Selected Abstracts From the Wilderness Medical Society's 2011 Annual Scientific Conference

The Epidemiology of Lift-Accessed Downhill Mountain Biking Injuries

Objective.—Lift-accessed downhill mountain biking has grown exponentially in popularity over the past decade. The sport, while offering participants access to a vast amount of terrain, also requires navigating steep and technical terrain at high speeds, posing significant risk of injury to the rider. A limited understanding of these risks impedes both medical management as well as industry-appropriate protective equipment development. The objective of this study was to describe the frequency and type of injuries sustained by downhill mountain bikers utilizing such lift-accessed bike parks.

Methods.—A retrospective chart review was performed at one resort's urgent care facility for all patients seeking medical treatment for injuries sustained while riding in the neighboring mountain bike park during the 2009 season.

Results.—Of 898 identified cases, 86% (772) were male and the median age was 26 years (range 7–66). Of these patients, 19.4% (174) required transport off the mountain by the park's bike patrol while another 8.4% (75) arrived by emergency medical services. There were 1759 specific injury diagnoses identified, including 420 fractures in 382 patients (42.5%). Upper extremity fractures included 109 wrists, 122 shoulders, 37 elbows, and 49 hands/fingers. There were 31 lower extremity fractures and 19 spine fractures (one with paralysis). In addition, 27 patients were suspected to have internal abdominal trauma and 11.2% (101) had a concussion or more severe intracranial injury. Though 90.5% (813) of patients were discharged, 8.5% (76) required transfer to a higher level of care facility.

Conclusions.—Mountain bikers riding at this resort incurred a considerable number of injuries with significant morbidity during the 2009 riding season. Though exposure information was unavailable, these findings demonstrate the serious risks associated with this sport and highlight the need for continued research into appropriate safety equipment and risk avoidance measures.

Zachary Ashwell, MSME
Mary Pat McKay, MD
Washington, DC, USA

Jeffery Brubacher, MD
Vancouver, British Columbia, Canada

Annie Gareau, MD
Whistler, British Columbia, Canada

Impact of Social, Political, and Cultural Factors on Care of an Unresponsive Patient during the December Riots in Port-au-Prince, Haiti

A 30-year-old unresponsive woman was cared for by a volunteer team of US medical professionals at the Partners in Development Clinic in Port-au-Prince, Haiti, during the December riots. Previously, she had been evaluated at the clinic for vomiting and had been given granisetron after lab results showed a normal urinalysis and blood glucose level and a negative pregnancy test. The day she re-presented, her family called the clinic because the patient lost consciousness and had a possible seizure after arguing with her husband. A medical team dispatched to the patient's tent village found that she had stable vital signs, reactive pupils, no signs of trauma, and a blood glucose level of 120 mg/dL; however, she was unresponsive to painful stimuli. Once at the clinic, she underwent a more complete evaluation, including a negative malaria test. At this point, the clinic's limited resources were exhausted but, due to armed rioters, the patient could not be transported to a local hospital. After the patient remained unchanged during the night, her husband visited a voodoo priest who cast a spell to aid the patient. One hour later, the patient awoke, interacted normally with her family, and left the clinic ambulatory.

A combination of factors impacted patient care. First, the clinic had limited resources and intermittent electricity. Secondly, rioting restricted transportation and supplies, and it increased stress in this already traumatized population. Furthermore, illnesses were compounded by underlying malnutrition, anemia, and poor living conditions. Finally, team members were providing care in an unaccustomed medical and cultural environment.

Medical care is not provided in isolation; rather, multiple factors impact the patient and should be taken into account during treatment. Skill sets developed in more ideal settings can be translated into a valuable foundation for providing care in suboptimal circumstances; however, maintaining a cultural awareness and openness is critical.

Ashley S. Bean, MD, MA
Little Rock, AR, USA

Morbidity and Mortality in US National Parks: A Review of National Emergency Medical Services Workload from 2007 to 2009

Objective.—Outdoor recreation is growing in the United States with over 278 million annual visitors to areas controlled by the National Park Service (NPS). The National Park rangers oversee emergency medical needs in these parks. This study exam-