

NORTH SUBURBAN MEDICAL CENTER

EMERGENCY MEDICAL SERVICES

PREHOSPITAL SYSTEM PROTOCOLS

Updated and Revised
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Approved by

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Medical Director

**NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES**

SYSTEM PROTOCOLS
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NSMC phone numbers:

PATIENT REPORTS: BIO phone in the Emergency Department 303-450-3363.

Direct number to North Suburban Medical Center Emergency Department is 303-450-4482.

EMS Follow Up: 303-450-4516 or 303-450-4502

PCR Fax Number: 303-457-7752

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
OPERATION PROTOCOL I-1
System Quality Management

- A. The Medical Director of Emergency Medical Services at North Suburban Medical Center will make all decisions regarding the practice of pre-hospital medicine for every agency for which he/she serves as Medical Director. All legal actions taken against the EMS Agency must be forwarded to the Medical Director for his EMS malpractice requirements.
- B. Quality Improvement Programs utilized by NSMC agencies will include the following:
 - a. Medical Director and EMS Department will be involved in the QI process as it involved committees, continuing education or in-service training to the EMS agencies.
 - b. Agency will have a Quality Improvement Program that has been approved by the Medical Director and NSMC EMS. At a minimum, documentation must be reviewed and audited for assurance of protocol compliance.
 - c. Any PCR may be requested, reviewed and audited by the Medical Director or EMS Department at any time.
 - d. Any QI findings will be promptly communicated to the Medical Director and EMS Department.
- C. Competency of EMS providers can be evaluated by direct observation of field personnel both in the field and in the Emergency Department. This can be completed by any of the following means:
 - a. New hire/clearance rides.
 - b. Ongoing competency (knowledge and skill) for appropriate certification level. Completion of ongoing competency to be conducted during NSMC Continuing Education. Agency personnel will be responsible for 80% competency.
 - c. Evaluation on an as needed basis as determined by the Medical Director, EMS Department and agency administration.
- D. Certification Maintenance: Certification level must be maintained as per Colorado state regulations and per the Memorandum of Understanding between NSMC and EMS Agency. The MOU states that all agency personnel that are rendering patient care maintain current EMS certification as well as adjunct certification (BLS, ACLS) that is consistent with their EMS certification level at all times. If agency personnel have expired certifications, then Medical Direction is withdrawn from that individual. The EMS Agency will maintain these records and communicate to NSMC EMS if certifications have lapsed.
- E. Controlled substances: All controlled narcotics utilized by NSMC agencies will be controlled, accounted for and replaced according to said agencies written policy and procedure guidelines. This policy must be submitted for approval for the Medical Director.
- F. New protocol policy: A new protocol must be online within 90 days of initial release. 90 days is the maximum time allowed for the agency to complete training and equipment updates as necessary to become compliant with the new protocol. Written notice must be given to the Medical Director through the EMS Department when new protocols are implemented.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
OPERATION PROTOCOL I-2
EMS ALS Clearance Criteria

- A. Paramedics and EMT-I's new to the NSMC system, as a condition of clearance to independently function, must complete the **MINIMUM** following requirements:
1. Must provide current Colorado Paramedic/EMT-I, ACLS and CPR provider cards. Current certification information should be kept on file with the agency. The agency will provide this information to the EMS Department and will attest to the validity.
 2. Must successfully complete and pass protocol test at the appropriate level.
 3. After completion of 1 & 2 above, must complete at least 120 hours with a minimum of 10 **ALS contacts** as the lead ALS provider. An **approved field instructor/preceptor** will be assigned during this time to observe and evaluate the new ALS provider's critical thinking of call management and patient care. The field preceptor will not interrupt/intervene during calls unless deemed necessary by preceptor for patient care.
 4. Appropriate field performance documentation will be submitted to NSMC EMS in a timely fashion.
 5. After completion of above stated criteria, the agency administration will submit to the EMS Department copies of selected PCR's and evaluations prior to clearance review with Medical Director.
 6. Medical Director may desire to have the Paramedic/EMT-I mentor him while in the Emergency Department as well.
- B. Agency administration will set up an appointment through the EMS department for the formal clearance review/meeting with the Medical Director. The Paramedic/EMT-I being cleared should be accompanied by the Agency EMS designee and the preceptor (if available).

