



Power Up - By Steven Reinberg, HealthDay Reporter

Looking for immediate strength and speed? Plyometrics helps Olympian Kerri Walsh build explosiveness and avoid injuries. Here's how.

There are two ways to measure strength," says Soloman Madron, a fitness manager at Arvada Sport 24 Hour Fitness in Colorado. "You can say that you can bench-press 250 pounds, or you can say that it takes you this amount of time to press 200 pounds off your chest—that's your rate of force production." And that's what power training is all about.

A mix of plyometrics (exercises that use explosive movements to develop muscular power) and reactive training (which emphasizes precision movements), power training quickens your reflexes and develops the speed and explosive strength you need to, say, jump like Jordan. "Power training isn't about how much weight you can move," says Madron, "but how fast you can move.

"This type of training is really for people who have properly strengthened their core, have been doing strength and resistance training for a while, and who want to take their program to the next level," he adds.

Kerri Walsh, one half of the duo that scored a beach volleyball gold in the Athens Olympics in 2004, believes plyometrics helps her gain the explosiveness she needs to jump at the net and dive for balls that seem out of reach. In addition to the benefits in her game, Walsh



says the plyometrics help keep her injury-free. "Plyometrics help the muscle store more elastic energy, and that means fewer injuries," Walsh says.

Here are three can't-miss plyo moves that will keep you on the court moving at warp speed:

Ice skaters

Standing on one leg with your hands on your hips, jump laterally as far as you can, landing on your opposite leg so that you cradle your landing with a slight bend in the knee. Use the energy of your landing to help you rebound immediately, jumping back to the first leg in one quick, fluid motion. That's one rep. Shoot for two or three sets of 10. Tip: Mark the distance of your jumps in the first set with a pair of cones, and strive to maintain that distance in the following sets.

Reverse wood chop medicine-ball throw

Standing perpendicular to a wall, hold a medicine ball (equal to 5 to 10 percent of your body weight) with both hands alongside the hip farthest from the wall. With knees bent slightly and core tensed, squat to 45 degrees, and

explode upward in a twisting motion, throwing the ball sideways so it bounces off the wall. "You're throwing it right if you can catch it, in the air or off the bounce, in front of your stomach," says Madron. You'll get the most benefit if you catch the ball so momentum brings it back to your hip and the next rep can begin without pause. Start with two sets (one on each side) of 10 to 20 reps.

Medicine-ball chest pass

Facing a partner, stand with your knees slightly bent, navel drawn in, feet pointing straight ahead, and chest slightly forward. Bring a medicine ball to your chest with your elbows high at your sides. With equal force from both hands, throw the ball straight forward. Your partner should be standing at such a distance that he or she can catch the ball and use its energy to fire it back to you right away. That's one rep. "This is a quick-fire exercise," says Madron. A partner is best, but you can work it alone by throwing the ball against a wall and catching it on a bounce. Shoot for two sets of 20.

Source: U24. Used with permission.

"To increase muscle mass, you need to increase protein consumption" is a very incomplete and misleading statement! In fact, it depends on your needs and your dietary intake of protein. A brief review is in order...

Supplements

There is a veritable smorgasbord of protein on the market. It comes in powder, liquid or bar form and can be easily found in grocery stores, pharmacies, over the Internet, in gyms, etc.

Several types of protein are used in manufacturing supplements, but the most frequent ones are soy and whey protein.

Whey protein: Whey is the liquid part derived from the coagulation of milk. Whey protein contains shorter chains of amino acids, which accelerates and facilitates absorption of amino acids. This type of protein is associated with an improvement in the relationship between the muscle mass and the adipose mass (fat in the body). This protein is generally recommended to be taken post-exercise to optimize absorption. However, we must remember that these are assumptions and that the properties are also contradicted by certain studies. More research needs to be done.

Soy protein: It comes from the soya bean, so it is a good alternative for vegetarians.

Protein requirements

Protein requirements vary based on age, sex and weight. If one exercises, the frequency, duration, intensity, and type of sport engaged in must be considered.

For the general population, protein requirements are 0.8 g of protein per kg of

weight. (E.g.: a sedentary, 80 kg man requires 64 g of protein per day).

In the case of an athlete who engages in endurance sports (golf, cycling, skating, tennis, dance, etc.), the requirements are between 1.2 and 1.4 g/kg.



In terms of maintaining muscle mass, the requirements are between 1.2 and 1.6 g/kg.

