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CONCLUSIONS: Among grade 4 renal injuries, PRD, ICE and the presence of a medial/complex laceration effectively predict the need for intervention for bleeding.

Source of Funding: None

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EPIDEMIOLOGY OF SPORTS RELATED GENITO-URINARY INJURIES PRESENTING TO EMERGENCY ROOMS

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INTRODUCTION AND OBJECTIVES: To study the epidemiology of sports-related genito-urinary (GU) injuries presenting to emergency departments (ED) in the US.

METHODS: A retrospective analysis was conducted of the National Electronic Injury Surveillance System (NEISS) of the United States Consumer Product Safety Commission between 2002 – 2010. The NEISS is a stratified probability sample of hospital emergency departments in the United States and its territories. Data collected from the NEISS sample can be used to produce national estimates of the number of consumer products-related injuries treated in hospital EDs. A total of 4,563 sports related ED visits were documented over nine years. Data were analyzed using Stata (Ver 12.0) to accommodate the complex sample survey design, grouped by theme and coded to describe and compare case characteristics.

RESULTS: Between 2002 and 2010, an estimated 133,706 (95% CI 109,252-158,161) individuals presented to the ED with GU injuries related to sports. Of those affected, 69% were male and 31% were female. An estimated 90,314 (95% CI 72,885-107,745) children sustained sports-related GU injuries, the most common of which involved bicycles (33%), swimming/diving (11%), football (6%), sporting vehicles including scooters (6%) and basketball (5%). The majority of injuries were sustained in the 4-7 year old (30%), 8-11 year old (28%) and 12-15 year old (23%) age categories. In the adult population, an estimated 43,391 injuries were sustained (95% CI 33,880-52,903). The most common causes of injury were bicycles (25%), sports vehicles including scooters and ATVs (11%), basketball (6.4%), baseball/softball (5%) and swimming/diving (5%). Of adult sports injuries the majority occurred in the 19-28 year old (49%) and 28-45 (34%) age categories. In all age groups the most common mechanism of injury was contusion (34%) followed by laceration (22%). The most commonly injured organs were the testicles (27%), female external genitalia (21%), and scrotum (13%). More injuries were observed between April and September relative to the winter months.

CONCLUSIONS: Our results suggest that GU injuries related to sports are prevalent in both the adult and pediatric populations. Bicycles, in particular, account for the majority of sports-related GU injuries in both populations with swimming, sporting vehicles and common team sports accounting for a significant proportion of injuries.

Source of Funding: None

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GUNSHOT WOUNDS (GSW) TO THE LOWER URINARY TRACT: OUR 22 YEAR EXPERIENCE

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INTRODUCTION AND OBJECTIVES: Our hypothesis is that patients with GSW to the lower urinary tract may have characteristic bullet trajectories, injury patterns, and associated injuries.

METHODS: We conducted a retrospective chart review of patients admitted to San Francisco General Hospital from 1989-2011 who sustained GSW to the lower urinary tract including the pelvic ureter, bladder, or urethra.

RESULTS: 50 patients (47 males, 3 females) were identified with GSW to the lower urinary tract. The mean age was 26.7 years. 2 patients died from injury. There was a mean of 2.3 bullets per patient, with 26 patients sustaining injury from a single bullet. 76% had injury involving the bladder only, the majority with extraperitoneal bladder injury. Bullet trajectory was anterior posterior in 24, posterior anterior in 20, lateral in 3, and 3 unknown. All patients but one were managed operatively.

50% of bladder injuries from a single GSW had a buttock entry wound with a PA trajectory, and 33% had a lower abdominal entry site. 7 of 8 ureteral injuries were repaired with ureteroneocystotomy, and 1 with ureteral stent. Isolated ureteral injury was associated with a lower abdominal entry with AP trajectory. 4 patients had GSW injuring the urethra. GSW involving the bladder neck or urethra had 75% upper thigh entry wound.

Fewer than 40% had radiographic evaluation (CT or x-ray) before going to the operating room. During exploration, 87% with bladder injury had recognized entry and exit wounds to the bladder. Overall, 80% of patients also had injury to intestine or rectum. In patients with single GSW to the lower urinary tract, 62% sustained intestinal and 27% rectal injury. All patients with rectal injuries underwent fecal diversion, except for a 5 year old whose rectal serosal injury was oversewed.

Post-operative complications occurred in 2 (1 urinoma, 1 rectovesical fistula). The patient managed nonoperatively had a single GSW with an extraperitoneal bladder injury that was successfully managed with a foley catheter. His developed a delayed rectocutaneous fistula.

CONCLUSIONS: Penetrating injuries to the lower urinary tract most commonly involve the bladder. Depending on the severity of injury and the hemodynamic status of the patient, preoperative radiographic evaluation of the urinary system may be limited. During exploration for GSW to the bladder, two injury sites should be expected as failure to close may lead to complications. Also, gunshot wounds to the lower urinary tract often occur with concomitant bowel injury. It is imperative to involve general surgery in the evaluation.

Source of Funding: None

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AGE AND PUBERTAL STATUS ARE NOT INDEPENDENT RISK FACTORS FOR URETHRAL COMPLICATIONS FOLLOWING HYPOSPADIAS REPAIR

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INTRODUCTION AND OBJECTIVES: Several authors report hypospadias complication rates increase at various times after 1 year of age, especially among post-pubertal patients. Concern for increased complications in adults has resulted in repairs leaving the neomeatus at the corona. We sought to determine if age and/or pubertal status were independent risk factors for urethral complications (UC) following hypospadias repair.

METHODS: A prospectively maintained database of consecutive patients undergoing hypospadias repair by WS was queried for the following potential risk factors: age at surgery, pubertal status, type of surgical repair (tubularized incised plate, inlay graft, or staged graft), primary or reoperation, meatal location, preop testosterone, glans-plasty suture, and learning curve. In all patients, the neourethra was carried to a normal location in the glans with the goal of an orthotopic meatus. The presence of UC (fistula, dehiscence, stricture and/or meatal stenosis) was analyzed with simple and multiple logistic regression. Successive patients with minimum follow-up of 1 month were included.

RESULTS: Hypospadias repairs were performed on 785 consecutive patients aged 3 months-62 years, including 615 (78%) primary