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Will Metal Bats Make a Hit?

Product Liability and the Legislation of Baseball

By Alan D. Kaplan and LisaMarie Collins

The crack of a baseball flying off a wood bat — the sweet sound of America's pastime. Baseball has been a part of American culture since the 1800s. The latest generation of baseball fans, however, has perhaps become more accustomed to the ping of a metal bat. Recent attempts to ban the use of non-wood bats, based on the perception that they may have changed the game and increased the potential for injury, have gained more steam and publicity. Proponents of a ban appear to be more prone to raise the issue in legislative forums where strict product liability standards are not necessarily controlling.

In the beginning, things were simple. Players made their own bats, all from wood, experimenting with different shapes and sizes depending on their personal tastes and preferences. Bernard Malamud's mythical character Roy Hobbs in "The Natural" owed his success, in part, to his famed wood bat "Wonderboy," which he personally handcrafted. Rules seeking conformity as to the type of bats used date back to 1859, when it was determined that bats could be no larger than 2.5 inches in diameter. By 1869, a baseball bat could be no longer than 42 inches.

Today, Major League Baseball ("MLB") only allows bats made from solid wood in its games and engages in a complex process before approving them. MLB bats are scientifically evaluated by the University of Massachusetts Lowell Baseball Research Center. The testing protocol includes tests for physical characteristics such as length, weight, barrel diameter, center of gravity, mass moment of inertia ("MOI"), vibration testing, batted-ball performance testing including a test to determine the "Ball Exit Speed Ratio" (ball speed as it relates to reaction time or "BESR"), static strength and flexural stiffness testing and high-speed durability.

While the first metal bat was patented in 1924, wood bats dominated the sport at all levels until the 1970s. At that time, metal bats began to be used in youth and adult amateur leagues as a cost-saving alternative to wood bats that were prone to break. More recently, the allure of increased "power," "maximum impact speed," and an expansion of the "sweet spot" has caused a steady increase in metal bat usage. Today, metal bats dominate both youth and adult amateur baseball and softball teams, while Major League and Minor League professional baseball continue to use wood bats (although MLB allows the use of composite bats that it has evaluated and approved as comparable to "one-piece solid northern white ash bats" in the Minor League short season).

However, metal bat opponents are not comforted by its performance enhancing qualities. They are concerned that continuing advances in aluminum bat technology are changing the face of baseball by enhancing safety risks that have always been present in a typical game.

The Metal vs. Wood Bat Debate

Despite the popularity of the metal bat, its use in amateur baseball has become particularly controversial in recent years. Some argue in favor of the metal bat, claiming its performance-enhancing qualities encourage increased participation and make the game more fun. Others argue that metal bats pose an enhanced risk of danger to players, particularly at the high school and college level.

According to the Consumer Product Safety Commission ("CPSC"), between 1991 and 2001, batted balls killed 17 players. Eight deaths involved metal bats, and two involved wood bats (in seven instances, the type of bat was not documented). However, scientific data establishing that a metal bat is inherently more dangerous than a wood bat are less than clear. A 2002 study by the CPSC found that, in spite of accident statistics, metal bats do not pose any greater threat than wood bats. In 2005, American Legion Baseball conducted a similar study. Compiling statistics from numerous studies by the National Collegiate Athletic Association ("NCAA"), the CPSC, and the National Institute for Sports Science and Safety, it found no substantial scientific proof that wood bats are safer than metal bats. A 2006 study by the Illinois High School Association ("IHSA") also found that wood bats

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were no safer than metal bats. The IHSA study tracked 32 teams in more than 400 games and 9,000 bats. The study had teams in five Illinois high school leagues use wood bats when they played league teams, and metal bats when they played other teams. It found five injuries involving metal bats and only one injury involving a wood bat, which the study found statistically insignificant.

Proponents of metal bats argue that, when used in school competition, metal bats are regulated to ensure safety. In 1999, the NCAA Baseball Rules Committee (governing collegiate baseball) adopted new non-wood bat specifications in order to "make metal bats perform more like wood bats." The new specifications required metal bats to be heavier in an effort to decrease swing speed. Additionally, the rule eventually specified a maximum allowable batted-ball exit velocity of 97 miles per hour. Critical to its decision regarding batted-ball exit velocity was the reaction time a pitcher was determined to need to field a batted ball (0.4 seconds). Indeed, the BESR test used by the NCAA for its specifications is the same test employed by MLB.