(E.g.: a man who adheres to a serious training program that targets muscular strength and who weighs 80 kg requires approximately 95 to 130 g of protein per day).

Did you know that the average sedentary Canadian aged 20 to 40 consumes 123 g of protein per day? To put it in perspective, this is not so far from the protein consumption needs of an Olympic weight lifter!

Some examples of the protein contained in certain foods:

- 3 ounces of cooked meat/chicken/fish contain 20 to 30 g of protein. Think about it: for those who consume 12 oz portions of meat, you already have close to 100 g of protein!

- ½ cup of cottage cheese contains 12-15 g of protein
- 2 eggs contain 14 g of protein.

What happens when your protein intake exceeds your needs?

- 1) You get fat! In fact, the excess is generally stored as fat.
- 2) You put excessive strain on the liver and the kidneys.
- 3) If the excess is very high, you can, in certain cases, have gout.



Conclusion

Make sure you have a balanced diet by properly planning your day (by having complete snacks ready and at appropriate times, balanced meals, not allowing more than 4-5 hours to go by without consuming anything, etc.). To increase the actual volume of your muscles: only serious training will enable you to achieve this goal! However, not buying protein supplements will definitely bulk up your wallet!

Resource

Nutrition, sport et performance, 2006 by Marielle Ledoux, Nathalie Lacombe and Geneviève Saint Martin.

Extenso, centre de référence sur la nutrition humaine.

www.passeportsante.net

Dieticians from Medisys.



To Live Longer, Stay Active, Calm and Organized - By Joene Hendry

A 50-year long study suggests that men and women who are active, emotionally calm, and organized, may live longer than people with less positive personality traits such as anxiousness, anger, or fearfulness.

Striving for emotional stability and a conscientious and active lifestyle "can reduce health risks, increase life satisfaction, and significantly extend life," Dr. Antonio Terracciano told Reuters Health.

Terracciano, from the National Institute on Aging, a division of the National Institutes of Health, in Baltimore, Maryland, and colleagues assessed personality traits among 2359 generally healthy people who, in 1958, enrolled in the Baltimore Longitudinal Study of Aging.

The researchers used these data, collected when participants were between 17 and 98 years old, to assess links between specific personality traits and the lifespan of the 943 participants who died during the 50-year study.

Their findings, published in the journal *Psychosomatic Medicine*, show men and women who scored above average in measures of general activity, emotional stability, or conscientiousness lived on average 2 to 3 years longer than those who scored below average.

These findings indicate that people who are more active and energetic, less likely to become angry or anxious (emotionally stable), and are better informed, disciplined, organized, and resourceful (conscientious) tend to live longer.

Among women, higher assertiveness was also linked to lower risk of death.

Links between personality traits and longevity were independent from those of two major health risk factors, cigarette smoking and obesity, the researchers report.

Furthermore, among participants who died of cardiovascular diseases, the most significant predictors of death were traits of emotional instability such as anxiousness, depression, vulnerability, and anger.

These findings add to the growing body of knowledge that indicates "enduring cognitive, emotional, and behavioral tendencies (personality traits) have significant influence on health and longevity," Terracciano said.

Exercise Reduces Blood Pressure - By Steven Reinberg, HealthDay Reporter

But too few doctors recommend it to their patients, study finds

For people with high blood pressure, exercise can be the most important lifestyle change they can make, researchers say.

Yet two-thirds of doctors don't take the time to tell their patients with high blood pressure about the importance of exercise and physical activity, a new study finds.

"Patients do follow physician recommendations to exercise when instructed to, and patients who follow exercise recommendations tend to have lower systolic blood pressures than those who do not," said lead researcher Dr. Josiah Halm, a hypertension specialist at the University of Wisconsin School of Medicine and Public Health.

The findings are published in the summer issue of *Ethnicity & Disease*.

For the study, Halm's team collected data on 17,474 people who participated in the Third National Health and Nutrition Examination Survey. Among these people, 4,686 reported having high blood pressure.

The researchers found that only slightly more than one-third of the people with high blood pressure said their doctor had told them to increase physical activity as a way of bringing down their blood pressure.

Yet, 71 percent of patients with high blood pressure saw a drop in their blood pressure

when they increased their physical activity, which means that they listened when doctors told them to exercise more, according to the report.

"Non-pharmacological methods such as exercising are important in improving blood pressure control on a population level as this study looked at the cross-section of the U.S. population," Halm said.

