

Effective Velocity: Adjustable Swing Dies Slow, Hanging the Fastball, & How Jacob DeGrom Cut His ERA in Half by Locating This Pitch in This Location

Perry Husband Interview 2020-05-21

SPEAKERS

Joey Myers, Perry Husband

Joey Myers 00:00

Hello and welcome to the third edition of the Swing Smarter Monthly Newsletter. This is your host Joey Myers and today on today's call, I have Perry husband, who is the author founder CEO HittingIsAGuess.com. He for those readers out there who know Perry know that he's the father of Effective Velocity. And this idea that reaction time and timing, how if a pitcher uses it against the hitter, especially with all these hitting coaches that are teaching an adjustable swing and a one swing fits all pitches that it can be Perry's system can be very disruptive to that and that's what we're going to be really digging into in this call. So welcome. Welcome to Swing Smarter Monthly Newsletter, Perry.

Perry Husband 00:50

All right. Thank you. Looking forward to catching up with you, man.

Joey Myers 00:54

Yeah, no, it's been a while. Well, hey, I wanted to ask you I know you've been really busy. Pre pandemic and during kind of, like you said in different ways, but you're training pitchers and hitters, but mostly pitchers in the way of Effective Velocity. And we're talking fastpitch softball and hardball baseball. What is the biggest mistake you see a lot of hitting coaches make? Nowadays when you take your pitchers and you train against it, what's the biggest mistake?

What is the biggest mistake you see a lot of hitting coaches make?

Perry Husband 01:30

Well, I mean, the whole idea that launch angle is a verb. It's one of those things that makes me crazy, but I can you know, and what I mean by that is hitting instructors and or analytic guys that are pretty sure that hitters can just control it. You know, like, we're going to go out and launch angle today we're going to change our launch angle. The idea that swinging up is a good thing is like the greatest thing to

pitchers of all time. Except they don't know it. I mean, pitchers have not taken advantage of it at maximum yet.

Perry Husband 02:13

The top pitching teams in baseball and softball have, at the major league level for sure. The top five pitching teams who are miles ahead of everybody else, but the top five pitching teams are taking advantage of it and it but they're only taking advantage of it a little bit. That's the part that's crazy. They're not fully attacking. What is the most ridiculous thing ever is the idea that you can swing up at 12 or 14 degrees and get a pitch that's coming in at two to three degrees. There's the math just doesn't add up on that.

Joey Myers 02:55

Who were the five top baseball teams and the five top softball division one college softball teams that you, are using your EV pitching right now?

What are top 5 MLB and college fastpitch softball teams using EV right now?

Perry Husband 03:07

Although the, there's groups that I'm working with, in softball, Oklahoma's been the top pitching team for a long time, they won the national championship like three out of the last five years. And their, their philosophy has been an EV philosophy since like 2012-13. UCLA was the team that won it last year. They have their top player, it was the Player of the Year back to back years. And she works out at my home facility with Todd Budke, and but I worked with the UCLA softball team two years ago, pretty extensively on that, one that being one of the main concepts ...But in baseball, it's basically I would say...

Perry Husband 04:05

Oh, in Oregon to is the other softball team. You're going to see some big advancements with them. They had a rough time because they had so many transfers last year but this next year when the whenever they get started again, you're going to see some big changes because the Missy Lombardi who was at Oklahoma was is now the head coach there and you're going to see some crazy things happen there. I think both offensively and defensively as well as on the mound...

Perry Husband 04:37

And the Astros hired Brent strong, the Reds hired Derek Johnson, who's done something maybe that I don't know if anybody's ever done before he took the Brewers from really low to virtually the best pitching team and a game away from going to the World Series. And then the very next year do the same thing with the Reds, you know, take them from worst to first. Almost First they were probably third or fourth and ERA last year. And that's just, it's not a coincidence. It happens as a result of people that understand what they're doing with timing.

Perry Husband 04:37

But the baseball teams from my perspective, the obvious Dodgers, the Rays, the Astros, the Reds. Strangely enough. The Twins... the teams that have a really strong Effective Velocity history, either they've, you know, the Rays back in the day, they hired Jim Hickey, who was the first pitching coach that was introduced to the concept of EV. And they created like a factory for pitchers that at that place.

