

Dear Parents of Young Baseball Players,

Just a warning, this may be quite long. I've been working on it for a while.

For the past year I have been observing, researching, and studying the art of hitting a baseball and asking myself if I have been teaching what is really happening in a powerful baseball swing. For the most part I do not think I have been. I have spent years studying and developing my understanding and skills in coaching players how to have good, solid pitching mechanics. But when it came to hitting I simply taught what I was taught. My uncle, Roger Stewart, was a baseball guru who invented the *Swing Trainer*, a hitting machine that he sold to hundreds of high schools, universities, and pro ball clubs. During this time period in his life he had the privilege of meeting several big league hitting instructors and players. While I was in high school I had the fortune of having Roger as a personal trainer. I am thankful for everything he taught me. But the reality is that since that time there have been many advances, not in *how* players swing, but in how we understand what players are doing when they swing.

That last statement will be a major key in understanding what I am going to share with you. Because when you think of how *different* these techniques and mechanics sound, it does not mean that we are teaching a different way to swing. What it means is that we are now better understanding and better seeing what kinds of movements and mechanics are actually happening during a good hitter's swing. It also does not mean that players and coaches today are better than those in the past. In fact, what I am going to share with you here has been going on for years, and really only one man took the initiative to try to explain what was happening throughout his swing. That man was Ted Williams, who, many have regarded as having the perfect baseball swing.

So, included in this email and attachments are months of study and analysis that I have worked on in preparation to be a better hitting coach. I believe that if we can put the foundational understanding of these things in the brains of all of our Sandlot coaches and parents, we will see drastic hitting improvement in the coming years as these players grow older.

Having said all of that, I also want to say this. PLEASE PAY ATTENTION TO THIS. I am not sharing this information because I think we should begin step-by-step changing and drilling young kids in these mechanics. I do not think it is vital to spend a lot of time trying to change 7-10 year-olds swings. At that age the game should be kept simple and fun, with an emphasis of learning and instruction, but even more emphasis of enjoyment. Therefore I am not suggesting we put all of our young players through a major hitting overhaul where we teach and implement these things. Rather, what I am hoping to accomplish is to put good information and knowledge in the hands and minds of all coaches and parents, so that we know what to look for in our kids' swings and we will know some of the cues we might be able to give them to help them when they are struggling to hit the baseball.

Now, on to the “meat” of this letter.

ROTATIONAL MECHANICS

The power of a baseball swing comes from how fast a hitter rotates around a stationary axis. If you can imagine a metal pole going straight down through your back, out your rear and down into the ground. Rotation is what is needed to generate bat speed to the point of contact. When hitters rotate their torso, their body creates torque—kind of like a rubber band wrapping around that pole and releasing.

The fact is a player’s arms do not need to be real strong to generate bat speed and to bring the bat to the point of contact. The muscles that are used to create great bat speed are the legs, shoulders, and abdominal muscles. Of course, it helps to have strong arms, but torque is generated by the hips. Here are the basic steps of what rotational mechanics are:

- Hips lead the hands
- Match the swing plane to the pitch plane
- Keep hands inside the ball

In this email I have included some basic instruction and two frame-by-frame analyses of two great hitters’ swings (Albert Pujols and Pete Rose), which are visual proof of what I am talking about. But first, before we continue with this I want you to read an article by Mike Epstein, major league hitting instructor and developer of some of the best instruction for rotational mechanics.

The context for the following article is that Epstein is giving reasons for why the teaching of rotational mechanics seem so different than what we have all been taught, and why the language and techniques seem so contrary to everything you might think we should be telling hitters.

Before you read the article I want you to think about some of the hitting language you’ve heard around the ballpark and perhaps even taught yourself. Here are some things to ponder:

- Why do we teach hitters to hit the "top-half" of the ball—when PITCHERS are taught to get hitters to HIT the "top-half" of the ball? Does this make sense? Hitters should be doing the exact OPPOSITE of what the pitchers want them to do! Last summer I had an epiphany about this while coaching my pitchers. I was telling them how important it was for us to “pitch ground balls” and I was teaching them how to get hitters to hit it on the ground. Then I thought to myself, *Wait a minute! Why have we always taught our hitters it is better to hit the ball on the ground, when it is the same exact thing we are teaching our pitchers? How can it be a successful result for both?* The answer is simple. It CAN’T. We do NOT want

our hitters to hit ground balls. Let's remove this idea from our thinking and from our instruction.

