

# EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY  
WWW.DADEHEALTH.ORG

## Sport-Related Injuries: Miami-Dade, 2011

Anthoni Llau PhDc

### Background

Participation in sports is popular and widespread in American culture, however, sport-related injuries (SRI's) are a growing concern. Nationally, approximately 12,000 people receive treatment in emergency departments (ED) each day for injuries sustained during sporting activities (MMWR, 2002). Injuries are a leading cause of individuals not participating in potentially beneficial physical activity. Despite these concerns, little research has focused on the prevalence of sports-related injuries within local communities.

The paucity of studies may be attributed to a lack of detailed and reliable data pertaining to SRI's. Previous research regarding SRI's has been derived from population-based surveys such as the National Hospital Ambulatory Medical Care Survey (NHAMCS) which are primarily designed to provide national estimates, thus meaningful approximations cannot be made on a local level.

Other research has utilized the International Classification of Diseases, ninth edition, Clinical Modification (ICD-9-CM) supplementary classification of external causes of injury and poisoning (E-codes) to determine the extent of SRI's. The external cause describes the mechanism and manner of injury. SRI's were previously identified using ICD-9-CM codes E886.0 (in sports, tackled in sports), E917.0 (in sports, kicked, stepped on, struck by object), and E917.5 (object in sports, with subsequent fall) yet these codes were not specific as to which sport the individual was performing at the time of injury. In 2009, however, ICD-9-CM extended its external causes of injury classification to include specific activity-related injuries

such as team and individual sports. To date, few studies have examined the extent of SRI's employing the new ICD-9-CM activity E-code section.

### Methods

The present study was undertaken to examine SRI trends among Miami-Dade County residents using electronic ED data from the Florida Agency for Health Care Administration (AHCA) reporting system, which collects information from all non-federal Florida hospitals. The Florida Department of Health in Miami-Dade County (FDOH – MDC) has utilized hospital ED data since 2005 to track the incidence and causes of injuries. The FDOH – MDC collected data for all nonfatal, non-admitted ED visits that occurred during January 1<sup>st</sup> – December 31<sup>st</sup>, 2011 among all persons assigned an ICD-9-CM diagnostic code in the range of 800-999 and any of the following E-codes: E006 - Activities involving other sports and athletics played individually, E007 - Activities involving other sports and athletics played as a team or group, E008 - Activities involving other specified sports and athletics. Sports engaged by individuals at the time of injury were separated according to 4th digit E-sub-codes. Nature of injury and body region injured were classified according to the primary ICD-9-CM diagnostic code. Tackle and flag/touch football were combined into a distinct sport category. Age and gender were also extracted for analysis. Frequency tabulations were obtained for all variables using SAS 9.3.

## Inside the Issue

1

**Sports-Related Injuries: Miami-Dade, 2011**

4

**EDC-IS Influenza/Respiratory Illness Surveillance Report**

5

**Selected Reportable Diseases/Conditions in January 2013**

Epidemiology, Disease Control & Immunization Services  
8600 NW 17th Street  
Suite 200  
Miami, Florida 33126  
Tel: (305) 470-5660  
Fax: (305) 470-5533



# EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY  
WWW.DADEHEALTH.ORG

## Results

During 2011, there were 1,003 emergency department visits for SRI's, with adolescents disproportionately affected. Youths aged 10 – 19 years experienced the highest visitation rates (Figure 1). These rates were nearly 2.5 times greater than the next highest age group (20 – 25 year olds). Males accounted for 84% of all SRI ED visits. Rates were consistently higher among males, regardless of age group.

Overall, basketball (30%) was cited as the most frequently mentioned sport engaged by individuals resulting in ED visits, followed by football (27%). Soccer and baseball accounted for a lower proportion of SRI's (14 and 7%, respectively). Differences when examining by both age group and sport were encountered. Among 10 – 19 year olds, football and basketball accounted for similar proportions of sports injuries (33% of SRI's each); however, basketball-related injuries (33%) were more common among adults aged 20+ years versus football (17%). There were also minor differences in SRI's according to sport and gender (Figure 2a & b).

ED visits mostly resulted from fractures of hand/wrist/finger (10.6% of all SRI's) and sprains/strains of the lower leg and ankle (10.3%), however types of injury varied by sport. The most common injury sustained by individuals while playing football were hand/wrist/finger fractures (15% of football injury episodes). In contrast, ED visits due to sprains/strains of the lower leg/ankle were most frequent among individuals playing basketball (17% of basketball injury episodes).

