MINUTES

EMERGENCY MEDICAL SERVICES & TRAUMA SYSTEM

DIVISION OF COMMUNITY HEALTH

DRUG/DEVICE/PROTOCOL (DDP) COMMITTEE

May 4, 2022 – 10:00 A.M.

MEMBERS PRESENT

Michael Holtz, MD, CCFD, Chair
Chief Jennifer Wyatt, CCFD
Kelly Morgan, MD, NLVFD
Chief Shawn Tobler, MFR
Sam Scheller, GEMS
Shane Splinter, HFD (Alt)
Jim McAllister, LVMS
Jessica Leduc, DO, HFD
Mike Barnum, MD, AMR
Chief Stephen Neel, MVFD
Chief Kim Moore, HFD
Mark Calabrese, CA (Alt)
Derek Cox, LVFR
Scott Nielsen, NLVFD

MEMBERS ABSENT

Nate Jenson, DO, MFR
Alicia Farrow, Mercy Air
Troy Biro, AirMed
Devon Eisma, RN, OptimuMedicine
Karen Dalmaso-Hughey, AMR
Nigel Walton, BCFD

SNHD STAFF PRESENT

John Hammond, EMSTS Manager
Christian Young, MD, EMSTS Med. Director
Laura Palmer, EMSTS Supervisor
Roni Mauro, EMSTS Field Representative

PUBLIC ATTENDANCE

Sandra Horning, MD
Scott Phillips
Tony Greenway
Kat Fivelstad, MD
Michael Denton
Chase Madsen

CALL TO ORDER - NOTICE OF POSTING OF AGENDA

The Drug/Device/Protocol (DDP) Committee convened in the Red Rock Conference Room at the Southern Nevada Health District on Wednesday, May 4, 2022. Chairman Michael Holtz called the meeting to order at 10:01 a.m. and stated the Affidavit of Posting was posted in accordance with the Nevada Open Meeting Law. Some Committee members joined the meeting via teleconference and the roll call was administered by Laura Palmer, EMSTS Supervisor, who noted that a quorum was present.

I. FIRST PUBLIC COMMENT

Members of the public are allowed to speak on Action items after the Committee's discussion and prior to their vote. Each speaker will be given five (5) minutes to address the Committee on the pending topic. No person may yield his or her time to another person. In those situations where large groups of people desire to address the Committee on the same matter, the Chair may request that those groups select only one or two speakers from the group to address the Committee on behalf of the group. Once the action item is closed, no additional public comment will be accepted. Dr. Holtz asked if anyone wished to address the Board pertaining to items listed on the Agenda. Seeing no one, he closed the Public Comment portion of the meeting.

II. CONSENT AGENDA

Dr. Holtz stated the Consent Agenda consists of matters to be considered by the DDP that can be enacted by one motion. Any item may be discussed separately per Committee member request. Any exceptions to the Consent Agenda must be stated prior to approval.

Approve Minutes for the Drug/Device/Protocol Committee Meeting: April 6, 2022

A motion was made by Mr. Scheller, seconded by Mr. Splinter, and carried unanimously to approve the Consent Agenda as written.

III. REPORT/DISCUSSION/POSSIBLE ACTION

A. Discussion of CPAP Protocol and BiPap Pilot Program

Mr. Root gave a status update on Henderson Fire Department's (HFD) BiPap Pilot Program. He reported they've had 100% success in changes in respirations, oxygenation and CO2 changes for the month of March. None of those patients were intubated by HFD, and none were subsequently intubated in the hospital during their care, no matter how long they were admitted. A couple months prior to that they had two cases that resulted in an intubation, one by HFD and the other by the hospital. There was an elongated admission not directly related to EMS care or in the first few hours of ED admission. Average respiratory rate changes were between 18-20. Average saturations the patients are receiving on BiPap is 99%. Aside from masks not being form-fitting, there have been no reports from the crews of difficulties with equipment or the patient. They are looking into purchasing new masks. Mr. Root noted they received signed letters from St. Rose Siena and Henderson Hospital approving standing orders for BiPap, with no issues.

B. Discussion of Etomidate In Pediatric Intubation

Mr. Root stated that most pediatric intubations are not due to an etiological event or some type of pathophysiology, but more of a traumatic event. When there's multi-system trauma with associated head injuries, there may be a consequence of hypotension as well. In these cases, Ketamine and Midazolam are contraindicated as induction agents for children. Ketamine is contraindicated with suspected head injury, and Midazolam is contraindicated for overwhelming hypotension and signs of shock. For the most part, BLS works in these situations. The patients can be bagged and transported to the hospital where they can have a physician group work through that process. However, it's the few times when they are unable to manage those airways in multi-system trauma that Etomidate is being requested to give the crews something safe in single doses that can help induct patients under the age of 18. Initially, Etomidate wasn't added for children because of hypotension and adrenal suppression, but that has been found to occur in multiple doses, not single doses. He stated that HFD is proposing to add Etomidate 0.3 mg/kg to a max of 20 mgs IV or IO for a single dose, with no repeat doses, in conjunction with induction for children. Dr. Sandra Horning, pediatric emergency physician, stated the data on adrenal suppression is controversial at best, but certainly doesn't show that there's an issue with one dose.