NOTE: Any exceptions to the above guidelines will be agreed to by the Agency, Medical Director and the EMS Department.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
OPERATION PROTOCOL I-3
IUCR

- 1) Problems, incidents and unusual circumstances that arise involving NSMC-affiliated EMS providers, nursing staff, physicians or interacting agencies should be documented using an *IUCR* (Incident/Unusual Circumstance Report) and filed with the EMS department.
 *All cricothyrotomies must have an *IUCR* completed.

- 2) When submitting the NSMC *IUCR*, attach a copy of the trip report if applicable.

- 3) Investigation of the event will be performed by the EMS Department, EMS Agency and in conjunction with the Medical Director as needed.

- 4) *IUCRs* can be obtained from the EMS Department or from the EMS Coordinator of affiliated agencies. An *IUCR* is also contained in this document's appendix.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
OPERATION PROTOCOL I-4
Guidelines for Emergency Department Rotations

A. General guidelines for all certification levels:

1. Field personnel must schedule their rotation through the EMS Department.
2. Field personnel must work a minimum of four hours rotation at one time.
3. Appropriate dress and identification must be worn – white shirt/dark trousers preferred. No tennis shoes or blue jeans.
4. Only one field personnel may be scheduled for a clinical at one time.
5. Field personnel will be assigned a preceptor designated by the Charge Nurse during their rotation.

B. An EMT may:

1. Perform patient assessment including developing relevant medical history and doing physical examination. The assessment should include at a minimum, taking the recording vital signs and auscultation of breath sounds.
2. Assess and review the treatment of trauma cases and medical emergencies with the physician or registered nurse.
3. Assist in triaging patients, i.e. vital signs, taking history or asking questions when directed by the triage nurse. May NOT triage patients alone.
4. Assist in trauma cases requiring hemorrhage control by applying pressure to the area.
5. Assist with casting by holding the appropriate extremity as directed by the nurse or ED Tech.
6. Assist in applying dressings.
7. Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation and airway management, under the supervision of the physician or registered nurse.
8. Assist in any procedure in the Emergency Department when so directed by the doctor and/or preceptor and if it is permissible as an EMT-B student to do so.
9. Attend any in-service education meeting if invited by the Emergency Department Staff.
10. The student MUST maintain patient confidentiality at all times.

C. An EMT may not:

1. Place documentation on the chart except to sign off on IV's started.
2. Administer any drug therapy.

A. A Paramedic may:

1. Perform all the above allowed acts by EMT.
2. Perform peripheral IV insertions, including external jugular IV insertion (to be performed under supervision of a physician or registered nurse).
3. Prepare and administer or assist with the administration of intramuscular, subcutaneous and intravenous medication under the supervision of a physician or registered nurse.
4. Interpret electrocardiograms under the supervision of the physician or registered nurse.
5. Draw blood samples.
6. Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation and airway management, under the supervision of the physician or registered nurse.
7. Observe or assist in the insertion of subclavian or internal jugular intravenous insertion under the supervision of the physician or registered nurse.
8. Observe or assist during a cricothyrotomy.
9. Assist in any procedure in the Emergency Department when so directed by the doctor and/or preceptor.