## Discussion

These findings suggest that SRI incidence rates and patterns are dependent of the type of sport and vary by age group, gender, and type of injury. Disproportionately high SRI ED rates were observed among children and adolescents, nevertheless young adults were also impacted. SRI rates have been found to be highest among 5 – 14 year olds and then taper gradually for successive older age groups (Burt & Overpeck, 2001). Males sustained a large majority of SRI's although this result may be in part due to greater sport participation rates, in particular football. Basketball

was the most frequently played sport among persons who sustained SRI's, which is consistent with previous studies (Burt & Overpeck, 2001; Taylor & Attia, 2000), however, there were slight gender-specific differences for other sports.

Injuries from sporting activities were more frequently diagnosed as fractures to the hands/wrist/fingers and sprains/strains of the lower leg/ankle. Although hand/wrist/finger fractures were more common while playing football, other studies have suggested that lower extremity injuries account for a majority of football-related injuries (Saal, 1991; Ramirez et al., 2006). Conversely, among high school students engaging in sports, the most frequently fractured body sites are the hands/fingers, commonly due to contact with other players (Swenson et al., 2012). The majority of injuries sustained by individuals playing basketball were sprains/strains of the lower leg/ankle. Basketball requires frequent high jumps which demands good coordination and stability of ankle joints. An analysis conducted in a large emergency department found basketball players were more likely to sustain sprains or strains than other sports (Taylor & Attia, 2000).

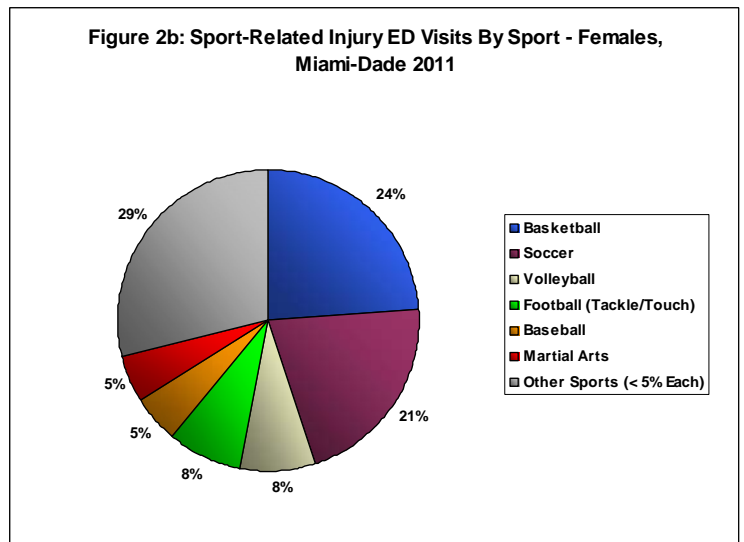
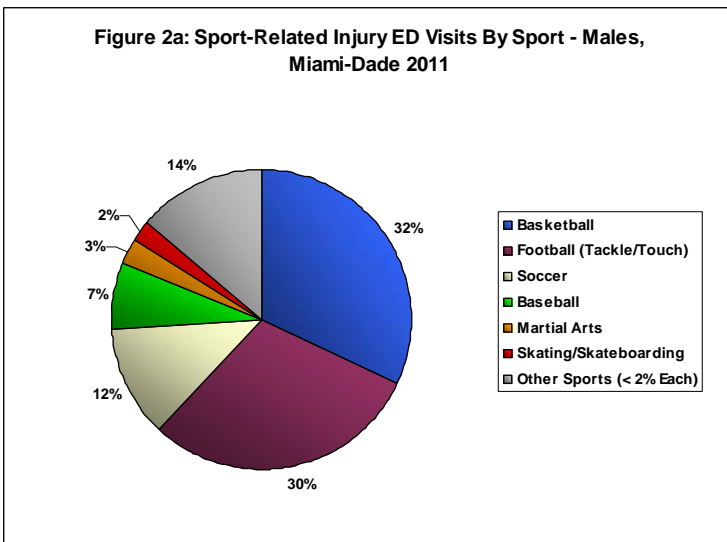
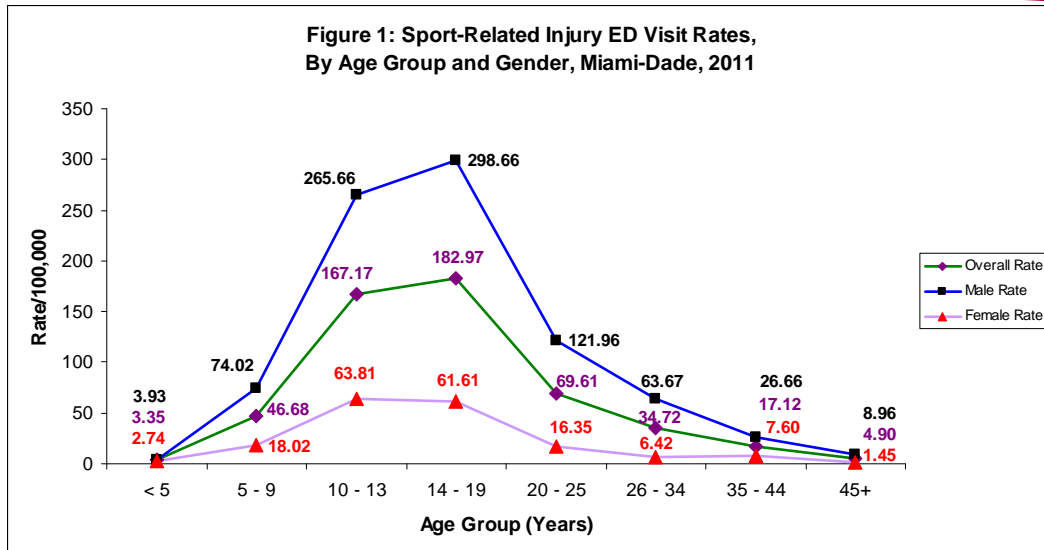
Risks for individual sports could not be compared due to a lack of exposure information. Determining the actual risk of an SRI requires information about an individual's exposure to a particular sport. It was also unknown whether an injury occurred during a game, practice, or playing for recreation. Among children, 62% of organized SRI's occur during practice (Safe Kids USA, 2011). Lastly, this analysis solely examined injuries that resulted in ED visits, therefore individuals hospitalized or treated exclusively at physician offices were not included.

