - 8.0	**2ea**		**A**
IO Needles #15 or 18 Gauge	**2**		**A**	Adult & Pedi Stylet	**2ea**		**A**
Syringes,TB w/ needle	**2ea**		**A**				
IM Needles	**2**		**B**	**IV FLUIDS**			
Supraglottic Airway Device	**2ea**		**A**	Normal Saline 1000cc	**4**		**A**
Magill Forceps	**1**		**A**	Lactated Ringers **	**2**		
Nebulizers	**2**		**A**	Dextrose 5% Water **	**2**		
Syringes Various Sizes	**2ea**		**A**				
MEDICATIONS BASED ON AGENCY PROTOCOLS AND SERVICE LEVEL							
Acetaminophen / Tylenol				Ketorolac/ Toradol			
Activated Charcoal				Levalbuterol/ Xopenex			
Adenosine / Adenocard				Levophed/ Norepinephrine			
Albuterol / Proventil				Lidocaine			
Amiodarone / Cardarone				Lidocaine Gel			
Aspirin				Lidocaine Pre-Mix Bag			
Atropine Sulfate				Lorazepam/ Ativan			
Atrovent / Ipratropium Bromide				Magnesium Sulfate			
Calcium Chloride				Midazolam / Versed			
Cyanide Antidote Kit				Morphine Sulfate			
Dextrose				Naloxone / Narcan			
Diazepam/Valium				Neo-Synephrine or Equivalent			
Diltiazem/ Cardizem				Nitroglycerin			
Diphenhydramine / Benadryl				Nitroglycerin Drip			
Dobutamine				Nitrous Oxide / Nitronox			
Dopamine / Intropin				Ondansetron/ Zofran			
DuoDote				Oxymetazoline/ Afrin			
Epinephrine 1:10,000				Oxytocin /Pitocin			
Epinephrine 1:1000				Promethazine / Phenergan			
Epinephrine auto Inj adult/pedi				Racemic Epi			
Fentanyl/ Sublimaze				Sodium Bicarb 8.4%			
Flumazenil/ Ramazacon				Solu-mederal			
Furosemide / Lasix				Terbutaline			
Glucagon				Tetracaine or Equivalent			
Glucose Paste				Thiamine / Vitamin B1			
Haloperidol / Haldol				Vasopressin/ Pitressin			
Hydromorphone/ Dilaudid							
Ketamine				Paralytic Medications			

"Medication list is different for each agency based off of approved protocols. All medications approved for your agency must be stocked appropriately and be within expiration date. All violations of medications are considered to be a Category A "

N/A = Not Applicable ** = Optional Equipment

Unit #

OPERATIONAL STANDARDS							
Meet Standards / Working	**Y**	**N**	**CAT.**	**Meet Standards / Working**	**Y**	**N**	**CAT.**
Light bar Operational			**A**	Dispatch Radio Operational			**A**
Box Lights Operational			**A**	Hospital Radio Operational			**A**
Scene Lights Operational			**B**	Heater & Air Conditioner Operational			**A**
Headlights Operational			**A**	Disinfectant Solution			**B**
Flash Light			**B**	Protective Helmet Per Attendant **			
Interior Lights Operational			**A**	Interior Clean & Sanitized			**A**
Siren Operational			**A**	Medications Stored for Climate			
Brake lights Operational			**A**	Control			**A**
Turn Indicators Operational			**A**	Controlled Medications Stored			
Horn Operational			**A**	in Locked Cabinet or Under Direct			
Fire Extinguisher 5 lbs. ABC Type			**A**	Control of Appropriate Licensed Provider			**A**
Seat with Safety Belts			**A**	Controlled Substances Record of			
Gurney with 5 Point Rest. Harness			**A**	Usage Inventory issued by Service			
Gurney Fasteners Secured			**A**	Compliant with NAC 450B.481			**A**
Stair Chair **				Equipment Clean & Sanitized			**A**
Name Printed on Both Sides				Ambulance Fully Operational			**A**
of Vehicle			**A**	Current Hazardous Materials Guide			**B**
Reflective Safety Wear per Attendant			**A**	Triage Kit			**B**
Copy of Protocols			**B**	Hand Sanitizer			**B**

ALL VIOLATIONS MUST BE CORRECTED AS OUTLINED BELOW

Violations in Category "A" If All Category "A" supplies of any item are missing this requires the unit be immediately removed from service. The unit must be re-inspected and found in compliance with the NRS's and the NAC's of 450B. If less than all category "A" supplies of any item are missing the item shall be treated as a category "B" item.

