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VIDEO
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Demonstration of the Burns Algorithm in Simulation

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INTRODUCTION

Healthcare simulation plays an important role in contemporary medical education. Burn education amongst healthcare professionals is facilitated by the implementation of scenarios within the context of a simulated clinical environment. Many courses on burn education (ie, Advanced Burn Life Support and Emergency Management of Severe Burns) are using simulation-based teaching modalities to augment the training impact on the participants.[1,2] Our aim was to demonstrate an instructional video on the initial assessment and management of patients with major burns.

DESCRIPTION OF CLINICAL SCENARIO

The scenario is about a 45-year-old African American man (70 kg) who sustained flame burns in the enclosed room of his apartment. He woke up alone in flames as a cigarette caught fire in his bedroom. He jumped off the balcony from the fourth floor in despair to save his life. One hour later, he was brought into the emergency department (ED) by the local emergency medical service (EMS) after the hospital staff had been notified of his arrival.

The video unfolded in the following sequence as per the ABCDE approach: initially, the registered nurse made the emergency team aware of the incoming major trauma. The trauma leader ("Dr. Burns") coordinated the emergency preparedness response by ordering specific medical equipment before the EMS arrival. One of the priorities was to wear personal protective equipment. Later, the ED physician handed over details of the patient as well as actions instigated by the ED team (**See Video 1 [online],** which demonstrates emergency preparedness and appropriate closed-loop communication during patient handoff).

Once the airway was secured, a diagnosis of constricting circumferential burn eschars to the chest was made, and escharotomies were performed. Additionally, the hypovolemic shock was addressed by inserting a femoral vein catheter, intravenous fluid resuscitation, transfusion with O negative blood and hourly urine output monitoring. (**See Video 2 [online],** which displays the assessment of airway, breathing, and circulation.) Then, a gross neurological examination was performed. To accurately estimate the percentage of TBSA, logroll was performed, and the posterior aspect of the body was assessed for signs of circumferential burns and compartment syndrome of the upper and lower limbs. An open tibial fracture and evidence of intraperitoneal hemorrhage were found. Finally, intradepartmental referrals were requested to facilitate a multidisciplinary team approach to the burn victim.[3] (**See Video 3 [online],** which displays the assessment of disability/exposure, and multidisciplinary team involvement.)

DISCUSSION

Throughout the video, the actors do not wear a face mask because the sound would be altered. It is highly recommended to always follow personal protective equipment precautions during burn management. General principles of trauma management have been incorporated in the demonstration, according to official guidelines (Advanced Trauma Life Support).[4,5]

This video represents a general primary standardized approach to the burn victim as practiced in our hospital. It can be used widely in healthcare simulation and burn education, or as preparatory material for taking courses and helps consolidate the basic ABC burn algorithm. For educational purposes, we strictly followed the ABC order. In real-life situations, the ABCDE is approached simultaneously by the multidisciplinary team.

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