

*We are very appreciative of the kind comments received regarding Synergy's online newsletter. A number of you have asked how to sign up others for this e-newsletter. You can either forward them this link -- <http://synergy-healthmedical.com/signup/> -- or simply sign them up yourself and call it a "New Year educational gift."*

*Do you have a particular topic or issue you would like to see in an upcoming edition of our newsletter? If so, feel free to contact our Medical Editor at [jfox@synergyperformancehealth.com](mailto:jfox@synergyperformancehealth.com) with your ideas.*

**Medical Editor Comments:**

This will be a recurring theme for us, as the heart is the most important muscle in our body. Our mission at Synergy is one of medical fitness. Hopefully, the following information will further persuade you and those you care about to be able to say by February 2008, "I am better and more fit now."

## MATTERS OF THE HEART

*Tina Schwager, PTA, ATC, Editor  
James M. Fox, MD, Medical Editor*

In February many of us turn to matters of the heart, tending to the one we love and basking in the aura of Valentine's Day. As it turns out, February is also Heart Disease Awareness Month, so why not be literal about taking care of this vital organ?

Heart disease is the leading cause of death in the U.S. (5). In 2004 24.7 million adults were diagnosed with heart disease (4), and over 17 million people die annually(5). Included under the umbrella of cardiovascular diseases are high blood pressure, coronary artery disease, valvular heart disease, stroke and rheumatic heart disease (5). The war being waged on this silent killer takes many forms, with lifestyle changes (improved eating and exercise habits) leading the battle cry of prevention. Statins, drugs that lower blood cholesterol levels by altering cholesterol production in the liver, have gotten all types of press regarding their effectiveness, while pioneering surgical techniques are attacking problems once they occur. The result is that, while many lives are still lost to this disease, long term survival rates for patients successfully treated for an initial heart attack are good, and aggressive pre-emptive treatment is helping ward off cardiac incidents in high-risk individuals. According to Thomas Pearson, MD, PhD, chairman of the consensus panel that updated the American Heart Association's (AHA) Guidelines for Prevention in 2002, "The imperative to prevent the first episode of coronary disease or stroke remains strong because many first-ever heart attacks or strokes are fatal or disabling."(3)



Cholesterol's role in the development of heart disease has long been known. This fatty substance courses through our vessels, assisting in cellular function but also wreaking havoc on blood flow and potentially endangering cardiovascular function. LDL (low-density lipoprotein), the bad fat that sticks to artery walls and dangerously impedes blood flow, is the target of statins such as Crestor, Lipitor and Vytorin, and most directly affected by changes in dietary fat intake. The other cholesterol, HDL (high density lipoprotein), actually helps reduce risk factors. Researchers are scrambling to develop medications that will actually increase HDL levels and possibly give doctors the "one-two punch against heart disease they have long been searching for." (1)

Heart disease and women is also a hot topic, and for good reason—it kills more women each year than the next five causes of death combined (2). According to the AHA, 40% of women consider themselves well informed about heart disease; yet only 13% consider it their greatest risk (2). Women's signs of discomfort can be very subtle, so health care providers often attribute symptoms such as bloating, abdominal discomfort and fatigue to gastrointestinal trouble, putting female patients at a severe disadvantage. In addition, most research of medications and treatments have been performed on men, so doctors are often unsure if these options will benefit their female patients. The result is an epidemic of ignorance that has made heart disease a profound killer of women.

Prevention, as always, is the best medicine. Knowing the risk factors associated with cardiovascular disease and stroke is crucial. Here's the list:

1. High blood pressure
2. High blood cholesterol
3. Diabetes

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4. Obesity and overweight
5. Smoking
6. Physical Inactivity
7. Gender
8. Heredity

Other contributing factors include stress, sex hormones, birth control pills and alcohol consumption. (5)

Recognition of warning signs is another way to prevent a potentially fatal cardiac incident. Many people either don't know what to look for, or mistakenly attribute their symptoms to something else. Experts cite the following as indicative of a problem requiring immediate medical attention: severe headache; pain in chest, throat, jaw, shoulder, arm or abdomen; pain in lower back or between shoulder blades; severe abdominal pain; calf pain; burning feet or legs; vague, medically unexplained pains. (6)

