

high incidence of morbidity and mortality. Successful management requires early recognition with a multi-speciality approach and meticulous surgical technique.

**Method:** Retrospective data from hospital records of the Level-1 Trauma Center, between December 2011 through September 2022 was obtained. Clinical details including mechanism of injury, trauma scoring, associated injuries, hemodynamic status, surgical procedures, wound complications, ICU stays, hospital stay, prosthesis application, and their outcome were analyzed. Patients were followed up physically in OPD or telephonically.

**Results:** Total footfall 615,274 patients with 16,786 admissions in trauma surgery, 1,299 amputations and 13 hemipelvectomy patients during the study period of ten years. Seven were in shock on presentation, of which, four were non responders and three responded to initial resuscitation. Seven patients had associated Genitourinary injuries, four had anorectal involvement, five had vascular injuries and six had associated extremity injuries. Six patients underwent hemipelvectomy in the primary surgery and seven ended up in hemipelvectomy on consecutive surgeries. Multiple surgeries were required for all the patients both for control of local sepsis and adequate soft tissue cover. Eight of thirteen patients developed wound infections, and related sepsis, one survived a covid infection and three had MODS. Four out of thirteen patients died and of the nine survivors, prosthesis is being used by three patients, two returned to work without prosthesis and two lost to follow up.

**Conclusion:** With a multidisciplinary and dedicated team approach, we can expect favorable outcomes in post-trauma hemipelvectomy patients.

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### Kiwi Ingenuity – How New Zealand Healthcare Adapted for the Whakaari/White Island Disaster

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**Introduction:** New Zealand is widely known across the globe as an adventure tourism destination. On December 9, 2019, the natural wonders of the country became a major disaster that impacted the lives of many and stretched the resources of the New Zealand healthcare system.

Whakaari/White Island is an uninhabited, privately owned island 50 km off the North Island of New Zealand. It contains two strato-volcanoes, which were and remain a popular tourist destination. While an international tourist group were enjoying their guided tour of the crater, one of the volcanoes erupted, sending superheated debris and gas into the air. Of the 47 individuals on the island at the time, 39 were rescued. Overall, 25 people survived. The mortality of this event was significantly lower than historic volcanic eruptions involving ballistic and pyroclastic injuries. We are fortunate to present information specifically on the chemical and physiological changes noted from exposure to volcanic ash.

Located in New Zealand's largest city is Middlemore Hospital, home of the National Burns Center. This center is

supported by three regional burn centers throughout the country. Prior to Whakaari, mass-casualty plans were in place, however, system-wide adaptations were required on many levels to ensure delivery of healthcare. This included changes in pre-hospital triage, support for regional burns centers and repatriation to home countries.

This poster presentation takes you on the journey of adaptation experienced within the National Burns Service, focusing on operating theater, intensive care and acute burns management.

**Method:** Case Study

**Results:** .

**Conclusion:** .

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### Evaluating the Knowledge, Readiness, and Satisfaction Level of Emergency Medical Service Personnel after an Online Chemical Mass Casualty Response Training Program

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**Introduction:** Compared to trauma-based injuries, chemical injuries can inflict widespread and persistent injuries to exposed victims. Emergency medical services (EMS) personnel are vulnerable to chemical injuries. Specialized training is required, including zone setup, personal protective equipment (PPE), decontamination, and antidote use, beyond simple advanced trauma life support. The purpose of this study is to evaluate the educational effectiveness of the online chemical-mass casualty incident response education module (C-MCIREM) for EMS personnel.

**Method:** This study is a retrospective pre-and post-test comparison. Subjects were EMS personnel who enrolled in the C-MCIREM program at the EMS Korea online conference between August 27, 2021 and September 5, 2021. Subjects provided demographic data and completed pre-course and post-course knowledge tests and self-assessments of readiness, as well as a satisfaction survey after the course. For readiness and satisfaction surveys, an 11-point Likert scale was used. The Wilcoxon Rank Sum test was used to compare the two samples.

