

Old-School Strength Training in the New Millennium

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The age-old adage, “What goes around, comes around,” could easily have its genesis in the strength/conditioning field. Thirty-plus years of being knee-deep in the trenches have taught me not to be distraught over methodologies or modalities that inexplicably become labeled “antiquated.” In due time, they are sure to resurface with the moniker “cutting edge.”

Case in point: Peruse the current training literature on a regular basis, and you will find the terms “functional,” “ground-based,” and “sport-specific” neatly packaged and espoused as if they were epiphanies. Closer examination ultimately reveals that these approaches – while they most assuredly have merit – are basic, well-worn training postulates.

Attached firmly to these buzz terms are a potpourri of gadgets that are supposedly needed for their proper administration and execution. Thus, there is a lucrative marketing component married to all of these concepts.

As mentioned in last month’s “Five Game Changers in Strength and Conditioning,” the training landscape is undergoing rapid change. Much of it is for the good, some of it is questionable from scientific and safety standpoints, and a third segment is basically recycled with a prettier cover.

The greatest advancements have been in the form of training equipment. Forget about all of today’s squabbling over free weights vs. machines. Compared to what was available forty years ago, most of the current training equipment represents a profound improvement over that era.

However, many coaches who are long in the tooth and have been weaned on training procedures that originated in garages, basements, or backyards, wince when they are confronted with some of the trendy approaches.

Others shrug their shoulders when they find out what all the fuss is about and say it's no big deal -- they've been doing similar things for decades.

Baby boomers with an affinity for lifting will recall the days of using crude implements that were forged in the local steel mill. They trained with rickety pulley systems that were bolted to the rafters and walls of the garage, oddly shaped bars and makeshift dumbbells, chin and dip set-ups made from wrought iron that branded calluses on top of calluses, and piecemeal benches with nothing more than ply board for upholstery.

And when nothing else could be found, a thick, course strand of rope would be jury rigged to anything of substantial weight to serve a multitude of purposes.

I promise you that a lot of what these guys were doing back then would fall into the functional and ground-based categories of today.

Most of their activities required tremendous core strength with their feet firmly planted on the ground, and excellent balance was a requisite for success.

And when they used benches or racks, the productive work they performed gave new meaning to the phrase "working to the bone."

As far as sport-specific activities, they practiced very hard at the techniques, foot patterns, and all of the visual and verbal cues the game required.

Today, these same guys look at equipment brochures advertising all of the new millennium bells and whistles with furrowed eyebrows.

They ask, “Whatever happened to just training *hard* – has that concept gone the way of the dinosaur?”

Take heart, old-timers. Training hard will never go out of style. There will never be a substitute for tough, progressive, and challenging work.

And there is no need to be overwhelmed or intimidated by the onslaught of innovative devices or the fancy verbiage in the description manuals.

Let’s examine a couple of the current training trends, offer some scientific perspectives, and provide a few suggestions for finding some common ground.

Functionally Speaking

Although its roots can be traced back to the early 1900’s, “functional training” is a term that began to take on prominence about twenty-five years ago. Today, it is a broad concept that has splintered into many diverse areas.

Basically, though, it envelops activities that integrate some form of resistance (either external or one’s own body weight) with a balancing skill. These movements are categorized and compartmentalized into the three distinct anatomical planes:

Sagittal Plane – runs vertically through the body and divides it into right and left segments.

Frontal Plane (also called *Coronal Plane*) – runs vertically through the body and divides into anterior (front) and posterior (back) segments.

Transverse Plane – runs horizontally and divides the body into superior (upper) and inferior (lower) segments.

Example of a functional movement: Sitting on a stability ball while performing dumbbell military presses. The intent is to develop strength with concomitant balance and

coordination due to the engagement of stabilizer muscles and heightened proprioceptive (neural input) activity.

It was only a matter of time before someone stepped in and said, “That’s good, but we can make it better by having the athlete stand on a balance board to better simulate a ground-based activity.”

The purported benefit is that this integration of strength and balance will transfer to other tasks that require similar physical attributes.

But can we really count on that result?

Well, unless you plan on entering a contest that requires this specific skill, probably not.

