PRECISION FITNESS

News That's Fit To Print

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Notes from Editor

May is officially Exercise is Medicine Month. A few years ago, the ACSM and AMA launched a program to encourage participants to by physically active and we couldn't be happier!!

Exercise is one of the few "medicines" that can cure/reduce just about any medical disease including high blood pressure, diabetes, high cholesterol, and many more.

Talk to your doctor today about physically active, or give us a call. You can have control over your health, you just have to take it.

Yours in Health,

Dave Radin

Inside this issue:

Exercise is Medicine

The American College of Sports Medicine (ACSM) and the American Medical Association (AMA) have launched Exercise is Medicine™, a new program designed to encourage America's patients to incorporate physical activity and exercise into their daily routine. Exercise is Medicine™ calls on doctors to prescribe exercise to their patients.

A recent survey conducted of the public by ACSM found that nearly two-thirds of patients (65%) would be more interested in exercising to stay healthy if advised by their doctor and given additional resources. Four out of 10 physicians (41%) talk to their patients about the importance of exercise, but don't always offer suggestions on the best ways to be physically active. Patients (25%) look to their doctor first for advice on exercise and physical activity. They turn next to fitness and health Web sites (24%).

The goal of the Exercise is Medicine™ program is to encourage physicians to record physical activity as a vital sign during patient visits. Able patients will be advised to participate in at least 30 minutes of physical activity and 10 minutes of stretching and light muscle training five days a week.

A new Web site—www.exerciseismedicine.org—contains educational materials and toolkits for physicians to use in their practices. The site also includes information for patients, the media, and policymakers, as well as a listing of initial supporting organizations. Educational models will be developed for use in medical schools so students can learn the importance of prescribing exercise to patients early in their careers.

Physical inactivity is a fast-growing public health problem in this country and contributes to a variety of chronic diseases and health complications, including obesity, coronary artery disease, diabetes, high blood pressure, cancer, depression and anxiety, arthritis and osteoporosis. In addition to improving a patient's overall health, increasing physical activity has proven effective in the treatment and prevention of chronic disease.

"We already advise against smoking; recommending exercise should be no different," said Robert E. Sallis, M.D., ACSM president. "Physicians can support the program by prescribing exercise and offering patients basic educational materials. Exercise can have tremendous health benefits for patients." "More than half of Americans don't get nearly enough exercise and would be astounded to see how much difference a brisk 30-minute walk a few times a week makes in their overall health," said Ronald M. Davis, M.D., AMA president. "We encourage physicians to talk to their patients about the importance of exercise and to work with them to establish programs they can start today and continue throughout their lives."

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LOOK!

Did you know if you refer friends and family who sign up for a training package, you can receive complimentary sessions!! For more information, ask your trainer the next time you are working out, or call either the Mooresville or Cornelius locations for more information.

Fitness Quiz

What is the percentage of U.S. adult who engage in regular leisure time physical activity?

A. 18%
B. 31%
C. 39%
D. 47%

Answer on page 4.

Hot Topics

Just 11 Minutes Improves Metabolic Rate

Efficiency is a common theme in modern exercise programming. Although there is a consensus that greater benefits can be achieved in less time with high intensity efforts researchers continue to make sense of the associated frequency, intensity, duration and mode combinations **that will produce optimal benefits for performance or fat loss.**

The most recent study, soon to be published in ***Medicine and Science in Sports and Exercise*** found that metabolism can be up-regulated with as little as **11 minutes of Strength Training three times per week.** Thirty-six previously sedentary, overweight, college-aged adults were randomly assigned to either a resistance training (RT) or control group. The RT group performed one set each of nine exercises with a 3 to 6RM resistance three times weekly for 6 months. **The training sessions each lasted approximately 11 minutes.**

The researchers assessed 24-hour energy expenditure, resting metabolic rate (RMR), sleep metabolic rate (SMR), and determined resting substrate oxidation.

Both RMR and SMR were higher in the RT group following 6 months of training. Additionally, fat oxidation was greater both at rest and during sleep when compared to controls. **Six months of RT did not however appear to alter fat oxidation during exercise**.
This study was one of the first to evaluate long-term changes in metabolism resulting from high intensity strength training. The results indicate a higher total daily energy expenditure and greater fat oxidation, which is expected to translate into greater fat loss in persons adhering to a similar protocol.

Kirk, E.P., et al (2009) Minimal resistance training improves daily energy expenditure and fat oxidation. Medicine and Science in Sports and Exercise. April 3. Epub ahead of prin
www.exerciseetc.com

Exercise of the Month—Stability Ball Planks

Preparation

- Lie firmly in the prone position with elbows placed underneath shoulders on stability ball

Movement

- Engage inner abdominals and pelvic floor muscles to assure spinal stabilization throughout the exercise
- Hold plank position for chosen amount of time.