B. A Paramedic may not:

1. Place documentation on the chart except to sign off medication given or IV's started.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
PROCEDURE PROTOCOL II-1
Patient Care Procedures

- A. All EMS providers under NSMC Medical Director will practice under the Denver Metro Protocols. Denver Metro Protocols can be located at www.DMEMSMD.org and the NSMC System Protocols will be sent electronically to Agency Administration.
- B. If two paramedics are on scene with the same patient, the individual who initiated patient care will maintain control of patient care until he/she turns over patient care to an equal or higher level provider. Transfer of patient care will be done by a direct verbal report between the initial care provider and the transporting paramedic.
- C. Each EMS Agency is responsible for completing a *PCR (Patient Care Report)* for each patient contacted. This report will reflect documentation required by the Colorado Department of Public Health, EMS Division. Refer to Denver Metro Protocols for what constitutes a patient for documentation purposes.
- D. Providers must call NSMC ED for all orders requiring base contact.
- E. Intubation attempts – No more than three attempts on any one patient
- F. IV attempts – No more than three attempts on any one patient.
- G. Refer to Denver Metro Protocols and Mile High RETAC for appropriate destination.
- H. With the removal of Morphine, the indications for both Fentanyl and Morphine that are listed in the current Denver Metro EMS Pre-hospital Protocols are acceptable for the use of Fentanyl. Follow the Denver Metro dosage and administration guidelines.
- I. With the removal of Diazepam, the indications for both Diazepam and Midazolam that are listed in the current Denver Metro EMS Pre-hospital Protocols are acceptable for the use of Midazolam. Follow the Denver Metro dosage and administration guidelines. Midazolam may also be utilized in patients receiving CPAP in order to decrease anxiety.
- J. Base Contact procedures:
 - a. Under several of the protocols, pre-hospital providers must make **base contact**. In the NSMC EMS System, all orders for procedures, medications, releases or destination consultations will come from our facility's Emergency Department Physicians only.
 - b. Every effort is made to allow direct communication with an ED physician. When direct communication is not possible, an RN will answer the radio or phone. An RN is authorized to relay online medical control information from the physician to the prehospital provider.
 - c. *MHH (Mental Health Hold)* – Online orders for MHH can be given by ED physicians as per Denver Metro Protocols.
- K. NSMC System addendum to Denver Metro Prehospital Protocol 2020 (Adult Pulseless Arrest). Paramedics who are providing ongoing critical care to a patient during a Cardiac Arrest will be permitted to direct EMT's with IV Authorization under the same medical direction to administer ALS medications. Administration of ALS medications by EMT's with IV Authorization will only occur at the discretion and direct verbal order of the Paramedic who has patient care. EMT's with IV Authorization must be competent in dosing and medication administration which is verified during annual hospital skills labs.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
PROCEDURE PROTOCOL II-2
Combitube – Paramedic procedure

