

drawing on the experience of others in coping with the terror threat.

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Crocodile Human Encounter Patterns in Sri Lanka

Lakmabhimana R. Pagoda

Command Hospital, Sri Lanka Air Force, Guwanpura/Sri Lanka

Study/Objective: Aim of this study is to identify what species of crocodile's attacks humans, their pattern when they attacked, where they attacked, what parts of the human body they prefer to grab most, why do they attack humans, and how crocodile human encounters are minimized so both species can live peacefully.

Background: Crocodilians represent one of the oldest constant animal lineages on the planet, in no small part due to their formidable array of predatory adaptations. As both human and crocodilian populations expand, they increasingly encroach on each other's territories, bringing morbidity and mortality to both populations. Sri Lanka has two species of crocodiles – the Mugger Crocodile (*Crocodylus palustris* or “crocodile of the marsh”) mainly found in freshwater tanks, and the Saltwater Crocodile (*Crocodylus porosus* or estuarine crocodile) which prefers estuaries and lagoon habitats. Research found both were responsible for attacking humans.

Methods: The reported cases of crocodile attacks from year 2010 to year 2015 were reviewed. During the 5 year period 150 attacks were reported and 51 were fatal. The aim was to identify the attacks by two different species of crocodiles that live in Sri Lanka. We studied timeframe, location, causes, and how they attacked humans.

Results: The popular belief is only salt water crocodiles are man eaters, and muggers are less aggressive. But our research shows that fatal attacks are done by both groups. The saltwater croc attacked and killed 27 people, and the muggers killed 49 humans, not much difference. The usual attack sites for both groups are either in shallow water or close proximity to croc infested water. This amounts to nearly 60% of attacks (90 incidents), of which 116 (77%) victims were males. They were attacked during bathing, washing clothes, swimming, collecting grass in marshy lands and playing in the water. Females were attacked while bathing, washing clothes and utensils. There were three rare cases where people were ambushed by saltwater crocodiles in a marshy area when they regularly collect firewood. Ninety-five percent of the victims were dragged to the water by both groups of crocs. Most of the incidents limbs were attacked; there were reports of attacking to the head and torso by both groups of crocodiles. Most of the victims (>92%) were aware that the water sources are infested with crocodiles, but did not care enough to think of the impending danger. We found that some people were attacked non-fatal, by salt water crocs when they approached a croc nest, the attacks launched to defend the nest. An interesting observation that emerged from the accounts on crocodile attack victims and witnesses, was that it appeared that the animals had observed people engaged in water-based activity, like bathing and washing clothes, over a period of time before the attack.

This would imply that at least some attacks, were not the result of a casual encounter with potential prey, but the culmination of a hunt at a spot where prey was known to gather. Hunting the reptile for meat or for skin made them endangered species. It has been observed that reptiles were poisoned after attacking humans, in some parts of the island. The climatic change is also an important factor as temperature decides the gender of the siblings. Reducing the croc land due to encroachment by humans, sand mining and destruction of mangroves, made reptiles attack humans as well as loitering in the land areas searching for food.

Conclusion: In this review, we examined the features of crocodilians that contribute to explaining their evolutionary success, as well as the potential hazard they pose to humans. Only by understanding reptiles' capabilities and respecting its right to live, it is possible to mitigate the potential threat to life and limb of humans.

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Perceptions on Medical Clowns in the Israeli Field Hospital after the Nepal Earthquake

Uri Ilan¹, Avigail Davidov², Joseph Mandelovitch³, Ofer Merin⁴, Giora Weiser⁵

1. Pediatric Hemato-oncology, Hebrew University, Hadassah Jerusalem, Jerusalem/Israel
2. Hebrew university, Hadassah, Jerusalem, Jerusalem/Israel
3. Pediatrics, Hebrew University, Shaare Tzedek, Jerusalem, jerusalem/Israel
4. Shaare Zedek Medical Center, Jerusalem/Israel
5. Pediatric ER, Hebrew University, Shaare Tzedek, Jerusalem, Jerusalem/Israel

Study/Objective: Following the 2014 disastrous earthquake in Nepal, the Israeli Field Hospital (IFH) was deployed to Kathmandu to assist and treat the thousands wounded. Five Israeli Medical Clown (MCs) volunteers arrived with the IFH. The impact of a MCs in a disaster zone has yet to be described or considered at all. The objective of this study was to assess the effect of the MC presence on the work of a field hospital in a disaster zone.

Background: The use of MCs for alleviating pain and distress has been well documented. There is evidence showing the effect of a MC on the well-being of patients, especially regarding painful and distressful procedures. There is no known description of MCs in a disaster zone.