Perry Husband 06:04

And those guys, they're all EV minded pitching coaches in both sports are have a huge advantage. Simple as that now.

Joey Myers 06:16

For those that don't know about EV, they've had their head in the sand, I'm sure but could you give like a in a nutshell, like a 10,000- or 30,000-foot view of what it means what EV means. Is there any way that you could do that?

10,000- or 30,000-foot view of what EV means?

Perry Husband 06:31

Well, it's kind of, um, you know, it's like saying, can you give me an overview of math? Yes. You know, but EV on the surface, is the idea that speed changes depending on where you throw the pitch. So it's location adjusted speed. That's the very lowest definition of it. Meaning if you throw 90 or 80 or whatever, whatever speed, you're dealing with... Wherever you throw it, as it gets closer to me as the hitter, it speeds up because I have to hit it further up front. As it elevates, I have to get it further out front.

Perry Husband 07:13

So when you throw pitches in different parts of the zone, the speed is adjusted. So I did this thing recently where I had like a 3d picture of a guy swinging and I put it into animation. It shows all the pitches coming in. It shows a pitch coming in where the hitter is making the contact out in front and but it also shows the trail the bat all the way down and through the zone so there's like 60 bats, but you see those 3d breakdowns there are really cool.

Joey Myers 07:50

Is that on your website?

Perry Husband 07:52

I you know what I sent it out. I have not added it to my site yet. I think I will but I have not done that yet.

Joey Myers 07:58

Can you get me, can you send me that over email? I think you guys would love to get that.

Perry Husband 08:02

Yeah, for sure it's a gift and it's very cool, it's beautiful.

Joey Myers 08:06

Okay, so send me that.

Perry Husband 08:07

Yeah, I'll do that. It's a... But what it does basically is it takes three pitches coming into the zone. And it separates them into three different locations at three different timings, three different speeds, in three completely different areas. But the bat runs into all three of them. It runs into them at different times, but it runs into all three of them. So in other words, the player could take a swing at any with the idea that he's going to hit any one of those pitches, like the three pitches that I used was 93 miles an hour, middle away, and then 90, middle, middle and then 86-87 like a cutter inside.

Perry Husband 08:58

So all three of those pitches could even come out of the same tunnel and all end up in three different areas of the strike zone. But this one swing is going to run into all three of them. And two of them, any two of them would be by accident, total accident, not him, not the hitter adjusting to those pitches. But just that one swing path just happens to run into a boatload of, of different contact points, and pitchers right now. Apparently, there was a meeting that I missed. That said, you're supposed to take your pitches and put them in the worst possible places in order to create the easiest time for hitters in history of Major League Baseball.

Joey Myers 09:44

We're going to we're going to single handedly increase the offensive numbers as pitchers.

Perry Husband 09:47

Exactly, exactly. And it's working.

Joey Myers 09:52

Yeah, right. Which brings me to another subject, the adjustable swing, right, this idea of a blanket barrel path and that's being taught And one of the most powerful case studies that I've heard you talk about and we've talked at length on this and pretty good we've developed pretty good relationship friendship over the years. is Mike Trout. So talk a little bit about... Mike Trout kind of prototypical adjustable type of swing... talk about because the adjustable swing that those coaches out there will say oh we love it because we can look away and we can adjust in or we can look in and adjust away.

The death of the Adjustable Swing, Mike Trout case study

Joey Myers 10:27

But what you're saying with the EV if a pitcher is truly doing EV or even accidentally doing it and not even doing it like you said like some of these teams are they're not even 100% there they might even be 40% there where what is the what happened to a hitter with an adjustable swing one of the arguably one of the best in the game, Mike trout. So talk about that case study on this ball exit speeds.

Perry Husband 10:51

Yeah, um, he loses 20 miles an hour, by with the pitch that's thrown up and in I did a study recently. For one of the zoom visuals, I, one of the one of the things that I did was with Mike Trout study, and I've

studied him a lot over the years. But he has the approach where he, he brings his hands in and he tries to adjust to that pitch. But over time, like in 2018, when I did the study for that year, his average exit velocity in the up and in part of the strike zone and that's, that's a third of the strike zone, it's not like I'm talking about that tiny little box up and in, because if we talk about that, that little box up and in, his exit velocity was actually 73 miles an hour.