- 60 years ago Ted Williams said, "The hips lead the way." Why do we think this hitting concept has changed down through the years? Why do we think we're smarter than the "World's Greatest Hitter?"
- 60 years ago Ted Williams said, "The hitter must swing level to the ball—not level to the ground." Again, why do we think we're smarter and know more than the "World's Greatest Hitter?" Teaching a "level" swing has become misconstrued as level to the ground. Doing so puts the hitter at a great disadvantage because his bat and the ball will be travelling on two separate planes. Simply, we want the bat to meet the ball on the same plane as the pitch.
- Pitching coaches teach pitchers to THROW ground balls. So, why do hitting coaches teach hitters to HIT ground balls? I can't emphasize this enough.
- Why do we teach the "level" swing? How does a hitter swing "level" at a pitch at the knees? In fact, how does a hitter hit ANY low pitch without dipping the rear shoulder? Basically, the idea of dipping the rear shoulder has been considered taboo, and you will probably cringe to think that we may actually *want* our hitters to slightly dip the back shoulder in order to create the proper plane for the swing. (Even when you read that some of you are starting to freak out).
- Why do coaches instruct hitters to swing with "level" shoulders and "stay back" AT THE SAME TIME? That is a very difficult and awkward thing to do.
- Why do coaches tell hitters to "stay inside the ball" and then in the very next breath, tell them "hands to the ball?" How does a hitter do that? Conversely, why do coaches teach hitters "hands TO the ball," then—in the very next breath, tell them to stay "INSIDE" the ball?

Like I said when I began, this is a long email. But I you have read this far, hopefully you are intrigued enough to keep going. You will especially be intrigued when you start looking at the photos and comparing them to what I am saying. Okay, here is Mike Epstein's article:

The "perfect" time for rotational hitting

Believe me. I fully understand the implications of my endeavor. Few people I know want to be a "salmon swimming upstream." Including me. I knew I would raise some eyebrows, but *someone* needed to "get the ball rolling." The *Collegiate Baseball News* article revealed more than just statistics; it served as an unsympathetic reminder that hitting technique is not keeping pace with baseball's collective changes.

Being a hitting instructor, I'm always hearing it from players, coaches, players' agents, and parents. Their irritation resonates loud and clear: "How do hitters keep up? Where did the power go?" The *Collegiate Baseball News* article substantiates their concern.

Fact and fiction

"Resistance to change" has kept more good players from hitting their potentials than perhaps any other, but it's time to roll up our sleeves; we need to make some adjustments.

The vitriol and venom flying around from those who cling to the past about rotational hitting has never been about its many benefits and storied history. It's been about those who simply refuse to change — or accept the changes needed — to offset the less-resilient minus3 aluminum bats and the antiquated playing venues.

If people are remembered for the product of their service, then I believe my effort will ultimately validate itself. During my own career, I have personally been the product

(victim?) of hitting's "fact and fiction." All of us have and most have suffered from it.

If we are to improve as coaches and hitters, we must weed out the fiction from the fact — and move on. There will always be those who hold preconceived biases and those who will always resist the inevitable changes. That's life.

I know that many of the ideas I present are contrary to what have been commonly believed and taught over the past generation. But we must deal with them, because hitting has been undergoing changes, and we have to adjust to the changes. The sad fact is that we have been excruciatingly slow in responding.

The ideas I communicate reflect my personal experience and perceptions of these needed adjustments and changes.

"Staggering Decline"

The front page headline in the last issue of the *Collegiate Baseball News* jumped right off the front page: "Staggering Decline." And, under that, "Home Runs Dip 30% in NCAA Div. 1 Baseball Since 1998." Then, "Offensive numbers continue to tumble in NCAA Div 1 baseball for fifth straight year."

In 2000, high school hitters were forced to use minus3 bats for the first time.

Despite the minus3 bats weighing a scant two ounces more, the devastating effect it has had on diminishing offensive statistics and run production has been eye-opening.

