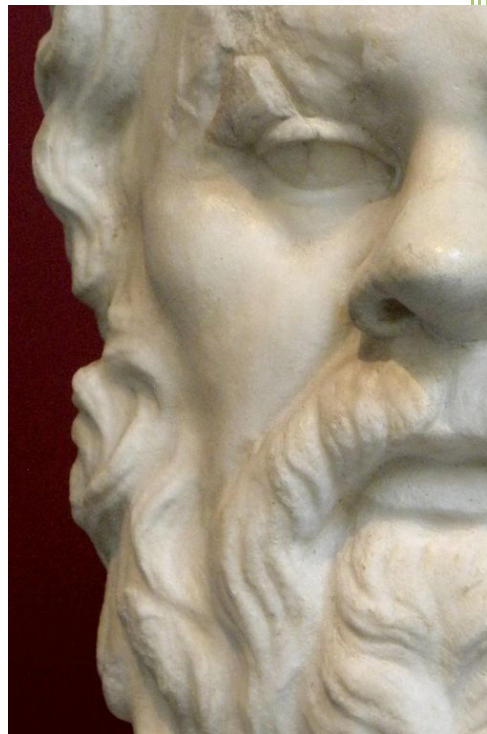




**NORTHWEST
COMMUNITY
EMERGENCY
MEDICAL
SERVICES
SYSTEM**

**6/30/19
2019
SOPs**

SOP Questions & Answers.V2 rev



The secret of
change is to
focus all of your
energy, not on
fighting the old,
but on building
the new.

— Socrates



Goal: All EMS practitioners are well-informed about evidence-based updates to care and translate this knowledge into clinical practice.

This document answers questions posed by System members regarding the new protocols.

Questions and comments welcome.
Direct to:

Connie Mattera, MS, RN, LP
EMS Administrative Director
Cmatters@nch.org

NWC EMS 2019 SOP Questions & Answers – V2 rev. 6/30/19

New questions for this edition are in highlighted in red

SOP section	Q & A
Introduction	<p>Q. General question: Is an override appropriate if the original OLMC hospital is not familiar with the new SOPs and is giving orders or withholding orders inconsistent with them?</p> <p>A. First attempt to redirect the person providing OLMC to the new SOPs (that should be at the radio). Inform them clearly what you believe the correct EMS interventions should be based on the new protocols. If they persist in ordering old science and you believe following their orders would cause you to breach your EMS duty as currently defined by our protocols and guidelines, seek an override from NCH. We'll sort out the differences of opinion later in an after action review.</p>
EMS Scopes of Practice	See new System Policy A3: ALS-BLS Services and Scopes of Practice just approved by Advisory Board on May 9, 2019.
General patient assessment / IMC	<p>Q. How should patients with chronic changes in mental status be scored using the GCS?</p> <p>A. The actual score as assessed. Indicate in the ePCR narrative and OLMC report the patient's usual baseline and if this demonstrates a change from their known normal.</p>
Pain management	<p>Q. Can we start with fentanyl and switch to ketamine later?</p> <p>A. If a patient does not experience pain relief with a full dose of fentanyl (SOP + OLMC) or experiences side effects from fentanyl that prevent further dosing, seek an order from OLMC to consider adding ketamine, but we would caution strongly against excessive sedation.</p> <p>Q. Can we only carry ketamine for pain instead of both fentanyl and ketamine?</p> <p>A. That would be inconsistent with national, state, and regional standards of EMS care for pain management. The current standard is a person-centered approach to pain management based on patient's history, type, nature, and severity of the pain, current clinical condition and treatment regimens. Multiple options need to be available and considered. For most patients, fentanyl remains the first and best choice for rapid severe pain management with a known safety and therapeutic profile. The expanded use of low dose ketamine offers better options for those with known substance use disorders or those who have chronic pain already managed with an opiate.</p> <p>Q. Are we supposed to carry acetaminophen?</p> <p>A. This is optional per agency. If you wish to purchase, carry, and give acetaminophen per the dosing called for in the SOPs, it is approved practice. However, like nitrous oxide, it is an agency-specific choice. It will not be restocked by the hospitals.</p> <p>Q. What is a Buzzy?</p> <p>A. Buzzy®, created by Dr. Amy Baxter, has been used to provide drug-free pain relief for 10 years and is now used in many Emergency Departments. Buzzy uses a patented combination of cold plus vibration to replace pain with temperature and movement. Proven efficacy in over 20 independent clinical trials. Buzzy® and distraction are clinically proven to reduce needle pain by 88%. It is highly recommended as an agency option. Added to Drug & Supply list as optional.</p> <p>See: https://buzzyhelps.com/pages/buzzy https://buzzyhelps.com/pages/the-science-behind-buzzy https://cdn.shopify.com/s/files/1/2593/7300/files/Value_Analysis_For_Printing_-_Revised.pdf?14810852831145862122</p>
Drug Assisted Intubation (DAI) changed to Advanced Airway	<p>Q. PIASA: Does the same rule apply for Ketamine and Fentanyl for pain with opiate naïve or not?</p> <p>A. Yes, rule applies, but ketamine better here because it offers analgesia and sedation. Don't need a combination of fentanyl and midazolam for PIASA if you use ketamine.</p>
Allergic reaction Anaphylaxis:	<p>Q. Anaphylaxis – if the BP is above 90 should we give fluids?</p> <p>A. If the BP is above 90, EMS should not be treating within the anaphylaxis box. Treat per the EMERGENT: Moderate SYSTEMIC Reaction box. In this case epinephrine IM is the top priority (not fluids).</p>