Perry Husband 11:38

If we're talking about the entire area which is middle up, middle in, and up and in both three boxes in the strike zone. His average exit velocity that year was 80.8 miles an hour. His just to contrast that on the middle away, down and away, down and middle area of the strike zone, his exit velocity, was 101.8. So literally a 21 mile an hour difference. Throwing your fastball down and away to him versus up and in.

Perry Husband 12:10

But the league, the league all by itself if you just look at the entire league, there's also a giant difference in the league. And not just in exit velocity because that's one of the arguments that people have all the time as well you know, maybe they hit it harder but it's a ground ball when they hit those down and away fastballs. But the answer is no, that's incorrect.

Perry Husband 12:36

Batting average is 14% higher down and a way than it is up and in. It's 10% higher in BABIP, the batting average on balls and play. In wOBA, 10%. 13% xwOBA. 7% in Slugging. And 9% in exit velocity. There's it's literally ridiculous to say that throwing your fastball down and away has an advantage of any way shape or form. And that's just all fastballs. If you look at even what they say, Well, if you got low spin fastballs, then you really, you're going to have a lot more success at the bottom of the zone. And the answer is, you know, thanks for playing but NO that 2000 RPMs or less, like the worst fastballs in the game, when it comes to spin rate.

Perry Husband 13:26

There's still an 8% that you're 8% better off throwing it at the top end zone versus the bottom. And 11% in the batting average on balls in play, 6% on wOBA, 7% on xwOBA, but 9% on slugging percentage and the same 9% on exit velocity. There is no it's there are some made up analytic numbers that don't take into account some of the hard-hit stuff that could possibly be better. I don't really follow it all that closely. But the ones that matter, throwing the pitch at the bottom of the strike zone is a gift. When we're talking about fastballs, and hitters are taking advantage of that.

Joey Myers 14:12

And you know you call that hanging a fastball. So we'll talk about hanging a curveball being up in the zone. Well, you talk about that as hanging a fastball when they throw it located down in a way.

Is there such things as a Hanging Fastball?

Perry Husband 14:24

Yeah, and it's, it's by far, it's like 10 times in some cases, **it's between two and 10 times worse than any of the other pitches.** meaning you're going to get; you're going to get away with a hanging slider way more often than you're going to get away with a hanging fastball.

Joey Myers 14:45

And that's interesting because if you think about fastpitch softball on the rise ball, the kind of the, the little niche that that rise balls carved out and we can argue whether a ball rises or not, or whatever, but really a rise ball the fastball up in the zone. So now on the other eyebrow raisers in talking to you in some of our conversations was talking about Jacob DeGrom. Talk about when he changed, the one thing he changed and what that changed that cascading effect, how that helped him the next year.

Perry Husband 15:19

Well he went from basically averaging a middle away fastball, like when you look at a pitcher, and you look at how they use their fastball the entire year on Statcast. It shows it in the form of a bunch of different ways, but you can look at this one graph, that's a heat map. And the heat map just shows where the epicenter is. And then you know, it's like a dark brown or red in that area or black even, and then it starts to get orange and then it starts to get kind of like yellow as they use it less and less in those areas right.

Perry Husband 15:54

The epicenter of where he threw it in the previous year was middle away. So if you take 96-97 miles an hour, and you do the math of your average fastball is now 92 or 93. And then you all of a sudden elevate your fastball to where the epicenter is up above that diagonal, in EV, there's a diagonal that as soon as you get above that starts gaining speed. So his fastball at 96 is now 97-98. And so, if he's averaging a couple miles an hour greater than when he's throwing it, it immediately increases the reactionary time. So **the hitter has less time to react to the pitch.**

Perry Husband 16:39

Plus, there's a bunch of other stuff that happens. But the speed differential between the other pitches gets bigger, the visual gets bigger because now you can hide slider and change up and, and off the same tunnel which is basically the look of the pitch out of the hand. So all of his other off speed pitches now look like fastballs, but end up being at a much lower reactionary time. In essence, if you think about speed like this, this is probably the easiest way to understand what hitters are doing and why they're getting away with it.

