| Protocol | Notes |
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| Abdominal Pain | Discussion regarding using Zofran and Phenergen. Cleveand EMS carries both Phenergen and Zofran as well. List anti-emetic as both "Zofran or Phenergen". Analgesia – Dilaudid start at .5 – 1mg up to max 2 mg q10 minutes – 2 doses max. No more than .5 mg for over 65. List all three for pain management. 1 mcg per kg |
| Acute Coronary Syndromes | Use of Brillinta/Plavix in pre-hospital setting – discuss with respective cardiologists – may red box to contact med ctrl.<br>Fentanyl primary for pain control, Morphine/Dilaudid as alternates. Dosing Fentanyl – 25-50 mcg q5 minutes up to max dose of 100 mcg; Morphine – 2.5-5 mg repeat as needed q10 minutes up to max 10 mg; will be standing order. Zofran – dosing and format – fluid vs dissolvable tablets – pharmacy will research further. ED drugs used for pulmonary hypertension – will be added as caution. Transport to STEMI capable facility.<br>12/20/2016: SWGH spoke with Cardiologists – they prefer to continue using these meds in the cath lab as it allows for med customization for each patient. Metro would like to discuss further before decision is made on their end. UH/CCF spoke to the difference between rural and urban travel times – these meds may be most useful in rural setting with prolonged transport times. |
| Acute Coronary Syndromes – Cocaine Induced | Discussed Benzo type and use. Ativan vs Versed – both good options, cost effective, same routes and dosages. Valium cost prohibitive and should no longer be considered option. Assure med exchange protocol is considered. Pharmacy to research data on Ativan. Ativan must be changed out every 60 – 90 days.<br>12/20/2016 – Emily researching and was unable to attend this meeting – Jason will follow up and assure info is sent to the group. |
| Airway | Use Cricothyrotomy kit in protocol to broadly cover all options. Using Ativan currently. Ketamine – UH lists in RSI protocol. List meds as "Ativan or Ketamine". Ketamine vs Versed use CCF red boxed Ketamine for this protocol. Ketamine concentration – 100 mg per 1 kg. Have Ativan available for emergence phenomena. Capnography – UH medics do not intubate or use advanced airway without using capnography or end tidal CO2 monitoring procedure. Sedation: Prior sedation and additional sedation (post procedure) provide for use f Ativan, Ketamine, or Versed. |
| Altered Mental Status and Hypoglycemia | UH update – removed D50- carries D10 for adult hypoglycemic. Dose based on what the patient's glucose reading is. 250 bag of D10 – full bag given if under 40, half bag given for over 40. Pharmacy – assure correct is bag is grabbed as they look alike. Bag is much cheaper to carry than D50 syringe. Pharmacy would have to assure they have correct doses for 1 to 1 exchanges. If unable to get IV access do we want IO for D10 or give glucagon? Giving D50 via IO is very painful. Can give D10 IO without the pain. Concensus – go with D10 IV/IO. |
| Anaphylactic Reaction | EPI auto injectors for basic squads – very expensive. More cost effective to draw up med than use auto injector. EPI labeling will change from ratio to concentration – 1mg/ml for 1:1000 and .1mg/ml for 1:10000. Solu-medrol – use if necessary because it can effect patient outcome – may not need to be |

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| | admitted. Solu-medrol will not have effect pre-hospital. Leave Solu-medrol in protocol as an option (consider). RESQGARD – being currently used for renal failure on dialysis. Combine Moderate/Severe sections – remove hypotension from severe column. Hypotension should only be in the anaphylaxis shock section. |
| Anaphylactic Shock | See above. |
| Behavioral/Psych – Combative | Uh changed a lot. Remove Haldol – prefer to use Ativan and Ketamine. Haldol takes too long to work. Restraints – do not restrain chest at all – no restraint in prone position. Allow Versed for use when combative. Consider alcohol withdrawl. Capnography procedure if sedating the patient. 4mg/kg IM or 2 mg/kg IV for Ketamine. Antipsychotic use pre-hospital? Zyprexa – works quickly. Jay will research Zyprexa vs Haldol. Charity uses Zyprexa instead of Haldol combination. |
| Chest Trauma | UH – IT clamp is part of bleeding control. Referred to as Bleeding/Hemorrhage control procedure in UH protocol – linked procedure refers to IT clamp use. NOTS – TXA in hemorrhage control protocol. UH initially pulled TXA due to increased clotting – proven to not be true. TXA used for hemorrhaging patients that do not respond to other interventions. Needs to be given within 1 hour. 1 gram dose in 100 ml bag given over 10 minutes – use for obvious hemorrhagic shock patients not responding to resuscitation. CCF is adding to protocol within next few weeks. CEMS does not use, UH will discuss adding back to protocol. NOTS will send out their protocol to group. Not naming chest seal as they change. |