Violations in Category "B" must be corrected with a written report to the Division of Public & Behavioral Health Emergency Medical Systems program regional office within 72 hours. Failure to comply with this notice may result in suspension of your permit or removal of the unit from service.

Comments :

This Unit **DOES / DOES NOT** comply with the Emergency Medical Systems Regulations of the Division of Public & Behavioral Health.

☐ THIS UNIT IS HEREBY REMOVED FROM SERVICE UNTIL SUCH TIME THAT IT OBTAINS A SATISFACTORY INSPECTION

Date:	Inspected By:	Acknowledged By:

NAC 450B.461
Restrictions on authority to administer

Licensed Ambulance equipment and supply list from NV EMS website

2. The applicant shall submit proof to the Division, signed by the person responsible for the training, that the applicant has successfully completed the course or curriculum specified in paragraph (b) of subsection 1.

(Added to NAC by Bd. of Health by R182-01, eff. 3-5-2002; A by R024-14, 10-24-2014)

NAC 450B.457 Certification of emergency medical dispatcher trained in another state. (NRS 450B.120, 450B.155)

1. The Division may issue a certificate as an emergency medical dispatcher to an applicant who is trained in another state if:

(a) The applicant:

(1) Is a resident of Nevada;

(2) Will be a resident of Nevada within 6 months after applying for a certificate;

(3) Is a resident of another state and is employed by an agency that is responsible for emergency medical dispatch within the State of Nevada; or

(4) Is attending a course of training held in this State and approved by the Division.

(b) The applicant:

(1) Successfully completes a course of training that is approved by the Division and is at least equivalent to the national standard for emergency medical dispatchers; and

(2) Holds a certificate as an emergency medical dispatcher that is issued by an authorized agency in the other state.

(c) The applicant's certification or registration in the other state has not been revoked, terminated or suspended pursuant to any disciplinary proceeding.

(d) The Division receives verification of the applicant's certificate as an emergency medical dispatcher from the issuing agency of the other state on a form provided by the Division.

(e) The applicant submits the appropriate form and the fee prescribed in NAC 450B.700.

2. The Division may require the applicant to pass an evaluation or examination of his or her competency administered by the Division.

(Added to NAC by Bd. of Health by R182-01, eff. 3-5-2002; A by R024-14, 10-24-2014; R068-16, 1-27-2017)

NAC 450B.458 Expiration and renewal of certificate. (NRS 450B.120, 450B.155)

1. A certificate as an emergency medical dispatcher expires on the date of expiration appearing on the certificate and, after the initial period, expires biennially. The Division shall designate the date of expiration of each certificate.

2. Such a certificate may be renewed if:

(a) The Division determines that the holder of the certificate has, before the date of expiration, successfully completed:

(1) A course of continuing training that is at least equivalent to the national standard prepared by the National Highway Traffic Safety Administration of the United States Department of Transportation as a national standard as a refresher course for emergency medical dispatchers and is offered by a training center or approved by the Division; or

(2) Any other program of continuing education that is approved by the Division. Such a program must not be approved unless the requirement for attendance for that program for an emergency medical dispatcher is at least 8 hours.

(b) The holder submits, within the 3 months immediately preceding the date the certificate expires, an application indicating compliance with the requirements set forth in paragraph (a).

(Added to NAC by Bd. of Health by R182-01, eff. 3-5-2002; A by R024-14, 10-24-2014; R068-16, 1-27-2017)

NAC 450B.459 Late renewal of certificate. (NRS 450B.120, 450B.155) If an emergency medical dispatcher is unable to attend a course for continuing training required to renew his or her certificate, or otherwise comply with the requirements for renewal, within the prescribed period, he or she may submit a written request for a late renewal on a form provided by the Division.

(Added to NAC by Bd. of Health by R182-01, eff. 3-5-2002; A by R068-16, 1-27-2017)

CONTROLLED SUBSTANCES AND DANGEROUS DRUGS

NAC 450B.461 Restrictions on authority to administer. (NRS 450B.120, 450B.180, 450B.1915, 450B.197, 453.375, 454.213)

1. No paramedic may administer any controlled substance as defined in the preliminary chapter of NRS to a patient while serving as an attendant in a service unless the controlled substance is named on the inventory of medication issued by the medical director of the service and:

(a) An order is given to the paramedic by a physician or a registered nurse supervised by a physician; or

(b) The paramedic is authorized to administer the controlled substance pursuant to a written protocol that is approved by the medical director of the service and on file with the Division.

