

The New York Times

King of Throws

Tom House Rebuilt Nolan Ryan and fixed Randy Johnson.

He worked with Tom Brady and Drew Brees.

At 75, he has reinvented himself (again) with an app that teaches young pitchers to pitch the right way.



Credit...Ariana Drehsler for The New York Times

- - **By Jason Turbow**
- May 9, 2022Updated 6:56 a.m. ET

When most of the world first became familiar with Tom House, he was catching Hank Aaron's record-breaking 715th homer in 1974. House, then a relief pitcher for Atlanta, was stationed in the bullpen beyond the left-field fence at Fulton County Stadium, just where the ball happened to come down.

Exactly as House had planned it.

As it turned out, House was more than just a guy in the right place at the right time. Watch [the clip on YouTube](#), and you'll see a rooted figure who takes not

so much as a shuffle step in either direction. All House had to do was lift his glove and catch the ball.

The man on the mound, Dodgers pitcher Al Downing, was, like House, a soft-tossing left-hander. House, having pitched spring training batting practice to Aaron, had an idea what might happen.

“If the pitch was outside and elevated, I knew he would hit it to left-center field,” House said. “So when I got the choice of where I wanted to be, where do you think I put myself?”

In just the right spot, of course. House has exhibited that kind of knack throughout his decades-spanning career in which catching a milestone homer barely cracks the list of interesting things about him.



Tom House was in the bullpen in Atlanta in 1974 when he caught Hank Aaron's 715th career home run. He seemed to know exactly where it would land. Credit... Bettman, via Getty Images

After eight years as a big league pitcher, and eight more as a big league pitching coach, he earned a doctorate in sports psychology to better understand how pitchers think. He wrote or co-wrote 22 books on pitching. So

profound are his theories about how human arms release small objects that a parade of N.F.L. quarterbacks, including Tom Brady and Drew Brees, has come to him for mechanical tutelage.

His influence, and the loyalty it has garnered, got some attention last September, during an episode of the “[Manningcast](#)” edition of “Monday Night Football,” when Eli Manning was discussing Cowboys quarterback Dak Prescott’s [outlandish warm-up routine](#). Manning exuberantly [explained](#), “That’s the Tom House stuff!”

It is reasonable to suggest that nobody on the planet knows more about throwing things than Tom House. And after decades of perfecting the mechanics of some of the greatest athletes to walk the planet — sometimes going as far as fixing the flaws in an opponent’s delivery, only to watch that opponent subsequently beat his team — House has shifted gears with a simple goal for his latest act: Fixing the way young players throw baseballs — for free.

Taking It to the People

Today, House is putting his knowledge and experience into an app called Mustard, designed to help parents and coaches correct mechanical flaws in young pitchers. The app’s A.I., built from tens of thousands of three-dimensional models he has compiled over decades of motion-capture studies, analyzes uploaded video and makes recommendations for things like head angle and hip separation. It then feeds the user an assortment of recorded drills, almost all of them executable without the need of a partner, to address whatever issues are identified.

In an age when exclusive coaching carries more cachet than ever, the Mustard team keeps the bulk of the service free, House said, to democratize instruction and keep children involved. (Mustard also includes a subscription model that allows access to seminars and sessions featuring House and assorted big leaguers.)

The face of that democratic movement is a 75-year-old coach who has made a career of working with Hall of Famers yet loves to post earnest encouragements of young players and coaches [on Twitter](#)— he insists all the posts come directly from him.



House, center, led players through drills. His insights are also available on an app he developed called Mustard.Credit...Ariana Drehsler for The New York Times

Of huge concern to House is the astounding number of 13-year-olds in this country who quit organized sports by the time they reach high school — 70 percent of them, [according to a poll](#) by the National Alliance for Youth Sports. “Giving out elite instruction to 12-year-olds not only helps them play better, but with more fun,” House said. “It keeps them in the sport.”

It is not as simple as that, of course. By House’s calculations, every inch of growth or five pounds gained pushes a growing teenager backward neurophysiologically by two months.

“A 6-foot-7 18-year-old is going to be three years behind a 6-foot-1 18-year-old because of the massive road trip between big toe and release point,” he said.

Coaching 10-year-olds is very different from coaching 16-year-olds. This is all baked into the equation. And House is thriving as a voice of reason who is unafraid to issue [a controversial opinion](#) even as he exudes warmth for baseball and its participants.

A Pioneer in the Field

Keen analysis of players’ bodies and movements should not be surprising when it comes to House, who was an early adopter of training technology, even as the rest of baseball actively rejected such things. In the 1980s, he encountered

Gideon Ariel, who competed in the Olympics for Israel in the discus and the shot-put and became a pioneer in the field of motion capture. House was so taken by the process that he sold his stake in a San Diego baseball school, where he taught in the off-season, and took a second mortgage on his home to purchase the equipment for use on pitchers.