A little bit of history

When studying the historical transition of hitting technique over different time periods, one thing becomes increasingly evident. Any changes made were simply “cycles” during which smart hitters adapted to playing conditions as best they could. As an example, the “Dead Ball Era” was just a period during which field design (no outfield fences) and “dead” baseballs did not reward the batter who drove the ball a long way in the air. This lasted until 1919 when the rotational hitting technique of a young Babe Ruth captivated the country with his long home runs. Baseball responded with ball parks with outfield fences and this ushered in baseball’s “Golden Era” of offensive excellence.

This rotational hitting cycle lasted over 50 years, until the early 1970s. *Astroturf* had begun making its mark on the new multi-purpose major league stadiums, followed by many colleges and universities. Many of us can remember those days of “pinball” baseball in the National League. Faded fields of artificial turf with huge water stains and permanent yard markers left over from NFL games.

New multi-use stadiums were being built incorporating this new, ultra modern “carpet.” To take advantage of these “fast” playing fields, offensive baseball went through a metamorphosis. “Little ball” — “jackrabbits” running rampant on artificial turf in Cincinnati, Pittsburgh, St. Louis, Houston, Kansas City, Toronto, Chicago, Seattle, Tampa Bay, Philadelphia, Montréal, and Minnesota. Keeping the ball “on the ground” became the rule of the day.

Astroturf infields were so fast, infielders couldn’t catch up to ground balls. To capitalize on the rock-hard artificial playing surface of those days, hitters were taught to “groove” their swings to hit “down through the ball.” The “down swing” automatically predisposed their weight to come on to the front side. This fueled the re-birth of the linear mechanics of the “Dead Ball Era,” which had lost out to rotational hitting in the late ‘teens.

The “carpet” did indeed reward players for hitting ground balls; it was like playing on concrete. A hard-hit ground ball could not only beat the infielders, but could also beat the outfielders on the same ground ball! Many a triple and inside-the-park home run was hit on these “routine” ground balls. Defensive players were simply not quick enough to catch up!

Accordingly, we entered baseball’s “Jack Rabbit Era.” Hands and arms hitters, speed, contact, ground balls, and “little ball” became instant buzzwords. “Beat an

infielder” became the verbal cue of the day. Staying back, power, working the count, and high slugging percentages were out.

In response to the introduction of *Astroturf* and the ultra-light, ultra-resilient aluminum bats in the 1970s, hitters adopted a linear hitting technique based on these two aberrations. This linear cycle lasted for about 20 years; the major league changeover to rotational hitting began around 1995.

A terrific club, managed by a wonderful manager, Whitey Herzog (a former manager of mine), the world champion St. Louis Cardinals of the mid 1980s epitomized this trend.

It takes approximately 10-12 years for a new cycle to take hold throughout *all* levels of baseball. We are currently in year 9 of the rotational changeover. Good and timely information can shorten this.

The highly-modified, ultra-light, ultra-resilient aluminum bats are, for the most part, on their way out. High school and college players must now use “minus3” aluminum bats, which weigh more and are less resilient than their predecessors. *Astroturf* has already gone the way of the dinosaur.

Once again, smart hitters are capitalizing on today’s conditions: ball parks with short outfield dimensions, “postage-size” strike zones, low pitching mounds, bigger and stronger hitters, diluted pitching, natural grass infields, and a “livelier” baseball, have laid the foundation for the return of offensive baseball and rotational hitting.

However, swinging down, coming forward, and hitting ground balls — the sought-after results specific to linear mechanics, *Astroturf*, and ultra light, ultra-resilient aluminum

bats — surprisingly still persist and are being taught today.

They persist because many of today’s coaches come from that specific generation when linear mechanics were taught and used (1975-1995). It is natural that coaches and parents teach what they learned when they played because they understand it and are comfortable teaching it. As a result, many are indifferent to the changes that hitting’s transient cycles demand.

Hitting changes are made by smart hitters who adapt through emulation and to changing playing conditions the best they can. This is going on right before our eyes, yet far too many coaches don’t even see it! We continue to teach what we’re

comfortable with and are not responding to baseball's changing ball game.

While coaches sleep through this changeover, more and more hitters are responding with rotational mechanics. They see the "light" on "Baseball Tonight" every day on TV.

Many of you who learned to hit during the "Linear Hitting Era" may not even know there is "another" way to hit. Actually, the "other" way to hit has been responsible for 95% of baseball's Hall-of-Fame hitters.

