Emergency Medical Services Council

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Ambulance Medical Directors Subcommittee

Tuesday, March 23, 2021, 12:30 p.m. – 1:30 p.m.
Online meeting

Draft Summary

Present	Absent
1. Paul Nystrom, M.D., Edina Fire Department (Chair) **2.** Charlie Lick, M.D., Allina Health EMS **3.** Nick Simpson, M.D., Hennepin EMS **4.** Peter Tanghe, M.D., North Memorial Health Ambulance	**1.** Kevin Sipprell, M.D., Ridgeview Ambulance Service
Guests	**Staff**
	1. Kristin Mellstrom

I. **Welcome and Introductions** –Chair Dr. Paul Nystrom, called the meeting to order at 12:32 p.m. with a quorum present.

II. **Consent Items:** Today's agenda and the Feb. 23, 2021 meeting summary were approved.

III. **Changes to ALS Protocols –**Review proposed changes to #3220, #3270, #4210 and #4220. Proposed revisions to current applicable protocols are highlighted. The infographic that the committee would prefer to insert into the protocol book for pediatric protocol #4210 is a Handtevy graphic. Since one service does not have a contract with Handtevy, staff has requested a meeting with Hennepin County Attorney's Office and the Communications Dept. Creative Director to determine if a modified version could be designed and used in the protocol book. Dr. Lick also messaged Dr. Antevy to request permission to use the graphic. The proposed changes for #3220, #3270, and #4220 as highlighted below were approved by the committee and will move to the council agenda. Protocol #4210 will need to wait until the use of the graphic has been decided.

A. #3270 Symptomatic Bradycardia

SYMPTOMATIC BRADYCARDIA – ADULT #3270

Standing Orders

A. Prepare for Transcutaneous Pacing. Consider sedation; use without delay for high degree block (type II second-degree block or third-degree AV block).

B. Consider Atropine ~~0.5 mg~~ 1.0 mg IV/IO while waiting for pacer. May repeat to a total dose of 3 mg. If Atropine is ineffective, begin pacing.

C. Treat contributing causes.

B. #3220 Adult V-Fib and Pulseless V-Tach

CARDIAC ARREST (V-FIB AND PULSELESS V-TACH) – ADULT # 3220

Standing Orders

A. If cardiac arrest occurs in the presence of the ambulance crew, assess the patient's cardiac rhythm and defibrillate x 1 if necessary.

B. If the patient is in cardiac arrest on arrival of the ambulance crew, institute or continue Basic Life Support (BLS):

1. CPR: compressions 100/min, breaths 8-10/min. Do not over ventilate.
2. Impedance Threshold Device (ITD): Attach ITD to BVM and apply to patient within 30 seconds. You must maintain a tight, continuous, 2-handed face mask seal for the ITD to function properly. Use of ITD is service dependent.
3. Reassess the patient's rhythm after every 5 cycles (2 minutes) of CPR. Limit interruptions in CPR during pulse/rhythm checks to less than 10 seconds for airway insertion and/or administration of medications.

C. Assess and confirm Pulseless Ventricular Tachycardia/Ventricular Fibrillation then defibrillate x1 if necessary using the following guidelines:

1. Monophasic defibrillator:
   - Shock at 360 joules.
2. Biphasic defibrillator:
   a. Device specific, but typically between 120-200 joules.
   b. If device specific wattage is unknown, shock at 200 joules.
3. Immediately resume CPR.

D. Reassess the patient's cardiac rhythm after 5 cycles (2 minutes) of CPR. If a shockable rhythm is present continue CPR while the defibrillator charges, then defibrillate x1 if necessary using the following guidelines:

1. Monophasic defibrillator:
   - Shock at 360 joules.
2. Biphasic defibrillator:
   a. Device specific, but typically between 120-200 joules.
   b. If device specific wattage is unknown, shock at 200 joules.

E. Secure the patient's airway during the pulse check. Continue CPR immediately then confirm tube placement by exam and confirmation device.

   - Once intubated with an advanced airway (ETT, Combitube, King, etc.) switch to

continuous compressions with 10 breaths per minute.

F. Obtain IV access while providing two minutes of

G. continuous CPR. During CPR:

1. Administer epinephrine 1 mg IV/IO every 3-5 min up to three doses; or
2. May administer one dose of vasopressin, 40 Units IV/IO, to replace first or second dose of epinephrine.