2. No advanced emergency medical technician or paramedic may administer any dangerous drug while serving as an attendant in a service unless the dangerous drug is named on the inventory of medication issued by the medical director of the service and:

(a) An order is given to the advanced emergency medical technician or paramedic by a physician or a registered nurse supervised by a physician; or

(b) The advanced emergency medical technician or paramedic is authorized to administer the drug pursuant to a written protocol that is approved by the medical director of the service and on file with the Division.

3. An emergency medical technician shall not administer or assist in administering any dangerous drug.

4. As used in this section, "dangerous drug" has the meaning ascribed to it in NRS 454.201.

(Added to NAC by Bd. of Health, eff. 8-1-91; A by R182-01, 3-5-2002; R024-14, 10-24-2014; R068-16, 1-27-2017)

NAC 450B.465 Storage and security. (NRS 450B.120)

1. Each dangerous drug and controlled substance used by a service must be stored:

(a) In its original container, and each original container must bear a securely attached label which is legibly marked; and

(b) Under appropriately controlled climatic conditions.

2. In addition to the requirements set forth in subsection 1, each controlled substance must be:

(a) Stored in a locked cabinet in the ambulance, air ambulance or agency's vehicle; or

(b) Under the direct physical control of a paramedic or a registered nurse.

3. When a controlled substance is not being used, it must be secured, together with the record for that controlled substance, in a manner approved by the medical director of the service.

(Added to NAC by Bd. of Health, eff. 8-1-91; A by R182-01, 3-5-2002; R024-14, 10-24-2014)

NAC 450B.471 Administration: Reporting requirements; discarding of unused portion of unit dose. (NRS 450B.120, 450B.180, 450B.1915, 450B.197, 453.375, 454.213)

1. Each time a paramedic or registered nurse administers a controlled substance or an advanced emergency medical technician, paramedic or registered nurse administers a dangerous drug, an entry must be made on the report of emergency care. The entry must contain:

(a) The name of the medication administered;

(b) The dose of the medication administered;

(c) The route of administration;

(d) The date and time of administration;

(e) The name of the physician ordering the medication if the medication is ordered outside of a standing protocol;

(f) The signature, electronic signature or initials of the person who administered the medication and the emergency medical services number of that person; and

(g) If a registered nurse administered the medication, the emergency medical services number or license number of that nurse.

2. If the entire amount of a unit dose of a controlled substance is not used when it is administered to a patient, the unused portion of that unit dose must be discarded. The discarding of the unused portion of the unit dose must be:

(a) Verified by a witness who is a licensed attendant of the service or an employee of the hospital to which the patient was transported and who shall sign or electronically sign a statement indicating the unused portion was discarded; and

(b) Noted in the record for controlled substances.

3. If any error is made in administering a medication or the patient has an unusual reaction to a medication, the advanced emergency medical technician, paramedic or registered nurse who administered the medication shall immediately report the error or reaction to the receiving physician,

* Protocol verification and approval signed by medical director and provided with annual permit renewal.

from NV EMS website

ILS EQUIPMENT	Min.	Y/N	CAT.
IV Administration Sets Macro Drip	2		A
Buretrol or equiv.	1		A
Capnography Adult **	1		
Capnography Pedi **	2		
End Tidal CO2 Detector	2		B
IV Catheters Various Sizes	2ea		A
IO Needles #15 or 18 Gauge	2		A
Syringes, TB w/ needle	2ea		A
IM Needles	2		B
Supraglottic Airway Device	2ea		A
Magill Forceps	1		A
Nebulizers	2		A
Syringes Various Sizes	2ea		A

ALS EQUIPMENT	Unit # MIN.	Y/N	CAT.
Monitor/Defibrillator-Adult and Pedi Pads	1		A
Chest Decompression Kit	1		A
Needle Cricothyroidotomy Kit	1		A
Nasogastric Tubes Various Sizes	2ea		B
Endotracheal Intubation Kit	1		A
Endotracheal Tubes 2.5 - 8.0	2ea		A
Adult & Pedi Stylet	2ea		A
IV FLUIDS			
Normal Saline 1000cc	4		A
Lactated Ringers **	2		
Dextrose 5% Water **	2		