There is no dearth of functional training enthusiasts who insist that the complexity and integrative variables (e.g., combining a balancing skill with a strength training skill in an unstable environment) of many of the new wave functional movements will transfer to just about every other skill or task.

A word of caution, though, before you completely buy into this notion: Prime mover muscles and stabilizers are activated and integrated as they are needed to complete any task. The fact that they are recruited and progressively developed over time will certainly pay dividends, as they will be better able to execute their designated functions. In that sense, just about anything that accomplishes this goal can be deemed useful.

However, if the hope is that the sensorimotor pathways established by these and similar activities will transfer to completely foreign sport skills, you may be guilty of wishful thinking.

A widely used definition of “functional” -- at least as it relates to training -- is “the performance of activities that enhance our abilities to perform the tasks of daily living.”

There is an underlying ambiguity, however, in the fact that “daily activities” vary with each individual. Additionally, every daily activity is a very specific event with its own set of variable components that must be taken into account.

And, again, there is no guarantee that the functional training movement being executed is going to sharpen any of your individual daily activities or sport skills.

Researchers with acumen in motor learning science tell us that for appreciable task-to-task transfer to occur, their criterion should be as closely matched as possible. Identical criterion, of course, is the best case scenario.

This tenant is most vital in the early stages of skill acquisition, a time when the neuromuscular pathways and congruent motor memory engrams are being constructed from scratch.

So, while the host of functional activities and their assistive paraphernalia can be productive for myriad general applications – with variety being the most notable – don’t expect a high degree of sport-specific skill transfer to occur.

At best, when properly performed and administered with progressive overload, you can expect enhancements in strength, power, and body composition – all of which should improve your game.

This is true whether your feet are firmly planted on the ground while performing the activity (as with “ground-based” activities), or you are using stability devices, free weights, machines, *Pilates* equipment – and even that crude pulley device in the garage.

Final Rep

I’ve always believed that there is a huge chasm between strength/conditioning professionals and those with expertise in the science of motor learning . This divide can

be readily seen in much of the strength training literature, where the term *specificity* is erroneously used interchangeably with the word *similarity*.

If you are truly interested in learning about how you can more effectively and progressively engrain the skills of your sport in your athletes, I recommend that you perform a library or Internet search for the skill-specificity writings of the following individuals: Robert Christina, John Drowatsky, Richard Magill, Richard Schmidt, and Robert Singer.

Sure, there are many more, but this is a good, solid, informative start. And their material will pave the road to other invaluable resources.

All of you old-school coaches will discover that some of the new millennium stuff was taken from your dusty playbook, cleaned-up a bit, given a snazzy name, and inserted in a different section.

TIP FROM THE TRENCHES

Nation's physical education programs must step-up the pace – According to the latest *Shape of the Nation Report: Status of Physical Education in the USA*, most states receive a failing grade on their physical education programs. The report was released in May, 2006, by the National Association for Sport and Physical Education (NASPE) and the American Heart Association (AHA). This is in spite of escalating childhood obesity and incessant calls from Congress, the Surgeon General, and Centers for Disease Control and Prevention for quality, well-organized, and properly administered physical education programs. Currently, 17% (over nine million) of children and teens ages 6 to 19 years are overweight and an additional 31% are at risk for obesity. Even though most states mandate physical education classes, many do not require a specific amount of instructional time and about half allow exemptions, waivers, and/or substitutions. It is

these loopholes that seriously undermine the effectiveness of the mandate. It's way past time for state high school associations, school board members, administrators, and other high ranking officials who are behind in this area to get off their duffs and get those kids active. As the NASPE and AHA state, physically active kids *learn* better in all aspects of education – in addition to improving their quality of life. Here are some of the NASPE and AHA recommendations to ameliorate the situation:

- School age youth should get a minimum of 60 minutes of physical activity per day.
- Physical education instruction should be the cornerstone of a comprehensive school physical activity program.
- Health education should be incorporated to stress the importance of a healthy lifestyle.
- Elementary school recess should encompass all of the students in organized, vigorous activity.
- A solid intramurals program should be available to the entire student body.
- After-school physical activity clubs (walking, running, biking, strength training, etc.) provide an excellent option for those not interested in traditional athletic programs.

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