SOP section	Q & A
	<p>Cardiac arrest in anaphylactic shock</p> <p>Q. Why is epinephrine listed as a weight based 0.01mg/kg up to 1mg? So only 100kg pt would be receiving the full 1mg every 2 min in CA?</p> <p>A. While not a change in this SOP, it does reflect the current concern about the amount of epinephrine given during resuscitation. The patient in cardiac arrest from anaphylaxis is unique in that we are simultaneously attempting to reverse the effects of the allergic reaction (want to produce bronchodilation and vasoconstriction) without causing the known side effects of excessive epinephrine to cerebral perfusion during a cardiac arrest. This dosing allows more frequently administration to maintain blood levels, but at perhaps a smaller unit dosing than usual to balance priorities of mgt and prevention of side effects.</p> <p>Q. Anaphylaxis patient goes into cardiac arrest right in front of you; still in electrical phase. VF on monitor, ETCO₂ <20; do we defib?</p> <p>A. YES: Defibrillate a witnessed arrest in a shockable rhythm immediately.</p>
<p>Patients w/ Tracheostomy/ Laryngectomy</p>	<p>Q. Was the recommendation to use the peds mask over a stoma also meant to apply to ventilating a patient with an ETT inserted through a tracheostomy with a peds bag?</p> <p>A: No. In this case, we use the peds mask because it fits over the stoma better, but the adult bag to ventilate an adult. The tidal volume given must be adequate for the size of the patient.</p> <p>Q. Could an ET tube be placed through a stoma?</p> <p>A. Short answer, YES. “As with all clinical situations, decision-making at the time of an emergency will depend on a patient's overall health status, goals of care, and code status” See https://www.mypcnow.org/fast-fact/care-of-the-post-laryngectomy-stoma/</p> <p>Resuscitation via laryngectomy stoma. In a patient with a post-laryngectomy stoma, there is no connection to the airway from the oral or nasal cavity to the trachea. Bag mask, oral, and nasal intubation should never be attempted. If the patient cannot be adequately ventilated with mask to stoma technique, insert a cuffed endotracheal tube (ETT) directly into the stoma just until the balloon cuff passes through the stoma opening. Inflate the cuff; confirm ETT placement per usual procedure and ventilate as you normally should through an ETT.</p>
<p>Bradycardia w/ Pulse</p>	<p>Comment: Several classes had a hard time getting the concept of pacing first in the absence of an IV or if meds do not work. They also want to stop pacing to give meds.</p> <p>Response: Pacing can simply be started more quickly than most vascular access routes and before meds can be prepped and pushed or hung as a drip in a crashing patient. As soon as vascular access is secured and meds are available, it's perfectly fine to give them if pacing is not getting mechanical capture. If pacing is successful-stay with what works.</p>
<p>Cardiac Arrest for adults and peds (no matter what rhythm)</p>	<p>Feedback has come in about not routinely having 2 O₂ sources for ApOx, when to add a RQP, and difficulty obtaining an ETCO₂ reading during apneic oxygenation.</p> <p>PHYSIOLOGIC PRIORITIES IN RESUSCITATION:</p> <ol style="list-style-type: none"> 1. CONSISTENT high perfusion minimally interrupted CPR within 10 seconds of arrest recognition (if indicated) 2. Maintain negative intrathoracic pressure to optimize blood return to heart and cardiac output (cardiac and cerebral perfusion) 3. Adequate oxygenation without causing positive intrathoracic pressure 4. Effective defibrillation of shockable rhythms 5. Vasopressor, antidysrhythmic, inopressor, and other drugs as needed 6. Persistent resuscitation where found up to 30 minutes unless contraindicated 7. Effective post-ROSC care to support ABCs <p>HOW TO DO THAT (first 3)</p> <ol style="list-style-type: none"> 1. Consistent high perfusion, minimally interrupted CPR at the correct rate, depth and chest recoil to mimic as best as possible the circulation provided by a beating heart. NOTHING IS MORE IMPORTANT THAN THIS. How often would you like to experience a 5-30 second or longer period of asystole? That's what happens when we pause compressions. Solution: Immediate quality manual chest compressions transitioning to Mechanical CPR as soon as safely possible.