Not long after, the Texas Rangers, fresh off a 92-loss, last-place season in 1984, came calling. General Manager Tom Grieve, 37 at the time, had just hired Bobby Valentine, who was only 35 himself, as manager. The young-gun organization didn't have money to hire an adequate scouting department; both men knew that sticking with the status quo would not be enough.

House, they decided, was a perfect fit.

He brought Ariel's system to Arlington and recorded Rangers pitchers in previously unheard-of ways. He connected with a Canadian Olympic rowing coach who used thermography — heat maps — to help gauge recovery time. He installed a weight room (an unusual technique because of a longstanding fear of compromised flexibility) and focused on the rear-facing rotator cuff muscles that serve as de facto brakes for the arm. Given the increased gravity of working down a mound, House concluded, deceleration after a pitch causes more damage than everything leading up to it. "If your accelerators are stronger than your decelerators," he said, "you're going to break."

Fortunately for House, his new manager afforded a very long leash for such theorizing.



House earned a Ph.D in sports psychology to better understand how pitchers think. Credit...Ariana Drehsler for The New York Times

“We converted a closet into a little lab with three VHS recording machines and two tiny TVs,” Valentine said of House’s setup. “When we started doing motion capture, Tom showed a javelin thrower, a left-handed tennis player and Kenny Rogers, who was a young, lefty pitcher on our team. Then he showed how, at strike point — as the racket hit the ball or the ball left the hand — the front leg was firm and the front side had stopped. The bodies and the arms all looked identical. When I saw that, I said, ‘Wow, you’re on to something here.’”

House expanded his experimentation to the realms of sleep and nutrition, things that today are standard in big league clubhouses but were a shock to the 1980s system. He created subliminal audiotapes to aid visualization. (“I really wanted my voice on those tapes,” Valentine said. “Tom never let me.”)

House’s primary weakness as a pitching coach — and on this he will agree — was that he was more interested in process than outcome. Failure was tolerable if it benefited a player’s long-term goals, which was a problem in a sport that pays big league coaches to win games. The Rangers’ front office, however, understood that House’s methods had long-term value.

“I trusted Tom implicitly,” Grieve said. “If he wanted to teach his guys to throw left-handed instead of right-handed, I wasn’t going to tell him not to do it.”

Because most of House’s alchemy occurred behind closed doors, few outside the program had any real idea about what he was doing.

That all changed with a football.

At some point along the way, House realized that the mechanics for throwing footballs and baseballs were identical, so he started putting pigskins in his pitchers’ hands. Tight spirals on a football made for easy assessment, offering a visual clue about whether the pitcher was doing things correctly. Moreover, the weight of the football built functional strength and aided in recovery for pitchers, not to mention it was a workout they enjoyed.

In football-crazy Texas, the sight of Rangers pitchers playing quarterback in the outfield before games was nothing short of sacrilege. Soon, their coach earned a slew of pejorative nicknames like Nuthouse and Outhouse. Even pitcher Charlie Hough got in on the action, joking once to The Los Angeles Times, “We’re leading the league in third-down conversions.” Then Nolan Ryan showed up.



Dak Prescott of the Cowboys got a lot of attention last year for his warm-up routines, which Eli Manning called “the Tom House stuff.” The House stuff also included having Nolan Ryan warm up with a football. Credit Roger Steinman/Associated Press; Tony Tomsic/USA TODAY

When Ryan joined the Rangers as a free agent before the 1989 season, he was 42 years old and 22 years into a career that had largely established him as the greatest power pitcher in baseball history. Two hundred seventy-three wins were augmented by 4,775 strikeouts, the most in history by a wide margin.

As it turned out, one of the right-hander’s greatest strengths was his curiosity. Ryan agreed to give the footballs a try, and soon found himself immersed in an injury-prevention program aimed at prolonging a career that was already historically durable. “There was an instant connection,” Grieve said.

The moment reporters saw Ryan — a cattle-ranching Texan who had earned intense respect in the state — tossing a football with teammates, criticism of the practice disappeared.

“That drill was different, and the traditional baseball people didn’t believe in it,” Ryan said. “Because of that, I think Tom got the stonewall from a lot of different angles. He didn’t deserve it.”

Over Ryan’s first three years with Texas, during which he was 42, 43 and 44 years old, he went 41-25 with a 3.20 E.R.A. and led the league in strikeouts twice, whiffing three times as many men as he walked — something he had done only once to that point.



