



Featured Columnist
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Player development at every level is better today because of recent technology and the measurables generated from “under the hood” intel on swings and pitching deliveries.

The K-Vest is one such tool in assessing swing efficiency by evaluating kinetic sequencing and rates of speed of key muscle/joint movements. As you would expect, the K-Vest is a vest that is equipped with sensors to provide detailed information about a player's swing. Terms like inhibitors, power leaks, disconnections and rotational velocity are heard in hitting labs everywhere as the K-Vest gives insight into the kinetic chain of command.

As I worked with college and pro teams on integrating the visual and mental piece of hitting this Fall, the K-Vest dialogue and opinions were plentiful. Appearances at two MLB Spring Training sites and a dozen college programs gave me greater insight on the application of the K-Vest. For the record, I've used the K-Vest and for some players, it is a helpful starting point to increase efficiency in parts of the swing.

Forget my opinion. I want to share insight from some of the “experts” who are in the trenches with the K-Vest.

Eugene Bleecker, Founder/Director of Player Development, 108 Performance and a major force in private sector training said:

The information (The K-Vest) it provides can give us a deeper understanding of an extremely complex and dynamic environment. While it provides lots of useful information and can often confirm things we are looking at, it generates more questions than it does answers.

Tools like K-Vest can be misused easily and extremely misleading based on the information they provide. For instance, if you were to hook up to a Vest and focus your efforts on achieving a 1,2,3,4 sequence with high pelvic rotational velocities, you could very well be making all of your hitters worse. It would be nice if a product just told us what to do, but they don't. It's just a tool like any other that should be used to dig deeper and understand what is actually happening. In today's game, too many people are blindly following technology and programs built around it.

Dr. Greg Rose, Co-Founder of TPI (Titleist Performance Institute) and one of the most respected voices in the golf and baseball movement efficiency world, shared his opinion on the hitting puzzle. According to Dr. Rose, there are five main components to hitting success:

1. Maximizing power with the least amount of effort
2. A repeatable swing
3. Barrel Control
4. Reaction Time
5. Eye-hand Coordination

Rose was adamant that all five were crucial and reiterated that the “K-Vest addresses only 1,2 and a hint of 4”. Dr. Rose was quick to point out that there is no bad data from the K-Vest, there is just bad interpretation of the data. “You can have the best kinetic sequence in the world, and still strike out” led to a whole side discussion on the visual piece of the swing which we agreed was more relevant to the reactionary nature of hitting a moving target rather than a golf ball.

Hitting success seems to be a combination of several variables. In addition, Rose and I both agreed a sixth piece could be added; he called it courage, I called it trust/no fear of being late. No matter how many components of hitting you can list, the visual piece occurs first and some would say might be the most important. Dr. Rose was adamant that one without the other five pieces would result in performance inconsistencies.

Brian Vermilyea, COO of K-MOTION Interactive, Inc. the Arizona-based company that launched the baseball version of the K-Vest in 2018, shared insight on the product's origin and practical application:

- The K-Vest evaluates a player's ability to generate power and sequentially transfer that power from the ground up.
- The K-Vest provides rotational speed measurements and body angles to assess a hitter's swing. Sensors are placed on the pelvis and thorax/torso region of the body along with sensors on the lead arm and bat.
- The K-Vest for baseball was derived from the golf world to help students improve on the driving range after a few lessons.
- The K-Vest will identify stability and motility issues as well as previous injuries which may be power leaks in the swing.
- The K-vest's baselines and normative range data is derived from testing a few hundred minor leaguer swings.
- The K-Vest has been used mostly at the minor league level with a few big leaguers now trying it.

As Vermilyea confirmed, body speed generation is only as good as the body's ability to control and decelerate each body part. Vermilyea indicated most teams were good at data collection but may be “missing the boat” with the application (coaching) part. Vermilyea also acknowledged the different body types (tight movers and loose movers) affect energy and power transfer measurables. When asked about timing, Vermilyea agreed there were many variables outside the K-Vest testing but felt that players with inefficient swings had to commit earlier.