- A. Indications
 - 1. Cardiac Arrest from any cause, including trauma.
 - 2. The 'Combitube SA' is used in patients from 4 feet tall to 5 feet tall.
 - 3. The 'Combitube' is used in patients over 5 feet tall.
 - 4. Primary or secondary advanced airway.
- B. Contraindications
 - 1. Patient is less than four (4) feet tall.
 - 2. Active gag reflex.
 - 3. Known or suspected esophageal disease.
 - 4. Ingestion of a caustic substance.
 - 5. Airway obstruction.
- C. Precautions
 - 1. When facial trauma has resulted in sharp broken teeth or dentures remove dentures and exercise extreme caution when passing the Combitube into the mouth to prevent the cuffs from tearing.
 - 2. Attach the fluid deflector elbow to the clear connecting lumen marked #2.
 - 3. Prior to insertion, test the integrity by inflating each cuff with the prescribed volume of air.
 - 4. When necessary, lubricate the tube with a water-soluble lubricant.
 - 5. Never use excessive force during insertion. If the tube does not advance easily, redirect it or withdraw and reinsert.
 - 6. Tube placement is always confirmed by auscultation of breath sounds and the absence of gastric distention.
 - 7. Deflate both cuffs prior to repositioning the tube. Movement of the tube with the cuffs inflated could result in patient injury or, tube damage.
- D. Technique
 - 1. Take appropriate body substance isolation.
 - 2. Determine the proper sized Combitube for the patient.
 - 3. In the supine patient, lift the tongue and jaw upward with one hand.
 - 4. With the other hand, hold the Combitube so that it curves in the same direction as the natural curvature of the pharynx. Maintain a mid-line position of the Combitube as the tip is inserted into the mouth. Advance in a downward curved movement until the teeth lie between the two printed bands on the tube.
 - 5. Inflate #1 blue pilot balloon with 100 ml of air using the 140 ml syringe. Only add additional air if an adequate seal is detected during ventilations.
 - 6. Inflate #2 white pilot balloon with 12 ml of air using a 12 ml syringe.
 - 7. Begin ventilations through the longer blue connecting tube labeled #1. If auscultation of breath sounds is positive and auscultations of gastric sounds are negative, continue ventilations.
 - 8. If gastric sounds present, begin ventilation with tube #2 White.
- E. UNKNOWN PLACEMENT – Both breath and epigastric sounds are absent
 - 1. Immediately deflate both cuffs.
 - 2. Slightly withdraw the tube and re-inflate both cuffs.
 - 3. Ventilate and reassess the patient.
 - 4. If breath sounds and epigastric sounds are still absent, immediately deflate both cuffs and remove the tube.
 - 5. Continue ongoing respiratory assessment and treatment.
- F. TUBE REMOVAL
 - 1. Indications
 - a. Patient regains consciousness
 - b. Protective gag reflex returns
 - c. Ventilation is inadequate
 - 2. Technique
 - a. Position patient on their side, maintaining spinal immobilization if necessary
 - b. Deflate the #1 Blue cuff, then the #2 White cuff
 - c. Withdraw the airway in a smooth, steady motion, suctioning as necessary
 - d. Monitor the airway and respirations closely

NORTH SUBURBAN MEDICAL CENTER
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PROCEDURE PROTOCOL: II-3
Carboxyhemoglobin Monitoring

Purpose: Carboxyhemoglobin monitoring is used to determine whether carbon monoxide levels are present in firefighters and patients with possible exposure to carbon monoxide. If levels are present the further purpose is to determine course of treatment.

Scope:

- A. SpCO readings can be used as an additional screening measure to determine exposure to carbon monoxide.
- B. SpCO readings can also be used as a tool of inclusion on vague medical complaints to reduce the risk of undiagnosed carbon monoxide poisoning.
- C. When SpCO is used in conjunction with SpO₂ it gives a higher index of suspicion of hypoxia and indicates a need for aggressive treatment.

Indications:

- A. SpCO monitoring is an ALS procedure to be performed by Paramedics only.
- B. SpCO monitoring would be indicated under the following conditions:
 - a. Firefighter rehabilitation/exposure during the performance of duties on incidents and in training in accordance with NFPA 1584.
 - b. Suspected carbon monoxide exposure from work performed in confined space.
 - c. Known smoke/carbon monoxide exposure with or without symptoms
 - d. Carbon Monoxide alarms/gas leaks with or without symptoms in conjunction with gas detectors to determine presence and exposure.
 - e. Unknown medical patients with complaints of nausea, vomiting, headache, and/or altered mental status.

Recommended Usage:

- A. For use during firefighter rehabilitation and as a screening tool on occupants without complaints regardless of whether known or unknown exposure. In this case the following guidelines will be used based on level of SpCO.
 - a. 0-5% Allowed full return to duty/cleared
 - b. 5-10% Additional time in rehab with reassessed reading
 - c. 10-20% O₂ treatment then reassess for release/transport
 - d. 20% Immediate O₂ and transport
- B. Any symptomatic patient regardless of SpCO levels in known exposures will be transported. All pregnant patients with positive exposure and SpCO levels will be transported for evaluation.
 - a. Follow appropriate protocols for treatment of patient based on complaint and signs/symptoms.
 - b. Guidelines for patients based on SpCO levels:
 - i. 0-5% normal levels
 - ii. 5-15% elevated evaluate for signs/symptoms of CO exposure. Transport if present. If no symptoms refusal at minimum.
 - iii. >15% transport to closest appropriate ED. High flow O₂
- C. For use on patients with vague flu-like symptoms to include nausea, vomiting, headache, lethargy. Also to be used when multiple patients complaining of similar signs and symptoms.

