

HARD TRAINING

...To Provide Information and To Stimulate Thought On The Art of Strength Training
"Read Not To Believe... But To Weigh and Consider... —A.S.

No. 1

2000

Some Thoughts for the Professional Football Player

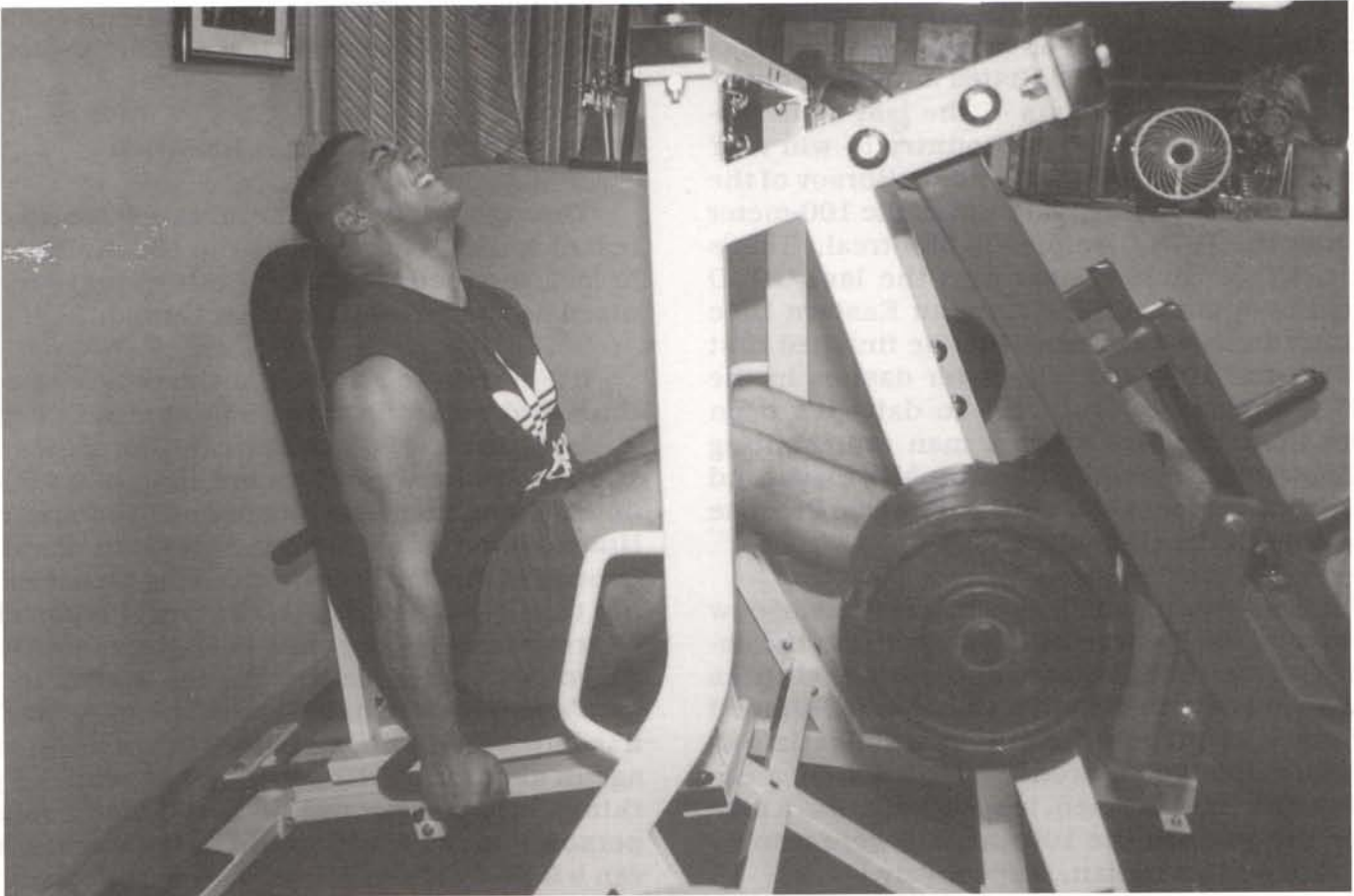
By Dr. Ken E. Leistner

I recently received an e-mail from one of the strength coaches in the National Football League. This in and of itself, is no big deal as daily, I receive calls or other communications from at least a half dozen major college or professional team strength coaches. As I have been friendly with many for a number of years, some for decades, some conversations involve family and personal matters, but most revolve around professional discussion. This particular e-mail requested some comments about restructuring this team's off-season program. I think my comments regarding the typical pro football player, a commentary I will certainly stand behind when the complaints pour in about the "group of dedicated athletes" that some believe they have to work with, are clear and need no further statement. While there is not a great deal of detail, I think many readers, coaches included, will benefit from the information, thus, here it is:

You of course asked for a book of information but briefly, I appreciate the compliment that you would come to me and will give you a quick summary of things. I believe the off season, especially initially, should be devoted to reconstructing injured body parts, picking up areas of notable weakness, and establishing a good aerobic base relative to CV training. The latter is an antiquated notion but everywhere our kids go, they are by far, the best conditioned. The injury rehab is a no brainer but I like to look further at what I believe are areas of potential injury or perhaps weaknesses in the football player's game and treat that as a physical "weakness" that needs to be approached.

