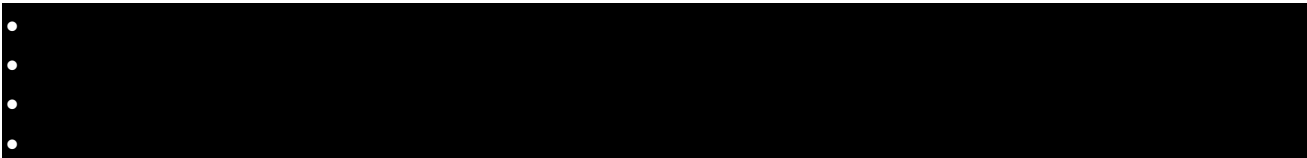


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## The 400 Is a Sprint

Blog | By [Tony Holler](#)  
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As 400-meter runners in the 1970s, we were taught to be proud of our miserable training. My coach called us “The Dragons” because he was going to run us every day until our ass was draggin’. When I look back on the high volume training I suffered through in middle school, high school, and college as a 400 runner, I’m sickened. I never came close to my genetic ceiling for speed—needless volume. *We never timed max speed, never ran max speed in practice.* Instead, we did repeats—tons of repeats.

I entered the track and field world as a long, lanky basketball player, forever pigeonholed as a 400-800 runner (1972-1981). Speed was never addressed. And we all hated practice. At the age of 17, I plateaued as a 400 runner (50.2). No matter how hard I trained in college, my half-baked speed held me back.

**Feed the Cats** began in 1999 as a way to fundamentally change the experience of track athletes. Now, my slowest kids are the ones who improve the most. For example, as a freshman, Marcellus Moore averaged 23.3 mph in our winter training. That same year, Jaylon Tillman was the 16th fastest freshman at Plainfield North, running an average time of 18.5 mph. Who improved the most? Jaylon Tillman ran 22.3 mph this year and was ranked #2 in the school.

In most programs, Jaylon Tillman would have received a lifetime sentence of hard labor. Jaylon would have been fed a steady diet of 200s, 300s, 400s, 600s, and creative combinations of the like. I fed Jaylon an alternative diet, and if not for Covid-19, he would have been an all-state hurdler this year and a sub-50 leg on a great 4x4 team.

## What About The 400?

*What about the 400?* That's the number one question asked by the hundreds of coaches who have contemplated feeding the cats. While speed training for the short sprints makes sense, speed training for the 400 is counterintuitive. Traditional, close-minded coaches continue to spout off the false claim: "Feed the Cats may be good for short sprints, but not the 400."

I've done two recent webinars on training for the 400 meters, totaling over seven hours of content. One was a compare and contrast presentation, [Feed the Cats vs. Clyde Hart](#). The other was a four-hour [debate with Ryan Banta](#), the author of [The Sprinter's Compendium](#).

Legendary Baylor Coach Clyde Hart believed the 400 was a hybrid of speed and endurance.

*"The 400-meter dash is an endurance sprint incorporating the speed of the sprinter and the endurance of the half-miler."*—Clyde Hart

I respectfully disagree with the legend. I believe the 400 is a sprint. The 800 is the hybrid.

[The 400m is a sprint; the 800 is the hybrid. And although](#)

[speed training for the 400m may seem counterintuitive, it](#)

[should be the priority, says @pntrack. CLICK TO TWEET](#)

Clyde Hart also said, "The main reason we are seeing more of the sprinter-type succeed in the 400 meters today is largely due to the fact that we are able to develop stamina and endurance more effectively than we can increase the sprinting abilities of the middle-distance runner."

Charlie Francis said the same thing, with brilliant simplicity: "It is much easier to gain endurance having maximum speed than the other way around."

I couldn't agree more with Clyde and Charlie. I coach high school kids who are trying to reach their genetic ceiling for absolute speed. I refuse to interfere with a teenager's quest for speed by hybridizing their training. I refuse to give up on a kid like Jaylon Tillman and specialize his training as a long sprinter because he's only running 18.5 mph as a freshman. *The disciplined pursuit of speed is my overarching principle.*

Fact: The 200 is the best predictor of the 400, not the 800.

