

**Conclusion:** Stakeholders should undergo disaster risk management training, and work closely with the Ministry of Health to save as many lives as possible.

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### Thrombolysis of Acute Massive Bilateral Pulmonary Embolism: A Success Story in a Ghanaian Emergency

#### Department

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**Study/Objective:** To report on the first successful management of a patient with acute massive bilateral Pulmonary Embolism, at the Komfo Anokye Teaching Hospital Emergency Department (KATH ED), Kumasi, Ghana.

**Background:** Pulmonary Embolism (PE) is an acute silent killer in developing countries, and is primarily a diagnosis of clinical suspicion. There are limitations in its diagnosis and interventions, increasing the mortality tendencies. Acute massive bilateral PE carries an exceptionally high mortality rate even with interventions.

**Methods:** We sought to describe the management of the first successful thrombolysis of a patient with acute massive bilateral PE who presented to our ED at KATH, because there is paucity of literature on successful ED management of such cases in Ghana.

**Results:** A 23 year-old woman, 2-months pregnant, G4P0<sup>+</sup>2, admitted with sudden onset of breathlessness, chest pain and a history of hemoptysis one week earlier. No significant past medical history. BP was unrecordable, tachycardia, saturating <90% on oxygen, with deteriorating mental status. She was intubated and started on IVFs and subsequently, dobutamine. Bedside ultrasound revealed a dilated Right ventricle, full IVC and a gestational sac. No evidence of DVT. ECG showed sinus tachycardia, extreme left-axis-deviation, S-wave in lead I; Q-wave and T-wave inversion in lead III. Wells Score was 5.5. Normal chest X-ray and chest CT-Angiography showed acute bilateral massive PE. Thrombolysis was used with Streptokinase via central line after obtaining a clotting profile. She spontaneously aborted and the evacuation of the uterus was done. CPR was done following an episode of cardiac arrest, and Return of Spontaneous Circulation (ROSC) was achieved. She was admitted to the ICU, extubated and discharged home on warfarin on Day 12. She currently attends her review sessions and was given counsel for preconception care.

**Conclusion:** High-risk emergencies can be managed in low resource settings. There is, however, the need for available and affordable diagnostic resources, medications and logistics to promptly identify and appropriately manage such cases.

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### Association Between Water Security, Disaster Risk Perception and Preparedness Behavior of a Rural Ethnic Minority Village in Chongqing, China: A Pilot Study

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**Study/Objective:** To explore the relationship between water security, disaster risk and preparedness among an ethnic minority rural community in China.

**Background:** Increased rainfall variability and water-related disasters can be expected due to climate change. Among the resource-poor in China, these water-related disasters will increasingly affect people's water security. There is a need to understand their current water security and disaster risk, to recommend long-term water management and disaster preparedness options.

**Methods:** A cross-sectional, cluster sample survey was conducted in February 2015, in Xingguang Village, south-eastern Chongqing, China. The target population was 520 households of 9 sub-villages. The survey included indicators on water security (time to fetch, water sufficiency, supply stability, water storage, and price), disaster risk (perception of living in high-risk area and ability to protect from future disasters) and preparedness (disaster bag). Descriptive and analytic epidemiological analysis was conducted using SPSS. Ethics approval was obtained from Chinese University of Hong Kong.

**Results:** Among 52 household representatives who completed the survey, 76.9% thought climate change impacted health, and water was their main health risk concern (36.5%), 63.5% have insufficient water on a normal basis, and 84.6% rely on rain-water as their main water source. Only 32.7% perceived to be living in a high-risk area, of which climate-related disasters such as storms (44.4%) and droughts (38.9%) were most frequent. Of all water security indicators, insufficient water was significantly associated with the perception of living in a high-risk area ( $p = 0.017$ ). No evidence was found between water security indicators and the ability to protect from future disasters. No evidence was found between disaster risk perception and preparedness.

**Conclusion:** Long-term water management should address water sufficiency. Interestingly, the ability to protect from future disasters is not related to water security indicators. Disaster preparedness education and further research is recommended.

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### A Lethal Lapse: Envenomation and Ebola, Critical Gaps in Aid Worker Preparation

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**Study/Objective:** Assessment of Critical Gaps in Aid Worker Preparation during the 2014 Ebola Outbreak.