SOP section	Q & A
	<p>CPR may only be paused/stopped for the following:</p> <ol style="list-style-type: none"> 1. < 1 sec to place CPR feedback device 2. Optional: Lift patient for posterior defib pad placement (<5 sec) (attempt to combine pause with step below) 3. Lift patient for CPR device back plate placement (< 5 sec) 4. Activation of CPR device (autosensing piston placement) 5. Every 2 min: Rhythm ✓ if cannot read rhythm with compressions in progress (< 5 sec) 6. Every 2 min: Manual defibrillation (< 5 sec) if no CPR device deployed 7. Organized rhythm appears (expect spike in ETCO₂): pause to check for pulse (ROSC). If present: cease compressions. 8. TOR <p>2. Maintain negative intrathoracic pressure</p> <p>Each time the chest recoils after a compression, air is pulled into the lungs from the mouth and nose. The goal is to maintain NEGATIVE intrathoracic pressure throughout the majority of resuscitation to optimize blood return to the heart, and in turn, increase cardiac output. (No blood in, means no blood out!) We normally inhale because of negative intrathoracic pressure that pulls in just enough air to equalize intra and extrathoracic pressures before we exhale. Chest pressures are normally barely or rarely positive (unless we yawn, sigh, cough, or deep breathe etc.). This negative pressure (called the pulmonary pump) helps pull blood back to the heart. In a cardiac arrest, all BVM ventilations create positive intrathoracic pressure that reduces preload and temporarily diminishes cardiac output, thus reducing the effectiveness of CPR.</p> <p>What maintains negative intrathoracic pressure?</p> <p>Rescue Pod (RQP) (+ NO ventilations in early resuscitation unless contraindicated)</p> <p>The RQP lowers intrathoracic pressure during the recoil phase of CPR by selectively restricting unnecessary airflow into the chest. This vacuum increases preload, lowers intracranial pressure (ICP), and improves blood flow to the brain and vital organs. The RQP contains valves that prevent passive inflow of air into the chest from any source above the RQP (during chest recoil), but allow exhalation (during compressions). Once the RQP is applied, O₂ that is delivered below the RQP will passively enter the patient during chest recoil, but only positive pressure ventilations will actively push air (and O₂ applied above the RQP via the BVM) through the device into the lungs.</p> <p>EARLY USE OF a RQP is DESIRED to enhance the effectiveness of CPR unless contraindicated.</p> <p>Contraindications to RQP:</p> <ul style="list-style-type: none"> ▪ Flail chest ▪ Pulse present ▪ Children ≤ 12: The RQP should be effective in patients of all ages; however it has only been tested clinically in adults 18 years and older. Animal studies in a pediatric model of cardiac arrest, have demonstrated that the RQP effectively enhances circulation in 10 kg piglets in cardiac arrest. It is the ultimate decision of the prescribing physician to determine in what ages of patients the RQP should be used. <p>3. Adequate oxygenation without causing positive intrathoracic pressure</p> <p>A patient in cardiac arrest has less oxygen demand than a person with a beating heart, but an adequate O₂ level is critical for cellular function.</p> <p>Challenge: How to deliver O₂ without causing positive intrathoracic pressure?</p> <p>Solution: Apneic oxygenation (oxygen delivery without ventilations) during the early stages of resuscitation unless contraindicated.</p> <p>This can be delivered in a variety of ways.</p> <p>We originally taught in April to apply an ETCO₂ NC/NRM at 15L O₂. Based on feedback after that class, it was believed by some that we needed to provide greater O₂ than an ETCO₂ NC alone. So, we recommended 1 and 2 O₂ source options of ETCO₂ NC and BVM. These methods offered additional O₂, but prevented the early use of the RQP (as O₂ could not passively flow from BVM through RQP to patient) which was a concern to others and inconsistent with the Rialto protocols that we are replicating.</p>

