

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

Stucchi R,<sup>1</sup> Weinstein ES,<sup>2,3</sup> Ripoll-Gallardo A,<sup>1,2</sup> Franc JM,<sup>2,4</sup> Azzaretto M,<sup>5</sup> Sesana G,<sup>6</sup> Della Corte F,<sup>2</sup>  
Neri L<sup>7</sup>

**1** SSD AAT Milano, Agenzia Regionale Emergenza Urgenza (AREU), Dipartimento di Emergenza e Accettazione, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy; **2** Research Centre in Emergency and Disaster Medicine (CRIMEDIM), Università del Piemonte Orientale, Novara, Italy; **3** Department of Emergency Medicine, University of South Florida Morsani College of Medicine, Tampa, Florida, USA; **4** Department of Emergency Medicine, University of Alberta, Edmonton, Alberta, Canada; **5** Fondazione Poliambulanza Istituto Ospedaliero Polispécialistico, Brescia, Italy; **6** SSD Banca dei tessuti e terapia tissutale, Dipartimento di Emergenza e Accettazione, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy; **7** ATS Milan, Italy

**Objectives:** In mass casualty scenarios, patients with apparent hemodynamic and respiratory stability might have occult life-threatening injuries. These patients could benefit from more accurate triage methods. 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, could benefit from immediate life-saving interventions or priority earlier transport to definitive care

**Methods:** A mass casualty simulated event consisting of a bomb blast in a remote area was conducted with 10 simulated casualties classified as YELLOW at the primary triage scene; patients were evaluated by 4 physicians at an AMP. Three patients had, respectively, hemoperitoneum, pneumothorax, and hemothorax. Two of the four physicians were provided the use of POCUS.

**Results:** 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 nonapparent injuries that require time-dependent priority transport or life-saving interventions. Further studies with larger samples conducted in varied MCI scenarios are warranted