I don't like the long layoff that most pro football players take when the season is over. They feel justified in a month or two month hiatus which is long enough to become deconditioned. You can heal injuries and become revitalized by training properly, not by sitting on your ass for six weeks. In Stephen's (Boyd) case, we jumped on his training immediately with almost no break this past season, in part to strengthen his post surgical shoulder, but also to maximize his training time and potential. It is paying noticeable dividends this season. (Editor's note: Stephen was named to the Pro Bowl Squad) So first things first, the guys have got to be training by the end of January if not sooner. One week to ten days off is plenty, and yes, I know what kind of beating everyone takes. Training should be sub maximal re: intensity for the first two weeks but then, needs to be picked up to standard levels. This is the time to use those specific movements needed to rehab or "pick up" a lagging or previously injured part, specialization time so to speak without the necessity of reconditioning them for two or three weeks because they dissipated for two months.

With four days available, I would weight train two days per week at this time, January through the first week of March, six weeks to seven weeks worth of work. For example, for a player who did not have a hamstring injury, but with a previous history or who needs more so called explosive power and/or who has had the hamstring "tweak" on him a few times, this is the time of year for squats, stifflegged deadlift, and leg curl on one training day, squat or leg press, leg curl



Frank Ferrara demonstrates a high level of training intensity on the Hammer Leg Press.

THE “SECRET” TO SPEED DEVELOPMENT

*by Matt Brzycki
Coordinator of Health Fitness,
Strength and Conditioning
Princeton University*

It's human nature to want to go faster. Faster planes. Faster trains. Faster automobiles. Faster athletes. And there's no shortage of “experts” who want to share with the athletic community the “secret” of getting faster. (For a price, of course.) What is the “secret” to speed development?

EASTERN BLOC “SECRETS”

For decades, much of the athletic community has looked upon the training techniques of the erstwhile Eastern Bloc countries — particularly the former Soviet Union and German Democratic Republic (aka East Germany) — with fascination and adoration.

Let's address the supposed athletic dominance and training superiority of the former Eastern Bloc countries. The media has continuously hyped, sensationalized and glorified this notion. The National Strength and Conditioning Association is guilty of this as well.

This belief is perhaps most evident in track and field — especially in the sprinting events — where coaches and athletes are seemingly mesmerized by the thought of Eastern Bloc training “secrets.” Secrets? Yeah, sure. Consider the summer Olympics. Can you name the last male athlete from an Eastern Bloc country to medal in one of the premiere sprinting events, namely the 100-, 200- and 400-meter dashes? Not a

GOLD medal, ANY medal. Give up? Well, other than the 1980 Olympics in Moscow — which was boycotted by the United States and other countries for political reasons — the last male athlete from an Eastern Bloc country to win ANY medal in those sprints was Valeriy Borsov of the Soviet Union who finished third in the 100-meter dash in the 1976 Olympics in Montreal. That's right, 1976. Borsov also won the last GOLD medal by a male athlete from an Eastern Bloc country in those sprints when he finished first in both the 100- and 200-meter dashes in the 1972 Olympics in Munich. To date, it's been more than 23 years since a man representing an Eastern Bloc country has won ANY medal and more than 27 years since a GOLD medal in those 3 sprints in the Olympic games.

In case you're wondering about the Moscow Olympics, the Eastern Bloc nations — in the absence of the United States and other countries — won exactly 3 medals in the aforementioned sprints: a bronze in the 100 by a Bulgarian as well as a gold and a bronze in the 400 by a Soviet and an East German, respectively. (As a side note, the golds in the 100 and 200 were won by a Briton and an Italian, respectively.)

Now, look at the last five summer Olympics which were unaffected by boycotts (1972, 1976, 1988, 1992 and 1996). A total of 45 medals were awarded in the men's 100-, 200- and 400-meter sprints (5 Olympics x 3 events x 3 medals per event = 45 medals). Of those 45 medals, the United States has won 22 — nearly 50% of the medals — including 7 of the 9 in 1988 and 5 of the 9 in 1992. Four countries have won a total of 3 medals each: Britain, Jamaica, Namibia and the former Soviet Union . . . and the 3 medals won by the Soviet Union since 1972 were by one man. ONE MAN! But what about the so-called "super athletes" from East Germany? Well, the East Germans have won nichts which translated from German into English means "nothing." Zip. Nada. Zilch. Goose egg. Bagel. A big fat zero.

Some of the world's most dominant sprinters have come from Jamaica. But for some inexplicable reason, you rarely hear of anyone going down there looking for the "secret" to speed development. What about Britain? They've been very successful in many "speed" events including the sprints and hurdles. Yet, how many coaches and athletes flock to Britain for the "secret" to speed development? Despite the apparent lack of success by the Eastern

Europeans in the sprints, the athletic community still runs to them to learn their "secret" to speed development.

