# PRC Meeting

**Wednesday, November 8, 2023**
**9:30 AM to 12:00 PM**
****The Committee does not anticipate a need for a closed session during this meeting****
****VIRTUAL / IN-PERSON HYBRID****

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| **Meeting called by:** | Dr. Timothy Chizmar |
| **Type of meeting:** | Protocol Review Committee |

## PRC Agenda Items

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| **Call to order** | | Dr. Chizmar |
| **Approval of minutes** | | |
| **Announcements** | 2024 Meeting Schedule | |
| **Old Business** | Persistent VF/VT Protocol | Dr. Margolis |
| | Calcium for Whole Blood | Dr. Levy |
| | Guidelines for Infusion Pump Settings | Dr. Levy |
| | Caution/Alert on Use of Diltiazem for Patients with a known History of CHF with a Low Ejection Fraction | Dr. Levy |
| | Dive Medicine OSP | Dr. Kemp/Dr. Tang |
| | Burns / Carbon Monoxide Protocol Changes | Dr. Chizmar / Emily Werthman |
| **New Business** | Patient Refusals – Upper Limit for BP to Prompt Base Station Consult | Dr. Castiglione / Dr. Chizmar |
| | Modifications to Intravenous Maintenance Therapy for EMT | CASAC / Dr. Chizmar |
| | Blood Draw for MIH Pilot | Harvey Booth and Dr. Todd |

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| | Language Line Recommendations | Mustafa Sidik / Dr. Chizmar |
| | Rocuronium for RSI | Dr. Levy |
| | Igels for Tactical EMT | Dr. Levy |
| **Journal Club** | | |
| **Discussion(s)** | Ketamine drip for RSI/ventilator/IV pump | Dr. Chizmar |
| | Maximum Ketamine Dosing for CPR Awareness | Dr. Chizmar / Dr. Levy |
| | Clinical Pearls for Overdose/Poisoning – recovery resources | Matthew Burgan / Dr. Chizmar |
| | Pressors for Volume-sensitive Patients in Shock | Dr. Chizmar |
| **Adjournment** | | |
| **Next Meeting** | January 31, 2024, 9:30am-12:00pm | |

# Protocol Review Committee Meeting Minutes

November 8, 2023

**Attendance:**

**Committee Members in Attendance (In-person /Virtual):** Mary Beachley, Dr. Jennifer Anders, Christian Griffin, David Chisholm, Marianne Warehime, Rachel Itzoe, James Gannon, Dr. Thomas Chiccone, Dr. Roger Stone, Dr. Matthew Levy, Dr. Janelle Martin, Dr. Jeffrey Fillmore, Dr. Jennifer Guyther, Dr. Timothy Chizmar (Chair), Meg Stein (Protocol Administrator)

**Guests:** Rosina Gonzales, Harvey Booth, Kristy Brinn, Matthew Burgan, Dr. Morganne Castiglione, Michael Cole, Dr. Eric Garfinkel, Donna Geisel, Scott Gordon, Jeannie Hannas, Dr. Stephanie Kemp, Dr. Asa Margolis, Tracey Age, Scott Legore, Nicole Nappi, Michael Reynolds, Lindsay Sarno, Rebecca Schwartz, Dr. Kevin Seaman, Dr. Jeffery Short, Dr. Nelson Tang, Dr. Zachary Tillett, Dr. Ruben Troncoso, Dr. Alexandra Vaughn, Dr. Jonathan Wendell, Brian Dougherty, Terrell Buckson, Cyndy Wright-Johnson, Mustafa Sidik

**Excused:** Kathleen Grote, Dr. Steven White

**Alternates:** Tim Burns

**Absent:** Mary Alice Vanhoy, Tyler Stroh, Mellissa Fox, Mark Buchholtz, Gary Rains, Dr. Kevin Pearl

**Meeting called to order at 9:31 by Dr. Chizmar.**

**Minutes:** A motion was made by Marianne Warehime and seconded by Dr. Levy to approve the September 2023 minutes as written. The motion passed without objections or abstentions.

**Announcements:** Due to a conflict with the National EMS Physician's Conference, the January 2024 meeting has been moved to Wednesday, January 31.

