




WOOD VS.



The debate over what type of bat is safest for children participating in organized baseball programs heats up, as coaches, parents, politicians, scientists and equipment manufacturers all are weighing in on the issue.

Nearly three summers ago 12-year-old Steven Domalewski was on the mound pitching for his youth baseball team in New Jersey. With two runners on base, and a full count on the hitter gripping a metal bat, his next pitch was hit directly back at him. The ball struck him in the chest, just below his heart, and immediately sent him into cardiac arrest. Deprived of oxygen for more than 15 minutes, the youngster suffered irreversible brain damage that left him permanently and severely disabled.

By Adam Shilling

metal bats

Wood vs. metal bats

The tragedy pushed into the national spotlight the issue of metal vs. wood bats and which is safer for children to use.

The debate has stirred strong opinions on both sides, as coaches, parents, politicians, equipment manufacturers and scientists, among others, have all chimed in.

The crux of the bat debate revolves around safety – namely for those children on the pitcher's mound and the infield who must react quickly to batted balls. Made of high-strength aluminum alloy, aluminum bats are often lighter weight and can be stronger and more durable than their wood counterparts. The hollow interior of aluminum bats create a trampoline effect, which some say increases the distance and speed at which the ball travels.

Wood bat advocates argue that this increase in speed and force dangerously reduces the amount of reaction time that a young pitcher has, consequently increasing the chance of injury. However, aluminum advocates often point to the lack of credible scientific data to support this claim.

"I think right now there's not any real good data to say that one is any better than the other, everyone's concern over metal bats is based on a handful of catastrophic injuries," said Dr. Fred Mueller, a specialist in sport administration at the University of North Carolina's Department of Exercise and Sport Science. "By the summer of 2009 I think there will be more information out there on this topic."

SORTING THROUGH THE RESEARCH

Because it is so difficult to find youth baseball leagues that use wood bats, not many studies exist that adequately compare wood and aluminum at the youth level. Most research has been done at the collegiate or high school level.

"Current scientific studies do not support this conclusion as there is no increase in the trend of significant injuries that would cause the need for the banning of metal bats in favor of wood bats," said John Sadler, a sports insurance specialist and USA Baseball Medical and Safety Committee member.

According to the Don't Take My Bat Away Coalition, an organization opposed to the banning of aluminum and composite bats in amateur baseball, "Since

2003, metal bats used in high schools have been scientifically regulated so that the speed of batted balls off metal bats is comparable to the speed of a ball hit off the best major league wood bats. This standard has been adopted by the NCAA and the National Federation of State High School Associations (NFHS) and ensures that aluminum bats do not hit the ball any harder than the best wood bats."

However, those in favor of banning aluminum bats often question the validity of such regulations, which they claim are often based on studies whose data can be manipulated to support either claim.

"Common sense is the thing that seems to be lost throughout this entire discussion," said Dan Clouser, founder of the Berkshire Baseball & Softball Club, a Pennsylvania youth baseball league that uses wood bats. "I mean, just go watch the same two teams play a double-header. One game with wood and the other with metal, and afterward tell me that the ball leaves the bat at the same speed."

Mueller recently conducted a study with Dr. Stephen Marshall of the University of North Carolina's Department of Epidemiology which compared the batted ball injuries to pitchers in both aluminum and wood bat leagues. The study, which has yet to be released to the public, documented the injuries of both aluminum and wood bat collegiate level baseball teams during a three-year period.

During that time, a total of 27 line drive batted ball injuries were observed from an average of 48 aluminum bat teams, while just 20 injuries were observed from an average of 125 wood bat teams. The aluminum bat teams averaged 14.7 injuries per 100,000 balls hit in play while the wood bat teams averaged 5.0 injuries per 100,000 balls hit in play. Although aluminum bats resulted in a higher frequency of injuries, Mueller noted that for some reason the wood bat related injuries were of greater severity.

"All the metal bat injuries were contusions," he said. "The more serious injuries were from the wood bats, but there were more injuries from metal bats."

Although more studies are now being conducted at the high school and collegiate level, exactly how the results will translate to the youth level remain uncer-



tain, especially since bat standards and regulations set forth by youth leagues may vary.

LAWMAKERS STEP UP

Although invented many years earlier, aluminum baseball bats officially hit the amateur baseball scene in the 1970s. By 1974, every level of organized amateur baseball and softball had approved the use of aluminum baseball bats, with the NCAA eventually making the switch from wood as well.