The American Heart Association strives to educate and motivate us to make positive lifestyle changes that will help prevent heart disease. Here are some of their current recommendations (3):

1. Have a physician routinely assess your general risk for cardiovascular disease beginning at age 20, and again at least every 2 years, including a screening of blood pressure, body mass index, waist circumference and pulse
2. Get a calculation of your risk assessment every 10 years if you are age 40 or older, or have multiple risk factors
3. Have a cholesterol profile and blood glucose test performed every five years beginning at age 20
4. No exposure to tobacco smoke
5. Maintain blood pressure below 140/90
6. Eat an overall healthy diet
7. Do at least 30 minutes of moderate intensity cardiovascular activity on most, but preferably all, days
8. Achieve and maintain a desirable body weight

At Synergy Performance Health we have many resources to help you address your personal risk factors for heart disease and make any necessary lifestyle changes. Through our Be You Again program, extensive schedule of classes and activities, physician referrals and expert trainers, you have immediate access to the means to keep your heart healthy and reduce your chances of becoming a statistic in this fight. Consult with your Health Coach, speak with your doctor, and check the array of informative links throughout this issue of our newsletter to strengthen your resolve through action and education.

**Medical Editor comments:**

An interesting article appeared in the New York Times, Sunday Jan. 28, 2007, entitled "Happy Meals," summarizing 30 years of nutritional science. Here are the main points:

1. Eat real food that your great grandmother would recognize (I don't think she would remember "pop tarts")
2. Avoid foods that come with health claims
3. Especially avoid foods that contain ingredients that you can't pronounce
4. Go to the Farmers Market when it's available
5. Pay a little more, eat less
6. And, I would add, "Think Organic"

**REFERENCES**

1. Roan, Shari. A Better Number? LA Times Health, 11/6/06.
2. Women and Cardiovascular Disease Facts, <http://www.americanheart.org>.
3. American Heart Association updates heart attack, stroke prevention guidelines. Journal Report from Circulation: Journal of the American Heart Association; 7/15/02, <http://www.americanheart.org>.
4. CDC's National Center for Health Statistics. Heart Disease Risk Factors. Texas Heart Institute at St. Luke's Episcopal Hospital; June 2006, <http://www.texasheart.org>.
6. Seven pains you shouldn't ignore. WebMD, 10/17/06.

**Medical Editor comments:**

I have asked Dr. Gary Arends and Ramsin Bet-Youdokom, Physical Therapy Director, to each comment on the use of shoe orthotics. All of our forces in weight bearing activities are dependent upon successful foot contact forces, and the use of proper orthotics can improve these forces, alleviating the transmission proximally. Unfortunately one orthotic is not appropriate for all uses. The contact forces are different in running, walking, golf and skiing, to mention just a few. Use the information below to begin your learning process.

**FOOT CARE AND ORTHOTICS:**

The Key to Better Health Could Be Right Under Your...Toes

Gary Arends, DO

Primary Care Sports Medicine Specialist

Affiliated with Stetson Powell Orthopedics and

Synergy Performance Health And

Ramsin Bet-Youdokom, RPT

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Your feet have a direct impact on the rest of your body. Like the foundation of a house, they support the weight of everything above them. When a small problem develops, the subtle change in the way you walk causes a chain reaction of adjustment in your posture and walking mechanics. These changes can put stress on muscles and joints higher up in the body, possibly leading to more serious problems.

**Fascinating Foot Facts**

1. 25% of the bones in your body are in your feet
2. The average person takes 8,000 steps per day
3. The average person will walk over 100,000 miles in their lifetime
4. Women have four times as many foot problem as men – blame it on fancy, ill-fitting footwear
5. More than 75% of people will experience a foot problem in their lifetime

The foot contains 26 bones plus a variable number of accessory bones, comprising a total of 34 joints. There is complex interplay between all 34 joints during any movement or weight-bearing activity. The foot/ankle complex itself has two important roles: (1) absorbing the impact forces of ground contact, and (2) assisting with stability and balance.