A motion was made by Mr. Splinter to add Etomidate for Pediatric Intubation 0.3 mg/kg IV/IO, with a maximum single dose of 20 mg, with no repeat doses. The motion was seconded by Chief Neel and carried unanimously to be forwarded to the Medical Advisory Board for final approval.

C. Discussion of Adult and Pediatric Ventilation Management Protocols

Mr. Root referred the committee to the Endotracheal Intubation protocol. He stated that Etomidate is a medication that doesn't have any analgesic effects. In reviewing HFD's QI process related to unsuccessful intubations and all the agents, it shows that it wasn't inductive enough or didn't sedate enough, or some version of that. He stated that giving Fentanyl or any type of analgesic in conjunction with Etomidate is a well-accepted practice for airway management as part of the national standard. A few of the hospital systems here recommend Etomidate 3 mcg/kg with a seduction or induction agent, but then also following it with an opioid or an analgesic to improve first time success rates because the patient would be appropriately sedated and pain free during the attempt. He referred the committee to draft language related to preoxygenation and pre-intubation optimization that was added to the Endotracheal Intubation protocol that reads as follows:

"Preoxygenation and Pre-Intubation Optimization:

1. NC at 15 LPM in conjunction with BVM Assisted Ventilation.
2. Hypotension/Shock: Fluid Resuscitation, Consider Pressors (Push dose EPI, Phenylephrine)

3. Hypertensive Crisis/TBI: Consider FENTANYL 3 mcg/kg in conjunction with induction agents to decrease incident of an increase in ICP."

Under "Induction" for Etomidate it reads "Pediatrics: 0.3 mg/kg/ single dose only. MAX single dose of 20 mg." Under "Versed" it reads "Adults: Not recommended"

Under "Maintain patient sedation" it reads "Adults ONLY: Fentanyl 3mcg/kg."

Mr. Root noted that NC at 15 lpm in conjunction with BVM assisted ventilation is very accepted and improves first time intubation attempts because it improves oxygenation and basically does a nitrogen wash of the system. It helps with the preoxygenation and the attempt itself. For hypotension and shock, he noted that they probably don't emphasize pre-resuscitation before the intubation attempt in their education. Attempting to intubate a patient who has a blood pressure of 60/30 is not appropriate as the analgesia, vagal response can drop these patients into asystole and into a code. If the patient is in shock and is hypotensive, consider lots of fluid and pressors to optimize the attempt. Also, perhaps using Ketamine in a patient with septic shock to help raise their blood pressure so that when those things happen it gives them a little bit of room. The hypertensive crisis is very important, so emphasizing Fentanyl at 3 mcg/kg to reduce the incidence of ICP during their attempts may be necessary. Mr. Root stated that preoxygenation and pre-intubation optimization are things they do regularly, but he feels that adding them to the protocol streamlines the process throughout the valley so that we preoxygenate patients before we intubate them, and we optimize our attempt, and we resuscitate them so there won't be any providers that drop our patients with a blood pressure of 60/30 into asystole codes because we tried to intubate them. The added pediatric Etomidate dose reflects the Etomidate dose from the Ventilation Management protocol, and then 3 mcg/kg Fentanyl for adults for patient sedation, if approved for the Ventilation Management protocol.

Concerns were raised about possible chest wall rigidity with high dose Fentanyl that could cause difficulty with further ventilation attempts or ventilation efforts where there would be no rescue method available. Ms. Palmer suggested they add it as a pearl to the Adult and Pediatric Ventilatory Management protocols instead of the Endotracheal Intubation protocol. Mr. Root asked the committee whether they would consider a lower dose of 1-2 mcg/kg to get the extra sedation, but not having all the problems associated with giving high dose Fentanyl. Dr. Leduc agreed that chest wall rigidity is definitely a concern but stated that it is rare. She stated she would be okay with lowering the dose. In the hospital, she gives 100 mcg and the patient is pretty sedated and their pain is controlled, but they can lower the dose as she feels it's a valuable tool. Dr. Holtz agreed that Fentanyl is a great adjunct for sedation as it reduces the sympathetic outflow after intubation but does not feel comfortable with leaving it as the only option for sedation. Dr. Morgan stated she has only witnessed one case of chest rigidity with Fentanyl. It was terrifying, but it is super rare, and she uses Fentanyl almost daily. She agrees with a max dose of 100 mcg. She feels it is reasonable to have Fentanyl as an only option and they need to trust their providers not to have to dictate every scenario for them. They need to look at the patient in front of them and make smart choices. If the medical directors dictate everything then they're doing the providers a disservice in the field. Dr. Barnum noted that Fentanyl's chest rigidity problem is associated with the rate of administration, and that's something that can be addressed in education. Mr. Splinter noted that the only contraindication for Fentanyl is hypersensitivity to the medication. Mr. Scheller stated that GEMS regularly gives Fentanyl and Versed for post-intubation between facilities to maintain sedation during CCT transports.

