

Here's the windup - ouch!

Number of injuries to young pitchers galvanizes an effort to educate coaches

By M.A. MEHTA STAR-LEDGER STAFF

For thousands of New Jersey boys, yesterday was a perfect spring day. They shoveled down breakfasts, slipped into cleats, piled into minivans and played Saturday morning baseball on sun-drenched fields as their families shouted encouragement.

Rockwellian charm aside, some were hurting themselves by doing what most players dream about: pitching. The debate about young pitchers and their risk of injury isn't new, just more intense as a growing number of kids concentrate on a single sport and participate in multiple leagues, some of them year-round. In baseball, the one or two gifted young arms on a team are being asked to throw hard and often. James Andrews, a renowned Birmingham, Ala., orthopedist who has treated nearly every marquee athlete of this generation, says more and more youngsters are coming to him for consultation or surgery on bad elbows and shoulders. He has performed "Tommy John" surgery on 14-year-olds, transplanting a tendon from elsewhere in the body into the elbow to serve as a ligament.

Andrews and Rick Peterson, the Mets pitching coach highly regarded for his insight into the mechanics of throwing a baseball, are spearheading an effort to end the problem through the education of coaches and parents. Among the points they emphasize is that youngsters should refrain from throwing breaking balls such as curves, which put extra stress on elbows, until they have reached puberty.

But even youngsters who throw fastballs are not immune, such as Mark Irwin, who began throwing hard as an 8-year-old and blew out his elbow as a freshman at Seton Hall University.

"This isn't a joke . . . it's becoming an epidemic in youth baseball," said Andrews.

"Major League Baseball has to come to the realization that it's to their benefit to get behind this. Otherwise, there's not going to be enough pitchers to go around.

"They'll all be hurt."

CAREER OVER

Twenty years ago, Rick Peterson looked in the mirror, saw the tears crawling down his cheeks and knew his pitching career was over. The pain would dance through his left arm with every pitch. He had dipped his arm in a bucket of ice three or four times a day for years, hoping the misery would disappear. "It was horrible," recalled Peterson, who turned to coaching after his minor league career was cut short. "It was so disheartening. . . I never pitched one game without my arm killing me. It was such a relief not to have to go through all of that anymore just to try to pitch."

Peterson, a New Brunswick native who is now 49, began studying the science of pitching at Andrews' nonprofit American Sports Medicine Institute in Birmingham more than 15 years ago. Inside the biomechanics lab, Peterson developed a thirst for kinesiology and physiology. He also became a numbers geek (crafting as his mantra, "In God we trust. . . . All others must have data") and a student of the mental approach to pitching.

Peterson flourished as pitching coach for the low-budget Oakland Athletics, helping their pitching staff to the lowest earned run average in the American League each of the past two seasons.

The Mets believed so much in Peterson's principles - which include New Age visualization and yoga - they signed him this year to a three-year contract, and his effects on their struggling staff are already evident. Meanwhile, Peterson and Andrews are forging ahead in their pursuit to prevent youth injuries caused by overuse and poor mechanics. A 2002 study of young pitchers by the institute found a direct link between elbow and shoulder pain and the number of pitches thrown. Institute researchers also found conclusive evidence that throwing breaking pitches such as curveballs and sliders increases the chances of injury. "Everyone wants what's best for their kids," said Glenn Fleisig, research chairman at the institute, which had examined 476 kids ages 9-14 over a full season. "The biggest hurdle is the lack of information readily available to parents and coaches. There's also too much misinformation out there."

Among the common conceptions are that frequent pitching builds up a young pitcher's arm, and that when a young pitcher mentions pain, he is really referring to the soreness common after pitching.

To combat misinformation, Andrews and Peterson have prepared a pitching and conditioning program that specifies maximum pitch counts and recommends that some pitches should not be thrown at an early age. "I didn't have sense enough myself as a kid," Peterson said. "When the coach asked me if I could pitch, I'd say, 'Sure, I'll do anything for the team.' I wasn't even thinking about whether it was the right thing to do. I look back and I can't believe I was put in that position. I couldn't say no."

The father of three boys, Peterson is sensitive about protecting young arms.

In fact, in the case of his oldest son, Sean, Peterson would not even allow him to take the mound until he turned 15.

