

MAINE EMS 2019 PROTOCOL LESSON PLAN

| PINK SECTION | | |
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| SLIDE # | LESSON | NOTES |
| 1 | 1. Title slide | |
| 2 | 2. Biggest change is the reduction in number of pages, focusing on truly specific pediatric issues. If treatments were very close to adult treatments, the protocols were combined into a condition/complaint - based protocol rather than an age-based protocol. ¹ | <i>1. This may be a challenge for some providers, but we expect an easier flow of treatment protocols once this style is used a few times.</i> |
| 3 | 3. The pediatric and adult coma protocols are great examples of similarity and unnecessary duplication. The only difference between the two slides are the caveats at the beginning of the adult coma, and the note of not administering naloxone to a neonate is at the top of the pediatric protocol and near the bottom of the adult protocol. Other than page referrals (which now match), there are no other differences. | |
| 4 | 4. The pediatric and adult coma protocols are great examples of similarity and unnecessary duplication. The only difference between the two slides are the caveats at the beginning of the adult coma, and the note of not administering naloxone to a neonate is at the top of the pediatric protocol and near the bottom of the adult protocol. Other than page referrals (which now match), there are no other differences. | |
| 5 | 5. One of the challenges is in the “gray” area of age and weight – does a 150 lb 14 y/o follow the adult or pediatric protocol? By combining the protocol, it allows providers to have doses and treatment differences immediately available to compare and decide which to follow. | |
| 6 | 6. This is the new combined adult and pediatric protocol. | |
| 7 | 7. In combined protocols, the pediatric specific treatments and dosages are emphasized by the presence of the EMS-C teddy bear. | |
| 8 | 8. This slide and the next are the listing of protocols combined with adult protocols to make one new encompassing protocol for each. The 2019 section color and page are listed for reference purposes. | |
| 9 | 9. See above | |
| 10 | 10. This is the list of all the pink protocols for 2019, including 2 new protocols (Fever and Pediatric Transportation). | |
| 11 | 11. There are three changes in the BRUE (Brief Resolved Unexplained Event) protocol. Remember that BRUE is the new term for ALTE (Apparent Life-Threatening Event). The name was changed at the national level to better cover the condition (Not all events were life-threatening, additionally, the name ALTE created fear for providers and parents). This first change is merely language, as it was repetitious (it is implied that prehospital personnel are doing the assessment). | |
| 12 | 12. An addition to the BRUE protocol is the emphasis on assessing and documenting the condition of the environment the patient is in. EMS providers have the | |

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| 13 | <p>unique ability to see the patient in their home environment which may shed clues on the causes and/or factors contributing to the event. This is extremely important to downstream providers and not obtainable from anyone else.</p> <p>13. In cases of suspected BRUE, evaluation at a hospital is of utmost importance. EMS providers must not assume it was a one-time event or a panicky new parent². Evidence shows that over 50% of BRUE incidents require hospital admission and further work-up³. Studies also show BRUE occurrence in up to 6% of patients under 2 years of age, with a mortality rate of 1 in 10⁴.</p> | <p>2. <i>Emphasize that providers should not "brush off" that a child is fine in appearance upon their arrival. Do not write it off as "they must be a new or overprotective parent". Devasting results may occur in cases of non-transport.</i></p> <p>3. <i>Hall, K., et al. (2005). Evaluation and management of apparent life-threatening events in children. Am Fam Physician; 71(12): 2301-8.</i></p> <p>4. <i>(Carolan, Windle, Sharma & McColley, 2019).</i></p> |
| 14 | <p>14. Two slides reference stridor in the pediatric patient. This slide emphasizes that if, with OLMC, a paramedic opts to use EPINEPHrine to treat the stridor, it must be nebulized (hence the boldface)⁵. As a safety measure, the MDPB has also removed the "1:1000" and "1:10000" concentration notation for EPINEPHrine throughout the protocols as they look similar. A better, and <i>safer</i>, practice is the use of "1 mg/mL" and "1 mg/10ml" as the concentration notation.</p> | <p>5. <i>If racemic EPINEPHrine is available, it may be used instead of the EPINEPHrine 1mg/ml. The dose of racemic EPINEPHrine is 0.5mg mixed in 2ml normal saline and nebulized.</i></p> |
| 15 | <p>15. Although Dexamethasone is part of the current protocols⁶, it was not used for pediatric stridor. This addition is new, and the dose is 0.6 mg/kg PO/IV/IM/IO x1 (MAX dose 10mg). Its use in this situation is addressed as an option with OLMC. An important part of this addition is that the option exists to administer</p> | <p>6. <i>Emphasize that although the medication is not new for</i></p> |