Rotational mechanics

There have been countless hitting philosophies introduced to players over the years. Some beneficial, some worthless. Most have been theories propagated by "scientists" who never played the game.

I honestly believe that if these people had stood up against the likes of Koufax, Seaver, Palmer, Marichal, Drysdale, Gibson, Johnson, Schilling and Pedro, they would have spared us their litany of suppositions, assumptions, and confusion.

After Ted Williams' passing, we all read testimonials from baseball's elite hitters and other great players who said, "We all tried to copy him; he had flawless mechanics."

Hall of Famer Eddie Collins once watched Williams' form in batting practice and immediately declared it the most perfect he had ever seen, better even than that of the great "Shoeless" Joe Jackson (baseball's first rotational hitter). Collins made this observation in 1936. Williams was 17 years old.

I have often wondered why so many great hitters, including Bonds, Pujols, Helton, Aaron, Mays, Ruth, and DiMaggio, have embraced rotational mechanics for their singular success, yet so few coaches today show any regard for the remarkable results they have produced over the past 100 years.

Do we teach what we really see? Do we even care?

Many have little or no inclination to teach them. They say it's too difficult to teach, *but it really isn't*. They say Williams was the *only* player who could hit that way, *but he really wasn't*.

The rotational hitting technique is unrivalled in producing baseball's most dominant hitters.

Benefits

The benefits of teaching and learning rotational hitting are considerable and include the following:

- An individual “style” and hitting “type” to fit every player
- *Total* elimination of lunging, drifting, and “front-foot” hitting
- Proper use of the hips and lower body
- A “natural” swing tailored to put “the plane of the swing on the same plane as the pitch”
- The hands correctly staying “inside” the ball
- An optimized swing for both the minus3 aluminum and wood bats
- Increased bat “speed”
- Increased bat “quickness”
- More *power* than ever thought possible
- Dynamic balance from stance through follow-through
- A choice of either a short stride — or “no-stride” — to the ball
- Minimized head movement
- The ability to hit to all fields — with power

Something I found out early-on in my study of hitting mechanics was that for every physical action, there must be an equal and opposite reaction. Because no matter how much we may *want* to “think” the skill of hitting is carried out, and how we may want it to be done, the fact of the matter is that — if it is to be executed optimally — it *must* conform to the laws of physics and biomechanics.

If it doesn't, the hitting sequences won't seamlessly mesh with each other. And if they don't, we see a robotic, unbalanced swing; certainly not one worthy of fluency — and ultimate production.

And just what is “production?” Major league statisticians call production, “O.P.S.” (OPS), which is arrived at by *adding together* a hitter’s on-base percentage and slugging percentage. In other words, the ability for the player to “get on” (through hits and walks) PLUS his ability to drive in runs (high total bases). Is it any reason why the high OPS hitters bat third through sixth in the lineup? They produce runs — and runs win ball games. And, they are all rotational hitters.

I realize that EVERY player cannot have an OPS of 1.000 or more and hit clean-up. Proper mechanics can help those who may not possess the raw power and/or innate ability to achieve it. Rotational mechanics — and a smart hitting plan when going to the plate — have made up for many physical deficiencies over the years.

But, in the past 25 years, the aluminum bat was hitting’s cure-all. Not the player. Or the technique.

During this past generation, we have violated all the energizing principles of physics in hitting technique — we didn’t need them. The ultra-high resiliency of aluminum bats made this possible. Today, the only way we can offset the less-resilient and heavier minus3s, is if we give the swing some type of “boost,” or “enhancer.” *The effect of the aluminum bat has acted in the past in the same way that the proper use of physics does on the baseball swing.*

To equalize the offset, we are now obliged to apply mechanics consistent with the laws of physics to overcome the lessened advantages of today’s aluminum. Rotational mechanics counterbalances this significant loss.

Ok, Mike, but how does it happen?

For a hitter to approximate the bat speed of a -5 (or lighter) with a -3, it takes much more than just a “hands and arms” approach. “Throw your hands at the ball” doesn’t work, as evidenced by the *Collegiate Baseball News* headlines in the beginning of this article. It requires the use of the hitter’s *entire* body. The biggest and strongest muscles in our bodies, the legs, *must* be used to compensate for

the heavier bat.