THE 100-METER WORLD RECORD

Throughout history, the most celebrated contest of speed in the world is the 100-meter dash. In fact, the record-holder of this event is recognized as the "World's Fastest Human."

It's interesting to look at the progression of the world record in this event shown in Figure 1. In October 1968, American Jim Hines ran 100 meters in a world-record time of 9.95 seconds. Since then, the record has been broken 7 times, most recently by American Maurice Greene in June 1999. By clocking an astonishing time of 9.79 seconds, the world record has improved by 0.16 seconds in slightly more than 31 years. Stated otherwise, the record in the men's 100-meter dash — as of January 2000 — has improved in the last 31.25 years by an average of about 0.00512 seconds per year. To put things into perspective, in a 100-meter race, a person who ran a 9.79 would beat someone who ran a 9.95 by about 5 feet, 3.3 inches. Over the course of 31.25 years, this equates to an average improvement of less than 2.026 inches per year.

Now, wouldn't you think that in the 100-meter dash there'd be more than an average improvement of 5 thousands of a second per year for the last 31.25 years? Just consider all of the Eastern Bloc "secrets" along with the supposedly advanced training techniques and technologies of the last few decades that have been used by countless sprinters throughout the world: performing plyometrics; doing periodization; using the Olympic-style lifts, their derivatives (such as the power clean) and other "quick lifts"; running with resistance (from weighted sleds, parachutes, tethered ropes, weighted vests and shorts); running with assistance; running uphill; running downhill; running while being pulled by a car or another person; running while pushing a car or another person; consuming all sorts of the latest and greatest nutritional supplements and other ergogenic aids; using strength shoes, plyo-sleds, medicine balls and a host of other "secret" gadgets; running with better and lighter footwear; wearing more aerodynamic running apparel; running on faster surfaces; having access to biomechanical analysis of running technique; receiving psy-

chological counseling; and, of course, obtaining professional advice from so-called "experts" about speed, power and explosiveness. All of the advances in the past 3 decades for an average improvement of 0.00512 seconds per year?

One final note concerning the world record in the men's 100-meter dash. Assuming that the world record is still held by an American on January 6, 2000, athletes from somewhere other than Eastern Europe will have held the title of "World's Fastest Human" for nearly 80 of the last 87.5 years. (Since July 6, 1912, the world record in the men's 100-meter dash has been held by either an American or a Canadian with one exception: A West German held the record from June 21, 1960 to June 20, 1968.)

THE "SECRET"

What's the "secret" to speed development? In a word, genetics. Understand that athletes have different potentials for improving their speed based upon their inherited characteristics (such as their mixture of muscle fiber types).

How can athletes achieve their potential? First of all, they should do weight training to

improve their muscular strength. Keep in mind that there's no optimal or magical strength training program. As long as a program encourages hard work and progressive overload while allowing for adequate recovery, athletes will get stronger. Athletes can also make great strides in realizing their speed potential by improving their running technique. There's nothing magical about this, either. Simply have them do form drills that focus on good running technique and fundamentals (e.g., keeping the elbows close to the body, maintaining an arm angle of 90 degrees and so on) while concentrating specifically on the distance that you want them to improve their speed. If you want to improve their speed in the 100-meter dash, then your program must emphasize running 100 meters as fast as possible; if you want to improve their speed in the 40-yard dash, then your program must emphasize running 40 yards as fast as possible.

And if you have the urge to know a country's "secret" to speed development, you'd be better off going to Jamaica rather than Russia. Jamaica has won the same number of medals as the former Soviet Union in the men's 100-, 200- and 400-meter dashes since the 1972 Olympics. But they have much nicer weather.

TIME (sec)	DATE	IMPROVEMENT (sec)	TIME BETWEEN RECORDS	DAYS
10.6	07-06-1912	NA	NA	NA
10.4	04-23-1921	0.20	8 yrs, 9 mos, 17 days	3,213
10.3	08-09-1930	0.10	9 yrs, 3 mos, 17 days	3,395
10.2	06-20-1936	0.10	5 yrs, 10 mos, 11 days	2,142
10.1	08-03-1956	0.10	20 yrs, 1 mo, 14 days	7,349
10.0	06-21-1960	0.10	3 yrs, 10 mos, 18 days	1,418
9.99	06-20-1968	0.01	7 yrs, 11 mos, 29 days	2,921
9.95	10-14-1968	0.04	3 mos, 24 days	116
9.93	07-03-1983	0.02	14 yrs, 8 mos, 19 days	5,375
9.92	09-24-1988	0.01	5 yrs, 2 mos, 21 days	1,913
9.90	06-14-1991	0.02	2 yrs, 8 mos, 21 days	993
9.86	08-25-1991	0.04	2 mos, 11 days	72
9.85	07-06-1994	0.01	2 yrs, 10 mos, 11 days	1,046
9.84	07-27-1996	0.01	2 yrs, 21 days	752
9.79	06-16-1999	0.05	2 yrs, 10 mos, 20 days	1,054

TABLE 1: PROGRESSION OF WORLD RECORD IN MEN'S 100-METER DASH