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| | <p>the dexamethasone orally (PO). The dose is the same and may be diluted with drinking water. <i>This is the <u>ONLY IV medication that can administered orally, and ONLY in this protocol.</u></i></p> | <p><i>paramedic providers, this indication, as well as the possibility of PO administration is. This is the ONLY Maine EMS IV/IM/IO medication that can be administered orally, and only to this patient subset.</i></p> |
| 16 | <p>16. This protocol on Neonatal and Young Child Fever is new for 2019. The goal is to help identify and treat those patients who may be at risk for sepsis.</p> | |
| 17 | <p>17. In many cases, sepsis may not be present, but the patient has a serious bacterial infection instead. This may be nearly impossible to distinguish, but the treatment, and need for hospitalizations remains the same.</p> | |
| 18 | <p>18. The protocol is aimed at those patients less than 90 days old and have either a fever greater or equal to 38.0°C (100.4°F), or a temperature less than 35.0°C (95.0°F). This temperature can be measured by any route and is equally valid, whether measured by the EMS provider, another healthcare provider or a parent/guardian. This fever may be the only clinical sign present for the patient, who may otherwise have normal appearances and vital signs. With a 20% rate of serious infections, all patients presenting with a fever at this age should be transported for evaluation at any emergency department.</p> | |
| 19 | <p>19. A thorough history of this patient is critical for management of the pediatric patient presenting with a fever. This history should be both verbally relayed to the receiving hospital and be documented in the patient care report.</p> | |
| 20 | <p>20. In addition to the history, a thorough assessment of the patient’s current condition must be conducted. The four main components are:</p> <ul style="list-style-type: none"> a. Appearance (muscle tone, interactiveness, consolability, gaze & cry) b. Work of breathing (abnormal noises/position, retractions, flaring, pallor, mottling, cyanosis) c. Signs of dehydration d. Evaluation for any signs of shock | |
| 21 | <p>21. The overall goal of this protocol is to guide providers in answering the assessment question of “<i>Is this child septic?</i>” Use the chart (SEE SLIDE) for guidance on the findings to assess for. This chart is from Gold 16 of the protocols.</p> | |
| 22 | <p>22. Childbirth protocol added the statement “Evaluate for crowning/imminent delivery” to emphasize to providers the importance of a medical assessment for this, as opposed to merely questioning the mother.</p> | |
| 23 | <p>23. In the case of an umbilical cord prolapse prior to delivery of the infant, recall that the risk is that the umbilical cord is essentially pinched/clamped off between the body of the infant and the birth canal. In these cases, death of the infant is imminent. Providers must use their fingers to create space for</p> | |