FACTOID

Nearly **60 million Americans** are obese.
That means **roughly 3 out of 5 Americans** carry an unhealthy amount of excess weight

Trainer Spotlight

Andre McCain, *BS, CSCS*, *Certified Strength Conditioning Specialist*

Andre holds a degree in Health Specialist from East Carolina University and is National Strength and Conditioning Association - Certified Strength and Conditioning Specialist. Andre has a broad knowledge and experience working with diverse populations from elite athlete to special needs. Prior to moving back to his hometown and joining Precision Fitness, Andre spent 4 years working for the prestigious UNC Rex Healthcare System in Cary, NC, first as a wellness instructor, then as a Wellness Coordinator. While at Rex, Andre had the privilege of also serving two years as an Assistant Strength and Conditioning Coach at NC State University. Aside from helping Wolfpack athletes improve their Strength, Conditioning, Speed and Agility, Andre was chosen work with the NHL Carolina Hurricanes as a strength and cardiovascular fitness test administrator. Whether the performance is on the field, on the court or in the backyard playing with the kids or working in the garden, Andre's education, experience and passion allows him to safely and effectively guide our clients to their individual goals.

Strength Training for Young Athletes: The Benefits Will Last a Lifetime!

Strength Training is not training to see how much weight one can push around the gym. Simply stated, Strength Training is a method of conditioning that will increase an individual's ability to handle the physical demands of activity. Strength Training may involve the use of weights or other external resistance (bands, medicine balls, pulleys, etc.), it may involve body weight (push-ups, pull-ups, sit-ups, etc.,) and it may involve the use of body weight and ground forces (skipping, hopping, jumping, etc.)

There is an interesting trend in the physical activity of today's youth, a trend that makes the integration of a strength training program more important than ever. Today, kids are specializing in a particular sport at an early age. Kids are picking one sport and playing it year round. Because of this specialization and the fact that kids don't engage in "free play" the way they used to, young athletes today aren't developing the fundamental motor skills, and musculoskeletal balance necessary for peak performance and injury prevention.

We all want our young athlete to be as successful on the field as possible. Coaches spend a great deal of time with young athletes on skills and drills. Parents enroll children in speed and agility camps and provide private instruction hoping to develop a better player. While skills and drills and sport specific instruction may make the player more proficient kicking a soccer ball or throwing a baseball, chances are they won't make them a better overall athlete, and they certainly won't decrease the chance of sport related injury.

Repetitive training of only specific sport related movements tends not only to limit performance, but sets the stage for faulty movement patterns and overuse injury. In most sports, common sites for overuse injuries include the heel, ankle, and knees. You can add shoulders and elbows to that list for the young baseball, tennis, and volleyball player. Well designed Strength Training programs will not only make muscles stronger but will strengthen other supporting tissues like bone, ligaments and tendons thus decreasing the chance of acute injuries such and sprains and ligament tears.

Health organizations such as the American College of Sports Medicine (ACSM), The American Academy of Pediatrics (AAP) and the National Strength and Conditioning Association (NSCA), have helped put to rest the long held belief that strength training for children is unsafe and ineffective. These organizations now support the participation of children in appropriately designed and competently supervised strength training programs.

At what age can a child begin a strength training program? If a child has the capacity to follow directions, then the child is old enough to follow a properly designed and supervised age-appropriate strength training program. Protect your young athlete's future and let them bring their game to the next level.

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Quiz Answer:

B. 31%!!

According to a research paper conducted by the CDC, that was published in March 2009.

You can download the report at: http://www.cdc.gov/nchs/data/hus/hus08.pdf#074

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Chef's Corner…

Stir Fried Chicken with Gingered Vegetables

This recipe serves: 4

Ingredients

2 boneless, skinless chicken breasts, about 6 ounces each, sliced into strips
salt to taste
freshly ground black pepper
2 teaspoons vegetable oil or peanut oil
2 cups broccoli florets
2 teaspoons sesame oil
2 1/2 cloves garlic, peeled
4 teaspoons freshly grated ginger
1 1/3 cups sliced carrots
1 1/3 cups snow peas
2/3 large red bell pepper, sliced into strips
1/8 teaspoon (or to taste) hot pepper flakes
4 teaspoons rice vinegar or sherry vinegar
2 teaspoons low-sodium soy sauce

Cooking Instructions

1. Bring a medium pot of salted water to a boil.
2. Meanwhile, season the chicken with salt and pepper. Heat the vegetable oil in a nonstick wok or large nonstick skillet over high heat. When the oil is hot, add the chicken and cook, tossing with a wooden spoon, until the chicken begins to brown. Turn off the heat and transfer the chicken to a plate.
3. Blanch the broccoli in the boiling water until the stems just begin to get tender, about 1 or 2 minutes. Drain and set aside.
4. Add the sesame oil and garlic cloves to the wok. Turn the heat to medium and cook until the garlic is fragrant and lightly golden. Remove the garlic, add the ginger and cook for another minute.
5. Turn the heat to high, add the carrots and cook, tossing with a wooden spoon, for 2 minutes. Add the peas, red peppers and hot pepper flakes, continue tossing with the spoon and cook for 1 minute more. Add the chicken, broccoli, vinegar and soy sauce and cook for 2 minutes more. Serve immediately over a bed of rice.

