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KINEMATICS OF TRAUMA, ACUTE INJURY MANAGEMENT, AND MASS CASUALTY TRIAGE

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Trauma remains a leading global cause of preventable morbidity and mortality, requiring prompt and systematic medical interventions. In the prehospital setting, understanding the kinematics of trauma — the analysis of energy transfer, biomechanical forces, and mechanisms of injury (blunt vs. penetrating)—is essential for early clinical pattern recognition, predicting hidden internal damage, and anticipating life-threatening conditions prior to hospital arrival.

During mass casualty incidents (MCIs), prehospital care providers face extreme resource limitations, necessitating rapid, structured triage protocols (such as START or SALT) to categorize patients based on survivability and immediate life-saving needs. Prehospital management focuses heavily on the "Diamond of Death" mitigation, prioritizing critical interventions such as catastrophic hemorrhage control (tourniquet application and wound packing), airway management, tension pneumothorax decompression, and prevention of hypothermia and shock. Effective prehospital response in mass casualty scenarios requires seamless coordination, standardized field triage, rapid evacuation protocols, and integration with regional disaster systems to optimize survival rates and ensure the efficient distribution of casualties to receiving healthcare facilities.

Keywords: Trauma Kinematics, Prehospital Trauma Care, Mass Casualty Incidents (MCIs), Prehospital Triage, Disaster Medicine.