Max speed (absolute speed) is the best predictor of success in the 100m and 200m. The 10m fly can easily measure max speed. If all of this is true:

10m  $\Rightarrow$  100m  $\Rightarrow$  200m  $\Rightarrow$  400m,

therefore 10m  $\Rightarrow$  400m

“A good formula for predicting the potential 400-meter time for 200-meter runners, providing they are willing to train and to give all they can to become a top 400-meter runner, would be to double the time of their best open 200 meters then add 3.5 seconds to this.”—Clyde Hart

Note that Coach Hart’s predictor of 400 success was *not* the 800. Nope, the 400 is a sprint and training should reflect that fact. I often warn coaches: “Don’t plant beans and expect to grow corn.”

I recently observed a terrific video clip from Ernie Clark (Ashland University) explaining how speed (not strength, not endurance) is the basis of the 400. When setting the world 400m record, Wayde van Nierkerk smoked his first 200 (split 20.50). Remember that 20.50 must be a sub-max speed to survive the second half of the race. Nierkerk finished slow, splitting 12.05 in his final 100. Which broke the world record—speed or a strong finish? In comparison, Wayde van Nierkerk’s 43.03 broke the previous record set by Michael Johnson (43.18). Did Wayde van Nierkerk show better endurance than Johnson? No. Nierkerk beat Johnson to the 200m mark, 20.50 to 21.32. Johnson finished strong (11.52) in comparison to Nierkerk, *but speed beats endurance in the 400*.



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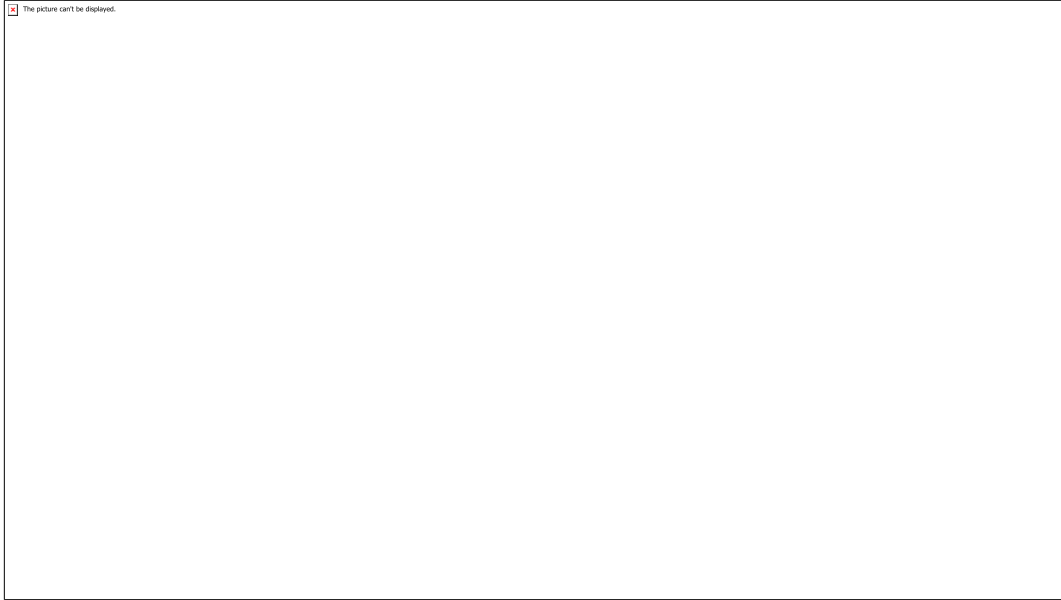


Image 1.

“Why Speed Is Key Over Fitness Or Strength. (Used with permission from Ernie Clark, elitehurdlespeed.com.)

**Ernie Clark** also points out a similar phenomenon with the best in the women’s 400. Salwa Eid Naser won the 2019 World Championship, running her first 200 in 23.20 and finishing at 48.14. How did Naser’s splits compare to the world record? The world record holder, Marita Koch, blistered her first 200, running 22.47, *almost a full second faster than Naser*. Koch’s 400m record is 47.60. Naser finished stronger than Koch, *but endurance got beat by speed*.

