January 2020 Protocol changes:

1. 0700 General Guidelines: Patient determination – Removal of requirements for vital signs every 5 min.

2. 0990 Quick Reference Guide – Change to base contact requirement for atropine in organophosphate poising. Before paramedics were required to make base contact for atropine for organophosphate poising, now they have standing orders. EMT I's still have to make base contact.

3. 1010 Nasal Intubation – Updates to technique section. Under Indications they removed "Anticipated prolonged need for positive pressure ventilation". Technique number 1 previously read "Initiate BLS airway sequence" now reads "Initiate BLS airway sequence and confirm ETCO2 production at this time".

4. 1030 Cricothyrotomy – Combing of 1020 Percutaneous Cricothyrotomy and 1030 Bougie Assisted Cricothyrotomy into a single protocol. Protocol 1020 has been removed and 1030 renamed Cricothyrotomy.

5. 1040 Pediatric Needle Cricothyrotomy – Change of "EtCO2" to waveform capnography. Under Technique number 10a it previously read "ETCO2 preferably with waveform capnography" now reads "Waveform capnography". This is in reference to confirming catheter placement.

6. 1050 Supraglottic Airway – Changed "ETCO2" to waveform capnography. Under Technique number 9 and 10 it previously read "ETCO2 (preferably with waveform capnography)" now reads "waveform capnography". This is in reference to confirming placement and continuous monitoring.

7. 3000 Medical Pulseless Arrest Algorithm – Changed title from "Universal" to "Medical Pulseless Arrest Algorithm".

8. 3060 Chest Pain – Added action item for placement or combination defibrillation/pacing pads on patients who meet criteria for cardiac alert. Also, administration of oxygen updated to titrate to coincide with changes to 9250 Oxygen protocol. In the algorithm the box stating yes under the section asking if a STEMI is present, they added "Place combination defibrillation/pacing pads on patient" if the criteria is met for activation of a cardiac alert. Reference 19 for changes to protocol 9250 Oxygen.

9. 3070 Cardiac Alert – Added action item for placement of combination defibrillation/pacing pads on patients who meet criteria for cardiac alert.

10. 4030 Stroke – Administration of oxygen updated to titrate to coincide with changes to 9250 Oxygen protocol. Reference 19 for changes to protocol 9250 Oxygen.

11. 4140 Sepsis – List of possible causes of sepsis added as gray box to protocol. They added a gray box titled "Common Infection Sites with Severe Sepsis" and have the following listed "Respiratory, Bacteremia (unspecified site), Genitourinary (more prevalent with females), Abdominal, Device-related, Soft tissue/wound, Central nervous system, Endocarditis".

12. 5000 Drowning – Change to algorithm flow. Changes are under the section no pulse present. Previously was split in to two boxes one for "PEA" and one for "Asystole or V-fib/VT". Now is under one box and states "Treat per Medical Arrest Algorithm with the following changes if hypothermic: Handle very gently, Start IV with warm IV fluid, Insulate patient, For asystole, v-fib, or pulseless v-tach, single dose epinephrine IV/IO".

13. 5010 Hypothermia – Change to algorithm flow. Similar to changes in protocol 5000 Drowning. Reads the same except for "Treat per Medical Arrest Algorithm with the following changes if hypothermic" it reads "Treat per Medical Arrest Algorithm with following changes".

14. 5020 Hyperthermia – Updated to "Heat Stroke" box signs and symptoms. In the gray box they added the title "General Guidelines" and then added "People can sweat through heat stroke right up until they die depending on their level of acclimatization" and "Heat stroke has mortality that exceeds trauma, STEMI, and Stroke and should be treated accordingly".

15. 6000 Psychiatric/Behavioral Patient – Change to **Specific Precautions** section B. Section B now reads "The Denver Metro EMS Medical Directors believe strongly that when a patient is assessed as a suicide risk or grave disability, the risk of patient abandonment is too high to allow these patients to refuse transport". The old section B is now section C and its wording has not changed.

16. 9000 Medication Administration Guidelines – Change to **General Principles** section A subsection 3 and section B. Section A subsection 3 changed from "Obtaining vital signs every 5 minutes or after any intervention" to "Obtain repeat vital signs after any intervention". Section B changed from "Pediatric medication dosing and equipment size recommendations vary by length and/or weight. As such, an assessment tool such as a length-based tape should be utilized on every pediatric patient to guide medication dosing and equipment size. The risk of dosing error is high in children and the use of volume- based dosing guides have been shown to reduce the rate of error. We recommend the use of a volume-

based medication dosing guide for all children based upon age or weight" to "The risk of dosing error is high in children, and we recommend the use of a standardized system to decrease the rate of error. This can include age-based, weight based, or length-based systems that has standardized precalculated volume-based medication dosing and equipment. These should be utilized on every pediatric patient to guide medication dosing and equipment size".

17. 9040 Antiemetics – Added Droperidol to the list. Under "Dosage and Administration" they added Droperidol to the list which just reads "Refer to Droperidol protocol for dosing".

18. 9230 Opioids – Removal of targeted temperature management for Fentanyl as well as changes in wording to note section. Under indications they removed "Treatment of shivering with Targeted Temperature Management (TTM)". Under the note section it uses to read "IO/IN/IM are acceptable alternatives when IV access is not readily available" and now reads "IO/IM for all listed opioids and additionally IN for Fentanyl are acceptable alternatives when IV access is not readily available".

19. 9250 Oxygen – Protocol reviewed and updated. Under description they removed "Breathing, in most people, is regulated by small changes in the acid-base balance and CO2 levels. It takes relatively large decreases in oxygen concentration to stimulate respiration" and added "Conversely, hyperoxia has been linked with worsened outcomes in acute coronary syndromes and stroke. Therefore, oxygen should not be viewed as a harmless drug where more is better. EMS personnel should add additional oxygen when hypoxia, shock or respiratory distress are present titrating to a normal pulse oximetry reading above 90%".