MAINE EMS 2019 PROTOCOL LESSON PLAN

	YELLOW SECTION	
SLIDE #	***LESSON***	***NOTES***
1	1. Title slide	
2	2. GLOBAL CHANGES *(series of slides)* a. Consolidation of Yellow #1-5 into "Poisoning/Overdose"	
3	b. Pediatric interventions and medications/doses have been moved from PINK and incorporated where applicable	
4	c. "Organophosphate/Carbamate" is now titled: ***"Nerve Agent/Organophosphate/Carbamate"***	
5	d. "Ophthalmology" has been moved to the GREEN section	
6	e. "Agitation/Excited Delirium" has been moved to a NEW Orange section	
7	f. "Radiation Injuries" is a NEW protocol	
8	3. Yellow #1 & #2 a. There was a large overhaul of the Yellow section. i. It was revised to make the protocol simpler and easier to use ii. The following sections were consolidated into 2 pages: 1. Toxins #1-3 2. Antidotes for Specific Toxins- Opiates 3. Antidotes for Specific Toxins- TCA's	
9	b. 2017 Approach i. The 2017 protocol began with a general assessment ii. It proceeded with specific treatments to "remove and dilute" toxins, by method of exposure: 1. Ingested 2. Inhaled 3. Absorbed 4. Injected	
10	c. 2019 Approach iii. The approach of the protocol is to begin assessing the patient as you normally would and proceeds to cover signs and symptoms and interventions, along with possible causes, as you might find them in the assessment process. iv. Expanded list of signs/symptoms, suspected causes, and their Tx v. Referrals are given for signs/symptoms and specific toxins for which there are separate existing protocols. vi. Protocol starts with airway assessment	
11	d. EMT vii. **NEW** Pediatric[1] dosing added for suspected narcotic overdose 1. 0.5 mg **IN** 2. Titrate to effect	*1.* ***NEVER GIVE NALOXONE TO A NEONATE****. Neonatal patients are defined in 2019 protocols as being LESS than 28 days old*

12	e. EMR viii. **NEW**- EMR's can now administer naloxone ***via auto-injector at a dose that is available per commercially available product.*** 1. *This is a change in EMR scope of practice in Maine.* 2. *This addition to scope of practice will require local/individual education and skills practice to obtain and maintain knowledge and skills competency.*[2]	*2. INSTRUCTORS: Please emphasize the importance of individual and especially service-level didactic and practical skills training for the EMR. Administration method MAY vary between services with specific administration sets purchased.*
13	3. *Suggested training includes:* *a. Pharmacology* *b. Indications/contraindications* *c. Dosing* *d. Time to peak effect* *e. Duration of effect* *f. Medication administration* i. *Skills practical*	
14	f. EMT i. Item #5-7 4. Tx for some specific toxins and signs/symptoms are referred to other existing protocols a. CO b. Hypoglycemia c. Seizures	*Format here is similar to 2017, but not broken down by method of exposure.*
15	ii. Paramedic 1. Item #13- Ingested Poisons a. No change in pt care	
16	2. Item #14 a. Pain management secondary to absorbed toxins incorporated here	
17	3. Item #15 a. List of suggested Tx for various ingestions: i. Symptomatic Beta blocker or Ca^{+} channel blocker overdose ii. Dystonic reactions iii. Organophosphates iv. Severe agitation v. TCA overdose b. Refers to multiple existing protocols for Tx c. This list includes items not in 2017 protocol d. Includes pediatric medication dosing	*Format here is similar to 2017, but not broken down by method of exposure.*
18	4. Item #15b a. **NEW**- Dystonic Reaction	*The concept of dystonic reaction should not be new*

