Method may revolutionize athletic training

Coaches at VCU and other universities say velocity-based training, which measures how fast an athlete can lift weights, can provide instant feedback on performance.

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Speed is the key to success in track, football and most other sports. Researchers at VCU have found that speed is crucial to success in weight room training as well.

They are advocating a new method called velocity-based training, which measures how fast an athlete can lift weights. Collegiate coaches around the country are beginning to use velocity-based training to assess the day-to-day readiness and fatigue level of athletes.

Donnelly says the velocity-based method is ‘one of the quickest, easiest ways to assess something that has a big impact on day-to-day training.’

VCU sports performance coach James Donnelly

Utilizing this new technology, coaches can get instant feedback on how their athletes are performing.

The new training method calculates the velocity of a barbell, giving coaches an idea of how much stimulus an athlete is receiving per lift.

The velocity-based method is proving to be “one of the quickest, easiest ways to assess something that has a big impact on day-to-day training,” said VCU sports performance coach James Donnelly. “Over time, we can look at certain speeds using average velocity or peak velocity, depending on the lift being performed.”

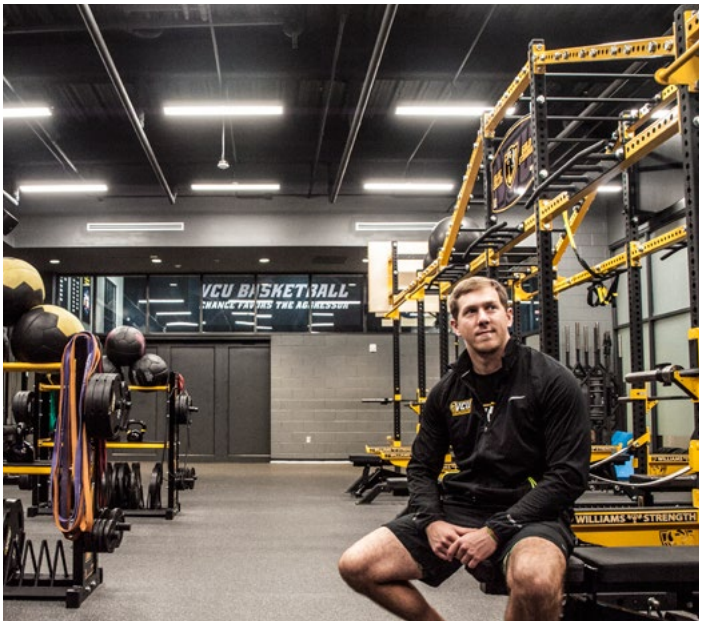
Velocity-based training utilizes barbell speed to evaluate how an athlete is performing. Coaches conduct this training by attaching a “linear position transducer” to a barbell and have the athletes perform certain lifts.

The linear position transducer, commonly called a Tendo Unit, is typically a metal cylinder-shaped device the size of a brick. A retractable coil raveled inside the unit is attached to a barbell, and as the barbell moves, the coil unravels. The speed and distance of the coil’s unraveling is transmitted, calculated and displayed by a number on a wall unit. Coaches can use this number to determine the stimulus given to the athlete during that specific lift.

Utilizing this new technology, coaches can get instant feedback on how their athletes are performing.

Donnelly will graduate this fall with a master’s degree in health and movement science. He also received his bachelors of science in health, physical education and exercise science at VCU.

While working with the VCU sports performance department, Donnelly earned certifications from the National Strength and Conditioning Association and the Collegiate Strength and Conditioning Coaches Association. For that



Donnelly says velocity-based training may usher in a new era of athletic performance.

second certification, he studied 640 hours under the supervision of Tim Kontos, director of sports performance for VCU Athletics. In 2015, the coaches association named Kontos a Master Strength and Conditioning Coach, the highest honor given in the profession.

For their workouts, many athletes blindly follow advice handed down by coaches years ago. Donnelly says that's the wrong approach.

"Know why you're doing something," he said. "Don't just do it because you were told to."

A big advantage of velocity-based training is that it gives athletes an instantaneous assessment of how well they are doing. This method may usher in a new era of athletic performance, Donnelly said.

"It's something I think you'll see in most Division I weight rooms here soon." •