Perry Husband 17:17

A one is an inside fastball, an elevated fastball. So like the Mike Trout example, if you look at the up and in, middle in and middle up part of the strike zone, and you consider those ones. And then you consider the fastballs away twos. And then you consider hard off-speed pitches threes, like a slider cutter, you know, hard changeup, that kind of thing. And then you consider the off speed, slowest off-speed pitches as fours. Right now, Major League Baseball is throwing about 71% twos and threes.

Coaches, do Perry's little Hitter's Attention Experiment...

Perry Husband 17:27

In other words, the pitches that are easiest to reach. And I would have any of your people that are coaches do this simple little test. And you and I talked about this before, but you take your hitters and you throw 10 pitches in a row. Hopefully you can get exit velocity with this. Hopefully you can get recording, you can record it, but throw 10 pitches in a row, tell them here comes ones, and have them call out one as they hit it. And so, they start smoking this pitch because they're expecting it right.

Perry Husband 18:35

And then you give them 10 twos in a row, which is fastball away, and you gear them to it and let them get acclimated to it. And they crush it. And then you give them 10 threes in a row that's to say you're going to hang a slider or you're going to throw a slider kind of middle. And so, they're dealing with a hard off-speed pitch. And they know it's coming. And so, they smash that and then you give them a slow loopy curveball, and they smash that.

Perry Husband 19:02

And so now they've gone through and they've hit ones, twos, threes, and fours, smash them all. And now you tell them, okay, I want you to swing at every strike. So now I'm going to mix those ones, twos, threes, and fours. And when you do this test, it's so simple. And as long as you randomly mix the pitches up fairly well, you're going to find the same thing that I found of 10,000 times probably in my lifetime, is that when you do this test, every hitter regardless of level, they focus on the pitches that they see the most. And then they go right to the middle of all of those pitches, which is halfway between twos and threes.

Perry Husband 19:45

So which pitches do you think they hit? Well, when you do this test, right, they crush twos and threes. Yeah, and they're early on fours, and they're late on ones to one degree or another. What it shows is simply that hitters can handle about one and a half or two numbers. And where they place their attention is where they can cover those numbers.

Perry Husband 20:14

So, like Mike Trout one-year 2014. On ones, he had about an .050 hard hit ball rate. He had no damage. And so even though he hit pretty well against fastballs in general, it was the twos, that version of the fastball that he crushed. And his I think his hard-hit ball rate was like .327 on the threes. And about .367 on the fours, on slow curveballs which is primarily the four. The very next year after getting blasted for a while up and in he kind of switched this focus right. And he actually did some damage on fastballs up and in. His hard-hit ball rate went to like one .160 or something, which is a significant increase.

Perry Husband 21:03

And, then he actually went up in his twos also. But his threes went down significantly and his fours went from .367 to virtually zero. So in other words, he moved his attention to a different place for a period of time. But **there was a cost, there's always a cost because nobody can handle all four numbers. And no one can handle even three numbers or even two numbers realistically**, when they're EV efficient, meaning they're coming out of the same tunnel and they have more than six or seven miles an

hour between them. Nobody handles that. Zero hitters. It just does not happen. And there's all kinds of statistics backing that but Mike Trout is one of those really good examples. He's unbelievable.

Perry Husband 21:52

But he's also a product of the fact that pitchers are living on twos and threes. And it's the pitch that it's the two pitches that are the by far and away the easiest pitches for guys that have one mindset one, one size fits all hitting approach.

Joey Myers 22:16

And as you call it, the pitcher just throwing balls in the barrel.

What does it look like when Pitcher's are Throwing balls into Barrels?

Perry Husband 22:20

Because think about what's happening when you do the actual math of ones, twos, threes and fours... ones come in, at, you know, in the big leagues, the reactionary time is somewhere between 96 and 105 EV miles an hour. And, the pitches at like one to three degrees flat at the top of the zone. And so, the reactionary time tremendously increases and the bat is now heading towards Brent Strom said it perfect when somebody asked him about EV... he said in one of these zoom things that was awesome. They asked him well, what how do you fix it? How do you implement EV? He goes, "Well, you start by going to Perry husband's website."