**Results:** A total of 322 respondents were enrolled. Two-hundred (62.1%) responded that they were most motivated to take the course because of curiosity about the subject. The median pre-course knowledge score was 57/100 (47, 66) and the post-knowledge score was 80/100 (66, 91) ( $p < 0.001$ ). Participants stated they felt their readiness to provide triage, treatment, transport, decontamination, to select correct

antidotes, and to use correct PPE (all  $p < 0.001$ ) increased. 90.4% stated they were satisfied with the course. Participants were overall satisfied with the use of the online format (7.71/10 SD 2.05), and were willing to recommend the training to other EMS providers (7.63/10 SD 2.1).

**Conclusion:** The online C-MCIREM program showed high satisfaction with a significant increase in knowledge and self-assessed readiness to respond to a chemical mass casualty incident.

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### Aunty Next Door - A Qualitative Study of Community Prevention and Control for COVID-19

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**Introduction:** The Thai government has established public health policies to cope with COVID-19 and reduce the spread of disease by promulgating the Emergency Decree since March 26th 2019 in concept “stay at home, stop the spread of the virus for the sake of nation.” Those measures had been affected to people in all social levels whether it be urban or rural. The objective of this qualitative study was aimed to study the mechanisms and experiences of village health volunteers who work to control COVID-19 at the community level.

**Method:** Forty village health volunteers in the 8th health region were included in the study. Data collection by using focus group discussion combined with audio recordings and the data were analyzed by content analysis.

**Results:** The community's context in the upper northeastern region of Thailand live in kinship. This is a factor supporting the operation of village health volunteers (VHVs) in the surveillance, prevention, and control of disease in the community. The mechanisms for disease prevention and control in the community are a virtual “Spider web” that connects people in the community, VHVs, Community Leaders, Public Health Officers, and Sub-district Administrative Organization (SAO) officers that operate together. While people in the community, especially “women”, act in surveillance in the form of “watchdogs” that report abnormalities of community member movements to the VHV for coordination in surveillance, prevention, and control of disease in their community. The VHV and partners use management guidelines as prescribed by the Ministry of Public Health and adapted to the social and cultural context.

**Conclusion:** The community's COVID-19 surveillance mechanism that mediates kinship begins with fear and panic

from a lack of knowledge in the early stages of the outbreak. The kinship of people in the community is one of the strengths and factors of success in preventing and controlling the disease.

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### Lessons Learned from a Multiple Casualty Blast Incident

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**Introduction:** On February 24, 2021, a large explosion and fire occurred in an industrial estate in Singapore. Eight casualties with major burns were conveyed to the emergency department (ED) at Singapore General Hospital, the designated regional Burns Centre. This article details the events and recommendations arising from this multiple casualty incident.

**Method:** An After-Action Review (AAR) was conducted to examine the prehospital notification process, casualty triage & tagging, medical management, manpower and resource allocation, and command-and-control structure.

**Results:** All eight casualties were conveyed by the national Emergency Medical Services (EMS) and arrived within a 46-minute window. The first three suffered 90% full-thickness burns and inhalational injuries and were intubated. The remaining five suffered between 37% to 64% burns, with three requiring intubations as well.

Four major areas were identified for improvement:

Firstly, there was scant information from EMS regarding total casualty count. There was also inadequate knowledge of mass burns triage protocols in the ED. Thus, resources were heavily utilized for the first three casualties - all of whom were later deemed unsalvageable, given palliative care and demised.

Secondly, casualty identities were initially unknown. They were tagged with similar-looking ten-digit serial numbers, resulting in a near-miss event involving mislabelled blood tubes.

Thirdly, there was unfamiliarity with the incident response plan for a multiple casualty incident of this scale. This contributed to lack of situational oversight and inconsistent leadership direction from various stakeholders with resulting conflicting instructions.

Fourthly, routine trauma computed tomography pan-scans for all casualties caused delayed reporting by Radiology and created a bottleneck in casualty disposition.

A multi-disciplinary workgroup comprising Emergency, Trauma, Burns and Intensive Care departments outlined several recommendations based on the AAR findings. Drills were strongly recommended to resume following a hiatus due to COVID-19.

**Conclusion:** AARs help provide invaluable insights. Response plans should be refined together with relevant stakeholders.

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