SOP section	Q & A
	<p>Plus, we were given feedback that 2 O₂ sources would not always be possible, practical, or used. There also seemed to be some confusion over providing PreOx to a breathing patient prior to advanced airway placement vs ApOx in a patient in cardiac arrest (2 different approaches). In all cases, no advanced airway may be attempted without at least 3 minutes of preoxygenation by the appropriate technique.</p> <p>The old notion that early intubation is needed and desired during a cardiac arrest is an outdated habit not easily broken. In a very practical sense, people want something to DO during resuscitation, so they jump in to do something, even if it may be the wrong thing at that moment. As soon as advanced airways are placed, we almost always over-ventilate (rate and/or depth) causing positive intrathoracic pressure and an erosion of CPR effectiveness. Unless there is a compelling reason to isolate the trachea with an advanced airway, cardiac arrests should be managed with BLS adjuncts during the ApOx period (first 6 minutes) unless ApOx is contraindicated.</p> <p><i>Back to the drawing board and more research...</i></p> <p><u>Goals of ApOx with our current equipment:</u></p> <ul style="list-style-type: none"> Prevent all room air from entraining into the patient during chest recoil Ensure that O₂ flowing continually from the NC stays in the airway circuit <p>Fundamentally, ApOx will not work and an ETCO₂ reading cannot be obtained without good quality CPR and an open airway first. SO – below are the current recommendations. We continue to study this and will bring refinements as they are known:</p> <p>Options for ApOx & obtaining ETCO₂ reading from SOP, procedure manual and (discussion with EMS MD)</p> <ul style="list-style-type: none"> Manually maintain an open airway (jaw thrust/chin lift); insert NPA or OPA (or both!); suction pm, place NC ETCO₂ sensor at 15 L O₂ immediately after initiating CPR + hold BV mask on face (over ETCO₂ NC) with tight mask seal to reduce O₂ leak + add RQP above mask. NO NEED NOW FOR 2 O₂ sources initially. <p><u>TROUBLE SHOOTING steps if NO ETCO₂ reading can be obtained during ApOx</u></p> <ul style="list-style-type: none"> (Reposition the mandible to ensure that airway is open; ensure that BLS airways are correctly sized and placed; check for FB/secretions; suction again) (Ensure ETCO₂ NC sensor is correctly placed and not dysfunctional due to secretions, tubing is not kinked; and ETCO₂ monitor is operating correctly) (Check quality of CPR via real-time CPR feedback device. Number may never come up to detectable range if CPR is poor and/or downtime long) Switch to inline ETCO₂ sensor above RQP (just in case NC sensor no longer works) (Transition to a regular NC running O₂ 15 along with an inline ETCO₂ sensor) If still no ETCO₂ reading: ventilate X2 (15 L O₂/BVM) just to see chest rise to obtain a reading. (As soon as reading obtained; cease ventilating if during 6 minute ApOx period.) <ul style="list-style-type: none"> Contraindications to ApOx: Cardiac arrest caused by hypoxic event (asthma, anaphylaxis, submersion, drug OD etc.) and/or peds 12 and younger: <u>If ApOx contraindicated:</u> <ul style="list-style-type: none"> Open/maintain airway with position & BLS adjuncts Place NC at 15 L/O₂; cover with BVM mask with tight seal Add RQP to mask (unless contraindicated by age/condition) Place inline ETCO₂ sensor above RQP – connect to BVM Add 15L O₂ (if second O₂ source) to BVM and ventilate – or ventilate with room air if only 1 O₂ source (keep O₂ flowing continuously through cannula under mask): Squeeze bag over 1 sec providing just enough tidal volume to see visible chest rise and hear bilateral breath sounds in midaxillary lines with continuous chest compressions. Avoid high airway pressure (≥25cm H₂O) & gastric distention. Rate: Adults and children at 10 BPM (1 every 6 sec) to SpO₂ 94% (Hx asthma/COPD: 6-8 BPM to SpO₂ 92%). If SpO₂ does not meet goal, contact OLMC. After at least 3 minutes of oxygenation: Place extraglottic airway (i-gel) or ETT (adults) per procedure when safely able without interrupting compressions. DO NOT HYPERVENTILATE.