MEDICATIONS BASED ON AGENCY PROTOCOLS AND SERVICE LEVEL							
Acetaminophen / Tylenol				Ketorolac/ Toradol			
Activated Charcoal				Levalbuterol/ Xopenex			
Adenosine / Adenocard				Levophed/ Norepinephrine			
Albuterol / Proventil				Lidocaine			
Amiodarone / Cardarone				Lidocaine Gel			
Aspirin				Lidocaine Pre-Mix Bag			
Atropine Sulfate				Lorazepam/ Ativan			
Atrovent / Ipratropium Bromide				Magnesium Sulfate			
Calcium Chloride				Midazolam / Versed			
Cyanide Antidote Kit				Morphine Sulfate			
Dextrose				Naloxone / Narcan			
Diazepam/Valium				Neo-Synephrine or Equivalent			
Diltiazem/ Cardizem				Nitroglycerin			
Diphenhydramine / Benadryl				Nitroglycerin Drip			
Dobutamine				Nitrous Oxide / Nitronox			
Dopamine / Intropin				Ondansetron/ Zofran			
DuoDote				Oxymetazoline/ Afrin			
Epinephrine 1:10,000				Oxytocin /Pitocin			
Epinephrine 1:1000				Promethazine / Phenergan			
Epinephrine auto inj adult/pedi				Racemic Epi			
Fentanyl/ Sublimaze				Sodium Bicarb 8.4%			
Flumazenil/ Ramazacon				Solu-mederal			
Furosemide / Lasix				Terbutaline			
Glucagon				Tetracaine or Equivalent			
Glucose Paste				Thiamine / Vitamin B1			
Haloperidol / Haldol				Vasopressin/ Pitressin			
Hydromorphone/ Dilaudid							
Ketamine				Paralytic Medications			

"Medication list is different for each agency based off of approved protocols. All medications approved for your agency must be stocked appropriately and be within expiration date. All violations of medications are considered to be a Category A"

N/A = Not Applicable ** = Optional Equipment

Unit #

OPERATIONAL STANDARDS

Meet Standards / Working	Y	N	CAT.	Meet Standards / Working	Y	N	CAT.
Light bar Operational			A	Dispatch Radio Operational			A
Box Lights Operational			A	Hospital Radio Operational			A
Scene Lights Operational			B	Heater & Air Conditioner Operational			A
Headlights Operational			A	Disinfectant Solution			B
Flash Light			B	Protective Helmet Per Attendant **			
Interior Lights Operational			A	Interior Clean & Sanitized			A
Siren Operational			A	Medications Stored for Climate			
Brake lights Operational			A	Control			A
Turn Indicators Operational			A	Controlled Medications Stored			
Horn Operational			A	in Locked Cabinet or Under Direct			
Fire Extinguisher 5 lbs. ABC Type			A	Control of Appropriate Licensed Provider			A
Seat with Safety Belts			A	Controlled Substances Record of			
Gurney with 5 Point Rest. Harness			A	Usage Inventory Issued by Service			
Gurney Fasteners Secured			A	Compliant with NAC 450B.481			A
Stair Chair **				Equipment Clean & Sanitized			A
Name Printed on Both Sides				Ambulance Fully Operational			A
of Vehicle			A	Current Hazardous Materials Guide			B
Reflective Safety Wear per Attendant			A	Triage Kit			B
Copy of Protocols			B	Hand Sanitizer			B

ALL VIOLATIONS MUST BE CORRECTED AS OUTLINED BELOW

Violations in Category "A" If All Category "A" supplies of any item are missing this requires the unit be immediately removed from service. The unit must be re-inspected and found in compliance with the NRS's and the NAC's of 450B. If less than all category "A" supplies of any item are missing the item shall be treated as a category "B" item.

Violations in Category "B" must be corrected with a written report to the Division of Public & Behavioral Health Emergency Medical Systems program regional office within 72 hours. Failure to comply with this notice may result in suspension of your permit or removal of the unit from service.

Comments :

This Unit **DOES / DOES NOT** comply with the Emergency Medical Systems Regulations of the Division of Public & Behavioral Health.