**Old Business:**

**Persistent VF/VT Protocol – Dr. Margolis and Dr. Troncoso:** Drs. Margolis and Troncoso reviewed the proposed protocol and the key changes incorporated since the September PRC meeting. Changes included using the term persistent VF rather than refractory VF, adjusting the ECPR criteria based on UMMC and JHU criteria, written instructions for double sequential defibrillation, specifying the need for an advanced airway and mechanical CPR for transport to an ECPR destination, and specifying pad placement. The age limits for transport to an ECPR capable destination were also changed based on previous discussions to 18 to 60 years old.

In discussion, Dr. Anders advised that PEMAC would like pediatric patients included in the ECPR/ECMO protocol and suggested lowering the age limit. Lower limits of 15 y.o. and 13 y.o. were discussed. The current protocols are written for adult cardiac arrest algorithm to apply to patients 13 years and older. Dr. Anders moved that the lower limit be changes to 13 y.o. She also advised that Johns Hopkins and UMMC can take pediatric ECPR patients and possibly also Children's National Hospital in DC.

Other discussion points included availability of hospitals capable of accepting ECPR patients and whether there should be a designation process for ECMO centers similar to CIC and Stroke Centers (discussion tabled/deferred). Frequency of persistent VF/VT was discussed. Currently only a very small area of the state will be within 15 minutes of ECPR capable hospitals but vector change and DSED will impact all jurisdictions. Fiscal impact will be minimal as esmolol is the only addition to the formulary and it is not expensive (<$1 / vial). The need to continue to prioritize high performance CPR and an organized EMS response to cardiac arrests was also emphasized.

The question of support by cardiac monitor manufacturers was discussed. Stryker and Zoll are the only brands being used in the state. They have been contacted and advised that DSED is an “off label use” which they cannot endorse, but will not invalidate maintenance contracts and warranties (provided that defibrillations are not simultaneous). The importance of making sure defibrillations are not simultaneous was emphasized. Conducting a User Test after DSED use was recommended.

A motion was made by Christian Griffin and seconded by Dr. Fillmore to approve the proposal with the revision of lowering the minimum age to 13 y.o. The motion passed with no further discussion, objections, or abstentions.

**Calcium for Whole Blood – Dr. Levy:** The proposal presented at the September PRC meeting was made in response to a concern regarding hypocalcemia secondary to whole blood transfusions (as well as trauma patients in general being relatively hypocalcemic). The proposal was reviewed by Dr. Levy and calls for the administration of calcium if vital signs remain deranged after the first unit of blood.

The question was raised as to whether to include pediatric patients. Dr. Anders asked for clarification on whether the proposal is for calcium chloride or calcium gluconate and what the dosing would be. Since calcium gluconate is not universally available within the state so it was agreed to propose use of calcium chloride. Dr. Anders agreed to a pediatric dose of 20 mg/kg of calcium chloride for pediatric patients.

Dr. Chizmar noted that this proposal is an amendment to a Pilot Protocol.

A motion was made by Dr. Levy and seconded by Christian Griffin to approve the proposal. The motion passed without further discussion, objections, or abstentions.

**Guidelines for Infusion Pump Settings – Dr. Levy:** In the interest of time, Dr. Chizmar proposed to handle this topic off-line. The goal of the proposal is to make sure that infusion pump dosing is in the protocol.

Dr. Levy made a motion, seconded by Marianne Warehime, to move forward with the proposal as stated. The motion passed with no further discussion, objections or abstentions.

**Caution/Alert on Use of Diltiazem for Patients with a Known History of CHF with a Low Ejection Fraction – Dr. Levy and Mustafa Sidik:** This proposal is to add a statement to the Diltiazem Pharmacology that “for patients with a stated history of heart failure or low ejection fraction, hypotension may occur rapidly following administration and calcium should be readily available.” This statement would be added to the Precautions with wording to be finalized.

A motion was made by Dr. Levy and seconded by Christian Griffin to accept the proposal as presented. Dr. Stone asked whether this could be added mid-cycle. Dr. Chizmar pointed out that the proposal needs to be presented to the EMS Board first and the question of a mid-cycle change can be addressed at a later time. He noted that mid-cycle changes can be problematic. The motion passed with no objections or abstentions.