SOP section	Q & A
	<p><input type="checkbox"/> As able: Place SpO₂ central sensor; observe (trend) reading and pleth waveform</p> <p>Q. If bystander CPR is begun prior to EMS arrival; does it change the EMS decision to continue CPR?</p> <p>A. Not really. If the patient has a valid POLST order with the DNR box checked or meets the criteria for triple zero or no resuscitation, EMS should call OLMC and seek permission to terminate resuscitation.</p> <p>Q. Witnessed arrest. Do you have to wait for ETCO₂ reading?</p> <p>A: No, defib immediately if cardiac arrest with a shockable rhythm is witnessed by EMS. See updated procedure manual.</p> <p>Q. Are there any studies or science that states passive sampling (without ventilation) of ETCO₂ accurately represents levels at the alveolar level without being ventilated? We have seen massive number changes/increases from ETCO₂ being measured in an apneic pt during passive oxygenation in a witnessed arrest (old SOPs) compared to after the pt was intubated or ventilated.</p> <p>A. Yes, this has been studied and cited in the changes and rationale document. We expect higher numbers in a ventilated patient, but can infer the likelihood of successful defibrillation from ApOx numbers. We have added two options in the procedure if ApOx ETCO₂ readings cannot be obtained.</p> <p>Q. Amiodarone dosing: Patient is found in a shockable rhythm: Amiodarone 300mg given. After 2 minutes, if ROSC or non-shockable rhythm is seen, is the second dose of amiodarone given? (This is a “Connie said to give it” question. It is not written that way in the SOPs)</p> <p>A. (<i>Connie has been misquoted</i>). In stable VT with a pulse, the full dose of amiodarone is completed even if they convert, as it is a lower dose than VF, is diluted, and given very slowly to decrease cardiac irritability and prevent recurrent VT.</p> <p>In a cardiac arrest, the 2nd dose of amiodarone is only given if the patient remains in a shockable rhythm. The pt. already received a dose that was double that for VT, not diluted, and given rapidly.</p> <p>Once ROSC occurs, the heart is in a fragile state while we are attempting to get it functioning well again (thus the use of norepinephrine). Amiodarone is a powerful antidysrhythmic that has predominately Class III, but properties of all 4 Vaughn-Williams classes (delays repolarization prolonging action potential; slows AV conduction; prolongs AV refractory period & QT interval, slows vent. conduction (widens QRS), blocks Na, K, Ca channels, & α / β receptors with neg. chronotropic & dromotropic effects. It also vasodilates the patient to decrease cardiac workload and myocardial O₂ consumption. More amiodarone if patient is in a nonshockable rhythm is not indicated and could be deleterious based on the physiology of the drug. This is NOT like the (very) old days where we hung lidocaine drips (to the patient’s peril in some cases).</p> <p>Q. Has CPAP been considered for cardiac arrest?</p> <p>A. No. The purpose of CPAP is to maintain positive intra-airway pressure throughout the ventilatory cycle to provide non-invasive ventilatory support, help keep alveoli open longer to prolong oxygen diffusion time, help prevent air trapping in COPD/asthma, and provide positive airway pressure to reduce further diffusion of fluid into the alveoli in pulmonary edema and prevent or reduce the onset of atelectasis. We specifically do NOT want positive airway pressures in a cardiac arrest – thus the use of ApOx and the RQP to keep air from passively entering the chest during the recoil phase of CPR. Reduced intrathoracic pressure optimizes preload and cardiac output during CPR.</p>
Drug OD/Poisoning	<p>Q. Ketamine is contraindicated for meth and stimulant overdoses but indicated for excited delirium. Would we be violating SOP the way they are written if used in these patients?</p> <p>A. Ketamine is not contraindicated for all stimulant overdoses, only those with an already severely elevated BP without excited delirium as it causes catecholamine release that can elevate HR, BP, and mean arterial pressure (MAP). In these cases, midazolam is the preferred medication.</p>