“The 30m fly is the #1 indicator of potential in the 100m dash to the 800m.” —Coach Ernie Clark. (I would argue with Ernie that the 10m fly is the #1 indicator for the success in the 30m fly; therefore, the 10m fly is truly the Holy Grail.)

**Without any training for the 400m, your top sprinter will**

**probably run the fastest 4x4 split on the team, says**

**@pntrack. [CLICK TO TWEET](#)**

Anecdotally, I’ve known this for as long as I can remember. Need someone to run the 4x4? Find your fastest short sprinter and put him at anchor. Without any training for the 400, your top sprinter will probably run the fastest 4x4 split on the team. Your short sprinter will be tired at the finish, but so is everyone else.

## Why Speed?

The foundation of Feed the Cats is that speed is the key to performance in *all* track events, up to and including the 400 meters. Speed is the dominant trait of those who excel in the 100, 200, 400, both hurdle events, and the three sprint relays (4×1, 4×2, 4×4). We could argue that speed is a key performance indicator for the jumps and pole vault as well. That's 12 or our 18 events!

[The foundation of Feed the Cats is that speed is the key to](#)

[performance in all track events, up to and including the 400](#)

[meters, says @pntrack. CLICK TO TWEET](#)

My throws coach, Sebastian Carcione, says he's never seen a great thrower who was slow. It's no secret that the fastest distance runners are best in the 800m. With the addition of the shot, discus, 800, and 4×8, speed is essential for 16 of our 18 events.

*Don't plant beans and expect to grow corn.* In other words, if speed is a key component for 16 of our 18 events, let's make speed our unquestioned priority!

## Speed Defined

When I talk about speed, I'm talking about *maximum speed*. Some people call it *absolute speed*. We can measure maximum speed with a high-quality radar gun. I measure it with Freelap—I have the **BLE 112** system with 25 FxChips.

We run 10m flys to measure max speed. You could do it by running 20m or 30m as well, but since you're measuring *max* speed, why not run the shortest distance? I convert our fly times to miles per hour:  $22.37 \div 10 \text{ fly time} = \text{mph}$ . My fastest kids win wristbands.





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Image 2. MPH wristbands ordered from rapidwristbands.com. Total cost for 1200 wristbands = \$400.

## Feed the Cats

There should be a reason behind everything we do. We should have a system of beliefs, a philosophy of coaching, and an overarching set of principles that guide us. I never meant to brand **Feed the Cats**, but it's grown organically into something bigger than me.

My detractors call Feed the Cats a “system,” criticizing its single-minded prioritizing of speed. My critics promote a sophisticated, complex, differentiated program. They use charts, graphs, and flow-charts to uniquely calibrate the training of each athlete and their targeted event. They quote the complexifiers: Bosch, Bondarchuk, and McMillan. Some even claim to factor-in genetics (even though genetic testing has never been implemented in a high school track program!).

*“Our life is frittered away by detail. Simplify, simplify, simplify! I say, let your affairs be as two or three, and not a hundred or a thousand.”—Henry David Thoreau*

Feed the Cats is not a rigid system. In truth, it's the opposite. *Feed the cats* is a way to cook, allowing the recipe to evolve.

As a young coach, I coached like Clyde Hart—the way I was coached. I trained all of my “runners” as 400 guys (fact: speed is God-given, *right?*). Practice wasn't supposed to be fun. Hard things make you tough. Tough athletes win. Even though my teams achieved unusual success in the 1990s, at age-40, I blew it all up and started over again. No more 10 x 200.

I wanted to change the track experience for high school kids. *I wanted to attract cats* (cats are fast-twitch athletes, for example wide receivers in football and basketball players who could dunk). *I wanted to make track practice the best damn part of a kid's day.*

## How Do You Make Track Practice Fun for Sprinters?

1. Stop “running.” Sprint instead. Cats love to compete, but they hate the grind. No laps, no cooldowns, no tempo running—no Clyde Hart stuff.
2. Make *happy* and *healthy* the priority. Happy and healthy kids do really good work. If kids really like track, someday they may love it. Human beings are obsessed with the things they love.
3. No more long practices. Get it done in 45 minutes. Kids spend 20,000 hours sitting at a school desk. We are not after school daycare providers. Get it done and send the kids home early.
4. Make every practice meaningful. *Don't save performance for meets.*

## The Team Speed Approach to Track and Field

This is important. We all have our *why*.