**Background:** During the author's time as a clinician and clinical instructor during the recent Ebola emergency response, two mambas were found in Ebola Treatment Units (ETUs). In addition to the ETU setting, the very nature of addressing Ebola necessitates fieldwork in jungle conditions. Each of the three main countries affected by Ebola have a significant number of venomous reptiles, as well as other potential plant and animal sources of toxin exposures. The author worked independently for six weeks with Liberian Ministry of Health (MoH) and the World Health Organization (WHO) as a Facilitator for Ebola Phase III "Hot" Training.

Additionally, he assisted in the preparation and opening of a 50 bed Ebola Treatment Unit (ETU), where he was also responsible for providing clinical care, comprehensive education and training, and oversaw field operations of three ambulances and associated personnel. At no point did any of the formal pre-deployment training address the potential for envenomation from the local flora and fauna. I believe this is a critical lack that should be addressed in future responses.

**Methods:** Comprehensive review of CDC, WHO, US Military, and aid organization Ebola training materials. Informal verbal surveys conducting as an instructor during the final phase of Ebola hot zone training.

**Results:** Despite the potential of a lethal envenomation, no pre-deployment coursework included material addressing this possibility. Furthermore, informal surveys of hundreds of Ebola emergency response workers representing dozens of aid agencies revealed that not one organization had prepared for an envenomation incident.

**Conclusion:** Despite the fieldwork that is inherent in an Ebola emergency response, there were no plans in place regarding antivenin or medical evacuation from the field. The entire focus was on preventing exposure to Ebola. This is analogous to a "distracting mechanism of injury" in Emergency Medicine and Trauma, in which tunnel vision impairs a comprehensive survey.

**Conclusions:** When there is a probability of encountering envenomation during fieldwork, especially potentially lethal envenomation, pre-deployment training should include both a comprehensive risk assessment; as well as appropriate contingency plans. Failing to plan is planning to fail.

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## The Fatal Fruit: A Cautionary Tale in Situational

### Awareness

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**Study/Objective:** Emphasize Need for Medical Mission teams to familiarize themselves with local flora/ fauna and potential intoxications/ envenomations.

**Background:** A four-year-old girl presented to our Haitian hospital with profound hypoglycemia and a six-hour history of

seizures. Initially, aside from addressing the hypoglycemia and administering benzodiazepines, the staff was unable to provide definitive diagnosis or treatment. Subsequent in depth interviews with the parents via translators allowed the staff to determine that ingestion of unripe ackee fruit (*Blighia sapida*) was the probable cause of the child's symptoms.

**Methods:** Case Study and review of physiology, biochemistry, and management of ackee fruit toxicity.

**Results:** Increased readiness on the part of healthcare providers to recognize and treat Ackee Fruit Toxicity, as well as increased situational awareness regarding potential exposures outside their cultural norms.

**Conclusion:** Discussion: The inability to obtain a complete history and physical (as is often the case in toxic ingestions), as well as a lack of familiarity with local toxic plants potentially led to a delay in definitive treatment. This is particularly problematic when medical staff is deploying to unfamiliar regions. Conclusions: Medical Mission workers should educate themselves as to local specific toxins that they may lack familiarity with. Delays in diagnosis results in delays in comprehensive care, with potential subsequent increases in morbidity and mortality.

Failing to Plan is Planning to Fail.

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## When a Little Human is Bitten Twice by a Large Venomous Snake: The Providers Disagree with the Original Consultant Recommendation

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**Study/Objective:** This is a case of a severely envenomed child by not one, but two bites from a confirmed large adult Florida coral snake (*Micrurus fulvius*), that exhibited with immediate systemic manifestations. Initial consultation from a wilderness medicine and emergency medicine specialist, suggested one treatment, but consultation with a toxicology service asking certain questions gave conflicting recommendations to treatment. Bringing in other experienced consultants and advocating for the patient, led to the change of recommendation by the initial consultant; and finally treatment, though delayed initially, of the patient with the appropriate antivenom.

**Background:** Literature is scant at best on how often even medical professionals / attending physicians might disagree with consulting specialists. However, it is important for any medical professional at any level, to be able to advocate for what might be best for the patient, as well as to educate the patient or their caretakers. This, of course, can be done civilly and professionally, although this is a skillset seldom taught. Elapid snake envenoming, specifically coral snake envenoming, requires important education to determine if and how much antivenom, the only true cure for venom, might be needed. Many online resources are incorrect or incomplete with regards to the proper treatment of snakebites, and possibly even harmful.

**Methods:** This is a case of a double envenoming of a young child by a Florida coral snake, leading to severe systemic effects