

Curveballs, Catchers and Fatigue

Research needs to continue on links between overuse injuries and two hottest topics.

New research suggests that curveballs aren't as dangerous as some in the medical field have suggested, with stresses similar between the curveball and fastball. But let's not be so quick to accept curveballs for youngsters, warns Dr. James Andrews, orthopaedic surgeon and baseball injuries researcher. Add to that

concern that catchers are joining the growing trend of patients seeing orthopaedic surgeons needing to repair their injured arms.

Dr. Andrews stated that while the most recent studies "can't show in the lab that the curveball causes more damage" than the fastball or other pitches, he does not advocate teaching or throwing curveballs until a player's arm is close to fully developed, at age 13 to 15.

Fatigue Still the Key Risk

"We still believe the two major pitches to throw... are the fastball and the change-up," Dr. Andrews said. "My personal opinion is fatigue is ... the highest risk factor in youth baseball related to injuries. If you can prevent fatigue, then you will have done 95% of what you can do to keep these kids healthy."

"So how does the curveball interact with fatigue? If you are playing competitively... they want to win, and the curveball is a major factor" in winning games, Dr. Andrews said. "Fatigue comes from the inability of a young player to throw the curveball properly with good mechanics. That's the whole key."

Dr. Andrews stated he does not call curveballs "safe" for younger players. "However, if you throw the curveball with good mechanics, there are no greater forces on the shoulder or elbow than throwing the fastball, apparently, from what we can measure in the lab."

He also explained that throwing a curveball requires a great deal of control, and "is not an easy pitch to throw, and certainly not everyone can throw it properly."

Teach Proper Curveball Mechanics

And teaching good curveball mechanics is important, no matter what age, he said. "Do we have knowledgeable coaches teaching these kids the curveball?" Dr. Andrews asked. "We've got to be really careful. When you put a kid in a competitive situation, a championship series, and call for 70% curveballs, what's that going to do to the fatigue factor? Remember, it's a highly neurologically controlled pitch: if the mechanics get off because you're fatigued, and throwing 70% curves, then we're in trouble. So be careful throwing curveballs." Dr. Andrews repeated the caution

from the position statement, that "throwing curveballs too early may be counterproductive, leading to arm fatigue as well as limiting the youth's ability to master fastball mechanics," he said. "In theory, don't throw curves till you can shave."

Catchers at Increasing Risk

When the most talented and athletic players are catchers, a coach's natural desire is to make that player a pitcher, too. But Dr. Andrews warned that catchers, good catchers who are mirroring every throw from the pitcher as well as being asked to throw long, fast, accurate throws to first, second and third bases are at increased risk of arm fatigue and subsequent injury.

"We're seeing a lot of injuries with catchers. I had a catcher come in from Atlanta, and I did surgery on him. I asked him how he got hurt. He's 15 years of age, and he's not supposed to have an injury [at that age]; but believe me, they're out there all over the place in that age group," Dr. Andrews stated.

He said the player was at a showcase and was asked to throw 100 throws in 200 seconds. Throwing a ball from home to second in 2 seconds is a good throw; and the organizers were timing the catchers on the total they could throw down in 200 seconds. "So he would throw as hard as he could throw, and then reach and they'd put a ball in his hand and do it again, to see how he fell off, what kind of stamina he had," Dr. Andrews related. "And about the 50th throw, he tore his ligament.

"Now that particular situation was almost criminal, and unfortunately what might happen down the road is it might become a criminal offense," he added. "So the timing is right to get this under control, before the federal courts and the state courts and the lawyers get it under control."