

## A Perspective on Emergency Care of Gunshot Injuries in Northern Taiwan

**Authors :** Liong-Rung Liu, Yu-Hui Chiu, Wen-Han Chang

**Abstract :** Firearm injuries are high-energy injuries. The ballistic pathways could cause severe burns or chemical damages to vessels, musculoskeletal or other major organs. The high mortality rate is accompanied by complications such as sepsis. As laws prohibit gun possession, civilian gunshot wounds (GSW) are relatively rare in Taiwan. Our hospital, Mackay Memorial Hospital, located at the center of Taipei city is surrounded by nightclubs and red-light districts. Due to this unique location, our hospital becomes the first-line trauma center managing gunshot victims in Taiwan. To author's best knowledge, there are few published research articles regarding this unique situation. We hereby analyze the distinct characteristics and length of stay (LOS) of GSW patients in the emergency room (ER) at Mackay Memorial Hospital. A 6-year retrospective analysis of 27 patients treated for GSW injuries from January 2012 to December 2017 was performed. The patients' records were reviewed for the following analyses, 1) wound position and the correlated clinical presentations; 2) the LOS in ED of patients receiving emergency surgery for major organ or vascular injuries. We found males (96.3%) were injured by guns more often than females (3.7%) in all age groups. The most common injured site was in the extremities. With regards to the ER LOS, the average time were  $72.2 \pm 34.5$  minutes for patients with triage I and  $207.4 \pm 143.9$  minutes for patients with triage II. The ED LOS of patients whose ISS score were more than 15 was  $59.9 \pm 25.6$  minutes, and  $179.4 \pm 119.8$  minutes for patients whose ISS score were between 9 to 15, respectively. Among these 27 patients, 10 patients had emergency surgery and their average ED stay time was  $104.5 \pm 33.3$  minutes. Even more, the average ED stay time could be shortened to  $88.8 \pm 32.3$  minutes in the 5 patients with trauma team activation. In conclusion, trauma team activation in severe GSW patients indeed shortens the ED LOS and might initially improve the quality of patient care. This is the result of better trauma systems, including advances in care from emergency medical services and acute care surgical management.

**Keywords :** gunshot, length of stay, trauma, mortality

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