Methods: An online survey was sent to all available members of the IFH (medical and technical) with questions regarding their perception of the MC impact on the IFH staff

Results: The survey was a Likert based questionnaire (grading the impact from 1 = very little to 5 = very high). Of 92 available members, 75 completed the survey (81%). The participants were of an average age of 40.5 years old, and 75% were male. The participants were from every part of the IFH (medical and technical) and included enlisted, reserve and volunteer participants. There were 67.2% of the participants found a very positive impact on the staff, with 48.3% finding a very high impact of clowning on staff performance. Staff with previous exposure to MCs were more likely be impressed by MC.

Conclusion: MCs in a disaster zone impact both the staff and their performance. Their presence when possible can have a positive impact on both staff and patients and should be made possible when available.

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Developing a Multi-layered Bleeding Control Program in Your Community

Matthew J. Levy, John Butler, Birch Barron

Department Of Fire And Rescue Services, Howard County Government, Columbia/MD/United States of America

Study/Objective: The goal of this session is to provide participants with an overview of a bleeding control program design and implementation. The session will cover the core elements of a bleeding control program, including equipment selection, bleeding control kit placement, bleeding control training programs, and public access.

Background: Severe bleeding remains a major cause of death amongst trauma patients worldwide. Beyond the disturbing trend of complex and highly coordinated terrorist attacks, an opportunity exists to enhance society's readiness and resiliency from all types of traumatic mechanisms of injury, both intentional and unintentional. Attaining early control of severe bleeding as close to the point of injury has been established as a known strategy to improve survival on the battlefield. The expansion of these concepts to the law enforcement and pre-hospital Emergency Medical Services community is already occurring. Expert consensus groups from both government and academia advocate that bleeding control equipment and training should also be made available in the civilian population.

Methods: Howard County (Maryland, USA) has created one of the first county-wide, multi-layered bleeding control initiatives in the North America. This program includes enhanced capabilities for first responders (police, fire, and EMS) as well as elements directed toward the civilians through a public access bleeding control program. The design, implementation, and lessons learned associated with this multi-tiered program will be presented.

Results: First responders have received training and equipment to provide bleeding control and other life-saving interventions. Public access bleeding control kits have placed in every public school. Additional kits are being placed with AEDs and in other high risk locations. School health personnel have been trained in bleeding control. Free bleeding control classes are available through a community outreach program.

Conclusion: Bleeding control programs represent an easily implementable, all-hazards medical countermeasure to help increase resiliency and minimize mortality from severe bleeding.

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Active Shooter Incidents - What are we Doing to Prepare?

Marg Verbeek

Global Emergency Management Consulting Corp, Kitchener/ON/Canada

Study/Objective: New York University (NYU) Langone's Active Shooter Program has been designed so that staff know what to do if such an incident occurs. This presentation walks participants through their Active Shooter Plan. Next, the presenter explains how to develop an effective Active Shooter tabletop exercise for hospital leadership across three modules. Lastly, this presentation focuses on the Training Program for all staff.

Background: Knowing what to do during an active shooter incident increases the odds of saving your life, our patients, visitors and others. The recent terrorist attacks in San Bernardino, Paris, and Belgium reminds us to be vigilant, and to be ready anywhere, anytime. Hospitals are soft targets. We all know how important it is to have a plan, being able to warn those at imminent risk, and to train our staff, faculty and students on what they can do to ensure the least loss of life possible, while making every reasonable attempt to continue caring for patients.

Methods: Attendees will learn how to develop a Plan that provides guidance regarding the expected response actions. This presentation will describe how to utilize emergency communications tools for communicating with staff during and following an incident, the support to law enforcement that may be required to provide, and the provisions for establishing a Crisis Support Center to aid recovery services for staff, faculty, students, patients, visitors and their families. This presentation will then illustrate how to conduct an executive-level Active Shooter tabletop exercise.

Results: This Tabletop Exercise (TTX) will be based upon NYU Langone's December 2015 exercise with around 50 executives and senior managers from across the enterprise, using a hypothetical active shooter scenario. The series of questions for each module put forth to the leadership to deliberate and resolve will be discussed.

Conclusion: NYU Langone developed a "Run, Hide, Fight" video to train all staff. The video will be shown.

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MDA Experience Dealing with Penetrating Injuries in Terrorist Incidents

Chaim Rafalowski

Director General Office, Magen David Adom Israel, Tel Aviv/Israel

Study/Objective: This study is aimed at reviewing the cases caused by stabbing and shooting (penetrating trauma). The patients were triaged by the Magen David Adom (MDA) team on the scene as suffering from substantial injuries or more serious injuries (patients declared Dead on Scene were excluded).

Background: Since September 2015, Magen David Adom in Israel - MDA (the National public EMS provider in Israel) have treated 526 victims from deliberate attacks. Among them, 56 suffered substantial injuries.

Methods: The study analysis is the response to 21 patients suffering from penetrating trauma injuries (stabbing and shooting) in those incidents (triaged on scene as suffering from substantial injuries), analyzing the response, on scene and evacuation time.

Results: In 43% of the cases, the on scene time was longer than 10 minutes, and transportation time in 71% of the cases was longer than 10 min (in 28%, 21-30 minutes).