☐ THIS UNIT IS HEREBY REMOVED FROM SERVICE UNTIL SUCH TIME THAT IT OBTAINS A SATISFACTORY INSPECTION

Date:	Inspected By:	Acknowledged By:

State of Nevada EMS Program Inspection Form
AMBULANCE UNIT

Permit No.	Agency Name					Level
	Address					Unit #
Year	Make	Type	Color	License #	Vin/Serial #	Insp. Date
Type of Inspection : New Regular Corrective Return to Service Replacement of						Odometer

Basic Life Support

Airway/Ventilation	Min.	Y/N	Cat.	Dressing	Min.	Y/N	Cat.
Fixed Oxygen (500 lbs. min.)	1		A	ABD- Trauma Dressings	2		A
Portable Oxygen (500 lbs. min.)	1		A	4x4's	20		A
Adult Nasal Cannula	4		A	5x9's or equiv.	5		A
Child & Infant Nasal Cannula **	2			Triangular Bandage	2		B
Adult Non Rebreather Mask	4		A	Roller Gauze	4		A
Child Non Rebreather Mask	2		A	Occlusive Dressing	2		A
Infant Non Rebreather Mask **	2			Burn Dressing Various Sizes	2		A
Bag Valve Mask with O2 Reservoir Adult & Child	1ea		A	Tape/Hypoallergenic Various Sizes	2		B
OPA's Size 0 - 5 / equiv.	1ea		A	Survival/Thermal Blanket **	1		
NPA's 16F - 34F / equiv.	1ea		A	**Patient Assessment**			
Fixed Suction	1		A	AED or SAED with Adult & Pedi Pads	1		A
Portable Suction / battery operated	1		A	Adult BP Cuff	1		A
Tonsillar Suction	2		A	Pulse Ox with Adult & Pedi Probes **	1		
Suction Tubing	2		A	Child BP Cuff	1		A
Flexible Suction Cath. W/ airflow ctrl	2		B	Infant BP Cuff **	1		
Bulb Syringe not in OB Kit	1		B	Adult Stethoscope	1		A
Immobilization Devices				Pediatric Stethoscope **	1		
Backboard Impervious	2		A	Pen Flashlight	1		B
KED or equiv.	1		A	Thermometer	1		B
Straps (3 per Board) / Spider Straps	2		A	**Obstetrical/Child**			
C-Collars (Adult-Tall,Reg,No-Neck Short,Pedi, No-Neck or Adjustable)	2ea		A	Obstetrical Kit (sterile)	2		A
				Infant Swaddler	2		B
Adult & Pedi Traction Splint	1		A	Current Broselow Tape or equiv.	1		B
Pediatric Backboard **	1			Meconium Aspirator **	1		
Head Immobilizers	2		A	Infant Warming Device **	1		
Splints for Extremities / Arms & Legs	2ea		B	Child Restraint System **			
Miscellaneous Items							
PPE Gowns, Glasses, Gloves etc.	2		A	Tourniquet	1		B
Drinking Water, 1000 ml	1		B	Ring Cutter **	1		
Hot & Cold Packs	2		B	Supply of Clean Linen	2		A
Hemostatic Agent **	1			Trauma Scissors	1		A
Emesis Basin / Bags	2		B	Irrigation Solution1000 ml	1		B
Mounted Sharps Container	1		A	Chem Strips/Glucometer **	1		

2019 National EMS Scope of Practice Model

Pharmacological Intervention Minimum Phychomotor Skill Set

AEMT Scope of Practice - Pages 20 – 21, 28

Medical Director Approved Medications – pages 29 & 30

National EMS Scope of Practice Model 2019: Including Change Notices 1.0 and 2.0

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2019 National EMS Scope of Practice Model

Pharmacological Intervention Minimim Phychomotor Skill Set

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National Highway Traffic Safety Administration

NHTSA

DOT HS 813 151

August 2021

National EMS Scope of Practice Model 2019: Including Change Notices 1.0 and 2.0

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Advanced Emergency Medical Technician

AEMT Scope of Practice - Pages 20 – 21, 28

(Start of Page 20)

Education Requirements

Successful completion of an EMT training program that is:

- Complaint with a uniform national standard for quality, and
- Approved by the State of U.S. Territory

Primary Role

Provide basic patient care and medical transportation within the emergency care system.

Type of Education

Vocational/Technical setting:

- Diploma or certificate awarded for successful completion.

Critical Thinking

Within a limited set of protocol-driven, clearly defined principles that:

- Engages in basic risk versus benefit analysis.
- Participated in making decisions about patient care, transport destinations, the need for additional patient care resources, and similar judgements.