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| | <p>umbilical blood flow. The goal is to achieve palpable, and continuous pulsations in the cord, indicating blood flow has been restored and maintained. Additionally, any presenting part of the umbilical cord must be kept warm and moist.</p> | |
| 24 | <p>24. In the event of a cord wrapped around the neck of a newborn during delivery, the EMS provider must slip the cord over the neck of the infant during the delivery process. In approximately 8% of the cases of a nuchal cord, the cord is wrapped around the neck twice. Given this, the provider must ensure <i>both</i> loops are removed from around the neck.</p> | |
| 25 | <p>25. For clarification of when to clamp and cut the cord.</p> | |
| 26 | <p>26. In cases where EMS arrives after the delivery of a newborn, the steps of warm, dry and stimulate should still be conducted. Assuming the newborn had this done prior to EMS arrival may lead to poor outcomes for the newborn.</p> | |
| 27 | <p>27. Clarification only</p> | |
| 28 | <p>28. These are protocols that had no changes for 2019</p> | |
| 29 | <p>29. Maine EMS has implemented a change to the use of cuffed ET tubes for all ages. Previous education emphasized the use of uncuffed tubes for this population, but studies over the past decade have shown that the benefits of the use of a cuffed ET tubes are significant. Use of cuffed tubes has shown to have less air leakage, allows for higher pressures for lung inflation, and has less potential to move in the airway. Cuffs should be inflated with an amount of air to make the pilot bulb firm to the touch, but not overinflated. Because of the variations of tracheal diameter, the volume will vary but should never exceed 10-12 ml of volume instilled.</p> | |
| 30 | <p>30. Previous education had taught to use uncuffed tubes, but evidence has shown cuffed tubes are better by helping to seal the trachea. This image helps show the rationale why, including the reasons previously covered.</p> | |
| 31 | <p>31. Because of the change to cuffed ET tubes, the formula reflects the AHA formula for cuffed ET tubes.</p> | |
| 32 | <p>32. The MDPB added this as Providers often seek further guidance on how to secure pediatric patients during transport, and this protocol can help provide further information. Local training, education and practice are key to successfully securing a child during transport.</p> | |
| 33 | <p>33. The Maine Statute is included in the packet and also can be located at https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0389&item=3&sum=129</p> | |
| 34 | <p>34. This is a brief summary of the laws effecting 9/19/19 as they apply to passenger vehicles. Recall there are no Maine laws regarding patients in the back of the ambulance but are protocols and best practices to minimize injuries from motor vehicle crashes.</p> | |
| 35 | <p>35. NHTSA is seeking to crash test devices but has not yet been allocated money to do so. There is a list of devices that are available on the NHSTA website, as well as on the Maine EMS-C Resources page of the Maine EMS website.</p> | |
| 36 | <p>36. In cases where the child is not the patient (such as when the parent or guardian has a medical emergency and there is no one to take over care of the child), best practice is to place the child in a car seat in a different passenger vehicle and not in the ambulance (potential distraction to EMS vehicle operator or care provider). Alternates are listed.</p> | |

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| | <ul style="list-style-type: none"> a. NEVER place the child in a lap or allow to be held, as this is the single most dangerous method of transport. b. Additionally, rear facing car seats should NEVER be placed on the captain's chair. c. The strength and design of rear-facing car seats is based upon the car seat facing the rear of the vehicle d. To correctly protect the infant in rear-facing car seats, it is critical that the vehicle seat back must be at the foot end of the car seat. This is not an option on the captain's seat, thus do not use | |
| 37 | 37. Maine EMS does NOT recommend any particular product. The two pictured are representative examples only. A list of available devices is found on the Maine EMS-C Resources page on the Maine EMS website. <i>Providers should conduct regular and in-depth local training based on the device manufacturers instructions.</i> | |
| 38 | 38. Providers may utilize the patient's own car seat for transport if they are comfortable with its use and how to secure the device [remember that ambulances are not equipped with LATCH devices (the D ring installed in back seats of passenger vehicles)] The questions cited in the protocol must all have a "Yes" answers to use a car seat involved in a motor vehicle accident. | |
| 39 | 39. Although a different approach, when EMS providers are transporting a mother and recently delivered newborn, allow mother and baby to bond with skin-to-skin contact on scene (as stability and conditions allow), and then explain the safety precautions and transport separately with appropriate care levels for each of the (now) TWO patients. <i>Transporting mother holding the newborn is the single most dangerous method and should not be done.</i> | |
| 40 | 40. For more info, use the reference info on the slide as a starting point | |
| 41 | 41. Please see relevant white papers on the Maine EMS website for further resources and information. | |
| 42 | 42. List of references | |
| 43 | Questions??? | <i>Instructors, please attempt to collect questions to be put into forthcoming FAQ</i> |
| END OF PINK SECTION | | |