House long ago identified the throwing motion of baseballs and footballs as being the same. He and Marques Clark, a strength and conditioning coach, worked together at a park in Carlsbad, Calif. Credit...Ariana Drehsler for The New York Times

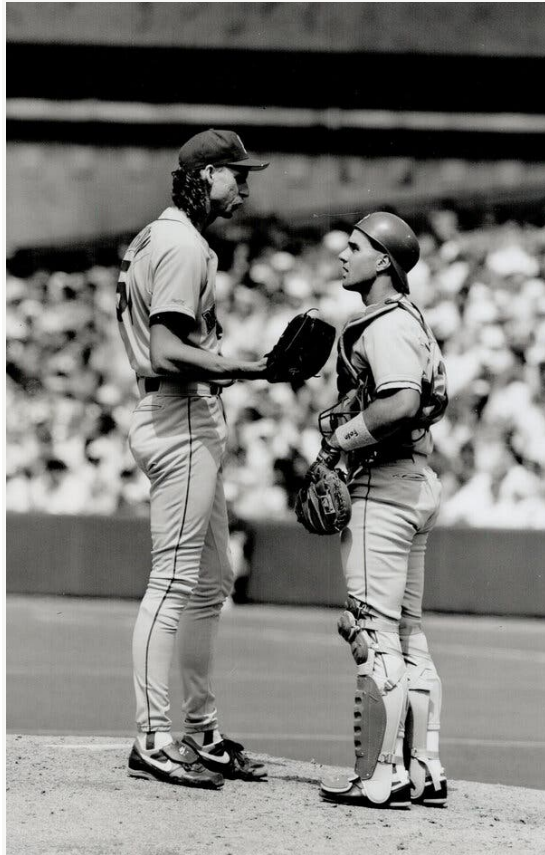
“Nolan was better after age 40 than before,” House said. “He threw three pitches to two locations, and fewer pitches per inning. He added a changeup. He never got hurt. That was this Hall of Fame time.”

“Tom helped me slow down the aging process,” Ryan said. “He brought recovery to my attention — how long it takes to recuperate from a start and be ready again five days later. That was very different at 44 than it was at 24, and the routine we developed was vital to my process.”

It almost defies belief, but five of the Rangers’ nine primary pitchers during Ryan’s first two seasons with the club — the other four being Hough, Rogers, Kevin Brown and Jamie Moyer — played into their 40s. Ryan, Hough and Moyer make the list of the eight oldest players of the modern era. They were righties and lefties, control artists and fireballers and each was looking for ways to extend their careers. No matter their demographic, they had one thing in common: They all learned how to maintain their pitching arms from Tom House.

‘I’m a Teacher First’

Randy Johnson was struggling. It was 1992, and Johnson, a tall left-hander with a Ryan-like fastball, was in his fourth full big league season. His talents, though, were undercut by a profound lack of control. At 6 feet 10 inches, Johnson simply possessed too many moving parts for consistent coordination. When the Rangers arrived in Seattle that August, Johnson was 2-7 over his previous nine starts, having walked 52 batters over 56 innings while posting a 5.46 E.R.A.



Randy Johnson was far too wild to be effective in 1992. Advice from House, the pitching coach for a division rival, got Johnson's Hall of Fame career on track. Credit...Tony Bock/Toronto Star via Getty Images

From the visitors' dugout, House and Ryan knew what he was going through. House had followed Johnson, a fellow University of Southern California alumnus, since the pitcher's college days. Ryan had once been a wild fireballer himself, leading the league in walks eight times in an 11-year span. In 1989, however, which was Ryan's first season under House, the 42-year-old topped 300 strikeouts for the first time in a decade while walking only 98.

He and House wanted to help Johnson. A meeting was arranged for early in the morning, before anyone else arrived at the Kingdome. The three men talked through Johnson's mechanical issues, and House offered one primary suggestion: He wanted Johnson to land on the ball of his foot instead of his heel while striding toward the plate. The results were immediate.

"I'd been losing my arm slot, falling off toward the third-base side, and that tip helped me stay balanced," Johnson said. "I didn't play for the Texas Rangers, but Tom helped me anyway. That meeting was extremely impactful."

Johnson closed his season by striking out 117 batters over his final 11 starts while walking only 47 and shaving about two full runs off his E.R.A. That dominant stretch included a game in September in which he struck out 18 Rangers batters — a result that gained extra notice when Johnson credited House with his improvement.

For House, any negative attention he drew was worth having helped a struggling pitcher. "I'm a teacher first and everything else second," he said. "It wasn't even a question for me, really."



House has written 22 books on pitching and he co-founded a series of pitching-related think tanks and academies. Credit...Ariana Drehsler for The New York Times

It was certainly worth it for Johnson, who pitched until he was 46, winning 303 games and five Cy Young Awards, while striking out 4,875 batters, the second most in history behind Ryan.

Discussing that meeting decades later, Johnson, now a Hall of Famer, was left with one nagging question.

“That help that Tom House gave me — why didn’t I get it in high school, or in college, or in four years of the minor leagues?” he said. “Why couldn’t someone else have seen it along the way?”

Why? Because Tom House has made a career of seeing things that other people can’t. He continues to prove it every day, with a decidedly 2022 approach of having an A.I. version of his deep knowledge available to any player who wants to download it. It is a teaching method that could and should outlive him. To House, having a say in the future of how the game is played is all he needs to make it worth the time and effort.

“I’m 75 years old, and we’re here talking about Mustard,” he said. “It makes me realize that we’re just getting started.”

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