# Protocol Review Committee Meeting Minutes

November 8, 2023

**Dive Medicine OSP – Dr. Kemp and Dr. Tang:** Dr. Kemp advised there were no edits from the proposal for a Dive Medicine OSP that she presented at the September PRC meeting. She thanked those individuals who provided off-line feedback and noted all of the feed-back was positive.

Dr. Tang thanked the committee for their consideration. He advised that he has been approached by a number of jurisdictions outside of Maryland wanting to see the draft as there is a lack of any universal or formal direction on this topic.

A motion was made by Marianne Warehime and seconded by Dr. Levy to approve the proposal. The motion passed with no further discussion, objections, or abstentions.

**Burns/Carbon Monoxide Protocol Changes – Dr. Chizmar and Emily Werthman:** Dr. Chizmar reviewed the proposal that was originally presented at the September PRC meeting. The proposal calls for changes in the criteria for destination determination for patients with burns and carbon monoxide exposure. Patients with thermal burns should be triaged to a burn center rather than a hyperbaric center. Patients with smoke inhalation without burns should be transported to a hyperbaric center. Those with both smoke inhalation and burns should go to a burn center. This proposal was made at the request of the burn and trauma collaborative.

A motion was made by Christian Griffin and seconded by Marianne Warehime to approve the proposal. The motion passed with no further discussion, objections, or abstentions.

**New Business:**

**Patient Refusals – Upper Limits for BP to Prompt Base Station Consult – Dr. Castiglione and Dr. Chizmar:** This topic was briefly discussed at the September PRC and off-line input had been solicited. Concern had been raised as to need for EMS transport of asymptomatic but hypertensive patients. Dr. Castiglione clarified that this proposal does not pertain to asymptomatic patients. It would only pertain to symptomatic patients.

Discussion included the point that some patients may initially present with no specific signs or symptoms but with questioning may admit to symptoms such as headaches or chest pain. Blood pressures including SBP > 220 and overall BP > 180/120 were suggested as appropriate upper limits.

Dr. Chizmar suggested a proposal be written out based on today's feedback. D. Castiglione agreed to work with Dr. Stone and Dr. Seaman to produce a document to present at the January 2024 PRC meeting.

With no objection, the topic was tabled until January 2024.

**Modifications to Intravenous Maintenance Therapy for EMT – Dr. Chizmar:** Dr. Chizmar discussed the goal of allowing 911 EMTs and IV Techs to monitor KVO LR. He raised two questions. Should EMTs be able to monitor fluids other than LR? Should they be able to bolus fluid?

After discussion, the consensus was that KVO fluids were acceptable but no solutions with additives should be monitored by EMT for interfacility transports. There was also no support for expanding IV pumps to Interfacility EMTs. As there was no one in attendance representing CASAC or Commercial EMS, Dr. Chizmar advised he would take the proposal to CASAC before asking for any further action.

# Protocol Review Committee Meeting Minutes

November 8, 2023

**Blood Draw for MIH Pilot – Harvey Booth and Dr. Todd:** Harvey Booth presented the proposal on behalf of Worchester County MIH with the full support of the MIH Committee. He explained that many MIH patients have difficulty having lab work done due to lack of transportation to go to outside facilities or money to pay for home visits. This proposal would allow MIH Paramedics to obtain lab samples and 12 lead ECGs during scheduled MIH visits under the direct supervision, via telehealth, of a Maryland-licensed practitioner. The proposal stipulates that prior arrangements must be in place for having the samples processed and having feedback provided to the practitioners and patients. Specific procedures allowed would include 12lead ECGs, venous blood samples, fecal samples, and nasal swabs.

Discussion included methods of sampling and whether additional procedures would need to be included elsewhere in the protocols. As urine/fecal samples and nasal swabs are intended to be self-provided by the patient, no further training or procedures would need to be added.

A motion was made by Christian Griffin and seconded by Marianne Warehime to approve the proposal as written. The motions passed with no further discussion, objections, or abstentions.