| Delirium Tremens | UH has separated by severity – mild intox to withdrawl symptoms. UH has Thiamine added to treat hypoglycemia in chronic alcoholic patient. Zofran for Nausea/vomiting. Ketamine or Haldol for severely combative patients. Keep both Ativan and Versed as options. Severely combative column is same as psychiatric protocol. For Ketamine – will need to discuss concentration. Options per ml – 100, 50, 20, 10. Discussion about having separate protocol for alcohol emergencies – SWGH has alcohol related included in behavioral health protocol. Include oral Zyprexa 10 mg ODT as option for combative patient. Include Zyprexa, Ketamine, Ativan. Zofran – word as give oral (IV solution or ODT). |
| Epistaxis | Remove from protocol. Use rolled up gauze for packing if necessary. |
| Esophageal Foreign Body | Remove Glucagon– no effect on this type of patient. Remove NTG?? NTG smooth muscle relaxer and may have benefits. Will discuss with respective GI.<br>12/20/16: Spoke with respective GI, they would still prefer Glucagon to be used for food impaction, however, can be given in ED and no need to use in pre-hospital setting. NTG can be given in ED as well. Pre-hospital should focus on protecting patent airway instead of initiating meds that can be given in ED. Discussed combining this protocol with the airway protocol – no need for separate protocol for this. |
| Extremity Trauma/Amputation | Follow NOTS guidelines for trauma protocols. Lower extremity tourniquet – apply 1-2 tourniquets. CCF adds Ketamine instead of Ativan and is red boxed. Same dose of Ketamine as with RSI. Conisder multile tourniquest if necessary – current only states two “commercial tourniquets” for lower |

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| | extremities – may use multiple tourniquets on any extremity if necessary – need to specify "commercial tourniquet" in protocol. Ketamine will be primary med with benzo as back-up. Jay still researching stability of Ativan. Also start with Ketamine for pain management. Have pain step and sedation step. |
| Eye Injury | Tetracaine – stability – tetracaine good for allowing irrigation comfortably. Jay will look into cost of tetracaine and method of application. Single use per patient. Alcaine as option. Jay will research Tetracaine vs Alcaine. Look into "Save a tooth" for tooth preservation. UH protocol includes all maxillofacial trauma/injury – eye, ear, nose, tooth. |
| Foreign Body Airway | Difference is quick trach and needle cric. SWGH only uses quick trach, CEMS does not use either. UH has both in protocol. Needl cric only for patients under the age of 8. CEMS would like to only use needle cric. Refer to cricothyrotomy procedure – list each available procedure. |
| Head Trauma | |
| Narrow Complex Tachycardias | Currently difference listed as type of benzo. List both Ativan and Versed in protocol. Lopressor is currently redboxed UH protocol – can be removed. |
| Nausea/Vomiting | Difference in anti-emetic – Zofran vs Phenergan. CEMS currently uses Phenergan – okay with only using Zofran. Use Zofran ODT or IV (IV solution can be given orally if ODT not available). |
| Neonatal Resuscitation | |
| OB Emergencies | Current difference – CEMS does not use Mag Sulfate currently – okay with adding back to protocol. Keep both benzo's – Ativan and Versed. Mag Sulf – 2 gram pre-mixed bags – research cost. 2 gram pre-mixed bag is most expensive but makes the most sense to have for EMS.<br>CCF - Mag sulf 2 mg in 100 cc saline/6 grams in 100 cc saline used for eclampsia.<br>1 gram pre-mix, 2 gram pre-mix, 4 gram pre-mix available. Carry 3 2 gram bags in 100 cc saline on EMS. Concerns about adding additional grams to pre-mixed bags – bag would be labeled as 2 gram pre-mixed and nurses in ED may not be looking for additional labeling for additional grams added. Shelf life of two years.<br>Vials are cheapest option. – weigh out benefis of having pre-mixed solution. Vials provide greatest amount of flexibility.<br>Agree to Carry 3 2 gram pre-mixed bags 100 cc bags – Jay will research using 100 or 50 ml bas. |
| Peds Abdominal Trauma | |
| Peds Airway | |
| Peds Altered LOC/Hypoglycemia | |
| Peds Anaphylactic Reaction/Shock | |
| Peds Asystole/PEA | |
| Peds Bradycardia | |
| Peds Burns | |
| Peds Cardiogenic Shock | |
| Peds Extremity | |