Foot and ankle biomechanics can be categorized into three

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anatomic arch types. High-arched individuals have a more rigid foot and require extra cushioning. People with low arches are described as having “flat feet” and often need extra support and motion-control. Neutral-arched individuals usually don’t require added support or cushioning. Other considerations, such as overpronation (falling in) or underpronation (turning out), may alter foot and ankle function. Controlling over- and under-pronation is crucial to establishing biomechanically stable function in the foot and ankle.

It is essential for athletes, as well as anyone who stands or walks for prolonged periods of time, to have a stable kinetic chain. The kinetic chain includes the foot, ankle, knee and hip. Over time, ankle and foot kinetics (function as it relates to motion) can break down and these changes will create improper biomechanics. While improper biomechanics may initially affect only the foot and ankle, with time other links in the chain will develop dysfunction due to overcompensation. This is commonly termed “overuse injury.”

Arch supports are used to reduce or eliminate overuse injuries and movement-related disorders of the foot and ankle. Over-the-counter (OTC) inserts may be helpful, but oftentimes a specialized orthotic (a custom arch support that corrects pathologic movements in a mechanically dysfunctional foot and ankle) must be made due to an individual’s unique biomechanical demands. Sports medicine professionals are able to determine whether you would benefit more from an OTC versus a specially fabricated arch-support.

Proper shoe selection is another important factor in correcting mechanical dysfunction of the foot and ankle, especially in athletes. Sports medicine specialists or shoe store personnel can help with proper shoe selection based on foot and arch type. Aside from running shoes, however, most sports have not developed shoes based on arch type, and dress shoes and everyday shoes do not account for arch variations. Therefore, shoes for these activities may require an insert or orthotic to counteract excessive biomechanical breakdown.

Here are the answers to some common questions about orthotics:

**What are prescription orthotics?**

Prescription orthotics look like insoles, but they’re actually medical appliances custom made with precision to correct your specific foot imbalance. Custom orthotics work on your feet much like eyeglasses work on your eyes; they reduce stress and strain by restoring proper alignment from the ground up. Synergy’s team of health care professionals uses the latest state of the art equipment to design custom orthotics that augment treatment and add to your general well being, no matter where your feet take you.

**How are orthotics usually made?**

Orthotics are usually fitted by a practitioner, who takes an imprint of your foot by having you step onto foam or by making a cast of your foot. This technique only looks at the anatomy of your feet, so the orthotic is made without taking into account how your body moves.

**How does Synergy Performance Health make their orthotics?**

At Synergy we use state of the art computerized software along with a force plate that evaluates the mechanics of your feet while you move. As you walk across the plate, thousands of tiny sensors capture the distribution of pressure throughout your foot and the computer generates 2D and 3D images of that force distribution. Using these images, we can see where you have too much or too little pressure. This information is then summarized and the data helps us determine if there is a need for orthotics. Once that need is determined, your profile is sent to our laboratory, where your custom insert is made.

**Will I need to purchase new shoes or will orthotics fit in my present shoes?**

If you purchased your shoes recently there isn’t a need for new ones. However, if you’ve been wearing the same shoe for a while, we recommend you buy a new pair. Orthotics are custom made for the type of shoes you wear and the activities for which you need them, whether it’s skiing, running, skating, or anything else. And they can be built to fit workout shoes or dress shoes.

**How much will this cost me?**

Custom orthotics range in price from \$300-\$350. But until April 2007 the initial assessment is complimentary.

**Do I have to make an appointment or can I just walk in for my free orthotic assessment?**

Please call us at (818) 333-1690 and make an appointment for your free examination and assessment. To get more information about the innovative assessment program Synergy utilizes, log on to <http://www.theorthoticgroup.com>.

Anyone with foot and ankle biomechanical dysfunction will benefit to some degree from inserts or orthotics. Dysfunction here may even be the underlying cause of problems in other area of the body. By correcting the mechanics of the foot and ankle, it is our goal as sports medicine specialists to prevent overuse injuries and keep the professional working and the athlete playing.