H. Reassess and confirm Pulseless Ventricular Tachycardia/Ventricular Fibrillation then defibrillate x 1 if necessary using the following guidelines:

1. Monophasic defibrillator:
   - Shock at 360 joules.
2. Biphasic defibrillator:
   a. Device specific, but typically between 120-200 joules.
   b. If device specific wattage is unknown, shock at 200 joules.
3. Immediately resume CPR for two minutes.

I. Consider the following antiarrhythmics to be given during CPR:

1. Amiodarone 300 mg IV/IO once, then re-dose an additional 150 mg IV/IO once after four minutes of continuous CPR; or
2. Lidocaine 1.0-1.5 mg/kg IV/IO first dose, then 0.5-0.75 mg/kg IV/IO (maximum of 3 doses or 3 mg/kg).

J. Reassess rhythm after 2 minutes of CPR; if shockable rhythm, continue CPR while defibrillator charges then defibrillate x 1 if necessary using the following guidelines:

1. Monophasic defibrillator:
   - Shock at 360 joules.
2. Biphasic defibrillator:
   a. Device specific, but typically between 120-200 joules.
   b. If device specific wattage is unknown, shock at 200 joules.
3. Immediately resume CPR for two minutes.

K. Consider Magnesium, loading dose 1-2 Gm IV/IO for Torsades de

L. Pointes. Continue CPR and contact medical control physician for further orders.

After Obtaining Verbal Orders
M. Consider additional doses of initial antiarrhythmic. N. Consider Sodium Bicarbonate for metabolic acidosis, tricyclic anti-depressant overdose or hyperkalemia. O. If there is no response to treatment consider termination of resuscitative efforts.

C. Asystole/PEA – Pediatric # 4210

Dr. Simpson will bring an infographic for C. 1-4 in the protocol or a sample updated protocol from another service for the subcommittee to review.

CARDIAC ARREST (ASYSTOLE/PEA) – PEDIATRIC #4210

Standing Orders

A. Complete a rapid scene survey observing for any indications or any evidence that resuscitation should not be attempted (e.g., DNR orders or conditions incompatible with life).
B. If cardiac arrest occurs in the presence of the ambulance crew, assess the patient's cardiac rhythm and continue with the appropriate protocol.
C. If the patient is in cardiac arrest on arrival of the ambulance crew:
    1. Institute or continue BLS
    2. CPR: compressions 100/min, breaths ~~8-10~~ 20-30/min. Do not over ventilate
    3. Reassess the patient's rhythm after every 5 cycles (2 minutes) of CPR. Limit interruptions in CPR during pulse/rhythm checks to less than 10 seconds for airway insertion and/or administration of medications
    4. During CPR, administer epinephrine IV/IO, 0.01 mg/kg every 3-5 min. (1:10,000, 0.1 mL/kg)
D. Assess and confirm the patient's cardiac rhythm, immediately resume
E. CPR. Review the most frequent causes for PEA, treat according to protocols if present:
    1. Hypovolemia – fluids
    2. Hypoxia – ventilation and oxygenation
    3. Hypothermia – re-warming. *S*ee the Hypothermia – Pediatric protocol
    4. Hypoglycemia – check blood sugar and if <60 mg/dL treat per Hypoglycemia protocol

Consider Obtaining Verbal Orders for:

5. Acidosis – NaHCO
6. Hyperkalemia – CaCl & NaHCO
7. Tension pneumothorax – needle chest decompression
8. Drug overdose – intubation & specific antidote
9. Coronary thrombosis – 12-lead ECG

No Specific Prehospital Treatment for:

10. Hypokalemia
11. Cardiac tamponade
12. Pulmonary embolism

F. Secure the patient's airway during the pulse check. Continue CPR immediately then confirm tube placement by exam and confirmation device
G. Obtain IV access while providing two minutes of continuous CPR
H. ~~During CPR, administer epinephrine IV/IO, 0.01 mg/kg every 3-5 min. (1:10,000, 0.1~~

~~mL/kg)~~

H. Provide continuous CPR and reassess, checking the patient's pulse/rhythm every two minutes.

I. Contact medical control physician for further orders.

After Obtaining Verbal Orders
If no response consider termination of resuscitative efforts.