**Language Line Recommendations – Mustafa Sidik, Rosina Gonzales and Kristy Brinn:** This proposal is based on evidence of overwhelming need for language line use based on reports of language as a barrier to patient care. Knowing that language lines exist and how to access them needs to be more widely known. The proposal adds a line in General Patient Care (GPC) recommending use of a language line if a language barrier is perceived by the clinician.

Discussion included use of on-site translators, including family members, as well as tools such as Google Translate. It was noted that family members, including children, are generally not supposed to be used as translators but in emergent situations are often used. Problems with Google Translate were also discussed and it was agreed there needs to be strong caution against using on-line apps rather than language lines. It was agreed that education regarding use of language lines needs to be robust.

A motion was made by Rachel Itzoe and seconded by Christian Griffin to approve the proposal. The motion passed with no further discussion, objections, or abstentions.

**Rocuronium for RSI – Dr. Levy:** Dr. Levy presented a proposal for use of rocuronium as an alternative to vecuronium in RSI. The proposal applies to adults only. MSP is the only jurisdiction currently doing pediatric RSI so Dr. Floccare's input is needed before including rocuronium in the Pediatric RSI Protocol.

A motion was made by Marianne Warehime and seconded by David Chisholm to approve the proposal.

In further discussion, it was pointed out that rocuronium dosing is based on ideal body weight. D. Levy advised he could add a reference for ideal body weight.

The motion passed with no further discussion, objections, or abstentions.

**i-Gels for Tactical EMT – Dr. Levy:** Dr. Levy pointed out the significant number of Tactical EMS Teams using BLS rather than ALS clinicians. He proposed that i-Gels be allowed for use by EMTs only in conjunction with Tactical EMS (when for credential EMTs, only when performing tactical EMS duties).

In discussion, Dr. Chizmar pointed out that i-Gels are not included in the National Scope for BLS but Tactical EMS is a very specialized group. Need for a training plan was discussed as well as clarification that this protocol would only apply to EMTs during Tactical EMS activities.

A motion was made by Christian Griffin and seconded by Dr. Chiccone to approve the proposal. The motion passed with no further discussion, objections, or abstentions.

**Journal Club:**

**Discussions:**

**Ketamine Drip for RSI/ventilator/IV pump – Dr. Chizmar and Dr. Floccare:** Dr. Chizmar presented a proposal to add repeat dosing of etomidate and an option for a ketamine infusion to maintain sedation for RSI patients on extended transports. Ketamine infusion would be allowed only for patients on a ventilator and infusion pump.

Discussion revolved around a strong preference for ketamine over etomidate expressed by many members of the committee. Dr. Chizmar suggested that due to the reservations regarding etomidate, that repeat dosing of etomidate be tabled and further discussion be limited to use of ketamine.

A motion was made by Christian Griffin and seconded by Nicole Nappi to move forward with the ketamine infusion portion of the proposal. The motion passed with no further discussion, objections, or abstentions.

**Maximum Ketamine Dose for CPR Awareness – Dr. Chizmar and Dr. Levy:** Dr. Levy noted that in most of the protocols, there is a stated maximum dose of ketamine. The exception is in the CPR Induced Awareness Protocol. He also pointed out that ketamine doses should be based on ideal body weight. He questioned whether the maximum dosing should be consistent across the protocols.

Due to time constraints, it was agreed to table the topic until the January 2024 meeting.

**Clinical Pearls for Overdose/Poisoning – Recovery Resources – Matthew Burgan and Dr. Chizmar:** Matt Burgan proposed adding a prompt in the Clinical Pearls section of the Overdose/Poisoning Protocol to encourage clinicians to provide referral to recovery resources to overdose patients who are refusing transport.

Dr. Chizmar asked for approval to move forward with this proposal. There were no objections or further discussion.

**Pressors for Volume Sensitive Patients in Shock – Dr. Chizmar:** Dr. Chizmar pointed out that clarity is needed regarding how much fluid to give to volume-sensitive patients before giving pressors. In brief discussion, concerns were raised on applying this to neonates. Need for use of smaller doses of fluids and more caution in volume-sensitive patients was also mentioned. Due to time constraints, discussion was limited but Dr. Chizmar advised the topic will be revisited at a future meeting.

**Adjournment:**
**A motion was made by Dr. Levy to adjourn. The meeting was adjourned by acclamation at 12:18 p.m.**