Next up, were the major league hitting coaches opinions. They were more comfortable chatting under anonymity. Some had taken the time to learn and see the product in action, others gave their opinion based on what players and colleagues shared with them. A total of six coaches were the source of the following quotes:

- “When the ball isn't moving it's pure rotation. End of discussion.”
- “Why doesn't anyone talk about the pitchers job ... to disrupt timing and the hitters rhythm ... and deception. You don't counteract that with a perfect swing. You begin by having a visual plan and go from there. So much of hitting is below the surface, but if it can't be measured, I guess it's not important.”
- “It takes no talent to swing hard. But you get the “I wanted to get my 'A' swing off.”
- “Some of the worst swings are used to extend an at-bat or win a game (which are not as sexy as the homerun or striking out with the big macho swing).”
- “Teaching/explaining hitting to someone who never has stepped in the box is difficult. There are so many nuances that you have to experience, not to mention that if you are consciously thinking of anything other than the ball when you are in the box, you are in trouble.”
- “Spring Training is now just getting players to realize their off-season prowess was just a fantasy.”
- “I have yet to see a hitter who constantly swings at hittable pitches in the strike zone and has a swing that doesn't produce results.”
- “I would love to see the swing efficiency of Major league hitters when they drive a ball into the opposite gap or get handsy to win a ball game.”
- “No stress, swing data from front toss, BP and machines.... Not sure how that translates.”
- “The body will align itself to move based on the pitch it perceives to see or is looking for.”

Look no further than the World Series the last two years, ugly swings in high stress at bats won the prize. Can someone say barrel to the ball?

Arizona coach Jay Johnson, summed it up best on the college side: “Swing sequence starts with your eyes reading the pitch.”

Game stats will continue to be the barometer to evaluate new tools in player development. As colleges and major league teams continue to look to improve offensive production, a few measurables from last year's MLB season are worth noting. Ball exit speed is one measurement related to swing efficiency and kinetic power. Is sometimes less better in ball exit speed?

2019 MLB season ball exit speeds:

Singles: 89.9 mph
Doubles: 97.3 mph
Triples: 97.6 mph
Home runs: 103.5 mph

One can debate the effect of striking out or swing and misses but numbers from the 2019 MLB season may provide insight on why individual and team offensive production could have been better.

2019 MLB season:

There were 5,010 strikeouts with less than 2 outs with RISP
Pitches in the strike zone - 17.9% of swings missed
Pitches outside the strike zone - 42.4% of swings missed (a total of 109,481).

Perhaps, less is better in certain situations and improving on swinging more at strikes should be a 2020 goal for some players.

The K-Vest and other products providing an MRI of the swing are key to improving one part of the hitting puzzle. The data, used wisely with effective teaching cues and drills will continue to be the foundation in which hitters learn swing efficiency. Time allocation and budgets at the amateur level will be a major factor with any new tech tool. On the major league side, when is the swing “good enough” to then spend more time on timing and in-flight barrel control issues?

The “other” parts of the swing formula Dr. Rose made reference to, at times, takes a back seat to the kinetic measurables. Can a hitter's IFBC (In-Flight Barrel Control) be improved to extend at-bats or help improve timing issues in the swing? Are last minute adjustments in the swing a function of seeing ball flight clearer and having more intel to predict where and when the ball will be thrown? The visual/mental piece is the non-measurable part of hitting that has yet to be blueprinted. No one will dispute count leverage and reducing swings outside the strike zone is the premise behind every traditional and modern offensive statistic.

Technology and the data procured from the latest tools are a major head start for this generation of players. Time will tell which teams use the technology wisely and as one part of the hitting paradigm. Let's stop calling these useful tools “technology” and call it new ways to teach. For the old schoolers, it's all about how you present the tools to them. Their coaching guidance and teaching cues are the bridge from data to development.

Good swings with the visual habits of a hawk. Is that new or old school? As Los Angeles Angels skipper Joe Maddon and I said to a group of coaches in Frankfurt, Germany:

“It's not about old or new school ... Just be in school.”