This is the foundation for rotational hitting mechanics which are supplanting linear hitting (back-to-front, hands and arms) which ruled during baseball's last generation. We know this change is going on because we now hear the same coaches that used to use the cue "come forward," now saying "stay back." Perhaps you are one of them.

Does high bat speed mean that a player who can swing a bat 85+ mph is "guaranteed" power and a high batting average? Hardly! If a player can swing a wood bat upwards of 85 mph, and the bat is 35" and 35 ounces, then, yes, I would say that is terrific bat speed for that bat weight and the player could be capable of outstanding power-hitting potential.

But, what if the very same player achieved an identical bat speed swinging a 31"-28 oz. wood bat? Would he be able to hit the ball as far and as hard with a bat four inches shorter and seven ounces lighter? Probably not. Therein lies the paradox of the concept of "bat speed:" Bat speed — in and of itself — can be a very poor indicator of power and hitting potential! *Mass* and *leverage* are also needed.

The fundamental precept behind rotational hitting revolves around putting the body into correct biomechanical positioning. Doing so will allow the body to generate "torque."

The scientific term for this phenomenon is the "kinetic link" which lies at the foundation for all bat speed, bat quickness, and power in the swing.

Once the rotational technique is learned and committed to "muscle memory," the body involuntarily follows this blueprint.

The blueprint the hitter follows is simple. As he "counter-rotates" his upper torso, his lower-half begins to open in the stride. This happens a fraction later than the

top-side counter-rotation.

The stride foot should be at a minimum 45 degree angle, open enough so the hips can come through (I recommend a very short stride). The hitter should land on the “ball” of his front foot, because when the player drops his front heel, the swing is then triggered.

The swing doesn't take place until AFTER the front heel plants! When it does plant, the player is then in the proper “torque position” (top-half going back, lower-half coming forward).

This whole movement takes place in microseconds. Remember, at this point — the heel dropping — the legs burst forward, initiating their rotational path, but the hands are *still going backward!* Remember the definition of “torque” from my previous articles? *Two forces acting in opposite direction on an object.*

The big muscles (legs) then yank the small muscles (hands and arms) forward, maximizing bat quickness, bat velocity, and power. It is for this reason why we are sometimes baffled by some players who are not very big, but generate tremendous power (“Effortless power versus powerless effort”). They get their legs working correctly in the swing.

I read a report that up until a few years ago, 42 of the top 50 home run hitters in major league history weighed less than 190 pounds! It's not about the “two ounces” or the decreased resiliency of the minus3s, it's about the “engine” driving the hitter's body. In other words, it's about technique.

Ted Williams used to say, “It ain't the arrow, it's the Indian.” Why haven't we listened?

I call the counter-rotational move, “winding the rubber band.” Players really take to it — they understand the concept. If you think of hitting as a “fly rod” effect, I think

you can get the picture a bit easier. When the fly “runs out of line” and gets yanked forward in the cast, it is similar to the front heel planting and yanking the hands forward. As many of you now already know, this is shown clearly in my videotapes.

Understand, that to teach this effectively, the player must re-gain the *balance point* in the stride, because without proper preparation (balance), the dynamic sequencing of the torque goes for naught; it is virtually impossible to rotate the hips optimally using only “one” leg. Proper rotation requires both legs balanced to ensure maximum rotational velocity.

In my proprietary drills, to help ensure this happening, I advocate getting a little bit more weight forward in the stride, because when the front heel drops, the body begins to tilt rearward. As the lead elbow starts to work *upward*, the player’s weight automatically shifts back to the inside of the rear thigh; his forward movement is “blocked” and the momentum revolves (rotates) around a stationary axis.

The choice is yours

As more and more coaches and players adopt them, the changeover to rotational mechanics will continue its surge. Accordingly, I am predicting that what you will see is 1) an increase in offensive production in the coming years and 2) an increased demand for longer and heavier bats.

I’m not one of those “My way or the highway” types and have been doing this far too long to be argumentative. I simply put out the information and let you make your own decisions. If you feel that the linear hitting technique is best suited for today’s minus 3s, that’s fine with me. That’s what choices are all about.

As coaches and players, you certainly should have a choice. What you ultimately decide must have no bearing on my personal bias towards rotational mechanics. I’m just a messenger of information, and am very gratified that so many of you are beginning to question the common sense and logic of what you teach or learn.