Studies have shown that small changes in blood pressure, 2 to 3 mmHg, could result in a 25 to 50 percent decrease in the incidence of high blood pressure, also known as hypertension, Halm said. "That would result in an annual reduction of stroke, coronary heart disease and all-cause mortality by 6 percent, 4 percent and 3 percent, respectively," he said.

Exercise, as part of a comprehensive lifestyle-modification program including weight loss, low-salt diet, diets rich in fruits and vegetables and low in saturated fats, has beneficial effects on blood pressure, Halm said.

"It is thus appropriate to recommend exercise as most patients will follow their physician recommendations and this is associated with improved blood pressure control and likely a reduction in the morbidity and mortality associated with uncontrolled blood pressure," he said.

Dr. Gregg C. Fonarow, a professor of cardiology at the University of California, Los Angeles, thinks more needs to be done to get patients

to make lifestyle changes that will reduce their blood pressure.

"Despite clinical trial evidence and national guideline recommendations for exercise counseling to be provided for patients with high blood pressure, this study demonstrates that only one-third of these eligible patients received exercise counseling," he said.

"Much more needs to be done to ensure that patients with high blood pressure receive appropriate counseling on lifestyle change, including counseling on the importance of regular aerobic exercise, from their physicians," Fonarow said.

SOURCES: Josiah Halm, M.D., clinical assistant professor, medicine, and hypertension specialist, University of Wisconsin School of Medicine and Public Health, Milwaukee; Gregg C. Fonarow, M.D., professor, cardiology, University of California, Los Angeles; Summer 2008 *Ethnicity & Disease*.



Successful ones can control their heart rate, study finds

Endurance-running fans who watched the marathons at the 2008 Summer Olympics in Beijing may no doubt be wondering how the runners could complete the grueling 26.2-mile event, especially when air pollution has been a concern.

In fact, marathon great Haile Gebrselassie, who reportedly has exercise-induced asthma, opted out of the marathon event, citing China's air pollution as the deciding factor.

Air pollution aside, a team of researchers has now found clues to how runners keep on going to cross that finish line.

Throughout a long-distance race, the runner's heart rate increases in a very controlled manner, and appears to be scaled to the race distance, said study author Carl Foster, a professor of exercise and sport science at the University of Wisconsin-LaCrosse. The report is published in the August issue of Public Library of Science.

Foster and his colleagues evaluated 211 male middle- and long-distance runners, who were, on average, 32 years old and had various running abilities.

Foster's team evaluated the heart rate

responses of the runners during competitions ranging from 5 kilometers to 100 kilometers by using lab tests and heart rate recordings. All were serious competitors, although they were not of elite caliber.

What happened? The runners were found to actively manage the increasing strain on their body in anticipation of getting to the finish line, which requires constant reassessment of their fatigue levels.

The heart rate increased in a consistent pattern during the events, they found, and seems to be scaled proportionally to the distance of the event. As the authors write: "Athletes are continually in a dialogue or negotiation with themselves, assessing how fatigued they feel."

Then they adjust the pace to be sure muscle fatigue doesn't get out of control.

The pattern of heart rate response during an event was very similar in all athletes, even though their running performance and times varied. This suggests, the authors write, that "adept runners are faster due to their underlying physiological capacity rather than because they put more relative effort into their competition."

"When you prepare and go out and run a 10 K, the person who wins is probably not running

harder," Foster said. "He just has a better, bigger motor."

The report is interesting and the results make sense, said Dr. Gerard Varlotta, director of sports rehabilitation at New York University and Rusk Institute, in New York City.

"To me what they are saying is there is a protective system built in that doesn't allow us to overuse our muscles," he said, and that speaks to the value of training. "When you do something repetitive, the body knows how to prevent injury," he said.

The feedback a runner receives during a race, slow down, speed up, keep the status quo, Varlotta added, "is a learned pattern of behavior, and the muscles get regulated subconsciously by the brain."

The finding that the runners' heart rates increased in a very controlled way is a positive one, Foster said. "It gives us hope we aren't going to kill ourselves."

SOURCES: Carl Foster, Ph.D., professor, exercise and sport science, University of Wisconsin-LaCrosse; Gerard Varlotta, D.O., associate professor, rehabilitation medicine, and director, sport rehabilitation, Rusk Institute, New York University School of Medicine and Rusk Institute, New York City; August 2008 Public Library of Science

