

CONCLUSIONS: To our knowledge, this is the first study to examine the utility of multivariate base rates in interpreting VOMS change scores in the context of a structured high school sport practice. Our findings suggest interpretation of clinical change on the VOMS using a change of 2+ on 3 VOMS items, 3+ on 2 VOMS items, or 4+ symptom on 1 VOMS item would obtain a false positive rate of $\leq 11\%$, whereas a NPC distance of ≥ 5 centimeters greatly increases the rate of false positive.

C-40 Free Communication/Poster - Epidemiology of Injury and Illness

Thursday, June 1, 2017, 7:30 AM - 12:30 PM
Room: Hall F

1489 Board #164 June 1 8:00 AM - 9:30 AM

The Financial Cost of Obesity in Thoracic Trauma

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(No relationships reported)

Obesity affects 34% of Americans over the age of 20 and contributes to more than \$200 billion per year in healthcare costs. Trauma medicine is a large contributor to annual expenditure. Each year, between 150,000 and 300,000 rib fracture patients are admitted to U.S. trauma centers. Obesity increases risks of morbidity and mortality in these patients but information concerning the effect of obesity on individual patient billing in this population is limited.

PURPOSE: We examined the effect of obesity on medical costs in rib fracture patients.

METHODS: We analyzed the patient registry and financial records of a Level 2 trauma center. All patients with ≥ 1 rib fracture admitted between 2010 and 2014 (n=1,007) were included. Dependent variables were cost to the patient (patient billing) and cost to the hospital (hospital expense). Independent variables were whether patients were obese and the characteristics of injury, measured by injury severity score, whether fractures were unilateral or bilateral, the presence of a pulmonary contusion, and the presence of a pneumothorax. Linear regressions tested the effect of obesity and injury severity on patient billing and hospital expense.

RESULTS: Obese and non-obese patients were similar in age and injury severity. When controlling for severity, obesity predicted an increase of \$29,725 (35%) in patient billing (95% CI: \$10,983 to \$48,467, p=0.002) and \$3,963 (36%) in hospital expense (95% CI: \$960 to \$6,965, p=0.010). These models explained 31% (p<0.001) and 28% (p<0.001) of the variance in cost respectively.

CONCLUSIONS: Among rib fracture patients admitted to a Level 2 trauma center, obesity predicted an increase of about 35% in the cost of delivering care, both to the patient and to the hospital. While the prophylactic benefits of exercise are well documented in minimizing risk of preventable conditions such as cardiovascular disease and diabetes, these benefits may also minimize financial stress in unexpected conditions such as thoracic trauma.

1490 Board #165 June 1 8:00 AM - 9:30 AM

The American Experience with an Emerging Adolescent Collision Sport: Rugby-7s

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PURPOSE: Rugby-7s is a popular global collision sport known to have a high injury incidence. There is a lack of data on the youths involved in the new Olympic format particularly in the United States (USA). Rugby-7's growth in the USA has occurred mainly in the amateur population. An understanding of how playing injuries occur will help develop prevention programs and promote safe growth of youth Rugby-7s.

METHODS: A prospective epidemiology study of 3, 804 Under-19 USA Rugby-7s players (13-19 years of age; injured male 256; and female 61) in USA Rugby sanctioned tournaments (2010-2014). Incidence (per 1000 player-hour (ph)), severity (days absence) and biomechanism of injuries were captured via the Rugby Injury Survey & Evaluation (RISE) Report methodology.

RESULTS: Overall injuries (medical attention and time-loss) among the U19 population were found at 81.9/1000ph (n=172), with time-loss injuries at 33.3/1000ph (n=70; 95% CI: 25.9-42.1) and medical attention injuries at 48.6/1000ph (n=102, 95% CI: 39.6-58.9) (P=0.013). Males experienced higher rates of injuries (backs 81.8/1000ph, n=77; forwards 56.7/1000ph, n=40; RR: 1.16, P=0.053) than females (backs 65.6/1000ph, n=17; forwards 77.1/1000ph, n=15; RR: 0.93, P=0.642) (RR: 0.96, P=0.332). Time-loss injuries resulted in a mean severity of 35.4 days (females 29.6 days; males 37.6 days; P=0.494). Most injuries were acute (93%; RR: 2.3, P<0.001) and in the tackle (80.3%; RR: 1.6, P<0.001). Injuries most commonly involved the joints or ligaments (40%) and the lower extremities (39%). High incidences of head and neck injuries including concussions (overall 26%) and upper extremity injuries (29%) were seen among the USA youth population.

CONCLUSIONS: USA youths playing Rugby-7s tournaments had lower rates of injury (33.3/1000ph) than USA amateur adult Rugby-7s (49.2-55.4/1000ph) and international adolescent boys' Rugby-15s (35-57.2/1000ph). The majority of match injuries occurred during the tackle (80.3%), and rates of head, neck, and upper extremity injuries were elevated, which emphasizes the need for proper safe tackling techniques in USA youth. This study establishes the need for continued epidemiological research to document age-based injury rates and patterns that will help develop evidence-based injury prevention initiatives.

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Interaction Between Household Size And Medication Status In Aged Individuals As It Relates To Fall History

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(No relationships reported)

Falls in the elderly are a significant problem in developed countries and numerous risk factors have been linked to falls. Two such risk factors include poly-pharmacology and household size.

PURPOSE: To investigate both pharmacology status and household size as it related to history of falls in individuals over the age of 65 years.