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When it comes to hitting a baseball, the eyes have it

By Mike Dodd, USA TODAY

See the ball, hit the ball.



Jose Reyes of the Mets is a fan of the Conditioned Ocular Enhancement training system, which helps batters visually track balls.

By Robert Deutsch, USA TODAY

The timeless mantra of hitters is taking on new dimensions today as players use more sophisticated approaches to enhancing their vision, from trying to read numbers on a tennis ball traveling 150 mph to wearing high-tech tinted contact lenses that make them look like extras in a *Star Trek* sequel.

- The New York Mets' [Carlos Beltran](#) became so enamored with the Conditioned Ocular Enhancement training system (known in clubhouses by the technical term "tennis ball machine") that he added a clause in his \$119 million contract obligating the team to lease it and hire an accompanying trainer.
- The Cincinnati Reds' [Sean Casey](#) and the Kansas City Royals' [Mike Sweeney](#) are among a number of players who have worked with California optometrist Bill Harrison in his eye-training program, Slow The Game Down.
- The Baltimore Orioles' [Brian Roberts](#), the majors' second-leading batter entering Thursday (.368), and the Chicago White Sox's [A.J. Pierzynski](#) are among more than two dozen big-leaguers fitted with tinted contact lenses developed by Nike and Bausch & Lomb and designed to make the ball stand out.
- The Texas Rangers' [David Dellucci](#) in November joined the growing list of players who have had LASIK eye surgery and gives it some of the credit for his American League-leading 41 walks and .462 on-base percentage. He's also batting .283 this year through Thursday, up from a pre-2005 mark of .261. Dellucci's on-base average was .339 before this season while his slugging percentage has risen from .441 to .551.

Many players, however, who devote countless hours to bodybuilding and mechanics ignore training what some experts say is the most important muscle for hitting: the eyes.

Harrison, whose first convert was Kansas City's George Brett in the 1970s, says players openly discuss their training for mechanics and technique. "But the visual stuff is kind of like weird science to them. They don't necessarily want to talk about it."

Does it raise batting averages 100 points? Of course not. Does it help players focus more on the pitch and, in their minds, give them

an edge? Bingo.

"With the technology we have now, why wouldn't a guy try it?" says Baltimore outfielder [Jay Gibbons](#), who improved his vision from 20/35 to 20/10 with LASIK surgery last year. "If you can get a little edge that way and maybe see the ball just a split-second quicker, it makes all the sense in the world."

Training by focusing

The ocular enhancer, used by the Mets' Beltran, was developed by a Chicago-area doctor as an outgrowth of speed-reading exercises for children. The Milwaukee Brewers began using it in the late 1990s, and it has been employed by various teams since.

The machine is relatively low-tech — a motor propels tennis balls out a 6-foot pipe. Each ball is inscribed with a number from one to nine, in red or black ink. The hitter, standing about 60 feet away and taking his normal batting stance, tracks the ball to the plate, trying to read the number and color.

"It's an eye-exercise training program to elevate concentration on the ball," says Mike Victorn, the trainer who works with the Mets for the system's owner, the National Baseball and Softball Academy in Wheeling, Ill. "The faster you can read the rotation out of the pitcher's hand, the quicker you can recognize the pitch."

A typical exercise will start shooting the ball at game speed (90 mph) and increase it to 150 mph, with random rotations. When returned to the original speed, and subsequently in live game action, the ball seems much slower and larger to the hitter, Victorn says.

Batters, depending on the exercise, track the ball to the backstop without swinging, bunt with the bat behind their back hip or swing at certain colored/numbered balls. Victorn stresses tracking the ball until contact, which many hitters don't do.

Beltran was introduced to the system by [Juan Gonzalez](#) when the Royals brought it into spring training last year. The team didn't have the budget to underwrite the \$80,000 plus for a full season, so Beltran, Gonzalez and other players picked up that tab.

With his leverage as a free agent, Beltran negotiated it into his new contract, and several teammates, including [Doug Mientkiewicz](#) and [Jose Reyes](#), are taking advantage.

"You start focusing on trying to recognize the numbers and trying to recognize the colors so you don't think about mechanics," Beltran says. "When the game starts, you try to focus on the ball 100% and not focus on mechanics. If you focus on the ball 100%, it's going to give you time to recognize the pitch and recognize location."

The Cleveland Indians are using it this season, and the gold medal U.S. Olympic softball team trained on it before Athens last summer. The Chicago Cubs had it for spring training and liked it, coaches Gene Clines and [Gary Matthews](#) say, but there's no room for the equipment in cramped Wrigley Field.