		b. Benadryl i. Adult: 25-5- mg IV/IM ii. Peds: 1-2 mg/kg IV/IM; **MAX** dose 50 mg	*for paramedics. However, its specific inclusion in the listing and the addition of pediatric mediation dosing for Benadryl **in this protocol is.***
19		5. Dystonic Reaction a. *THIS SLIDE IS NOT IN THE PROTOCOLS THEMSELVES* b. Dystonic reaction should not be new to the paramedic.[1] SEE SLIDE. c. Acute dystonic reactions are often transient but can cause significant distress to the patient. i. Although rare, laryngeal dystonia can cause life-threatening airway obstruction.	*1. This description slide and the following slide are included for benefit of the instructors who wish to use it in their presentations as an educational review.*
20		a. Common causative agents:[2] i. Antipsychotics ii. Antiemetics iii. Antimalarials iv. Antidepressants v. Antihistamines vi. Anticonvulsants	***2. LIST IS INFORMATIONAL ONLY**: If the provider can remember at least the class of causative medications, it may assist in patient history-taking to figure out what is happening to the patient who is displaying such unusual signs and symptoms*
21		6. Item #15c-e a. Refer to appropriate existing protocols: i. Organophosphate ii. Agitation b. TCA i. Incorporated from 2018 separate protocol	
22		7. PEARLS a. Combined from multiple sections of 2017 Yellow section protocols i. General assessment ii. Opiates iii. TCA	
23		b. TCA PEARL vi. Defines QRS duration limit as <120 msecs vii. Standing order to repeat if there's no positive change to QRS duration. OLMC not required[3]	*3. CONSIDER IMPORTANCE OF ALERTING OLMC as a matter of alerting them to impending arrival of a potentially unstable patient. Even though you have a standing order for repeat Bicarb, it's good to have the rapport with OLMC so they are ready when you arrive.*
24	4. Nerve Agent/Organophosphate/Carbamate Poisoning a. Verbiage "Nerve Agent" added b. PEARLS section additions		

	i. Emphasis on scene safety continued with addition of 3 bullets 1. Transporting pt with windows open can help with build-up of residual off-gassing. Keeps fresh air circulating 2. Decon entire ambulance post transport 3. All responders with patient contact require decontamination	
25	*ii.* ***The ability of any individual provider or service to effectively employ this protocol (especially if as a result of a WMD incident) may depend to a significant extent on one or more of the following:***[4] 5. *Regional, Hospital, and/or service-level policies and procedures in support of this patient care situation* 6. *Provider-level education and practical skills training.* 7. *Service-level education and practical skills training*	***4. This advisory note is NOT in the protocols.*** *a. It is **ONLY an advisory** regarding this specific protocol.* *b. It is included as a reminder to services and providers to generate awareness of the possible risks and difficulties of conducting patient care under these circumstances if not adequately prepared.*
26	c. EMT i. Item #3 8. Airway protocol reference updated a. Airway algorithm ii. Item #6 9. Added use of Mark 1 kit a. Reminder: EMRs are also able to use this kit (was in 2017 protocols) d. AEMT i. Bullet added: 10. "In all cases, continue to monitor closely for worsening symptoms"	
27	e. Paramedic i. If seizures are present, provider is referred to protocol GOLD 8 for treatment **ii. NEW- TABLE** 11. Treatment for various signs and symptoms has been put into a table for easier reference. 12. Pediatric interventions are included in this section 13. Intervention depends on: a. Signs and symptoms versus whether patient is an adult or pediatric	
28	iii. SLIDE IS CLOSE-UP OF THE TREATMENT TABLE	
29	5. Cyanide/CO Exposure #1 a. ASSESSMENT BOX- flow chart	***4.INSTRUCTORS:*** *inform students they may refer to MDPB white paper "Carbon Monoxide Monitors," 13 Sep*