Nutrition Information

Serving Size: about 2 1/2 cups of chicken and vegetables

Calories	200	Carbs	12 g
Fat	7 g	Fiber	4 g
Protein	22 g	Saturated Fat	1 g
Sodium	268 mg		

www.foodfit.com

Did you know?

Heart disease is the **leading cause** of death among men and women in the United States.

Want more information on a fitness topic that has not been covered? Send an email to:

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Muscle Anatomy

Muscle: Gastrocnemius
Orgin: Medial and Lateral Femoral Condyle (back of knee)
Insertion: Calcaneus via the Achilles Tendon (heel)
Eccentric Action: Deceleration of femoral internal rotation; deceleration
of subtalar joint pronation.
Isometric: Stabilize subtalar joint and tibio -femoral joint
Concentric Action: Plantarflexion of foot, assist in external rotation
of knee, assist in flexion during swing phase of gait.

The Gastrocnemius (calf muscle) is the a major player for any lower body activity such as running, jumping, stair climbing, etc. The calf is a powerful muscle that can cause problems for the ankle and knee if not addressed. Ankle instability and knee pain can be attributed to tightness in the calf. Tight calves can cause the feet to flatten which can lead to weakness in the glute medius. The calves can also cause the feet to externally rotate. Externally rotated feet also lead to tight hamstrings (bicep femoris especially) and a tight piriformis. With these muscles tight, the hip stabilizers weaken leading to knee pain.

Corrective exercise with the calf is flexibility and general strength and stability training. See the exercises below:

Flexibility Training

Stability Training

Strength Training

Our Training Philosophy:

"M.P.E. TRAINING" MAXIMUM PHYSICAL EFFICIENCY

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Want to learn about something that has not been on previous newsletters? Send an email to:

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Machines vs. Free Weights

I am often asked, what is the best machine for me? The answer that I always give is none. With the exception of a few specialized pieces of functional equipment, machines in your gym or home are designed to fit the mass population. So we go to exercise and are forced to contort ourselves into a machine that forces us to move in a specific pattern. The unfortunate fact is these patterns are almost always single joint movements (bicep curl). The problem with single joint movements is life involves multiple parts of the body functioning together. Any time isolation exercises are performed the joint and surrounding tissues are exposed to high stresses and loads. These stresses cause injurious forces to the tissues exposing the exerciser to joint and soft tissue damage.

Sadly some of the most loved machines actually don't work. I will list just a few of the most common ones, the first being the seated inner/outer thigh machine. What is not understood is the inner and outer thigh musculature are primarily stabilizers, and stabilizers need to be weight bearing to contract effectively, sitting to exercise them actually makes them weaker and does nothing for toning and shaping. Abdominal machines cause very high stresses on the spine which will cause damage to the disks. No machine can ever make the core contract properly because as I have previously stated machines isolate and the abdominal wall like the hips was designed to stabilize and that is hard to do laying down. On of the most dangerous machines in the gym is the back extension. The spine has very little ability to move on it's own, it is influenced strongly by the hips and abs. The spine musculature consists of stabilizers that serve to protect the disks, and the extensors of the lower torso. Just like the abdominal machines performing a hyperextension on a machine or bench can cause up to 1000lbs of compressive force on the spine, there are better and safer exercises.

What if I said that all you need to exercise efficiently, effectively and safely is a stability ball, some light free weights and a resistance band. The amazing part is that all this will cost you under $100 dollars. With these three things we can mimic and even improve upon any gym exercise with the added ability to activate more muscles with each exercise. A chest press lying on a ball activates every muscle in the body, stimulates balance throughout the body, core control and stabilization of the shoulder and trunk musculature. Life and sports are not performed sitting down, why exercise sitting down. Try performing your exercises standing, initially on both feet with the knees bent, then progress to one foot or stand on a foam mat, anything to make the body work harder. While standing on one leg you can train almost any body part in a much more functional manner than a machine will allow. The exercises you can perform are limitless and if you start to get board simply integrate in the ball to increase and challenge balance and rotational control.

Both bands and free weights are safe, effective and allow the user freedom of movement. Stabilizers must fire at all times, balance increases and the stresses on the joints are decreased because a machine is not dictating how you must move.

The bottom line is simple. Most commercially produced gym equipment forces us to exercise in set patterns that require only single joint movements. This causes increased strain on the tissues surrounding the joint and on the joint it's self. Life is not a single joint movement. It requires a symphony of balance, coordination, strength and endurance. Unfortunately none of those can be achieved on a machine.

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