D. V-Fib and Pulseless V-Tach – Pediatric #4220

CARDIAC ARREST (V-FIB AND PULSELESS V-TACH) – PEDIATRIC #4220

Standing Orders

A. If cardiac arrest occurs in the presence of the ambulance crew, assess the patient's rhythm and defibrillate x 1 if necessary (energy rates as prescribed by current AHA ACLS guidelines; e.g., 2 J/kg.).

B. If the patient is in cardiac arrest on arrival of the ambulance crew, institute or continue BLS:

1. CPR: compressions 100/min, breaths ~~8-10~~ 20-30/min. Do not over ventilate.
2. Reassess the patient's rhythm after every 5 cycles (2 minutes) of CPR. Limit interruptions in CPR during pulse/rhythm checks to less than 10 seconds for airway insertion and/or administration of medications.

C. Reassess the patient's cardiac rhythm after 5 cycles (2 minutes) of CPR; if a shockable rhythm is present, continue CPR while the defibrillator charges then defibrillate x 1 (energy rates as prescribed by current AHA ACLS guidelines; e.g., 2 J/kg.).

D. Continue CPR immediately and secure the patient's airway during the pulse check, then confirm tube placement by exam and confirmation device.

E. Obtain IV access while providing two minutes of continuous CPR. Transport early if no readily accessible IV/IO access.

F. During CPR, administer epinephrine IV/IO 0.01 mg/kg (1:10,000, 0.1 mL/kg) every 3-5 min.

- NOTE: Refer to pediatric reference (e.g., Broselow Tape) if assistance is needed withdrug dosage calculations for pediatric patients.

G. Reassess the patient's cardiac rhythm after 5 cycles (2 minutes) of CPR; if a shockable rhythm is present, continue CPR while the defibrillator charges then defibrillate x 1 (energy rates as prescribed by current AHA ACLS guidelines; e.g., 2 J/kg.).

H. Continue CPR

I. immediately.

Consider:

- Amiodarone 5 mg/kg bolus IV/IO; or
- Lidocaine 1 mg/kg bolus IV/IO; or

- Magnesium Sulfate 25-50 mg/kg IV (for Torsades de Pointes or hypomagnesemia), maximum 2 grams; or

J. If no response to treatment, consider termination of resuscitative efforts.

E. Terbutaline administration in protocols #3330, #3340, #4310

The committee approved the proposed change that terbutaline should be administered IM using the same dose as it is currently listed for SC administration. These changes were approved and will move to the Medical Standards agenda.

IV. Updated STEMI Guidelines from MN Dept. of Health

Dr. Tanghe met with Jim Peacock, PhD, regarding some changes published on the MDH website for hospital care of STEMI patients. Ambulance medical directors were concerned that the guidance was too broad, so it affected EMS care of STEMI patients, with some updates that are not practicable in the field.

Physicians from North Memorial met with MDH to discuss these concerns and will continue to work together so when guidance is changed for STEMI and stroke care, EMS will be alerted to provide feedback from the EMS perspective.

V. Legislative Topics

Concerns from EMS were discussed about MN Statute 253b.051 regarding patient holds. Specifically, staff from the mental health crisis team at the county have been placing holds on patients via email which can sometimes be difficult for EMS and law enforcement when they arrive on scene. At the request of the ambulance medical directors, staff contacted the COPE manager to set up a meeting to discuss holds and if there is a way to have COPE staff there on scene to interact with patients in crisis. The ambulance medical directors agreed that the presence of COPE staff on scene would be beneficial to patients and could avert some situations where a hold has been placed remotely by a COPE staff member but by the time the EMS crew arrives, the patient does not appear to be in distress, however the hold is still in effect.

The committee also requested that later in this discussion, Sgt. Yang from Minneapolis Police Dept. could be invited to provide the MPD perspective on how police, EMS and mental/behavioral health care providers can work together to better serve this growing population of patients who are experiencing crises both at their homes and in public.

VI. No Scene Responses to review

VII. Future meetings in 2021 will be on the last Tuesday of each month except March, which will be on 3/23/21, 12:30 p.m.-2:30 p.m. at Edina Fire Dept. #1 or online.

VIII. Adjournment at 1:10 p.m.