Perry Husband 23:10

And I used them extensively when I first started with the Astros and he goes, well just think about it like this. You're throwing a sinker, you're a right-handed pitcher and you're throwing a sinker to a left-handed batter, it seems like it would work great, right? But a sinker that's a strike is going to look middle to the hitter. And then all of a sudden it starts moving away from this lefty hitter, so it's getting slower, right? But it's also moving down towards where the barrel is going to hang out. And so the hardest hit balls by far happen in that circumstance. Because the hitter sees the pitch as middle. It's almost like it fools them into the area that he's going to be the most prepared to hit is that area where the sinker runs into.

Perry Husband 23:58

And the opposite is when you take that same sinker, and you throw it at the top of the zone against a righty, now, instead of heading towards the fat part of the barrel at the slowest possible time, it's heading toward the handle at the fastest period of time. And so **all things point to the fact that zero, and I mean, absolutely zero, accidental hard contact happens at the top of the zone with a hard fastball.** But it happens every night with fastballs at the bottom of the zone. Guys run into pitches all the time. But that never happens up in it and you can only hit that when you plan on it, and you sit on it and attack it.

Joey Myers 24:44

And to close that thread on Jacob DeGrom, I think you told me that when he changed just one thing was just throwing the fastball up in the zone. I think he dropped his era by like half. Went from like four something to two.

Jacob DeGrom Dropping his ERA from 4 to under 2 by Locating this one pitch...

Perry Husband 24:57

Under two. He was under two. There were two guys that year under two and they both did the same thing. Blake Snell did the same thing in the minor leagues. I mean in the I'm sorry, in the American League. He, did the same exact thing he added. He added EV miles per hour to his fastball by just locating it higher. And it changed him his game as well. He I think he had like a 1.89. And DeGrom was like 1.70, something stupid like that. It was well under two.

Joey Myers 25:28

Wow. Well, we only have a couple more, two more minutes Perry and I want to be respectful of your time. Where can people find you? Whether it's the socials, website, and if in, you can throw that in real quick and then anything new that you got going on right now?

Where you can get more Info on Perry Husband

Perry Husband 25:44

Well, I'm about to launch a new YouTube channel. And it's basically we'll figure it out but it'll be it'll just be called effective velocity. You can reach me at HittingIsAGuess.com. The website stuff and then at @EVPerryHusband on Twitter. I haven't done a bunch lately but I'll do more coming up soon.

Joey Myers 26:08

Cool Yeah, so the YouTube channel I know we were talking about that a while back but in everything we got a whole thing, it kind of pushed some things back project wise I'm sure but I can't I can't talk highly more highly of Perry especially since we the last couple years that we've met and talked and chatted and stuff and Perry stuff is far beyond, it's got two almost what three decades of research behind it. And there's a lot of posers out there that that don't give credit to Perry that should be given credit. So if you if you want the real deal you got you got to come to Perry whether it's through the website, the new YouTube channel coming.

Joey Myers 26:44

And he's already got a YouTube channel if you put in I think what Perry Husband, you can even probably put in effective velocity in YouTube and he'll his old stuff will come up which he's got some great videos, but I can't talk more highly of Perry, and if you whether you're a hitting coach or a pitching coach out there pitching coaches obviously the Effective Velocity stuff if you get your pitchers into that even Elementary, the 101, EV 101 or 202, or whatever, your pitchers are going to be much more effective than they were just kind of shooting, throwing darts in the dark.

Joey Myers 27:15

And you hitting coaches out there will benefit big time like myself from learning how Perry's attacking hitters and it'll give you an idea of Okay, here's what's come in and if we face a pitcher who is EV, effective, or efficient then you, you kind of know you have a little bit better of a game plan than just shooting. Again, throwing those darts in the dark. But Perry, I can't talk any more highly. The guy is the guy is great. Yeah. So Perry, thank you for joining us on the Swing Smarter Newsletter Monthly for the third edition. And I'm sure we're going to do more of these. But thank you for your time today, brother.

Perry Husband 27:52

Very cool, man. I appreciate it. Thanks for the kind words and we'll catch up soon.

Joey Myers 27:57

You got a brother.