THE HIGH SCHOOL PHENOM

All it took was one pitch. Mark Irwin felt paralyzed the moment the ball left his fingertips. The 19-year-old Seton Hall pitcher winced in pain after snapping off a curve late last season. "It kind of just blew up," said Irwin. "I didn't have a nagging problem. But I can't even describe the excruciating pain I felt when it happened." Irwin, a starting pitcher for the Pirates even as a freshman, had torn the ligaments in his left elbow. He underwent successful Tommy John surgery last summer and missed his sophomore season while recovering.

Like many others, Irwin had never learned to slow down. He was throwing hard from the moment he first picked up a ball at age 8. By 11, Irwin was mowing down batters in the North Haledon Recreational League. Equipped with a blazing fastball, the left-hander once recorded 20 strikeouts in a game for Manchester Regional High School in Haledon. Irwin rarely experienced any elbow or shoulder discomfort despite refusing to scale back on his velocity. "He was always trying to throw hard - in games, on the sidelines," said Pascack Valley coach Frank Eufemia, a former Minnesota Twins pitcher, who worked with Irwin as a teenager. "But you can't abuse your arm. Sometimes a kid feels like he can throw hard forever."

Irwin said he often rushed through pregame warm-ups, stretching sporadically and playing catch with his dad in the street before taking the mound. Soon he also was piling up innings in summer and fall leagues. He rarely rested, shaking off any aches and pains as insignificant.

His body was slowly unraveling. "I didn't want to say anything when I felt a little bit of soreness or pain," Irwin said. "I just pitched through it. When you're a kid, you never think you're going to hurt your arm. All I wanted to do was pitch. "Looking back, I definitely would have changed some things and gotten more rest."

'GROSS INJUSTICE'

Irwin's case is emblematic. Andrews recommends kids be limited to pitching nine months out of the year. Anything more, he says, could prove costly.

Former Linden High coach Tony Picaro, now a pitching instructor, echoed the importance of rest between outings. He also stressed that arm trouble can remain dormant in many adolescents for years. "The dilemma that exists is that kids are so resilient that they won't feel the pain too much," Picaro said. "They're doing minor damage. As they get older, the force that they generate puts more stress on their shoulders and elbows. That's when the shock hits them."

The examples of overuse are everywhere. A glaring case involved a 12-year-old from Michigan who threw 175 pitches in eight innings during the 1998 Little League World Series game. In the major leagues, by contrast, managers generally consider removing a pitcher after 90 or 100 pitches.

Many youth coaches struggle trying to strike a balance between winning and monitoring the long-term health of their pitchers. Unlike major league managers, they may have only one talented pitcher. "It's a gross injustice," said Peterson, who recalls once throwing nearly 200 pitches in a junior college game in Florida. "There's a code of conduct that states that kids can't use abusive language and should be team leaders.

But we can allow our kids to throw over 100 pitches in a game? Maybe that should be on the code of conduct list so the kids aren't being physically abused." Peterson dismisses the notion that kids need to log innings early on to get ahead.

"The biggest misconception of all," Peterson said, "is that honing your pitching skills at an early age will lead to fully untapping your potential long term. How many kids who pitched in the Little League World Series went on to pitch in the majors? Not many."

Little League International sets a restriction of six innings per week for 10- to 12-year-olds. Kids throwing one, two or three innings in a game must rest for a day. Those who pitch more than three innings need three days off.

Many coaches share Peterson's belief that leagues should adhere to strict pitch counts rather than using innings pitched as the barometer, though Little League disagrees. "Limiting pitch counts isn't going to solve the problem," said Lance Van Auken, member of the Little League Rules Committee in Williamsport, Pa. "Kids are getting hurt because of the multiple programs they're in. Little League isn't causing the problem. It's the parents who are letting kids participate in too many programs at once." Some coaches and parents carry pitch counters to safeguard kids against overuse. Michael Murray, a former minor league catcher in the Chicago White Sox organization, coaches the Clark Little League travel team and keeps a watchful eye on his players. He allows his 11-year-old son, A.J., to pitch only from the stretch position - in which the pitcher stands sideways in respect to home plate before he starts to throw, which shortens the motion of his delivery - and to throw no more than 45 to 55 pitches over three innings. "I've seen some coaches ride their kids like Secretariat," Murray said. "It's frightening. Now some of these kids can't even lift their arms to comb their hair. "So now what have you done? To so ardently go after a dream with reckless disregard of a kid's health is unconscionable."