SOP section	Q & A
	<p>General notes re: ketamine</p> <p>The most common adverse effects associated with IV ketamine (Ketalar) include:</p> <ul style="list-style-type: none"> ▪ Emergence reactions; visual hallucinations; vivid dreams ▪ Hypertension; tachycardia; increased cardiac output ▪ Increased intracranial and intraocular pressure ▪ Tonic-clonic movements <p>According to Consensus Guidelines on the Use of Intravenous Ketamine Infusions for Acute Pain Management from the American Society of Regional Anesthesia and Pain Medicine (ASRA), the American Academy of Pain Medicine (AAPM), and the American Society of Anesthesiologists suggest that pregnancy is a contraindication for ketamine (pregnancy category C). Other contraindications in their guidelines include poorly controlled CV disease, psychosis, severe hepatic disease, and elevated intracranial or intraocular pressure.</p> <p>Our SOPs:</p> <p>In the absence of excited delirium, ketamine should be used with caution, at the advice of OLMC or withheld if ↑ BP poses a serious hazard</p> <ul style="list-style-type: none"> - Hypertensive crisis; use of methamphetamine or similar drug - Acute MI, angina, HF - Intracranial hemorrhage or suspected ↑ICP; acute ocular globe injury or glaucoma - Hyperthyroidism; aortic dissection; known adrenal tumor; severe liver disease - Caution in patients with active psychosis <ul style="list-style-type: none"> ▪ Rx emergence reactions w/ midazolam (standard dose for sedation), will ↓ incidence by 50%. ▪ Hypersalivation can be managed with suction or low-dose atropine (OLMC order). ▪ Due to the catecholamine-induced sympathetic activity, ketamine can increase myocardial O₂ demand so continuous ECG monitoring is indicated as soon as practically possible. ▪ Ethanol also inhibits NMDA function, so use ketamine with caution in an intoxicated pt or one with chronic alcohol substance use disorder to prevent oversedation and ventilatory depression. <p>Q. Police can give 4 mg increments of naloxone and EMS must follow our SOP. Is it possible to issue a System memo increasing the initial dose when unresponsive and apneic?</p> <p>A. Short answer: No. Increasing naloxone dosing from our new SOPs is not clinically advised. Recent research done in Pittsburg demonstrated that patients who received out-of-hospital naloxone in doses >4.4 mg were 62% more likely to experience pulmonary complications following opioid overdose (absolute risk, 42% vs 26%, respectively. Police dosing may also account for incorrect IN administration technique that allows for excessive run off.</p> <p>Farkas, A., Lynch, M.J., Westover, R., et al. (2019). Pulmonary complications of opioid overdose treated with naloxone [published online June 7, 2019]. Ann Emerg Med. doi:10.1016/j.annemergmed.2019.04.006</p>
<p>Hypertension/ hypertensive crisis</p>	<p>Q: “Evidence suggesting end organ damage present” what exactly should PM be looking for? Under the assessment, the neuro could also be present with patient having a stroke so wouldn't that SOP be followed? Similar thought with cardiac chest pain, shortness of breath: would suggest MI or worsening HF.</p> <p>A: The S&S of end organ damage are defined in the top box of the SOP. We don't usually treat the HTN from stroke until the BP rises above a specific level that prevents the use of TPA and that is done at the hospital. Paramedics often need to integrate and combine protocols. If a pt is extremely hypertensive with evidence of end organ damage causing chest pain, we would need a 12 L ECG, give ASA and Rx for ACS with NTG if indicated (which would also help to reduce the BP). The SOPs are meant to be used synergistically. If there is ever any question as to what the most appropriate course of action would be, please call OLMC for consultation.</p>
<p>Psych/BEHAVIORAL/ Agitated/VIOLENT adult and peds</p>	<p>Q. How exactly is ketamine to be dosed in patients who are combative?</p> <p>A. When a pt is so combative they are a risk to themselves and others; FIRST estimate their weight. There is a table at the back of the SOP that precalculates the max ketamine doses by weight. Given that there is almost never an IV placed in these patients, the drug is usually delivered by the IN and/or IM routes. When giving ketamine IN or IM, double the dose calculated in the 2 mg/kg column. These scenes are chaotic and rapid decisions must be made and careful precautions taken to ensure everyone's safety.</p>

SOP section	Q & A
	<p>In the absence of an IV, the SOPs allow the following approach (in this order) as long as the pt remains combative, there are no untoward ketamine side effects, VS & oximetry remain stable on reassessment, and max weight-based dosing limits are not exceeded.</p> <p>Up to 50 mg (1 mL) IN (unless route is unable to be used/contraindicated) Up to 50 mg (1 mL) IN - reassess pt and need for additional medication Up to 150 mg (3 mL) IM (vastus lateralis muscle) – reassess Up to 150 mg (3 mL) IM – reassess Up to 50 mg (1mL) IN - at least 90 sec after last IN dose - reassess Up to 50 mg (1 mL) IN –Continue reassessing enroute Note: May give up to 150 mg (3 mL) 3rd IM injection if IN route cannot be used Max dose for even the largest pts: 500 mg</p> <p>It is our intent to deliver a therapeutic dose that safely sedates a pt without causing adverse side effects. All pts receiving sedating drugs are to be monitored with continual direct observation, VS, ECG, SpO₂ and ETCO₂ following onset of sedation. Support ABCs prn.</p> <p>Q. Given that ketamine can increase BP, can it worsen the HTN seen in pts with excited delirium?</p> <p>A. Excited delirium is a life-threatening hyperadrenergic state usually caused by stimulant drug use in addition to their extremely agitated/violent behavior. In these patients, ketamine should actually lower the BP as the dissociative sedation effects begin.</p> <p>Petitions</p> <p>Q. If a child under the age of 18 hears an adult make suicidal threats or statements can the child be the one to sign the petition?</p> <p>A. No, they are not legally able to sign. However, the statements made by a minor should be entered into the narrative section. If a minor is the only witness, seek assistance from law enforcement to sign the petition. Explore the alleged statements with the patient when using the new Suicide Screening Tool. This may yield comments that allow EMS to sign the form.</p> <p>Q. Does a petition need to be filled out for a suicidal/homicidal pediatric pt that the parents want transported?</p> <p>A. Yes. Parent signs form. See answer below about disconnecting the need for a Petition from a patient's consent status. EMS personnel will get different answers regarding Petition forms from different hospital mental health workers. SYSTEM DIRECTION: Complete the form as a documentation tool. It becomes the patient's "ticket to a physician's evaluation". The portion completed by EMS does not commit them to an involuntary admission. The hospital may discard it if they do not want to enter it into the record.</p> <p>Q. What about if the parents refuse transport and OLMC takes protective custody of the child does a petition need to be filled out?</p> <p>A. Yes if EMS witnessed behavior or statements suggesting the patient will imminently harm themselves or others. Otherwise, why would OLMC take temporary protective custody for transport against a parent's wishes?</p> <p>Q. If someone wants to be transported to the ED willingly/voluntarily and they are decisional but have suicidal/ homicidal thoughts, does EMS always have to fill out a petition?</p> <p>A. Yes Petitions are to be completed for every patient with a mental health condition who poses an imminent threat to themselves or others or cannot care for themselves. This form provides a baseline assessment that physicians consider later in making their determination regarding involuntary admission. The patient's consent status does not impact the need for EMS Petition form completion.</p> <p>Q. Suicide screening: Why is one time frame in the past month and the other in the past 3 mos?</p> <p>A. The screen is a nationally validated tool designed to discover the urgency of the S&S.</p> <p>Q. Suicide screen: If the answer to question #1 is yes and all the others are no and the patient is decisional, must they be transported (against their will)?</p> <p>A. It depends. Ask how long ago they had those thoughts? May not be an acute or current concern. If no current thoughts of suicide, all the other answers are no and pt is decisional, they can refuse. The answer to #1 must be put into context of the rest of the questions. If current suicidal ideations, the patient must be seen immediately to protect their safety.</p>