Level of Supervision

General medical oversight required. Some autonomy at basic life support level, assist higher-level personnel at the scene and during patient transport.

Advanced Emergency Medical Technician

Description

The AEMT is a health professional whose primary focus is to respond to, assess, and triage non-urgent, urgent, and emergent requests for medical care, apply basic and focused advanced knowledge and skills necessary to provide patient care and/or medical transportation, and facilitate access to a higher level of care when the needs of the patient exceed the capability level of the AEMT. The additional preparation beyond EMT prepares an AEMT to improve patient care in common emergency conditions for which reasonably safe, targeted, and evidence-based interventions exist. Interventions within the AEMT scope of practice may carry more risk if not performed properly than interventions authorized for the EMT/EMT levels. With proper supervision, an AEMT may serve as a patient care team member in a hospital or health care setting to the full extend of their education, certification, licensure and credentialing. In a community setting an AEMT might visit patients at home and make observations that are reported to a higher-level authority to help manage a patient's care.

Advanced emergency medical technicians:

- Function as part of a comprehensive EMS response, community, health, or public safety system with medical oversight.

(End of Page 20)

(Start of Page 21)

- Perform interventions with the basic and advanced equipment typically found on an ambulance,
- Perform focused advanced skills and pharmacological interventions that are engineered to mitigate specific life-threatening conditions, medical, and psychological conditions with a targeted set of skills beyond the level of an EMT.
- Function as an important link from the scene into the health care system.

Other Attributes

The learning objectives and additional clinical preparation for AEMTs exceed the level of EMTs. In areas where paramedic response is not available, the AEMT may be the highest level of EMS personnel a patient encounters before reaching a hospital. AEMTs advocate health and safety practices that may help reduce harm to the public.

Education Requirements

Successful completion of a nationally accredited or CAAHEP-accredited AEMT program that meets all other State/Territorial requirements. (The target for full implementation of AEMT program accreditation is January 1, 2025.)

Primary Role

Provide basic and focused advanced patient care; determine transportation needs in the health care system.

Type of Education

Vocational/technical or academic setting:

- Diploma, certificate, or associates degree awarded for successful completion.

Critical Thinking

Within a limited set of protocol-driven, clearly defined principles that:

- Engages in basic risk versus benefit analysis.
- Participates in making decisions about patient care, transport destinations, the need for additional patient care resources, and similar judgements.

Level of Supervision

Medical oversight required. Minimal autonomy for limited advanced skills. Provides some supervision of lower level personnel. Assist higher-level personnel at the scene and during transport.

Paramedic

Description

The paramedic is a health professional whose primary focus is to respond to, assess, and triage emergent, urgent, and non-urgent requests for medical care, apply basic and advanced knowledge and skills necessary to determine patient physiologic, psychological, and

(End of Page 21)

(Start of Page 28)

IV. Skill – Medication Administration – Routes

IV. Skill – Medication Administration – Routes[3]	**EMR**	**EMT**	**AEMT**	**Paramedic**
Aerosolized/nebulized		X	X	X
Endotracheal tube				X
Inhaled		X	X	X
Intradermal				X
Intramuscular		X[4]	X	X
Intramuscular – auto-injector	X	X	X	X
Intranasal			X	X
Intranasal – unit-dosed, premeasured	X	X	X	X
Intraosseous – Initiation, peds or adult			X	X
Intravenous			X	X
Mucosal/sublingual		X	X	X
Nasogastric				X
Oral		X	X	X

[3]Limited to Medical Director Approved Medications.
[4]Medical direction should ensure appropriate clinical experience and education, including the separate skills of medication preparation, medication dilution, filling a syringe from a multi-dose vial, and changing the needle on a syringe.

(End of Page 28)

Advanced Emergency Medical Technician

AEMT Scope of Practice - pages 20-21, 28

Education Requirements

Successful completion of an EMT training program that is:

- Compliant with a uniform national standard for quality, and
- Approved by the State or U.S. Territory.

Primary Role

Provide basic patient care and medical transportation within the emergency care system.

Type of Education

Vocational/Technical setting:

- Diploma or certificate awarded for successful completion.

Critical Thinking

Within a limited set of protocol-driven, clearly defined principles that:

- Engages in basic risk versus benefit analysis.
- Participates in making decisions about patient care, transport destinations, the need for additional patient care resources, and similar judgments.