I've coached entire track teams without an assistant. At Franklin High School, south of Nashville, Tennessee, I coached 72 guys, all 18 events, *solo*. For most of my career, I had one assistant coach (throws) earning a half-stipend. Even though I now have 3.5 paid assistants, the years of going it alone forced me to coach as an essentialist. Essentialism is the ***Disciplined Pursuit of Less***. If you chase two rabbits, you catch neither. We chase just one rabbit.

Give me eight guys who run 23 mph, and we will *dominate* the IHSA 3A State Championship next year in Illinois. How? We might place multiple athletes in the 100 and 200. With all that depth, we would set state records the 4×1, 4×2, and 4×4 (Sub-40, Sub 1:25, Sub 3:12). One of those sprinters will be a hurdler. Another will long and triple. One of them will be great in the 400.

Remember what I said about essentialism and overarching principles? There it is. We will maximize team speed. Yep, give me an eight-man team of guys who can run 23 mph, and try to catch us.

One of the best things about being a speed-based track team is that sprints have a *lower cost* than distance events. Distance runners are seldom able to score high in multiple events. Add in the fact that the IHSA State Track Meet is a *two-day meet*, and the cost is even higher. In 2018, my team won the 100, 200, 4×1, and 4×2 at our state meet. We ran faster times in the finals than we did in the prelims the previous day. We set *two* state records. Sure, running eight sprints in two days will wear you out, but sprinters can do it. Distance runners can't compete eight times in two days.

Myth: Feed the Cats is a program for "elites," not average kids. One hundred percent false. Track at Plainfield North is just as nerdy as anywhere else in the country. We typically have teams of 100 boys, with the majority being freshmen and sophomores. In 2018, when we won every sprint at the IHSA State Meet, *only 27 of our team's 50 sprinters could run 20 mph*. My five all-staters that year ran 24.1, 22.8, 22.6, 22.1, and 21.5 mph.

By treating every sprinter as a cat, every sprinter becomes more cat-like (fast-twitch, elastic, and fiercely competitive). Speed grows like a tree, but I have four years with my athletes. My freshmen love track (overarching principle). Therefore they return as sophomores and continue to grow. Sophomores become juniors, and juniors become seniors. Never undervalue happy athletes. Track doesn't have to suck.

## Off-Season Programming for the 400

In the off-season, pure speed is the focus. No endurance. No bullshit. When you sprint for more than five seconds, you're working on something other than speed. If you're doing tempo work, you are, at best, not improving speed. At worst, you may be detraining speed. If you do mileage, you are *destroying* speed.

Since endurance adaptations are relatively easy and speed

adaptations are relatively difficult, your off-season focus

must be speed, says @pntrack. #400m [CLICK TO TWEET](#)

Just like Clyde and Charlie said earlier, it's easier to develop endurance than it is to build speed. This is so true that most coaches believe speed is genetic and unchangeable. Old school coaches believed *coaches create milers, and God creates sprinters*. I can't be friends with these Neanderthals. **Since endurance adaptations are relatively easy and speed adaptations are relatively difficult, your off-season focus must be speed.**

When the season starts, your athletes will have a terrific speed base. Speed actually creates endurance. If you have a kid who can run at 23 mph, that kid can *easily* run a 400 at 18 mph, which would translate to sub-50 400m. To develop the ability to sprint farther, we must sprint farther. I call these workouts *lactate workouts* or *acidosis tolerance work*.

## In-Season Programming for the 400

Sometimes, the best way to describe something is by explaining—in detail—what it's *not*. Feed the Cats is not, in any way, similar to the most copied 400-meter training program in the history of track and field: the program used by Clyde Hart at Baylor University ("Quarter-Miler U").