Strengthening eye muscles

Harrison espouses many of the same principles, such as the priority on focus instead of mechanics at the plate and seeing the ball deeper into the pitch until contact. He believes if an athlete can train his eyes to concentrate on what he sees, he can slow down the action.

"The eyes control the mind and the body," he says. "The fastest, best way to improve mechanics and technique is to get players more visual."

The Laguna Beach, Calif., optometrist developed his training system working with players in person and through computer software (www.slowthegamedown.com). He works with two to five teams each year in spring training (Reds, Washington Nationals and Atlanta Braves this year) and several more individual players.

Several drills train players to improve depth perception and focus on the ball at release rather than the pitcher's motion. "What the eye tends to react to is motion; it follows the feet and the hands," Harrison says. "We teach them how to switch their vision right on to the ball instead of the arm."

Another drill, 3D Depth Perception and Tracking Trainer, teaches players to visualize merging two slightly different pictures held up a few inches apart.

"There's a tendency to blur. But when the focus is proper, it becomes quite clear and three-dimensional," Harrison says, adding it helps players read velocity and change of velocity.

"It's just eye strength," says Dellucci, another Harrison advocate. "It strengthens the eye muscles to where you are able to see the rotation of the ball a little better. It also helps you concentrate and relax your body and mind."

Lenses make ball 'pop' out

The one constant with most major league hitters is extraordinary vision, typically 20/15, either naturally, with contact lenses or after laser surgery.

The technology with contacts is taking another step forward this year as Nike and Bausch & Lomb are introducing specially tinted lenses that filter out specific wavelengths of light, thus enhancing other elements in the field of vision. The amber-tinted lenses for baseball and soccer, in natural lighting, are designed to make the white of the ball pop out.

Pacific University College of Optometry's Alan Reichow, a Nike vision consultant, says the amber lenses filter out virtually 100% of the UV rays and almost all of the blue end of the spectrum, most of which is "visual noise." That produces a brightening effect and improves clarity of sight, he says.

Pierzynski and Roberts, two of the first to use the lenses, say they help cut down glare — like wearing sunglasses without glasses.



"It definitely makes the ball stand out a little bit," says White Sox catcher A.J. Pierzynski of the MaxSight contact lenses.

Dan MacMedan, USA TODAY

"It definitely makes the ball stand out a little bit," says Pierzynski, who started testing the MaxSight lenses at the end of last season. A career .294 batter entering the year, he's hitting .255. "When you're in the sun, you have to squint a little bit when you wear contacts. It distorts your vision a little bit, whereas when you wear these you don't have to squint."

Even with regular contacts and sunglasses, there's distortion due to the distance between them, he says. That's eliminated with the MaxSight lenses, which cover the entire iris.

Roberts says he only uses the lenses on bright days. He estimates he wore them about five times in the Orioles' first 35 games, so there's obviously a lot more to his superb offensive start.

The lenses look like a red circle around the iris, and they can give their wearer a menacing appearance. "They always get funny looks from other people, but they're great," Pierzynski says.

The lenses also come in non-prescription form. Reichow says half of the nearly 600 athletes tested in the eight years of research used the "zero-power" lenses.

"They appreciate the 'Wow!' effect," he says.

Besides the amber-tinted lenses designed for fast-moving ball sports, Nike is fitting athletes in sports such as golf and running with gray-green tinted lenses that provide a 3D-like quality and hopes to bring them to the general market by late summer.

Surgery cuts down on glare

The number of players who have had LASIK surgery seems to be growing. Rangers trainer Jamie Reed, president of the Professional Baseball Athletic Trainers Society, says eight players had the procedure during his five years as head trainer with the Tampa Bay Devil Rays. Texas' Dellucci and [Michael Young](#) did it last offseason.

Several players say the dirt and wind that are constant on the field created problems with their contact lenses, prompting the

decision for laser surgery.

"It came to the point I just couldn't wear contacts anymore," Dellucci says, noting his vision is the same as with the lenses. "I would not put them in until I got to the stadium and would take them out as soon as the game was over. I'd stand in the batter's box afraid to blink because (the lenses) might fall out."

"Sometimes it would look like you were looking through a dirty window," says White Sox catcher [Chris Widger](#), who feels his position might have exacerbated the problem.

Cubs infielder [Jerry Hairston](#) adds, "I could see really good with the contacts, but if you got something in your eye, you were messed up for a couple of innings."

Dellucci says the surgery "helps out with the glare. It keeps you from squinting and enables you to open your eyes a little wider."

Others are comfortable wearing contacts and unwilling to bear the risk, however minimal, of surgery.

"I've worn contacts since I was 8 or 9 years old. I never have any problems with them," Pierzynski says. "I don't want to take a chance of messing something up, especially when you make a living seeing."

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