The committee discussed adding Fentanyl for pediatric intubation. Dr. Horning stated the incidence of wooden-chest syndrome is a little higher in pediatrics, but that's because it's rate-push related, and in the middle of a pediatric situation they tend to push faster than they do with an adult. Keeping that in mind, she recommended a lower dose of Fentanyl for pediatrics.

After much discussion, the committee agreed to table the discussion of preoxygenation and pre-intubation optimization, and the discussion of what constitutes an intubation attempt until the next QI Directors and DDP meetings.

A motion was made by Mr. Splinter to add Fentanyl 1 mcg/kg to a max of 100 mcg, with no repeat doses without physician order, to the Endotracheal Intubation and Adult/Pediatric Ventilation Management protocols. The motion was seconded by Chief Neel and carried unanimously to be sent to the Medical Advisory Board for final approval.

D. Discussion of Contraindications of Epinephrine in Protocol Formulary

Dr. Holtz stated that the contraindications listed in the Epinephrine formulary include underlying cardiovascular disease/angina, hypertension, pregnancy, patient over 40 years of age, and hyperthyroidism. He noted there should be no absolute contraindications for Epinephrine, especially in allergic reaction, bradycardia and cardiac arrest. He recommended they strike the listed contraindications from the formulary.

A motion was made by Dr. Holtz to remove all contraindications listed for Epinephrine from the formulary and replace it with "None," to be forwarded to the Medical Advisory Board for final approval. The motion was seconded by Chief Neel and carried unanimously by the Committee.

E. Discussion of Contraindications of Ketamine in Protocol Formulary

Dr. Holtz stated that the contraindications listed in the Ketamine formulary include known hypersensitivity, systolic over 180 mmHg, acute CVA, and head trauma. He noted that head trauma and increased intracranial pressure should not be listed as a contraindication. The data indicates it may even be beneficial in patients with CVA and head trauma. Similarly for systolic over 180 mmHg, there is a sympathetic release that will increase your blood pressure somewhat, but he feels a "caution" or "exercise care" would be adequate for this patient population.

Dr. Young noted that the Pain Management protocol states that Ketamine is not to be used for chest pain/suspected ACS or STEMI. After some discussion the committee agreed it is reasonable to leave it in the Pain Management protocol and just remove it from the formulary.

A motion was made by Dr. Holtz to revise the contraindications listed in the Ketamine formulary to read, "Known hypersensitivity; caution in patients with systolic over 180 mmHg" and to remove "acute CVA and head trauma," to be forwarded to the Medical Advisory Board for final approval. The motion was seconded by Chief Neel and carried unanimously by the Committee.

IV. INFORMATIONAL ITEMS/ DISCUSSION ONLY

Mr. Splinter stated there has been confusion related to the geographic borders of the catchment areas on whether crews should transport to Sunrise or UMC. He suggested they review the trauma catchment areas. Mr. Hammond noted the issue can be placed on a future DDP agenda for discussion. Mr. Splinter asked that target temperature management be placed on the next agenda for review as well.

Dr. Young stated there has been discussion among the trauma center medical directors about the re-routing of hanging cases. In looking at these patients through a trauma lens, as soon as they are altered, as frequently happens in cardiac arrests, that pretty much routes them to a Step 1 or Step 2 trauma center just because they're in extremis. Most of these people are succumbing to injuries that are not necessarily traumatic. The cases are mostly cerebral hypoxia, pulmonary vascular congestion, and a run of medical codes. Followed by those not succumbing to their injuries, followed by forensics evaluations for strangulations, as well as toxicology evaluations, and therapeutic hypothermia after the codes. The discussion was the best location for these patients is just the closest emergency department capable of handling a cardiac arrest. They don't need to bypass multiple hospitals to get to a trauma center as there is really nothing specifically done for these cases at the trauma centers. The exception is if there is an element of penetrating trauma to the neck. That, of course, changes things and now shifts the lens through a trauma case and thus to the TFTC protocol and TFTC routing. In looking at these cases, it is extremely rare where there is an actual C-spine fracture. These are not hangings in the sense of the classic judicial hanging where you have an appropriately placed knot where someone is falling greater than their body height resulting in their death. These are mostly asphyxiation type injuries. They are working with the EMS liaisons throughout the different health care systems to slowly change that behavior. Mr. Hammond noted that when the Trauma Medical Audit Committee reviews trauma center deaths, they automatically don't review hangings.

V. SECOND PUBLIC COMMENT

Members of the public are allowed to speak on Action items after the Committee's discussion and prior to their vote. Each speaker will be given five (5) minutes to address the Committee on the pending topic. No person may yield his or her time to another person. In those situations where large groups of people desire to address the Committee on the same matter, the Chair may request that those groups select only one or two speakers from the group to address the

Committee on behalf of the group. Once the action item is closed, no additional public comment will be accepted. Dr. Holtz asked if anyone wished to address the Board pertaining to items listed on the Agenda. Seeing no one, he closed the Public Comment portion of the meeting.

VI. ADJOURNMENT

There being no further business to come before the Committee, the meeting was adjourned at 11:14 a.m.