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Table 1. Comparison of a Mid-Season Seven-Day Week. \*Clyde Hart information adapted from a clinic handout, "400 Meter Training" via usatf.org.

To preempt hate mail, *I have the utmost respect for Coach Hart*. Anyone winning 20 NCAA 4x4 Championships knows his stuff. However, we all must grow where we're planted. Baylor University and Plainfield North High School are different ecosystems. Coach Hart's freshmen recruits have typically run 46-second 400s before they ever met their college coach. Sometimes, my best freshmen have never attended a track meet. Also, Clyde Hart's freshmen are 18; mine are 14. Having said that, don't assume that I would change my program if I coached at the college level—Feed the Cats, done right, would be revolutionary in the NCAA.

Workouts in a Feed the Cats program are categorized and color-coded: green codes for rest, yellow codes for caution, and red codes for extreme. Forty-two percent of our 19-week *flexible* practice plan for sprinters is color-coded green. Cats sleep 20 hours a day. Speed and **X-Factor** days are color-coded yellow ("never let today ruin tomorrow"). Lactate workouts and meets are color-coded red and will have a 48-hour hangover.



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Image 3. Color-coded Feed the Cats training plan.

## Lactate Workouts

Lactate workouts are the hardest things we do. However, we only do them in-season, and we almost always make the next day a code green recovery day.



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Image 4. Key principles of Coach Holler's lactate workouts.

We *measure* all lactate workouts (see [24-Second Drill spreadsheet](#) and [4x4 Predictor spreadsheet](#)). If you attended one of our lactate workouts, you'd be astonished at the effort and performance of each sprinter on my team. I've had visitors tell me that our practice exceeded the atmosphere of a track meet. I agree 100%. I'm heavily caffeinated. My athletes reflect my enthusiasm. It's showtime!

In the epic [400 debate](#) with Ryan Banta, he criticized my policy of "apologizing" to my athletes when we do a lactate workout. I whole-heartedly defended myself. These workouts, like the 400, require a leap of faith. *Acidosis creates a discomfort most athletes have never truly experienced.* To call the pain *intense* would be like calling fire *hot*. The good news: the pain is temporary, the body will adapt quickly to become *biochemically tougher*, and we don't have practice tomorrow!



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Image 5. For some reason, coaches never publicly debate training. This was a 15-rounder!

Lactate work is the price my team pays for a pure focus on speed in the off-season. It's the price we pay to survive a long sprint. The good news: the body is a fast-learner. Biochemical adaptations are accomplished at a magical rate compared to improving absolute speed. I see significant adaptations after our *first* lactate workout.

[Lactate work is the price my team pays for pure focus on](#)

[speed in the off-season. It's the price we pay to survive a](#)

[long sprint, says @pntrack. #400m](#) [CLICK TO TWEET](#)

When you run 10 x 200, you are tired at the end of the workout. However, you have not improved speed. As a matter of fact, the opposite is true. Also, you have *not* taught the body to deal with acidosis. The 10 x 200 is a lactate *threshold* workout; the body doesn't become acidic. If given a choice between a lactate workout and 10 x 200, you might choose the 10 x 200 because it doesn't hurt as bad. It's just a soul-crusher. If grinding through hard, mind-numbing, two-hour workouts is your preference, you are not a Feed the Cats guy.

If you're interested in my [Training Cats to Run the 400](#) video (comparing and contrasting Clyde Hart Training to Feed the Cats), it's available at [Complete Track and Field](#).

## Let's Get Specific

I have four lactate workouts. (Everyone wants the damn recipe, no one wants to learn how to cook!)


1. [23-Second Drill](#)
2. [600m 4x4 Predictor](#)
3. [450m 4x4 Predictor](#)
4. [Critical Zone](#)

All four of these workouts are linked to in-depth articles. I've summarized each in the slides below.




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In a Feed the Cats program, all pain is self-inflicted. No one practices unless 100% healthy. I never force-feed workouts. My kids build their own house. If my guys don't feel like doing a workout, they don't do it. My guys all *choose to do the work*.