There's no reason why you shouldn't continue to use or teach the linear hitting method. If you do decide to learn or teach rotational mechanics, keep in mind that it must be one or the other. My experience is that trying to combine both systems is restraining for even the elite athlete.

When you make your choice you should consider that linear hitters have historically been baseball's singles/contact hitters and rotational hitters have been the high OPS hitters.

In the final analysis, rotational hitting is a finely-honed system of pulleys and levers that effectuate the equal and opposite principle of maximizing kinetic energy. It's all about physics, biophysics, and biomechanics. There's nothing mysterious about it, except ignorance.

I sense that many coaches are indifferent to learning and teaching rotational mechanics because they 1) have never heard of it, and/or 2) wouldn't know how to teach it — even if they wanted to.

For those of you desiring to learn more about rotational hitting and how to teach it, my two-tape video set, "Do We Teach What We Really See?" and soon-to-be released interactive CD-Rom teaching manual, "The Epstein Teaching System™," reduces the hit-and-miss, trial-and-error emulation process from years to a matter of days. The CD-Rom takes you through the learning/teaching process step-by-step with simple text and many visual aids, including photos, illustrations, and video clips. It will be available for sale in November.

"Anyone who can reduce the 'emulation' period of hitting from years to days has got my attention," marveled the "World's Greatest Hitter," Ted Williams. Two weeks later I received the only known written Letter of Recommendation he ever gave out for hitting instruction. Believe me, I earned it.

There has never been a teaching method as comprehensive, yet easy to learn, as

the Epstein Teaching System™.

Why make such a tough thing to do — tougher?

The choice is yours.

Good luck, continued success, and “get a good pitch to hit!”

Mike Epstein

Again, I know this has been very lengthy. But I hope it has been intriguing to you. And I hope it has inspired you to dig even deeper. But I want to go back to what I said at the beginning. At the younger levels (age 10 and under) we should not overburden the kids with techniques. Yes, we can give them cues and little drills here and there to help them get on the road to having a powerful swing. But those should only occur when we see major problems or if a kid is really willing to learn more about the technique of his/her swing. Basically what I am saying is: At that age, don't make them do it if it doesn't seem fun to them.

Here are some links to some very helpful web sites if you are interested in reading further and learning more. Try not to become frustrated. It may take some time to allow the concepts to sink in. But I really believe if we can get some of the basics down we will be able to help our kids become better hitters. I have also included a couple of PDF files that are frame-by-frame analyses of Pete Rose and Albert Pujols hitting a baseball. After reading what you have so far, you will probably be able to see in their swings exactly what I am talking about. In addition to those two, I have analyzed over 50 other major league hitters' swings and have seen the exact same checkpoints and mechanics in them. I suspect that if I looked at 200 of them I would find a majority with the same.

There is a reason why these guys are where they are. They know things and do things we don't. I'm not saying that every kid who hits with these mechanics will be a big leaguer some day. But I would bet that every kid who plays baseball would like to hit like one. Well, why not give them the same tools the big leaguers use?

Check out these links. You will undoubtedly hear me talking more about these things as we get into this year's baseball season. I am anxious to begin! Can you tell?

<http://www.mikeepsteinhitting.com/>

<http://www.englishbeyhitting.com/>

<http://www.backbackback.com/>

<http://www.chrisoleary.com/projects/Baseball/Hitting/RethinkingHitting/Essays/RotationalHitting.html>

Finally, on one of the files attached you will notice it requires a password in order to open. When you are prompted for the password, use 47T3Lj8. That file is an ebook which includes a brief guide for how to teach rotational mechanics. It is a good resource. Be sure to print it out.

The other two attached files are the frame-by-frames of Pete Rose and Albert Pujols. Save them to your computer and click through the pages in order to visually see the concepts I have been talking about in this email.

I love baseball. I can't wait to begin. It won't be long now. See you soon!

Chris Stewart

Chris Stewart is the Asst. Coach for the Athens High School Bulldogs (Athens, Ohio). Anyone who has met Chris can tell you he really does love baseball. Thanks to Chris for putting this together. He truly wants every kid to be the best ballplayer they can be. He also is one of the key people responsible put on clinics for kids and coaches at the beginning of the Athens Sandlot season.