SOP section	Q & A
Cardiac arrest due to Trauma	<p>Q. Drowning is listed as a traumatic arrest so would a drowning victim be a load and go arrest or stay and play arrest? Most in class would have thought that a drowning would be someone best managed and worked on scene.</p> <p>A. A submersion incident is listed as a special category of cardiac arrest. The submersion SOP gives the following direction.</p> <p><input type="checkbox"/> CRITICAL: If unresponsive, apneic and pulseless: CPR using traditional A-B-C approach due to hypoxic nature of arrest. Rx per appropriate SOP (for rhythm).</p> <p>We agree, that they should be resuscitated on scene unless extremely hypothermic and there is a need for core rewarming and/or the hospital has the option of putting them on ECMO.</p> <p>Q. Should we start resuscitation on all blunt and penetrating trauma pts found in asystole, pending call to OLMC, at whose discretion we will either be told to stop interventions, or to continue?</p> <p>A. No – please see clarification below:</p> <ul style="list-style-type: none"> • If blunt or penetrating trauma found in asystole (normothermic and NOT a victim of submersion, lightning strike, or hypothermia) – DO NOT start CPR or resuscitation. Get an order to pronounce. • If blunt or penetrating trauma found in asystole who is hypothermic, victim of submersion or lightning strike; start CPR; call OLMC for pronouncement or order to continue resuscitation and transport immediately. • If cardiac arrest from trauma with any vital signs prior to arrest: Resuscitate • If shockable rhythm found in cardiac arrest following trauma: Resuscitate <p>We know this is the first time we are attempting to enforce national guidelines in this area and some may be uncomfortable with not trying to resuscitate. We have very strong concerns about EMS responder safety while transporting a patient with no hope of recovery with resuscitation in progress. They will not be wearing seatbelts and will be vulnerable to injury during transport for no defensible reason.</p>
Spine trauma Spine motion restriction (SMR)	<p>Q. Can patient with “whiplash” type neck pain self-extricate from a vehicle?</p> <p>A. Yes, provided that they are alert, oriented, cooperative, are not impaired, have no distracting injuries, no point tenderness or deformity to palpation, and a normal neuro exam leading you to believe they do not have an acute SCI.</p> <p>Q. No flow chart in the SOPs anymore for who needs or doesn't need immobilizing. Previously 65 and older with any MOI was spine motion restricted and there doesn't appear a clear rule for that anymore. Can someone over 65 now be cleared to not require spine motion restrictions?</p> <p>A. The old flow chart overemphasized mechanism of injury as an indication for SMR and was no longer accurate based on current guidelines so was removed. The new guidelines focus on the patient's clinical presentation and factors that may make a physical exam unreliable. They are quoted as points of consideration in the new SOPs. The System will be discussing this SOP in more detail in an upcoming CE this fall to help apply the new standards. To address your question: The Spine Trauma SOP refers to the Elderly SOP which states</p> <ul style="list-style-type: none"> ■ Can experience significant trauma despite a relatively minor mechanism of injury ■ Carefully assess and provide spine motion restriction for falls per Spine Trauma SOP <p>If placed on spine board: Pad well, protect bony prominences. Inform ED re elderly pt on board.</p> <p>The majority of traumas we see in the Elderly are falls. The intent of the elderly SOP was to encourage a high index of suspicion and advocate for SMR for these pts (until injury ruled out at the hospital). On retrospect we see why our intent is unclear. Yes apply SMR. The <i>manner in which SMR is applied</i> should be guided by the Spine Trauma SOP. This does not mean c-collar and backboard for all! If no injury apparent, apply c-collar; place patient directly on stretcher and limit head movement with tape, towel rolls and/or commercial devices.</p> <p>Q. Can a pt needing to be placed in semi-Fowler position for breathing complication or extreme kyphosis be placed in a KED to better support spine motion restriction?</p> <p>A. It depends on several factors. If a patient has clinical signs of acute spine trauma with a neuro deficit, the only safe position for them is supine with SMR. Not only must we avoid flexion, extension, rotation and lateral bending of the vertebrae, we must also prevent possible axial loading from a heavy head when in an upright or semi-upright position.</p>