Level of Supervision

General medical oversight required. Some autonomy at basic life support level, assist higher-level personnel at the scene and during patient transport.

Advanced Emergency Medical Technician

Description

The AEMT is a health professional whose primary focus is to respond to, assess, and triage non-urgent, urgent, and emergent requests for medical care, apply basic and focused advanced knowledge and skills necessary to provide patient care and/or medical transportation, and facilitate access to a higher level of care when the needs of the patient exceed the capability level of the AEMT. The additional preparation beyond EMT prepares an AEMT to improve patient care in common emergency conditions for which reasonably safe, targeted, and evidence-based interventions exist. Interventions within the AEMT scope of practice may carry more risk if not performed properly than interventions authorized for the EMR/EMT levels. With proper supervision, an AEMT may serve as a patient care team member in a hospital or health care setting to the full extent of their education, certification, licensure, and credentialing. In a community setting an AEMT might visit patients at home and make observations that are reported to a higher-level authority to help manage a patient's care.

Advanced emergency medical technicians:

- Function as part of a comprehensive EMS response, community, health, or public safety system with medical oversight.

added in 2019

- Perform interventions with the basic and advanced equipment typically found on an ambulance.
- Perform focused advanced skills and pharmacological interventions that are engineered to mitigate specific life-threatening conditions, medical, and psychological conditions with a targeted set of skills beyond the level of an EMT.
- Function as an important link from the scene into the health care system.

Other Attributes

The learning objectives and additional clinical preparation for AEMTs exceed the level of EMTs. In areas where paramedic response is not available, the AEMT may be the highest level of EMS personnel a patient encounters before reaching a hospital. AEMTs advocate health and safety practices that may help reduce harm to the public.

Education Requirements

Successful completion of a nationally accredited or CAAHEP-accredited AEMT program that meets all other State/Territorial requirements. (The target for full implementation of AEMT program accreditation is January 1, 2025.)

Primary Role

Provide basic and focused advanced patient care; determine transportation needs in the health care system.

Type of Education

Vocational/technical or academic setting:

- Diploma, certificate, or associates degree awarded for successful completion.

Critical Thinking

Within a limited set of protocol-driven, clearly defined principles that:

- Engages in basic risk versus benefit analysis.
- Participates in making decisions about patient care, transport destinations, the need for additional patient care resources, and similar judgments.

Level of Supervision

Medical oversight required. Minimal autonomy for limited advanced skills. Provides some supervision of lower level personnel. Assist higher-level personnel at the scene and during transport.

Paramedic

Description

The paramedic is a health professional whose primary focus is to respond to, assess, and triage emergent, urgent, and non-urgent requests for medical care, apply basic and advanced knowledge and skills necessary to determine patient physiologic, psychological, and

III. Skill – Splinting, Spinal Motion Restriction (SMR), and Patient Restraint	EMR	EMT	AEMT	Paramedic
Splint – traction		X	X	X
Mechanical patient restraint		X	X	X
Emergency moves for endangered patients	X	X	X	X

IV. Skill – Medication Administration – Routes

IV. Skill – Medication Administration – Routes[3]	EMR	EMT	AEMT	Paramedic
Aerosolized/nebulized		X	X	X
Endotracheal tube				X
Inhaled		X	X	X
Intradermal				X
Intramuscular		X[4]	X	X
Intramuscular – auto-injector	X	X	X	X
Intranasal			X	X
Intranasal - unit-dosed, premeasured	X	X	X	X
Intraosseous – initiation, peds or adult			X	X
Intravenous			X	X
Mucosal/sublingual		X	X	X
Nasogastric				X
Oral		X	X	X

[3] Limited to Medical Director Approved Medications.
[4] Medical direction should ensure appropriate clinical experience and education, including the separate skills of medication preparation, medication dilution, filling a syringe from a multi-dose vial, and changing the needle on a syringe.

