

Impact of Point-of-Care Ultrasound on Secondary Triage: A Pilot Study

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Background/Introduction: In mass casualty incidents, patients with apparent hemodynamic and respiratory stability might have occult life-threatening injuries. These patients could benefit from more accurate evaluations to be sorted into triage categories for the purpose of treatment and priority transport decisions.

This study assessed the impact of point-of-care ultrasound (POCUS) on the accuracy of secondary triage conducted at an advanced medical post (AMP) to enhance the detection of patients who, despite their apparent clinically stable condition, had simulated occult life-threatening injuries.

Objectives: To determine if a WHO EMT could potentially benefit from the utilization of POCUS to guide lifesaving interventions and priority transport decisions.

Method/Description: A mass casualty simulated incident consisting of a bomb blast in a remote area was conducted with 10 simulated casualties classified as YELLOW, delayed transport per Simple Triage and Rapid Treatment (START), at the primary triage scene.

Patients were evaluated by 4 physicians at an AMP. Three patients had, respectively, hemoperitoneum, pneumothorax, and hemothorax. All physicians were competent in the use of POCUS to assess trauma patients. Two of the four physicians were provided the use of POCUS.

Results/Outcomes: All 4 physicians were able to suspect hemoperitoneum, but only physicians utilizing POCUS detected pneumothorax and hemothorax.

Conclusion: This study suggests that POCUS-enhanced secondary MCI triage at an AMP may represent an effective methodology to accurately detect non-apparent injuries that require life-saving interventions or priority transport. Further studies

with larger samples conducted in varied MCI scenarios are warranted to provide the support for the WHO EMT to adopt POCUS as triage tool.

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A T2 Translational Science Modified Delphi Study: The Ethical Triage and Treatment of the Entrapped and Mangled Extremities in Resource Scarce Environments

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Background/Introduction: There is a lack of ethical triage and treatment guidelines for the entrapped and mangled extremity (E&ME) in resource scarce environments: mass casualty incidents, low- to middle- income countries, complex humanitarian emergencies including conflict, and prolonged transport times (RSE).

Objectives: The aim of this study is to use a modified Delphi (mD) approach to produce statements to develop treatment guidelines of the E&ME in RSE to advance the 2021 WHO EMT Minimum Standards (EMT) treating the E&ME.

Method/Description: Experts rated their agreement with each statement on a 7- point linear numeric scale. Consensus amongst experts was defined as a standard deviation ≤ 1 . Statements attaining consensus after the first round moved to the final report. Those not attaining consensus moved to the second round in which experts were shown the mean response of the expert panel and their own response for the opportunity to reconsider their rating for that round. Statements attaining consensus after the second round moved to the final report.

This process repeated in the third round. Statements attaining consensus moved to the final report. The remaining statements did not attain consensus.

Results/Outcomes: Seventy-seven experts participated in the first, 75 in the second, and 74 in the third round. Twenty-three statements attained consensus. Twenty-one statements did not attain consensus.

Conclusion: A Delphi technique was used to establish consensus regarding the numerous complex factors influencing treatment of the E&ME in RSEs. Twenty-three statements attained consensus and can be incorporated into guidelines to advance the EMT treating the E&ME.

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The Use of Point-of Care Diagnostic Techniques in an EMT1 Fixed Improves Diagnostic Accuracy and the Detection of Seriously Ill Patients

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Background/Introduction: The use of diagnostic technology at the bedside is increasingly common in hospitals and is spreading to EMS.

Objectives: To detect the contexts in which the use of point-of-care blood test and ultrasound is feasible and provides benefit in an EMT1 fixed.

Method/Description: Review of the procedures of the SAMUR-Protección Civil and the bibliography that supports them. Summary of the publications carried out by our group.

Results/Outcomes: The basic blood analysis with blood gases, biochemistry and electrolytes allows to detect electrolyte disturbances secondary to gastrointestinal infection, diabetic decompensation, and others, to estimate the severity of a trauma patient that is not clearly unstable, to guide resuscitation in shock, to study the patient with chest pain, to assess organic involvement in infectious conditions, etc.

The use of ultrasound at the bedside has shown to be a great diagnostic aid in many pathologies: trauma (frequent in the context of a catastrophe), COVID-19 (detection of infiltrates), cardiorespiratory arrest (reversible causes), pulmonary embolism (high risk in people trapped), study of collections and abscesses, heart disease, etc. and it is useful for multiple techniques such as vascular cannulations (peripheral and central), orotracheal intubation, and drainage.

The ESP EMT1 SAMUR-PC is equipped with ultrasound and point-of care blood analysis, as well as our ALS units in Madrid.

Conclusion: The inclusion of ultrasound and blood tests among the diagnostic capabilities of an EMT1 fixed can

improve the ability to detect serious pathology and guide initial treatment.

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Evaluating the Effectiveness of Dry Decontamination Methods for Mass Decontamination: A Scoping Review of Current Research

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Background/Introduction: In the event of CBRN mass casualty incidents, a specialized approach is essential that includes decontamination procedures. There are two types of decontamination systems most often used for CBRN incidents: wet and dry. While wet decontamination is more common, it can be problematic in cold weather or when logistical equipment is unavailable. This scoping review seeks to assess the effectiveness of dry decontamination.

Objectives: Evaluating the effectiveness of dry decontamination methods for mass decontamination.

Method/Description: A scoping review was done on dry decontamination using various databases, including MEDLINE, CINAHL, Embase, Web of Science, and Scopus. Following the PRISMA approach, nine eligible articles were included in this scoping review. The methods of dry decontamination, types of decontamination materials, methods of analyzing decontamination, and the main conclusions from each study were extracted, summarized, and compared.

Results/Outcomes: The review found that dry decontamination is an effective method (4 articles), particularly when dealing with liquid contaminants (1 article). However, its efficacy diminishes in cases of more hairy parts of the body (1 article) and when dealing with chemicals in particle form. Effectiveness of dry decontamination varies depending on the material used and the chemical agent involved (3 articles). Moreover, the technique of blotting and rubbing was found to increase effectiveness (1 article).

Conclusion: This scoping review found that dry decontamination can be effective and may be an alternative to wet decontamination in CBRN mass casualty incidents, particularly for liquid contaminants. Its effectiveness varies depending on factors such as the type of contaminants, and the decontaminant material used.

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