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# WHITE PAPER

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| #2021-06-04-05 | Medical Shock | | June 4, 2021 |
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**Summary**: The 2021 Maine EMS protocols implements three changes to the Medical Shock protocol:

1) EMTs are encouraged to identify patients suffering sepsis using the "IDENTIFICATION OF POSSIBLE SEPSIS" criteria in the protocol,
2) AEMTs and Paramedics are asked to consider consultation with On-Line Medical Control (OLMC) for questions regarding IV fluid resuscitation goals, and
3) Paramedics administering NOREPInephrine to adults in fluid refractory septic shock will no longer be required to contact OLMC prior to doing so. Pediatric patients will still require OLMC prior to initiating NOREPInephrine.

**Background**: According to the Surviving Sepsis Campaign, last updated in 2016, in the U.S.:

-Sepsis affects 1.7 million adults per year

-270,000 Americans die each year from sepsis

-1 in 3 patients who die in a hospital have sepsis

The first, foundational step of managing sepsis is identification of septic patients. The MDPB believes that EMTs can identify these patients using the same criteria as AEMTs and Paramedics. Identification should be followed by NOTIFICATION of down-stream health care providers, including requesting ALS. Activating ALS, when available, is helpful to the patient as this scope of practice can initiate essential therapies, including fluid resuscitation.

Once sepsis is identified, resuscitation is a cornerstone of treatment, along with other hospital-based therapies (antibiotics, source control, etc.). While the Surviving Sepsis Campaign calls for up to 30 mL/kg of IV fluid, the MDPB recognizes that some patients cannot tolerate this amount of volume. Patients with a history of heart failure, renal failure on dialysis, or patients over the age of 65 may benefit from smaller volumes of fluid. The 2021 Medical Shock protocol asks AEMTs and Paramedics to consider



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consultation with OLMC to discuss resuscitation volume goals in patients with evidence of fluid overload or at risk of fluid overload.

Finally, should a patient continue to demonstrate a shock state despite adequate volume resuscitation, the MDPB has removed the requirement for OLMC to initiate NOREPInephrine at the Paramedic scope of practice. The MDPB recognizes that the importance of managing fluid-refractory shock is time sensitive, with mortality increasing every minute that the patient remains in shock. To this end, the management of septic shock should occur promptly and in a stepwise manner as outlined in the protocol. Once pressors are initiated, it is essential to alert the receiving physician. This alert, designated by the "H" or "Hospital" sign allows the hospital to prepare for a critical incoming patient and may also allow for consultation regarding further goals of therapy. The MDPB believes there is significant value in communication between EMS Clinicians and receiving physicians surrounding critical patients or challenging circumstances. The removal of OLMC in the Medical Shock protocol is not intended to diminish the value of these conversations, but rather hasten the initiation of essential therapies. Please continue to consult OLMC physicians surrounding these or other patients when necessary.

Please note, this change is effective for medical shock *only* at this time. Other forms of shock, including anaphylactic shock and cardiogenic shock (including in the post-cardiac arrest phase of care) require OLMC for initiation of pressors.