Following the steps taken by the NCAA, in 2001, the National Federation of State High School Associations ("NFHS") adopted the BESR bat performance test. Bats bearing the BESR certification mark indicate that the non-wood bat has a maximum exit speed of 97 miles per hour (under a set of laboratory conditions) and has met moment-of-inertia requirements, among others. Thus, metal bats bearing the BESR certification should provide players sufficient time to react to a hit ball. The NFHS explained that implementing the BESR requirement to bats used in high school baseball ensured that metal bat performance would mirror the performance of wood bats.

How Are Courts Treating the Issue?

In 2002, the California Court of Appeals ruled against a metal bat manufacturer's motion for summary judgment on a product liability claim brought by a college pitcher who had been struck by a line drive hit from an aluminum bat. *Sanchez v. Hillerich & Bradsby Co.,* 104 Cal. App. 4th 703 (Cal. Ct. App. 2002). It was claimed that the design and use of the particular bat significantly increased the inherent risk in the sport of baseball that a pitcher could be hit by a line drive. *Id.* at 706. The manufacturer's defense focused on primary assumption of the risk and lack of causation. *Id.* However, the California Court of Appeals held that there was sufficient evidence to establish that the unique design properties of the bat were the cause of the incident.

The bat at issue was a "newly designed hollow aluminum bat with a pressurized air bladder which, according to its designer, substantially increases the speed at which the ball leaves the surface of the bat." *Id.* While the bat was made in compliance with NCAA standards, the court took note that the NCAA notified athletic conferences under its umbrella, "of the dangerous nature of the newer metal bats." *Id.* Furthermore, the expert testimony of a kinesiologist was offered to support the contention that the ball involved in the incident was traveling at a speed of up to 107.8 miles per hour, giving the pitcher a reaction time of between .32 and .37 seconds, below the acceptable minimum reaction time of 0.4 seconds recognized by the NCAA. *Id.* While the expert did not see the incident, he based his opinion regarding the speed at which the ball struck the pitcher on an "analysis of skull fracture threshold biomechanics in conjunction with quantitative analysis utilizing basic principles of dynamics related to the flight of a baseball." *Id.* at 717.

Since *Sanchez*, the metal versus wood bat debate has continued to heat up. However, the debate seems to be moving beyond product liability litigation (and its prima facie standards) and into the realm of regulation via legislation. This much is indicated by the New York City Council's recent "Bat Ordinance" and subsequent challenges in federal court.

The New York City Council 'Bat Ordinance'

On March 14, 2007, the New York City Council passed the "Bat Ordinance," N.Y.C. Administrative Code §10-165, banning the use of metal bats in high school baseball games. The bill, sponsored by New York City Council Member James Oddo, prohibits the use of metal bats in "any competitive baseball game in which high school-age children (meaning persons older than 13 years of age, but younger than 18 years of age) are participants and which involves the participation and/or sponsorship of a high school." On April 4, 2007, Mayor Michael R. Bloomberg vetoed the bill, saying he did not know if metal bats were more or less dangerous than wood bats and that the people who run youth leagues should decide what bats to use. On April 23, 2007 the City Council overrode Mayor Bloomberg's veto by a 41-4 vote. The ordinance took effect on Sept. 1, 2007. Citing safety concerns, Oddo said, "We believe metal bats pose a risk to student athletes above that inherent in the sport. That's simply unacceptable." Significantly, the legislative record before the City Council included several studies and reports which indicated how non-wood bats meeting the current NCAA and NFHS standards could outperform wood bats, as well as how non-wood bats could be engineered to increase performance, including adjustments to the MOI and the "trampoline effect" (flexing of a bat when a ball strikes it, denting inward and creating a "trampoline effect" that bounces the ball off at a greater velocity). There was concern that metal bats led to an increase in the number of hard-hit and difficult-to-field balls.

A number of coaches, leagues, and athletic organizations opposed the bill, in part, due to the costs of replacing metal bats with wood bats, and the future cost of replacing wood bats, which frequently break. According to the City Council, it will cost the city's public high schools $253,500 to replace 5,070 metal or metal-composite bats used by 169 baseball teams with wood bats, and $67,600 a year thereafter to replace broken wood bats. There was also the suggestion that wood bats posed safety concerns not exhibited by metal bats, such as flying pieces of splintered wood.