Although widely accepted by the masses, there still remained many traditionalists and baseball purists on the fringes who longed for the days of wood bat baseball. Then, in 2006, the Domalewski incident took place that pulled the issue into the youth sports spotlight for good.

Convinced that their son's tragic injury was the result of the unsafe speed in which the ball traveled off the aluminum bat that was being used, Domalewski's parents filed lawsuits against the bat manufacturer, Little League Baseball and the sporting goods chain who sold the bat.

Unfortunately, this tragic incident was not the first of its kind. According to a U.S. Consumer Safety Product Commission study, from 1991 to 2001 there were 17 recorded deaths nationwide that resulted from batted balls. Eight were from metal bats, two were from wood bats, and the remaining seven were of unknown origin. But it was Domalewski's case which drew enough national attention that eventually led to legislative action being taken.

Within weeks of the incident, New Jersey Assemblyman Patrick Diegnan introduced a bill to the New Jersey State Legislature that eventually became known as "Steven's Law." This bill, which is currently pending, would prohibit the use of non-wood bats in certain New Jersey youth baseball and softball games.

"My disdain for aluminum bats began while watching my daughters grow up playing softball, and cringing – along with other parents – at every metal-bat-propelled line drive hit back up the middle," Diegnan said. "The near-death of Steven Domalewski was the straw that broke the camel's back in terms of my introducing the wood-bat legislation.

"The speed at which a ball comes off an aluminum bat can be so great that the reaction time for a pitcher to protect himself or herself is reduced to almost zero. We cannot protect every player against on-field injury, but we can correct a balance of power that has swung disproportionately in favor of hitters using increasingly lethal bats."



More than three years ago the North Dakota High School Activities Association board of directors voted to ban the use aluminum bats. The switch was done with the hope of reducing baseball injuries, and although the verdict is still out on the effectiveness of their campaign, several other states are beginning to follow suit.

In 2007 New York City Councilman James Oddo spearheaded a campaign to ban the use of non-wood bats in New York City high schools. Despite initial protests from Mayor Michael Bloomberg, the legislation was eventually passed.

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In that same year, Illinois House Representative Robert S. Molaro introduced a similar bill in his state which is currently pending. Molaro's bill aims to eliminate the use of aluminum bats in recreational youth sports leagues for children ages 13 and under.

Complicating the debate are allegations of questionable motives from those on both sides of the issue. Those in favor of banning aluminum bats are quick to point to the hundreds of thousands of dollars which bat manufacturers spend each year to lobby against proposed legislation to ban non-wood bats. The companies are accused of attempting to preserve what is a profitable industry, with little regard for the safety of their consumers.

Aluminum advocates regularly accuse the politicians behind these legislative proposals of being opportunistic publicity hounds who are merely seeking notoriety. They also point a finger at the personal injury attorneys involved who they claim are motivated by nothing more than the prospect of a large settlement.

PRODUCTION COSTS

Along with safety, price is also a highly contested aspect to this debate. When they first debuted, aluminum bats

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were thought to be the more sensible financial option for leagues instead of having to continually replace broken wood bats. Aluminum bats appeared more durable, thus thought to be a better option for recreation departments and school athletic programs on a budget.


But as aluminum bats continually get thinner, lighter and more expensive, some say this argument is losing its luster.

“As far as durability goes, with the metal bats being produced with such thin alloys, kids are getting a new metal bat every year, which is exactly what the manufacturers want,” said Clouser. “If they produced a metal bat like they did in the 1970s, when they first hit the market, those bats would literally last a player’s career. But they realized that they didn’t make nearly as much money that way, so they started making these models that we see today where the ball explodes off of the thin walls of the bat and it dents by the end the season, forcing mom and dad to go buy Johnny a new bat every year.”

fensive style of baseball that emphasizes generating runs through deliberate acts such as taking walks, stealing bases, executing sacrifice bunts and sacrifice flies, and using hit and run plays, with less emphasis on relying on extra base hits.

It’s been argued that aluminum bats not only increase the speed and distance in which a ball is hit, but they also increase the rate at which hits occur. With teams able to hit with more power and frequency, “manufacturing” runs, defense and pitching become deemphasized.

“It’s pretty simple, aluminum bats can hide a lot of sins in a baseball swing,” said Clouser. “With a wood bat you have to learn to be disciplined enough to swing at good pitches, stay inside the ball and make contact on the sweet spot. A hitter can’t swing at a bad pitch and chink a base hit off of the handle like they can with metal. When a pitcher makes a good pitch, he is rewarded for it when the hitter is using wood. Pitchers don’t have to be afraid to throw inside either.”