The aim of this study was to raise awareness regarding the different types of injuries sustained by individuals while playing sports and allow physicians to effectively diagnose and treat patients who sustain SRI's. Initiatives to prevent SRI's should include policies and programs that enforce the use of appropriate safety gear at schools and sports facilities, whether practicing or during a game, and focus on youths as well as physically active adults.



# EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY  
WWW.DADEHEALTH.ORG



## References

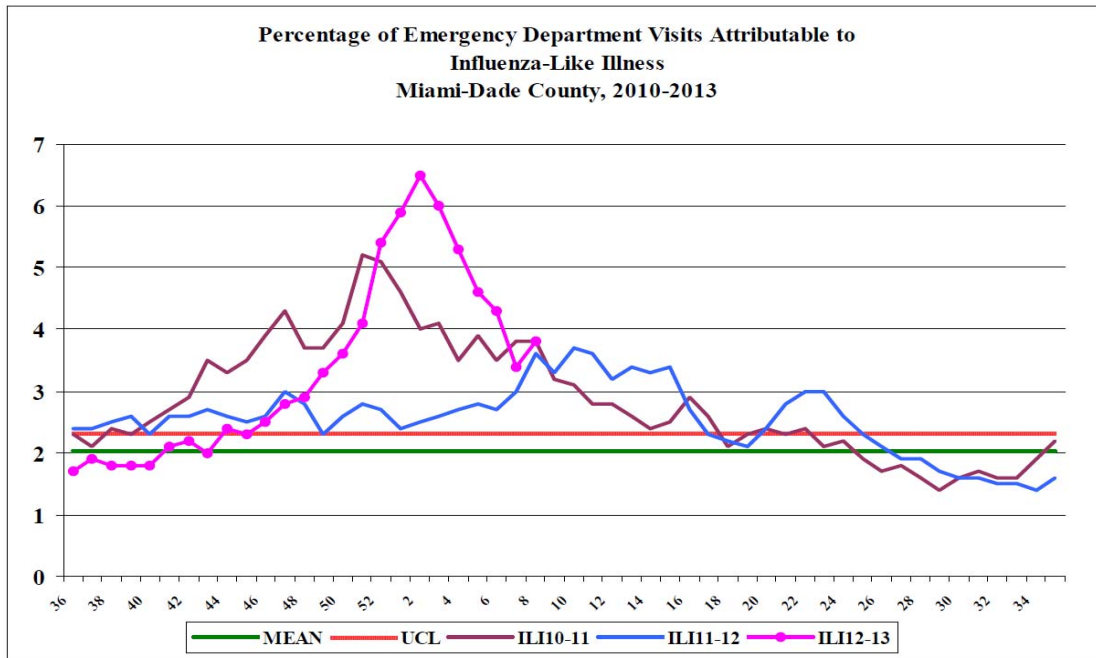
- Burt CW, Overpeck MD. (2001). Emergency visits for sports-related injuries. *Annals of Emergency Medicine*. 37(3):301-308.
- Centers for Disease Control and Prevention. (2002). Nonfatal sports and recreation-related injuries treated in emergency departments --- United States, July 2000--June 2001. *Morbidity and Mortality Report*. 51(33):736-740.
- Ramirez M, Schaffer KB, Shen H, Kashani S, Kraus JF. (2006). Injuries to high school football athletes in California. *The American Journal of Sports Medicine*. 34(7):1147-1158.
- Saal JA. (1991). Common American football injuries. *Sports Medicine*. 12(2):132-47.
- Safe Kids USA. (2011). Sport and Recreation Safety Fact Sheet. Retrieved from <http://www.safekids.org/our-work/research/fact-sheets/sport-and-recreation-safety-fact-sheet.html>.
- Swenson DM, Henke NM, Collins CL, Fields SK, Comstock RD. (2012). Epidemiology of United States high school sports-related fractures, 2008-2009 to 2010-2011. *American Journal of Sports Medicine*. 40(9):2078-2084.
- Taylor BL & Atta MW. (2000). Sports-related injuries in children. *Academic Emergency Medicine*. 7(12):1376-1382.



# EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY  
WWW.DADEHEALTH.ORG

## Influenza-Like-Illness, All Age



During this period, there were 22,576 ED visits; among them 847 (3.8%) were ILI. At the same week of last year, 3.6% of ED visits were ILI.

### PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

Florida Department of Health in Miami-Dade County **NEEDS** Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact  
**Lakisha Thomas** at 305-470-5660.

TO REPORT ANY DISEASE AND FOR INFORMATION CALL:  
Epidemiology, Disease Control & Immunization Services

Childhood Lead Poisoning Prevention Program .....305-470-6877  
Hepatitis .....305-470-5536  
Immunizations or outbreaks .....305-470-5660  
HIV/AIDS Program .....305-470-6999  
STD Program .....305-575-5430  
Tuberculosis Program .....305- 575-5415  
Immunization Service .....305-470-5660  
To make an appointment.....786-845-0550

### About the Epi Monthly Report

The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, contact Esther Bell at (305) 470-6918.



# EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY  
WWW.DADEHEALTH.ORG



## Miami-Dade County Monthly Report Select Reportable Disease/Conditions January 2013

Diseases/Conditions	2013 Current Month	2013 Year to Date	2012 Year to Date	2011 Year to Date
<b>HIV/AIDS</b>				
AIDS*	N/A	N/A	69	47
HIV	N/A	N/A	122	140
<b>STD</b>				
Infectious Syphilis*	19	19	36	29
Chlamydia*	804	804	778	712
Gonorrhea*	188	188	220	191
<b>TB</b>				
Tuberculosis**	5	5	3	9
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	13	13	36	27
Ciguatera Poisoning	0	0	0	1
Cryptosporidiosis	2	2	2	1
Cyclosporiasis	0	0	0	0
Dengue Fever	2	2	0	0
E. coli, O157:H7	0	0	1	1
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	12	12	8	28
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	0	0	0
Legionellosis	4	4	1	1
Leptospirosis	0	0	0	0
Listeriosis	0	0	0	0
Lyme disease	0	0	0	0
Malaria	3	3	1	1
Meningitis (except aseptic)	2	2	0	1
Meningococcal Disease	2	2	1	0
Salmonellosis	34	34	23	22
Shigellosis	1	1	3	5
Streptococcus pneumoniae, Drug Resistant	8	8	7	9
Toxoplasmosis	0	0	0	0
Typhoid Fever	0	0	0	0
Vibriosis	0	0	0	1
West Nile Fever	0	0	0	0
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	0	0	0	0
Pertussis	0	0	1	0
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	3	3	4	1
<b>Hepatitis</b>				
Hepatitis A	1	1	0	0
Hepatitis B (Acute)	0	0	0	0
<b>Lead</b>				
Lead Poisoning	1	1	4	12

\*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

\*\* Data on tuberculosis are provisional at the county level.