Challenge to the New York City 'Bat Ordinance'

On May 7, 2007, a coalition of sporting goods companies, USA Baseball, the National High School Baseball Coaches Association, and the parents of several players filed suit against the city

in the U.S. District Court for the Southern District of New York. *United States Baseball v. City of New York*, 509 F. Supp. 2d 285 (S.D.N.Y. 2007). The coalition challenged the Bat Ordinance on state and federal constitutional grounds, focusing on an alleged deficiency in the city's stated justification for the regulation: "to protect high school age students from the risk of injury." *Id.* at 292. The coalition also alleged that the ordinance violated equal protection and due process clauses under the federal and New York State constitutions and that it exceeded the city's police powers under New York General City Law §20(13). *Id.*

The Southern District applied a rational basis review to the coalition's constitutional challenges. It held that even if the coalition were correct that exit speeds for non-wood bats are no greater than for wood bats under the existing NCAA and NFHS regulations, "it would be not only rational but logical to conclude that a greater number of hard-struck balls flying through the infield, even at the same exit speed, results in a greater chance that an infielder could be struck and injured." *Id.* at 294. Finding that a conceivable rational relationship exists between the Bat Ordinance and the legitimate purpose of public safety, the court held "the judgment that high school baseball players' safety is more important than higher batting averages and more offense is a classic legislative judgment that the City Council could constitutionally make." *Id.* The court also held, "protecting persons of high school age from baseball injuries plainly falls within the City's police power to protect its residents' health and safety." *Id.* at 298.

Thus, despite a lack of conclusive scientific evidence proving that metal bats, in and of themselves, posed an inherent or substantially increased risk of injury and, instead, relying on evidence demonstrating that non-wood bats "outperformed" wood bats, the court held the ban to be constitutional. Clearly, the ban of non-wood bats was fueled by a standard that might not have driven the claim of a plaintiff in a strict product liability lawsuit.

The Metal vs. Wood Bat Debate: National Overview

Was the direction of the New York City Council Bat Ordinance at odds with the rest of the country's use of metal bats? Other states, including Illinois, Massachusetts, Montana, New Jersey, North Dakota, and Pennsylvania, whether through state legislatures or through athletic associations, have already taken action.

Illinois state representative, Robert S. Molaro (D) has proposed a bill making it unlawful for any coach, parent, teacher, or other person to knowingly allow the use of an aluminum bat during a recreational baseball or softball game in which a person under the age of 13 is a participant. The legislation is currently pending.

The Massachusetts Interscholastic Athletic Association banned the use of non-wood bats in its post-season tournament of 2003, but has since allowed the use of metal bats.

Also similar to the New York City Council legislation, the Montana legislature has proposed a bill called the "Brandon Patch Baseball Player Protection Act," prohibiting the use of non-wood bats in competitive national youth baseball league game in which any player 15 years of age or older is a participant within the boundaries of the state of Montana.

On June 26, 2006, New Jersey Assemblyman Patrick J. Diegnan Jr. proposed "Steven's Law," a bill prohibiting the use of non-wood bats in certain organized games. The bill came three weeks after a 12-year-old pitcher from Wayne, NJ, was injured when he was hit in the chest by a ball hit from a metal bat. "Steven's Law," like New York City's Bat Ordinance, "prohibits the use of non wood bats in any baseball game in which people under the age of eighteen are participants, however, excluding those games where one of the teams participating in the game is organized by or affiliated with a school, nonprofit youth organization, county or municipal recreation department, or governing body of a country or municipality outside of the State."

Beginning in the spring of the 2007 school year, the North Dakota High School Activities Association, the governing body for North Dakota high school athletics, banned the use of metal bats in all North Dakota high school baseball games citing safety concerns. Thus far, North Dakota is the only state league to move entirely to wood bats.

In Pennsylvania, House Bill 1482, proposed in June 2007 by State Representative Mike Carroll (D), prohibits a player under 18 years of age from using a bat not made of wood to play baseball or softball. However, Governor Ed Rendell rejected the legislation. A new report said that Governor Rendell thought equipment decisions should be left to leagues and officials and that he would veto the bill if it emerged from the Legislature.

Conclusion

While there is no definite trend at present, it would appear that without any conclusive scientific evidence indicating that non-wood bats manufactured within the specifications of MLB, the NCAA, and the NFHS are more dangerous than wood bats, proponents of the metal bat ban will seek ultimate support with local legislative bodies. The ultimate fate of non-wood bats perhaps lies with the direction that "newer" designs will take in terms of performance enhancement. While there may be inconclusive scientific evidence, the anecdotal evidence presented by some coaches, parents, and players, attesting to the faster exit speed of batted balls, appears to be having a strong influence on the debate. This will be tempered by manufacturers who continue to make higher-performing bats that also comply with the safety standards set forth by MLB, the NCAA, and the NFHS. Does a better performing bat that complies with safety standards equate to a more dangerous bat? It is a fate that has not, as yet, been addressed conclusively by the courts.