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Aluminum baseball bats can run anywhere from \$60-\$300, depending on size, quality and manufacturer. Wood bats can range from \$15-\$100. While the initial investment may be more expensive with aluminum, the tendency of wood bats to break, splinter or chip can cost leagues and players more money in the long run. However, there are many variables to this argument.

“There are a variety of price points for both wood and non-wood bats,” said Mike May, spokesman for the Don’t Take My Bat Away Coalition. “You can buy wood bats which are more expensive than non-wood bats and vice versa. To be honest, the longevity of the bat largely depends on how well you take care of it, how it is used, and how often it is used. If a bat is misused and not properly cared for, you lessen its lifespan and ability to function properly.”

PURITY OF THE GAME

Many self-described baseball purists aren’t concerned with either the price or safety argument, and instead advocate a return to wood bats in an attempt to promote a style of baseball known as small ball. This refers to an of-

In 2007, the School of Kinesiology and Recreation at Illinois State University conducted a study to see if aluminum bats do indeed increase the frequency of hits. By comparing Illinois high school baseball teams who used both wood and non-wood bats during the same season, researchers concluded that teams using non-wood bats did indeed produce more hits.

“Based on the results of this study, we have determined that using non-wood bats results in a greater number of hits per game and a longer duration of games when compared to wood bats among high school baseball players,” said Kevin Laudner, assistant professor in the School of Kinesiology and Recreation at Illinois State, who served as principal investigator for the Illinois bat study.

Whether or not the shift from the small ball style of baseball to a more offensive-centered style of play is a negative one is a topic that transcends the aluminum vs. wood bat debate. The debate over the transition of styles has even risen to the professional ranks.

Some view the transition as a positive one, which can make the game more appealing to today’s youngsters

who are regularly characterized as having short attention spans.

“When using wood bats at the high school level, as they are now doing in the state of North Dakota, small ball is the norm, which can lead to a less exciting game of baseball,” May said.

Still, some wonder if altering the style of the game in order to increase its popularity is worth the price. Many argue that by getting away from the small ball style, an integral concept of teamwork is lost and key skills such as the sacrifice bunt are no longer taught.

“Some kids nowadays have no idea how to bunt anymore,” said Clouser. “The metal bat has turned baseball into a modified game of home run derby. Coaches don’t have to think, players don’t have to think, it’s now all about who can hit the long ball even at a very young age. The whole idea of the bunt has been lost with metal bats, along with sacrificing yourself for the betterment of the team. Metal bats promote a more selfish baseball player who can pad their stats.”

But May points out that this doesn’t necessarily have to be the case. Small ball can still be encouraged while using aluminum bats.

“Using the non-wood bat does not discourage the use of small ball,” he said. “A good bunter can bunt with wood or non-wood.”

The differing styles of baseball can also affect the length of games, as evidenced by the Illinois State University Study. According to the study, the increased amount of hits, at-bats and runs scored in games using non-wood bats increased the duration of games by an average of 12.35 minutes.

While some feel the time difference is negligible, those involved in tournaments where multiple games must be played in one day feel otherwise.

ALL ALUMINUM IS NOT CREATED EQUAL

While new studies may bring momentary clarity to the debate for some, arising innovations in the non-wood bat industry have the potential to further complicate it.

Much of the reason that it is difficult to arrive at a definitive scientific stance on many of these arguments is the fact that

aluminum bats can vary dramatically in size, shape and composition. Some believe that manufacturers could better design composite bats to be as durable as aluminum, but perform more like wood.

Although the standards endorsed by the NCAA and the National Federation of State High Schools Association claim the difference in wood and aluminum bats are negligible, some still say that restrictions could be tighter and that the aluminum bats could be made more “wood-like.”

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While many wood advocates would be open to the idea of a more “wood-like” aluminum bat, some traditionalists will never settle for anything less than the crack of wood bat.

“Even if they do get to the point where they are manufacturing non-wood bats that perform like wood, I personally would still choose wood over non-wood, but that is strictly from my baseball purist point of view,” said Clouser. “A ball hit with a wood bat in the sweet spot, it just sounds better.”

And, as one 14-year-old shortstop told *The Dallas Morning News*: “With wood, the ball doesn’t go as far. I want to hit with metal and field against wood.” ✨