	i. Reference to use of "finger probe" style portable CO monitoring device (i.e. RAD-57) was removed.[4] ii. Concern is the evidence that debunks its effective use in accurately determining blood CO levels 1. Finger CO monitors may not accurately detect CO level and should not be relied upon to guide treatment 2. ***This point was discussed with poison center,*** who stated that they would not base treatment on it. Not reliable enough. 3. Hence, making patient care decisions based solely upon device readings is NOT RECOMMENDED by the MDPB 4. Therefore, the reference was removed from the protocols. iii. Re: NFPA 1584 and removal of finger probe use recommendation: 1. Not using such devices is **NOT A VIOLATION** of the NFPA standard. 2. NFPA 1584 (the standard for fire fighter rehab): a. DOES state that patients should be assessed for CO poisoning. b. However, it **DOES NOT require use fingertip CO Monitoring** as a method of assessment. 3. Analysis of arterial blood gasses is the best determinant of CO toxicity. 4. A complete history of episode and thorough physical exam are the most important medical decision tools available to providers. iv. If, **after obtaining a history of the episode and patient exam**, providers suspect CO, treat per protocol. 1. Transport of patient is always an option, regardless of definitive findings.	*2019 for additional information on this decision. This is available for download on the MEMS website*
30	b. PEARLS - CO/Cyanide Exposure i. Short note regarding removal of finger probe CO monitors ii. Note added: 1. There is no correlation between blood carbon monoxide levels and $EtCO_2$.	
31	6. NEW- Radiation Injuries *a.* ***ADVISORY NOTE:*** *i.* ***The ability of any individual provider or service to effectively employ this protocol (especially if as a result of a WMD incident) may depend to a***	***5. This advisory note is NOT in the protocols.*** *a. It is **ONLY an advisory** regarding this specific protocol.* *b. It is included as a reminder to services and providers to*

	significant extent on one or more of the following:[5] 1. *Existence of Regional, Hospital, and/or service-level policies and procedures in support of this patient care situation* 2. *Provider-level education and practical skills training.* 3. *Service-level education and practical skills training*	*generate awareness of the possible risks and difficulties of conducting patient care under these circumstances if not adequately prepared.*
32	ii. Operational components 1. Response procedures may vary according to service policies and procedures; however, the basics of patient care are covered by the protocol. 2. NOTE: The determination of the presence of weapons of mass destruction can greatly affect response and patient care. b. The protocol addresses the following components affecting care: i. EMT 1. Donning of appropriate PPE 2. Presence of HAZMAT personnel for decon needs 3. Triage of patients in case of MCI 4. Traumatic injuries 5. Transport of patients	
33	ii. Paramedic 1. Consider antiemetic for nausea and vomiting a. Note time of onset of symptoms 2. Consider pain management protocol 3. Treat seizures per protocol a. Consider whether or not seizures are being caused by: i. Medical cause ii. Exposure to toxic agent (WMD otherwise) iii. Are indicators of a large whole-body radiation dose: > 20 grays (Gy) present?? 1. Rapid onset of vomiting	
34	7. Hypothermia #1 a. AEMT/Paramedic i. Addition of pediatric dosing for heated fluid bolus 1. 20 mL/kg; repeat bolus if necessary 2. Contact OLMC for additional boluses if needed	
35	8. Hypothermia #2	

	a. Severe Hypothermia without signs of life i. EMT 1. Item #4 a. If no ROSC after 20 minutes of CPR/rewarming, consider termination of resuscitation (TOR). b. Contact OLMC if possible ii. AEMT/Paramedic 1. PEARL a. No active rewarming (massaging extremities)	
36	9. Hyperthermia- Heat Exhaustion a. EMT i. Added use of evaporative cooling techniques 1. Remove/loosen as much clothing as possible	
37	10. Hyperthermia- Heat Stroke a. EMT i. Minor additions/changes to care procedure 1. In cases of exertional hyperthermia, considering especially Radical Cooling techniques 2. TACO Method[6] Tarp Assisted Cooling with Oscillation a. Placing pt in a tarp b. Spreading ice and cold water across their body c. Pick up tarp on either side of patient. Tarp will look like a taco, with pt at bottom d. Oscillate (roll) the water and ice gently over the patient's body continuously to cool patient 3. Ice pack placement ii. PEARL 1. In cases of sporting/athletic events in temperatures where hyperthermia can easily occur, it is beneficial to have a plan to handle multiple patients at the same time in place.	
38	11. TACO Method a. Slide showing what the TACO method of cooling a patient looks like	
39	Questions?	

END OF YELLOW SECTION