

## National youth baseball pitching injury survey update

In 2009, Steven Chudik, board certified orthopaedic surgeon and sports medicine physician with the Steven Chudik MD Shoulder and Knee Injury Clinic and founder of the Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation (OTRF) entered into a two-part research study sponsored nationally by the American Orthopaedic Society for Sports Medicine (AOSSM). Dr. Chudik and OTRF, along with other orthopaedic surgeons across the country, are gathering information on elbow and shoulder problems in baseball players age 9 to 18 who pitched in an organized game within the past 12 months. The impetus behind the study is the growing number of overuse injuries in young pitchers and the desire to determine underlying causes and formulate preventative recommendations.

One part of the study is community-based and relies on pitchers to complete an online survey. It is completely confidential except for gender, age, weight, shoe size, state and Zip code. No personal data is collected. To date, 745 pitchers have completed the survey.

The second part of the research is clinic-based. This portion relies on Dr. Chudik and other participating physicians to conduct physical exams of their baseball-pitching patients and report their diagnostic findings. Only the patient's pertinent assessment and diagnostic information necessary for the study is reported to ensure complete confidentiality. To date, information on 201 patients has been submitted nationally.

Initial findings support the need to limit the number of pitches thrown, rest the arm and most important, not play or practice if the pitching arm is painful.

"This early data supports what I've been telling baseball pitchers for a long time—pitch counts count and resting the arm is a must," said Dr. Chudik "With an estimated 6 million American adolescents participating in organized baseball, it is important we collectively look for ways to prevent overuse injuries and possible lifelong permanent damage. Participating in the short online survey is a great first start," he suggested.

Dr. Chudik urges coaches, athletic trainers and parents to have their baseball pitchers take a few minutes to complete the survey located on his foundation website, [www.otrfund.org/](http://www.otrfund.org/). "We really need more pitchers from Illinois represented in the survey," Dr. Chudik said. "Our playing season and weather are vastly different from the Southern and Western parts of the country. Without an accurate representation from all regions—especially ours—the validity of the research could be compromised," Dr. Chudik explained. "It is important for us to understand the issues involved for pitcher here in Illinois" he added.

The survey is open to pitchers 9 to 18 years of age who have not completed the survey and pitched in an organized game within the past 12 months. Parental permission is required to participate in the survey.

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## Preliminary Research Findings Revealed

### Community-based information from pitchers

- Average respondent's age: 14.2 years
- State responses: Florida 21.45% (the most), Illinois 5%.
- 71% throw curveballs with 12% beginning at 9-10 years of age
- 43% throw sliders or sinkers with the youngest starting at 9-10 years of age
- 5.1 average number of months pitched in one year, 10% pitched more than 9 months
- 3.8 days average rest between games pitched
- 52% pitched on travel teams
- 18% pitched two games on the same day, 41% pitched on back-to-back days
- 59% sometimes pitched when the arm was not 100%
- 33% sometimes pitched with arm was painful, 4% often pitched in pain
- 46% practiced pitching 1-2 times per week
- 45% reported 6 or fewer weeks of rest in the off season /not throwing at all
- 31% of the total sample missed at least one game or practice from a shoulder/elbow injury
- 18% of the total sample missed more than two weeks pitching from a severe arm injury

### Clinic-based information from physician's exams of pitchers

- Average participant's age: 14.3 years
- External rotation (ER) throwing arm-Internal rotation (IR) throwing arm average: 57 degrees
- IR throwing arm-IR non-throwing arm: more than 25 degrees, glenohumeral internal rotational deficit (GIRD): 26%
- 48% had no shoulder injury; 39% had no elbow injury
- 12% diagnosed with Little Leaguer's Shoulder, 13% with Little Leaguer's Elbow
- 10% diagnosed with shoulder tendonitis, 7% with elbow tendonitis
- 8% diagnosed with unspecified shoulder overuse, 8% with unspecified elbow overuse
- 5% diagnosed with shoulder labral tear
- 16% diagnosed with ulnar collateral ligament (UCL) elbow injury
- 3% diagnosed with elbow medial epicondyl growth plate fracture
- 2% diagnosed with elbow olecranon stress fracture
- 64% prescribed rest for an average of 5 weeks
- 51% prescribed physical therapy for an average of 5 weeks
- 22% prescribed pitching instruction to improve/change poor mechanics
- 17% prescribed anti-inflammatory medications
- 12% underwent surgery; 7 pitchers had UCL reconstruction, 2 pitchers had shoulder repair to attach the labrum back to the bone (SLAP repair)
- 8% prescribed magnetic resonance imaging (MRI) for further study
- 3% prescribed a corticosteroid injection
- 3% prescribed a sling for use an average of 2 weeks

