The Evolution of Speed

By Henry Aviles

I have been coaching speed development since 2010, and I can tell you this with complete confidence. Speed is not what most people think it is.

Most people still think speed means one thing. Run fast in a straight line.

That was me early on too. Sprint fast. Stop faster. Repeat. It was clean, measurable, and easy to coach. And for a while, it worked.

But over time, something did not sit right.

By 2017, it became obvious that the traditional way we have trained speed for decades was incomplete. Since the 1960s, most speed development has focused almost entirely on straight line acceleration and deceleration. Forward and backward. Go and stop.

The problem is, sports do not happen that way.

Athletes do not move in straight lines. They cut, rotate, decelerate, re accelerate, react, and solve problems in real time. They move in space, under pressure, with changing information. The best athletes do not just move fast. They adapt fast.

That realization forced me to zoom out.

Instead of seeing speed as two dimensional, I began looking at it in three dimensions. Forward and backward, side to side, and vertical movement. That shift alone changed how I coached. Movement started to make more sense. Transitions became smoother. Athletes looked more athletic, not just faster.

Then in 2018, another layer clicked into place.

Speed has a fourth dimension.

Context.

Speed is affected by what is happening around you. The environment. The surface. The space available. The task. The decision that has to be made in the moment. Speed is not just how fast you move. It is how well you move when it matters.

At that point, speed stopped being a drill and became a system.

Different surfaces create different demands. Fatigue changes mechanics. Space changes decisions. Even weather can change how an athlete organizes movement. Speed is not fixed. It is adaptive.

One of the biggest breakthroughs for me came through understanding rotation, particularly through the transverse plane. Almost every explosive athletic movement involves rotation. Sprinting, cutting, throwing, swinging, changing direction. None of it is purely linear.

Sport is a blend of linear, lateral, and rotational forces working together.

When those forces are coordinated, movement looks effortless. When they are not, movement breaks down.

That led me deeper into studying how the body organizes itself under load, particularly through the lens of biotensegrity and the spinal engine model. The body is not a collection of isolated parts. It is an integrated system balancing tension and compression.

And at the center of that system is the spine.

When the spine moves well, everything else organizes around it. Hips, shoulders, limbs, they follow the lead. Force transfers more efficiently. Movement becomes smoother, stronger, and more resilient.

Earlier in my career, I spent a lot of time chasing isolated speed drills and linear sprint numbers.

Today, my focus is different.

I prioritize spinal movement, rotational force, and how the body adapts to real world demands. The result has not just been faster athletes. It has been healthier athletes. Athletes who move better, break down less, and sustain performance over time.

That matters.

Because speed is not just a performance quality. It is a coordination skill. It is a conversation between the body, the environment, and the task at hand.

When the spine moves well, the rest of the body moves intelligently.

I am still refining this process. Still learning. Still evolving.

But one thing is clear.

The future of speed is not one dimensional. It is dynamic, multi directional, and context driven.

And I promise, it looks a lot smoother in motion than it does on paper.