Advanced Emergency Medical Technician

Medical Director Approved Medications - Pages 29 – 30

IV. Skill – Medication Administration – Routes[3]	EMR	EMT	AEMT	Paramedic
Rectal				X
Subcutaneous			X	X
Topical				X
Transdermal				X

V. Medical Director Approved Medications

V. Medical Director Approved Medications	EMR	EMT	AEMT	Paramedic
Use of epinephrine (auto-injector) for anaphylaxis (supplied and carried by the EMS agency)		X	X	X
Use of auto-injector antidotes for chemical/hazardous material exposures	X	X	X	X
Use of opioid antagonist auto-injector for suspected opioid overdose	X	X	X	X
Immunizations			X	X
Immunizations during a public health emergency		X	X	X
Inhaled – beta agonist/bronchodilator and anticholinergic for dyspnea and wheezing		X	X	X
Inhaled – monitor patient administered (i.e., nitrous oxide)	X	X	X	X
☆ Intravenous			X[5]	X
Maintain infusion of blood or blood products				X
Oral aspirin for chest pain of suspected ischemic origin		X	X	X
Oral glucose for suspected hypoglycemia		X	X	X
Oral over-the-counter (OTC) analgesics for pain or fever		X	X	X
OTC medications, oral and topical				X
☆ Parenteral analgesia for pain			X	X
Sublingual nitroglycerin for chest pain of suspected ischemic origin		X		

– limited to patient's own prescribed medication				
Sublingual nitroglycerin for chest pain of suspected ischemic origin			X	X
Thrombolytics				X

☆[5]Limited to analgesia, antinausea/antiemetic, dextrose, epinephrine, naloxone, and other defined by State/local protocol

VI. Skill – IV Initiation/Maintenance Fluids

VI. Skill – Initiation/Maintenance Fluids	**EMR**	**EMT**	**AEMT**	**Paramedic**
Access indwelling catheters and implanted central IV ports				X
Central line – monitoring				X
Intraosseous – initiation, peds or adult			X	X
Intravenous access			X	X
Intravenous initiation – peripheral			X	X
Intravenous – maintenance of non-medicated IV fluids			X	X
Intravenous – maintenance of medicated IV fluids				X

VI. Skill – IV Initiation/Maintenance Fluids

VI. Skill – Miscellaneous	**EMR**	**EMT**	**AEMT**	**Paramedic**
Access indwelling catheters and implanted central IV ports	X	X	X	X
Assisted delivery (childbirth)		X	X	X

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IV. Skill – Medication Administration – Routes[3]	EMR	EMT	AEMT	Paramedic
Rectal				X
Subcutaneous			X	X
Topical				X
Transdermal				X

V. Medical Director Approved Medications

V. Medical Director Approved Medications	EMR	EMT	AEMT	Paramedic
Use of epinephrine (auto-injector) for anaphylaxis (supplied and carried by the EMS agency)		X	X	X
Use of auto-injector antidotes for chemical/hazardous material exposures	X	X	X	X
Use of opioid antagonist auto-injector for suspected opioid overdose	X	X	X	X
Immunizations			X	X
Immunizations during a public health emergency		X	X	X
Inhaled – beta agonist/bronchodilator and anticholinergic for dyspnea and wheezing		X	X	X
Inhaled – monitor patient administered (i.e., nitrous oxide)			X	X
Intranasal - opioid antagonist for suspected opioid overdose	X	X	X	X
Intravenous			X[5]	X
Maintain infusion of blood or blood products				X
Oral aspirin for chest pain of suspected ischemic origin		X	X	X
Oral glucose for suspected hypoglycemia		X	X	X

[5] Limited to analgesia, antinausea/antiemetic, dextrose, epinephrine, glucagon, naloxone, and others defined by State/local protocol.

V. Medical Director Approved Medications	EMR	EMT	AEMT	Paramedic
Oral over-the-counter (OTC) analgesics for pain or fever		X	X	X
OTC medications, oral and topical				X
Parenteral analgesia for pain			X	X
Sublingual nitroglycerin for chest pain of suspected ischemic origin – limited to *patient's own prescribed medication*		X		
Sublingual nitroglycerin for chest pain of suspected ischemic origin			X	X
Thrombolytics				X

VI. Skill – IV Initiation/Maintenance Fluids

VI. Skill – IV Initiation/Maintenance Fluids	EMR	EMT	AEMT	Paramedic
Access indwelling catheters and implanted central IV ports				X
Central line – monitoring				X
Intraosseous – initiation, peds or adult			X	X
Intravenous access			X	X
Intravenous initiation - peripheral			X	X
Intravenous – maintenance of non-medicated IV fluids			X	X
Intravenous – maintenance of medicated IV fluids				X

VII. Skill – Miscellaneous

VII. Skill – Miscellaneous	EMR	EMT	AEMT	Paramedic
Assisted delivery (childbirth)	X	X	X	X
Assisted complicated delivery (childbirth)		X	X	X