*“We want to get the line 80% in shape and 100% healthy rather than the other way around.”— Harry Marra*

In addition to Coach Marra’s epic quote, I’d like to say, *“We want to get kids 100% fast and 80% in shape, not the other way around.”* If you merge both statements, you come close to the essence of Feed the Cats.

**100% Fast + 100% Healthy + 80% In Shape = Happy Athletes**

Old School Math: 80% Fast + 80% Healthy + 100% In Shape = *toughen up! practice was not meant to be fun!*

[By entering the track season with a maximal speed base, my](#)

[kids are a couple of lactate workouts away from being solid](#)

[in the 400m, says @pntrack. CLICK TO TWEET](#)

By entering the track season with a maximal speed base, my kids are a couple of lactate workouts away from being solid in the 400. With a 19-week track season, the meets will do most of the rest. As Latif Thomas taught me 12 years ago, “The faster your maximum speed, the faster your sub-max speed.” When you consider the competitive nature of cats and their love of track and field, 4x4 success is no surprise.

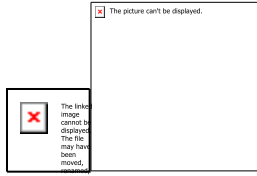
The 400 is a sprint.

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
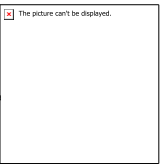


## Tony Holler

Tony Holler is the track coach at Plainfield North High School. Tony retired from teaching chemistry after 38 years in the classroom and has 39 years of coaching experience (football, basketball, and track). Tony Holler is a member of Illinois Track & Field Hall of Fame and Co-director of Track Football Consortium along with Chris Korfist.

## Reader Interactions


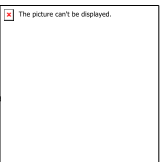
## Comments

1.   Ndo

JULY 22, 2020 AT 10:19 AM

Very good article!! I really like it...i have 1 question...are tempo runs completely out of your program!? I always question myself about those type of workout...if they really are useful or not...a part of me says yes...if you are completely out of shape how will you be able to recover from reps...and another part says no, because i did really good times without doing much tempo run even on 200-300-400m...can you tell me what you think about it


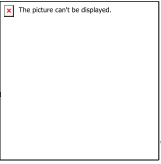
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2.   David Janbaz

JULY 22, 2020 AT 1:49 PM

Our Olympic shotput coach at Biola University said he set a 4x200 world record with three of the top USA sprinters in the early 70's :Neil Steinhauer was also an ex- basketball player, over 6' 5" with long legs for a shotputer.


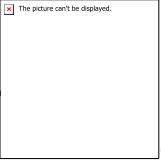
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3.   W.E. Price

JULY 23, 2020 AT 5:01 AM

What type of strength work do your athletes do on these days? Are general circuits employ as well?


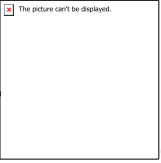
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4.   Charlette Cook

JULY 23, 2020 AT 6:33 PM

My coach trained me to run the 440 as a sprint in 1965 and 66. It was speed and endurance all the way. I set world records. Go American coaches Go.

[Reply](#)

5.   Coach B

AUGUST 5, 2020 AT 7:35 PM

Coach Holler- I want to learn how to cook! I'm on Coaxhes Collab. I just listened to your interview on Coach Growth and then came here. We don't get the fast guys. We need to make them fast. I'm going to go through all these ingredients and then I'm going to reach out to you. Thx for sharing your philosophy on the need for speed. Anyone can run longer...

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### Featured

## 5 Mistakes Every Sports Performance Coach Needs to Avoid

Everybody makes mistakes, including sports performance coaches. While some lead to learning opportunities and shape you into the coach you are today, Coach Keith Ferrara recommends that you avoid these five mistakes that just become a burden on your job.

## Transforming a High School Novice into a Beginner Lifter

This second installment of a multipart series has Coach Mark Hoover expanding on the “Block 1” stage of his strength training program for high school athletes. Block 1 focuses on movement mastery and a progression system that uses volume, rather than intensity, as the preferred method of overload.