SOP section	Q & A
	<p>Flat positioning of patients with known or highly suspected SCI is also recommended due to the possibility of hemodynamic instability from hypovolemic and/or neurogenic shock. If any patient with possible SCI begins to have ventilatory or respiratory distress after SMR is applied, consider the benefit to be gained from CPAP or assisting ventilations with a BVM.</p> <p>That being said, if a fully alert elderly pt has fallen and they have an absolutely normal physical exam with no focal or generalized neuro S&S of injury, they are hemodynamically stable, and the only reason we are placing them in SMR is from extreme caution until they can be radiographically cleared at the hospital, then super-padding a KED and placing the patient in a slightly heads up position may be beneficial for their comfort and ventilatory status. Do not elevate their torso if movement causes pain or a drop in BP. (You get an A for creativity!)</p>
Pediatric patients Peds initial medical care	<p>Q: What are the indications for a pediatric 12 L ECG?</p> <p>A: Common indications for pediatric electrocardiography</p> <ul style="list-style-type: none"> • Diagnosis and management of congenital heart disease • Diagnosis and management of arrhythmia • Diagnosis and mgt of rheumatic fever, Kawasaki's disease, pericarditis, myocarditis • Syncope, seizures • Cyanotic episodes • Chest pain or other symptoms related to exertion • Family history of sudden death or life threatening event • Electrolyte abnormalities • Drug ingestion
Peds Airway Adjuncts	<p>Q. When king vision was rolled out we were told that there was no age cut off and if a child was large enough to accept the king vision blade we could utilize it for intubation. Are we now placing a hard line age 12 and under even if large enough for KV we are only using Igels? Can King Vision be used in large pediatric patients?</p> <p>A: When King Vision was rolled out, the System did not have any alternate advanced airways for children and pediatric intubation was still authorized based on OLMC approval. Peds Intubation has now been removed from the SOPs for patients ≤12 due to the extremely low incidence of pediatric respiratory/cardiac arrests and the difficulty in maintaining skill competency. Most pediatric airways can be maintained well with position and BLS adjuncts and ventilations can be provided without gastric distention if the BVM is used correctly. If an ALS airway is indicated, the new availability of a peds i-gel provides a good option. If the on-scene paramedic firmly believes that ETI is the only way to secure the airway and/or to provide effective ventilations in a larger child in which the King Vision blade can be easily inserted without trauma to the mouth and airway tissues and they can be intubated with the 7.0 ETT, contact OLMC to discuss the best airway approach.</p>
Peds Allergic Rx	<p>Q. Why isn't pediatric Benadryl listed in the peds drug calculation chart?</p> <p>A. Space is very limited in that chart and with a dose of 1 mg/kg (50 mg max) it is hoped that practitioners can determine the dose pretty easily as soon as they have a weight.</p>
Drug Appendix	<p>KETAMINE</p> <p>Q. There appears to be a discrepancy in the concentration of ketamine between the entry in the Drug Appendix and the dose calculation page. What concentration should be stocked and given?</p> <p>A. We agree that this appears confusing. The Drug and Supply list specifies that ketamine should be carried as 500 mg/10 mL (50mg/mL concentration) to allow for the IN/IM dosing. That is the concentration used on the dose calculation page. Some sources recommend that IVP ketamine be diluted, and that note in the Appendix was inserted years ago when ketamine was first added to our formulary. In the meantime, do not worry about diluting the ketamine if stocked at the desired concentration. Just push slowly per SOP instructions when giving IVP. Will clarify the Drug Appendix note in the next SOP.</p>