Documentation Requirements:

- A. When used for firefighter rehabilitation and occupants with positive low to moderate level readings that are asymptomatic complete SpCO as part of Rehab sheet with other vital signs.
- B. Any patient/occupant that has a positive SpCO reading must have full PCR with appropriate transport or refusal.

Special Considerations:

- A. SpCO Rad-57 not intended to be used on pediatric patients <30 kg
- B. Smokers may have baseline SpCO readings up to 10%
- C. Pregnancy: Fetal SpCO may be 10-15% higher than maternal readings
- D. Inaccurate readings may occur due to misapplied/dislodged probes.

- E. Do not utilize thumb or 5th digit for readings
- F. Never utilize tape to secure probe
- G. CO poisoning can present with very subtle symptoms and requires a very thorough neurological evaluation. Maintain a high index of suspicion.

Measure COHb% (SpCO)						
0-5%	>5%					
No further medical evaluation of SpCO needed.	SpCO \geq 15 or SpO2 <90	SpCO <15 And SpO2 \geq 90				
	100% O2 and transport to ED	Symptoms of CO &/or Hypoxia				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Yes</td> <td style="width: 50%; padding: 5px;">No</td> </tr> <tr> <td style="padding: 10px; vertical-align: top;">100% O2 and transport to ED</td> <td style="padding: 10px; vertical-align: top;">Refusal or Transport</td> </tr> </table>	Yes	No	100% O2 and transport to ED	Refusal or Transport
Yes	No					
100% O2 and transport to ED	Refusal or Transport					

**NORTH SUBURBAN MEDICAL CENTER
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APPENDIX A

Minimum Medication Quantities Necessary

MEDICATION	Minimum to be carried
Adenosine	30mg
Albuterol Sulfate	5 premixed
Aspirin	1 bottle
Amiodarone	450mg
Atropine	3mg
Atrovent	5 premixed
D50	50 grams
Diphenhydramine	100 mg
Dopamine	Premixed/400 mg
Epinephrine	
1 – 1,000	2mg
1 – 10,000	5mg
Fentanyl	400 mcg
Glucagon	2 mg
Haldol	20mg
IV Solutions	
1000 ml	3 bags
250 ml	2 bags
Lasix (optional)	200mg
Lidocaine, 2% Viscous	1 container
Lidocaine, 2% for injection	200mg
Magnesium Sulfate	10 grams
Naloxone	4mg
Nitroglycerin tabs or spray	1 bottle
Oral Glucose	1 tube
Phenylephrine (intranasal)	1 bottle
Phenergan (or Reglan)	50mg
Reglan (or Phenergan)	10mg
Sodium Bicarbonate	150 meq
Solu-medrol (optional)	125 mg
Topical Ophthalmic anesthetic (i.e.- Tetracaine)	single patient unit
Versed	10 mg

In accordance with CRS 25-3.5-301, the EMT and Paramedic protocols include an equipment list. The list is found in Appendix B. This list details the additional equipment required by the Medical Director for advanced procedures.

NORTH SUBURBAN MEDICAL CENTER
EMERGENCY MEDICAL SERVICES
IUCR
INCIDENT/UNUSUAL CIRCUMSTANCE REPORT

DATE OF INCIDENT:	TIME OF INCIDENT:
PREHOSPITAL AGENCY:	CREW:
CR #:	CREW:
OTHER AGENCY OR HOSPITAL INVOLVED:	CREW:
DESCRIPTION OF EVENTS:	
SIGNATURE:	DATE:
EMS SIGNATURE:	DATE:
MEDICAL DIRECTOR SIGNATURE:	DATE:

CHECK BOX IF TRIP SHEET INCLUDED WITH IUCR.