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Baseball's Weight Problem

On-Deck Routines Hurt Hitters' Bat Speed; Giving Up Doughnuts

By CRAIG WOLFF

Just before game time, Detroit Tigers clubhouse manager Jim Schmakel makes sure a long, dirt-stained canvas bag is unloaded in the on-deck circle.



Getty Images

Kansas City Royals outfielder Melky Cabrera

Among other things, it holds a 10-ounce, hard-clay sleeve that slides onto the bat; a 50-ounce weighted bat made of wood and plastic; a half-bat, half-pipe contraption, 96 ounces, with a sliding weight resembling the pendulum weight on a metronome; and an old-fashioned 20-pound sledgehammer.

Almost as an afterthought, he makes sure there are two "doughnut" rings—weights that fit snug on the barrel of the bat, the kind many hitters came to know and trust in Little League. The doughnuts, at four ounces each, are comparatively puny. These days, in the majors, they typically lay untouched among the hodgepodge of warm-up devices.

But if hitters knew what was good for them and their swing, they wouldn't touch any of it.

In the headstrong, fragile psyches of professional hitters, their on-deck routine makes sense. Swing something heavy—anything heavier than your normal bat—just before your turn at the plate. Then, when you swing for real, your bat will feel lighter. A lighter bat means quicker hands and a faster, more powerful swing, and an extra shot of confidence.

"Hey, each guy does what's right for him," says Nick Swisher, a New York Yankees outfielder. "How you feel matters most."

Call it mind over physiology, a belief in the practices that have brought them to this level, but hitters are just now digesting the news that their time-honored on-deck routines are wrong. Scientific research makes clear that the more weight you swing in the on-deck circle, the slower your swing in the batter's box.



European Pressphoto Agency

New York Mets shortstop Jose Reyes



Associated Press

New York Yankees third baseman Alex Rodriguez

The slower the swing, the harder it is to catch up to searing fastballs and do what's considered the toughest task in sports: get a base hit.

Coop DeRenne, a physical-education professor at the University of Hawaii, frames his findings in hard numbers: Increase—or even decrease—the weight of your bat between 10% and 13%, and you decrease bat speed from three to five miles per hour.

"As much as possible," says DeRenne, who is known as the guru of the on-deck ritual among those who study the science of hitting, "the batter should mimic in his warm-up what he will do in the game—the same weight, the same motion."

Given that his initial work dates back nearly 20 years and has been repeated by others with similar results, he calls baseball the "dinosaur sport" for its resistance to change.

It's not that baseball is unaware of the research. Over a dozen major-league batting coaches and managers were interviewed on the subject; all were up on the latest science, agreeing that players may be misguidedly governed by routine and superstition. But all say they basically ceded the on-deck circle to the hitters' preferences.

"Every hitter knows that fast and light is better," says Dale Sveum, the Milwaukee Brewers batting coach. "You run sprints to get faster, and you should swing light for a faster swing." But Sveum says he is reluctant to jar hitters out of their comfort zone. "A good hitter will say, 'Why should I change what I've been successful at?'"

The doughnut, invented in the 1960s by New York Yankees catcher Elston Howard, is still standard issue for major-league equipment managers. But modern players, who typically swing a 31- or 32-ounce bat, prefer either crude thingamabobs or the next generation of gizmos.

The Tampa Bay Rays' Johnny Damon roams through the menu of choices depending "on what gave me a few hits the last game." Swisher veers to the clay sleeve, while David Wright, the New York Mets third baseman, has used either a 10- or 20-pound steel-ribbed bar recovered from the construction site during the building of Citi Field.

Little Leaguers recognize the on-deck circle as the "Who's next?" spot, a way station between the secure recess of the dugout and the exposed glare of the batter's box. The major-league version isn't altogether different, a perch from which a batter can find his timing, gather his nerves and work last-minute reconnaissance on the opposing pitcher.



Associated Press

Seattle Mariners outfielder Ichiro Suzuki



Southcreek Global/Zuma Press

The Tampa Bay Rays' on-deck circle

Science has refined players' conditioning, training and diet. But DeRenne, in reaching into the on-deck circle, may have crossed into inviolable territory, the hitters' last safe haven.

Using a photo-sensor-measuring device, he gauged the bat speed of a series of college players. Each hitter took three practice swings before facing either live pitching or a pitching machine. Each pitch was thrown at roughly 75 mph. DeRenne repeated the exercise several times, changing the weight of warm-up bats.

The results, he says, prove that deviating from a normal swing just before hitting activates slow-twitch muscle fibers. Marathon runners rely on these for endurance, but they deprive hitters of the explosive burst of energy they need, he says.

That hasn't stopped the sporting-goods industry from selling weighty warm-up gadgets, though.

"You could talk physics with hitters," says Chuck Schupp, director of pro baseball sales for Louisville Slugger, an equipment maker, "but they say, 'I still want what I want.' Clubhouse logic is a very big influencer." The company no longer produces the doughnut, but in the last year added a yellow-barreled, 42-ounce "training bat" to its line.

Joe Vavra, the Minnesota Twins batting coach, gently advises his hitters to avoid heavy weights in the on-deck circle. But batting coaches also grasp a reality of the game—that hitters need to do whatever helps them feel confident.



Associated Press

Rays third baseman Evan Longoria

"The on-deck circle is like a mental hitting chamber," Vavra says. "That's when they clean everything out of their mind, block everything and concentrate."

Sveum, the Brewers coach, says he would intervene only if he saw one of his hitters taking "100 hacks" and tiring himself out, and he is glad that a few are heeding the science. Craig Counsell, a veteran utility infielder with the Brewers, says he was persuaded to stop using weighted bats after hearing of DeRenne's work a few years ago.

Granted, hitters may get a psychological boost if they believe swinging heavy objects improves their bat speed. But the feeling is illusory, says DeRenne, who was asked what he would say to a hitter who is hooked on using weighted devices.

"I'd tell him, 'Why are you being so smart while you train and so dumb in the on-deck circle?'"

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