THE WINNING MENTALITY

The landscape of youth baseball is changing radically. Lavish fields with lights and concession stands have replaced spartan diamonds. The annual Little League World Series in Williamsport attracts worldwide attention, with grown men and women shoving microphones and tape recorders in front of kids.

The win-at-all-costs mentality has become endemic among some overzealous parents and coaches seeking an edge. For pitchers, that means throwing a ball with movement. Still, Peterson recommends staying away from the curveball - thrown with a snapping wrist motion that adds to the ball's rotation, while putting extra stress on the elbow - until the child reaches puberty. And for years beyond that, the pitcher should avoid the slider, which is thrown harder than curves and can cause the most elbow damage, Peterson said. A straight change-up - thrown in the same fashion as a fastball, but with less speed - is Peterson's choice for a second pitch.

Despite the recommendations to hold off on throwing breaking pitches from USA Baseball, the governing body for amateur baseball, youth pitchers are still being taught to throw curves. "Some coaches think their teams can't become competitive unless their kids throw some kind of breaking pitch," Andrews said. "About 70 percent of the pitches thrown in the Little League World Series are breaking balls. And that's sad." Colonia Little League officials have instituted a rule prohibiting kids under 13 from throwing breaking pitches. The policy reflects the league's desire to emphasize participation over winning. And it may help prevent serious injuries. "The concept of a career-ending injury at 14 years old used to be unbelievably foreign to us," said Barry Goldberg, chairman of USA Baseball's medical and safety advisory committee and

director of sports medicine at Yale University. "Now it's not a rare entity. It's a great concern to all of us."

PHOTO CAPTION: 1. Pitcher Steve Roglieri on the mound during a Clark Little League game. Little League limits pitchers' time on the mound by the number of innings. 2. Frank Szczepanik, 13, of Kenilworth works with pitching coach Tony Picaro at the Ballpark indoor baseball facility in Springfield. 3. Mets pitching coach Rick Peterson works with pitcher Scott Kazmir at the American Sports Medicine Institute in Birmingham, Ala. 4. ANDREWS 5. Pitching coach Tony Picaro of Westfield works on form with 13-year-old Frank Szczepanik of Kenilworth.

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Pitch counts

These are USA Baseball's recommended pitch counts for different age groups. The guidelines stem from a 2002 American Sports Medicine Institute study that established a link between the number of pitches thrown and the occurrence of elbow and shoulder pain.

* 9- and 10-year-old pitchers

50 pitches per game

75 pitches per week

1,000 pitches per season

2,000 pitches per year

* 11- and 12-year-old pitchers

75 pitches per game

100 pitches per week

1,000 pitches per season

3,000 pitches per year

* 13- and 14-year-old pitchers

75 pitches per game

125 pitches per week

1,000 pitches per season

3,000 pitches per year

* Limits pertain only to pitches thrown in games. The totals do not include throws from other positions, instructional pitching during practice sessions or throwing drills, which are important for the development of technique and strength. Backyard pitching practice after a pitched game is strongly discouraged.

Some other recommendations

The American Sports Medicine Institute makes the following recommendations for the

development of young pitchers:

- * Breaking pitches such as curveballs and sliders should not be thrown in games until the pitcher has reached puberty (typically about 13 years old).
- * Developing proper mechanics in the pitcher as early as possible should be the top priority. Kids should include more year-round physical conditioning as their bodies develop.
- * Allowing a pitcher to return to the mound in a game once the pitcher has been removed should be prohibited.
- * "Showcase" tournaments should be de-emphasized, because of the heightened risk of injury.
- * A pitcher should not pitch for more than one team in a season.
- * Adolescents should pitch no more than nine months in any given year, to allow for adequate rest and recovery. They shouldn't participate in throwing drills or engage in any other stressful overhead-motion activities (javelin throwing, football quarterbacking, softball, competitive swimming, etc.).

CREDIT: SOURCE: www.asmi.org

Etc. BOX: --"I've seen some coaches ride their kids like Secretariat. It's frightening." -
MICHAEL MURRAY, CLARK LITTLE LEAGUE COACH AND "SOMEFORMER
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