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| Trauma/Amputation | |
| Peds Eye Injury | |
| Peds Fever | |
| Peds Foreign Body Airway Obstruction | |
| Peds Post Resuscitation | |
| Peds Respiratory Distress – Lower Airway | |
| Peds Respiratory Distress – Upper Airway | |
| Peds Seizure | |
| Peds Severe Pain Management | |
| Peds Tachycardia | |
| Peds Toxic Ingestion BB/CCB | |
| Peds Trauma Arrest | |
| Peds V-FIB/V-TACH | |
| Peds Wide Complex Tachycardia | |
| Post Resuscitation Care | |
| Respiratory Distress | UH 2016 – added Severe Resp Distress/Stridor column, 2017 – Racemic Epi will be added – pharmacy will research cost of Racemic Epi. Milner provided documentation regarding cost of Racemic Epi. Solu-medrol not being used currently at CEMS or SWGH. UH/CCF agree that using solu-medrol provides for a better patient outcome – either being discharged from ED or staying out of ICU. Capnography in protocol to be used if available – cost difference: capnography cannula costa approx. $11, regular cannula less than $1.<br>Duoneb – CEMS uses Albuterol only at this time. No increased cost between Duoneb and Abuterol only. Duoneb easily identified. Mag Sulf in protocol since it is included in drug boxes.<br>Usually last step and rarely get used for resp distress in pre-hospital setting. Discussed different methods of administration, IV drip vs. vial – pharmacy to research further. CCF has in updated protocols – specified to dose 2 grams in 100 ml fluid. Important to specify dosing and method (slow IV push, etc..) with Mag Sulf. All three levels listed in UH protocol has been agreed upon by group. |
| RSI | Will be added as annex to protocol document to be used only by those specially trained to perform this intervention. |
| Seizures | |
| Severe Pain | |
| Stroke/CVA | UH use Cincinnati on scene as screening tool. MEND used for determining severity scale – comprehensive or primary. Look to see what has been validated. LVO screeners. Current protocol – use Cincinnati first then perform MEND while enroute to receiving facility. Update screening tools if literature evolves. |
| Toxic Ingestion BB/CCB | |

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| Toxic Inhalation Cyanide | |
| V-FIB/V-TACH | |
| Wide Complex Tachycardia | |
| Medication Info | Go Nitro - $6.50 per unit dose. Multidose vial – typically use 3-6 doses per vial – CEMS only using up to 3 doses on 1 patient. 1 month shelf life once opened. Costa is the same with bottle and powder packs. Jay recommends considering having both tablets and Go Nitro on medication licesnse and including both in protocol. Jay will try t obtain placebo or training materials to take to the group.<br><br>Tooth Avulsion storage – info obtained on both EMT Tooth Saver and Save a tooth products. Each costa approximately the same. Guidelines included which suggests to try to place tooth back in mouth during transport. Include in protocol with generic instructions – UH uses saline as preservation. Collins suggests touching base with Dentists. Spaner will contact dental school and Collins will contact. Shelf life of 2 years, cost $12.<br><br>Ketamine – use for IM acute agitation and RSI. 4 concentrations on market. Dosages are quite different per concentration. 200mg in 20 ml vial – most common concentration – used for small doseages. 500mg in 10ml – 50 per ml. 500 mg per ml – 1000mg per 10 ml. Multiple uses, each use has different dose and concentration. UH 500/5 IM, CCF 500/5 for agitated, 200/20 used for airway assist and pain. Excited delirium. Check CCF's new protocol. Spaner would like all med directors to discuss together. Ketamine use in new in EMS. Red box for all use except excited delirium patient. SWGH uses .3 mg per kg inpatient for refractory pain – not in pre-hospital protocol. 10 mg/kg for intubation max 100. 250 single dose up to 2 doses to max 500 for agitation. Severe pain - .3 mg/kg max dose of 30. Max volume set for IM dose – consider labeling vial for IM use only. Carry two concentrations – Collins requests red box Ketamine use since it is new for EMS. .1-.3 mg/kg given IV over 10 minutes repeated hourly – per literature. Do not redbox for excited delirium – can redbox for pain management – 1 dose max – max f 30 mg. Agreement to use for excited delirium but red box for pain. Start low, repeat is needed – begin with .1 mg/kg can increase to .3 mg/kg if needed. For now - .1 mg/kg to start with. Jay will provide input to maintain patient safety.<br><br>Stability of room temp Ativan – data leaning towards 6 weeks – 42 days, more info to follow. |
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