2023 MDPB White Paper on New Protocols*

2023 Trauma Triage Changes

In 2011, the U.S. Centers for Disease Control and Prevention published the Field Triage Guidelines which used physiologic, anatomic, mechanism of injury and patient-specific considerations to guide decisions on the best arrival hospital for patients. Proper determination of arrival into the healthcare system is essential as evidence has demonstrated a 20% reduction of in-hospital mortality and 25% lower 1-year mortality among seriously injured adults who are triaged to the most appropriate hospitals. Based on this recognition, the American College of Surgeon's Committee on Trauma (ACS-COT) comprised a stakeholder group, including EMS clinicians and medical directors (amongst others), to update the 2011 trauma triage guidelines using available evidence to guide the update process.

One of the largest changes to the guideline is removal of the stepwise process in favor of creating 2 main categories of patients based on the risk of serious injury:

1) High Risk (Red Boxes), including Injury Patterns (previously "Anatomic Criteria") and Mental Status and Vital Signs (previously "Physiologic Criteria")
2) Moderate Risk criteria for serious injury (Yellow Boxes), including Mechanism of Injury and EMS Judgement (previously "Special Considerations").

In addition to formatting changes, the new guideline includes additional criteria for consideration when determining hospital destination. For example, a new criterion suggesting high risk for serious injury is active bleeding requiring a tourniquet or wound packing with continuous pressure, while an addition to the "EMS Judgement" section is the concern for child abuse.

The Medical Direction and Practices Board reviewed this newest national guideline during the 2023 Protocol Update Process and have adopted the concepts of this updated guideline into the 2023 Maine EMS Protocols. If patients are found to have Injury Patterns, or Mental Status and Vital Signs findings suggestive of high risk for serious injury or are found to have Mechanism of Injuries or positive findings in the "EMS Judgement" section, the MDPB suggests patients be transported to the nearest Level 1 or 2 Trauma Center if the total transport time is less than 45 minutes. Otherwise, patients should be transported to the highest-level trauma center available OR the closest trauma system hospital. As always, should questions arise regarding the most appropriate destination for patients, please consider on-line medical consultation.

For more information, please see the following resources:

1) American College of Surgeons, National Guidelines for the Field Triage of Injured Patients website: https://www.facs.org/quality-programs/trauma/systems/field-triage-guidelines/
2) Lupton, et al "Mechanism of injury and special considerations as predictive of serious injury: A systematic review", available at https://onlinelibrary.wiley.com/doi/epdf/10.1111/acem.14489

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3) Newgard, et al "National guidelines for the field triage of injured patients: Recommendations of the National Expert Panel on Field Triage, 2021", available at https://journals.lww.com/jtrauma/Fulltext/2022/08000/National_guideline_for_the_field_triage_of_injured.19.aspx
4) Maine EMS Clinical Bulletin, Guidance Regarding Trauma Care, available at https://www.maine.gov/ems/sites/maine.gov.ems/files/inline-files/2021121601-Clinical-Bulletin-Trauma-Care-at-CMMC.pdf

2023 New Protocol on Strangulation

Neck compression injuries can be serious and should be suspected in any incidents of hangings, strangulation and suffocation.[1] These patients often require a period of observation as they may not initially present with obvious signs of injury, but can go on to develop complications from neck compression up 72 hours after their initial injury.[2, 3] Victims of strangulation may be hesitant to seek medical care and, in cases of intimate partner violence, may be hesitant to disclose injury in the presence of their attacker. [4] For some strangulation victims, EMS may be the only point of contact with the healthcare system, and, accordingly, must have a thorough understanding of when to suspect risk for strangulation and have a high suspicion of complications from neck injuries including stroke, airway compromise and vascular injury.[2] Many states have created strangulation protocols to ensure prehospital providers are educated on the signs and symptoms of neck compression injuries, risks of complications from these injuries and patient education.[5] The Maine EMS Medical Direction and Practices Board created this new protocol for this exact reason.

Additional resources which may be useful to providers include:

- Leave-behind Safety Plan:
  If patient cannot be convinced to be transported, leave patient with specific return precautions. Examples may be found here: http://familyjust1dev.wpengine.com/wp-content/uploads/2021/10/Safety-Plan-Brochure-Gen.pdf
- EMS-specific strangulation training:
  Strangulation training for EMS: https://www.youtube.com/watch?v=JDw_cSArcEA

1. De Boos J. Review article: non-fatal strangulation: hidden injuries, hidden risks. *Emerg Med Australas*. 2019;31(3):302–308. [PubMed] [Google Scholar]
2. Stellpflug SJ, Weber W, Dietrich A, Springer B, Polansky R, Sachs C, Hsu A, McGuire S, Gwinn C, Strack G, Riviello R. Approach considerations for the management of strangulation in the emergency department. J Am Coll Emerg Physicians Open. 2022 Apr 16;3(2):e12711. doi: 10.1002/emp2.12711. PMID: 35445212; PMCID: PMC9013263.
3. Faugno D, Waszak D, Strack GB, Brooks MA, Gwinn CG. Strangulation forensic examination: best practice for health care providers. *Adv Emerg Nurs J*. 2013;35(4):314–327.

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4. MS and paramedic response to strangulation webinar. Family Justice Center Alliance. Accessed July 17, 2021. https://www.familyjusticecenter.org/resources/ems-and-paramedic-response-to-strangulation-webinar/

5. New Hampshire Medical Control Board. State of New Hampshire Patient Care Protocols. Ver. 8.1. March 2022; 179. https://www.nh.gov/safety/divisions/fstems/ems/advlifesup/documents/1Version8.1Final4.pdf

2023 New Protocol on Fever

Fever portends worsening mortality in several conditions[1, 2, 3] and may contribute to patient discomfort along with worsening of other conditions.[4] Accordingly, EMS providers encountering patients with fevers should work to prevent increasing internal body temperatures in febrile patients and should focus on passive cooling maneuvers to decrease fevers. Antipyretics are not included in the protocol as there is ongoing debate regarding the evidence and current practice of indiscriminately administering antipyretics for fever in otherwise asymptomatic individuals not at risk for harmful effects from an increase in metabolic rate (i.e., tachypnea or tachycardia leading to hypoxia) or suffering significant symptoms (anorexia, pain, excessive lethargy, etc.) from their elevated temperature.[4]

For more information, please see the following resources:

1. Hajat C, Hajat S, Sharma P. Effects of poststroke pyrexia on stroke outcome: a meta-analysis of studies in patients. Stroke . 2000; 31: 410–414.
2. Jorgensen HS, Reith J, Nakayama H, Kammersgaard LP, Raaschou HO, Olsen TS. What determines good recovery in patients with the most severe strokes? The Copenhagen Stroke Study. Stroke . 1999; 30: 2008–2012.
3. Adams, H et al. Guidelines for the early management of patients with ischemic stroke. AHA Journal. 2003. 34 (4): https://doi.org/10.1161/01.STR.0000064841.47697.22
4. El-Radhi AS. Fever management: Evidence vs current practice. World J Clin Pediatr. 2012 Dec 8;1(4):29-33. doi: 10.5409/wjcp.v1.i4.29. PMID: 25254165; PMCID: PMC4145646.