# Specificity in Team Sport Speed, Conditioning & Agility with Andrew Cormier

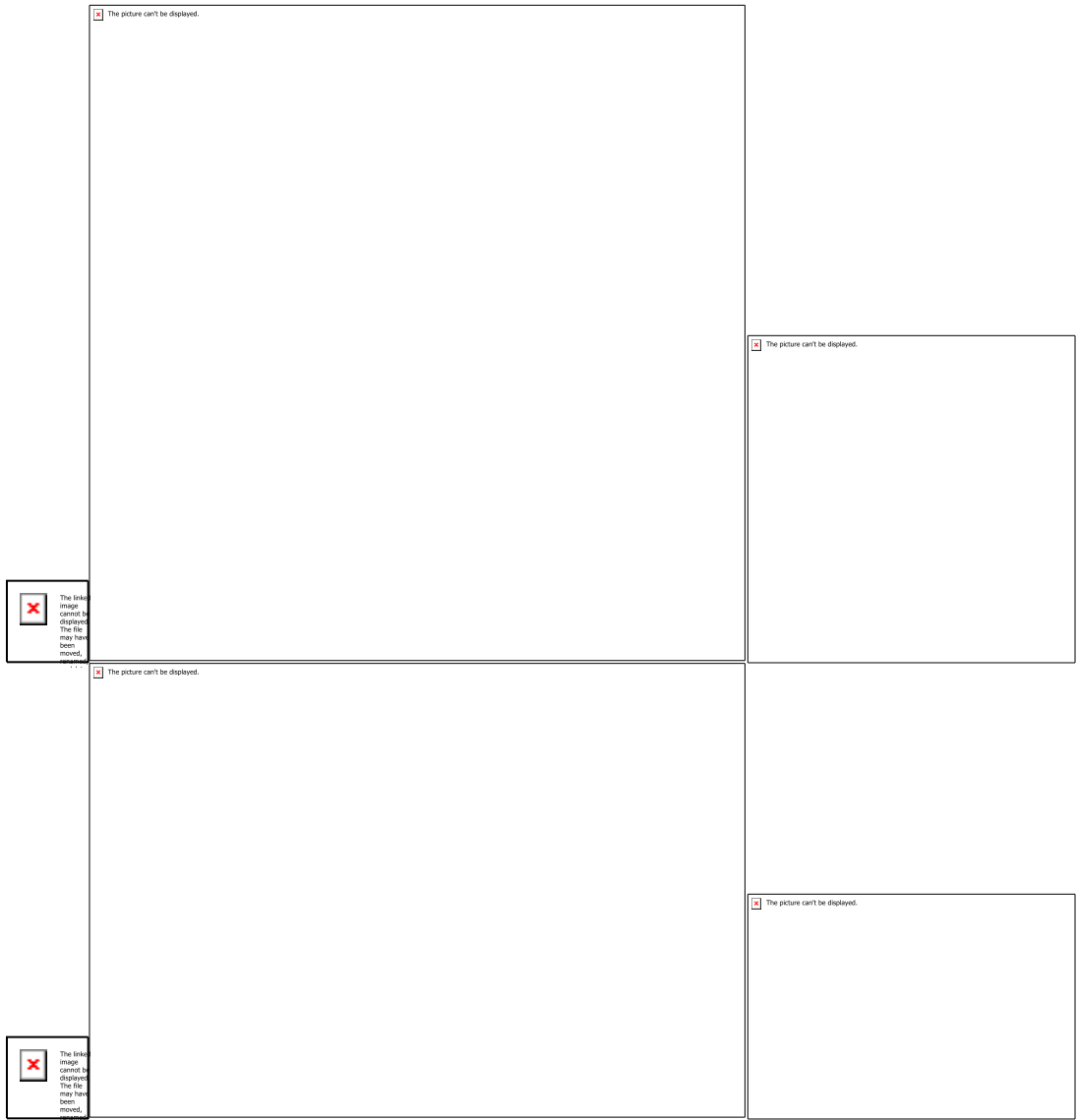
Want to take an inside look at a high-performance model of practices for carrying over speed and agility training to the specific demands of sport? If so, check out this week's Friday Five interview with Andrew Cormier of UMass.

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