**Test Your Need For Orthotic Support**

If you agree with any of the statements below, ask Synergy’s professional staff how an orthotic can help you feel better, from the ground up:

1. My feet are sore on a regular basis
2. I spend a good portion of my day standing or walking on hard surfaces
3. I play a sport regularly (tennis, golf, basketball, etc)
4. Standing, walking or running gives me joint pain (ankle, hip, or back)
5. I am over 40 years old
6. I have visible foot problems (bunion, fallen arches, corns, etc)
7. One of my legs is longer than the other
8. I have knock-knees or bow-legs
9. My shoes wear out quickly or unevenly
10. My feet “toe out” when I walk
11. My parents had foot related symptoms



## QUICK BITES

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QUICK BITES: CHOCOLATE: FRIEND OR FOE?

**CHOCOLATE: FRIEND OR FOE?**

Along with fragrant flowers, chocolate has long been a symbol of Valentine's Day and the love and affection that accompanies it. It's also been denounced as addictive and fattening. So in today's health-conscious climate, is an occasional tasty-bite from that lovely, velvet covered box of See's totally taboo? Au contraire. There is actually a rising tide of clinical evidence indicating that chocolate, at least in limited quantities, isn't so bad after all.

One school of thought praises chocolate for its antioxidant qualities. According to the Heart and Vascular Institute at the Cleveland Clinic, antioxidants are needed to battle oxygen free radicals, "potentially cell-damaging substances which are the by-product of normal bodily functions, such as respiration." We all have them roaming around in our bodies, along with their potential to age us through the cellular breakdown they cause. Antioxidants, found naturally in various types of foods, successfully wage war on these detrimental substances and help reverse the damage. Cocoa is loaded with one antioxidant in particular: flavanol. Other foods that contain this powerful natural healing ingredient include red wine, tea, cranberries, peanuts, strawberries, and apples. Patti Schmidt, in her 3/29/02 ImmuneSupport.com article, "Chocolate's Potential Health Benefits," explains that, in addition to neutralizing oxygen free radicals, flavanol also prevents "fat-like substances in the bloodstream from oxidizing and clogging the arteries."

Aside from its' antioxidant capabilities, chocolate also contains a substance that helps the body process nitric oxide, a compound critical for healthy blood flow and blood pressure. The result of these two factors: better long-term heart health.

Research at the University of L'Aquila in Italy and at Brigham and Women's Hospital and Harvard Medical School in Boston demonstrated a positive effect on blood pressure and cardiovascular health with regular, albeit limited, consumption of dark chocolate. Another recent study compared the medicinal effects of chocolate with those of low-dose aspirin therapy in an effort to reduce clotting and other impediments to blood flow. The findings indicate that "flavanol-rich cocoa and chocolate act similarly to low-dose aspirin in promoting healthy blood flow," which in turn reduces the risk of stroke and heart attack.

Does that mean regularly downing a bag of candy-coated morsels will ward off a heart attack? Not exactly. All chocolate is not created equal. The processing of cocoa, aimed at improving its' powerfully pungent flavor and preparing it for its' end use—whether as a brightly wrapped candy bar or a powdery blend of hot chocolate—severely reduces the flavanol content. Further processing, like that used to create milk chocolate or other related products, almost eliminates this powerful family of antioxidants completely. And while two of the three fats found in chocolate aren't detrimental to your health—oleic acid, a heart-healthy monounsaturated fat also found in olive oil, and stearic acid, a fat found to have no affect whatsoever on cholesterol levels—researchers at the Cleveland Clinic explain that what usually makes chocolate bad for you are "the fat and calories that accompany other

ingredients" in the chocolate products themselves.

So, even though cocoa and its' derivatives do have some merits, medical experts would caution against dubbing it the newest level in the Food Guide Pyramid. No matter how it's sliced (or packaged), chocolate still contains a lot of fat and calories. Cautions Dr. Claudio Ferri, lead researcher at the University of L'Aquila, those of us who "want to add some chocolate to their diet need to subtract an equivalent amount of calories by cutting back on other foods to avoid weight gain." And since for now there is no official serving size at which to garner the best cardiovascular benefits, moderation is the key. But if you find yourself compelled to sample a savory morsel of the dark stuff now and then, don't beat yourself up—go ahead and enjoy it. In the long run, your heart may just thank you.

**SKIING VERSUS SNOWBOARDING: What can go wrong?****Medical Editor comments:**

I have just returned from the X-Games in Aspen. Thrills, spills and amazing athletes. My nickname on the slopes could be "the flying potato" (my apologies to Shaun White). Hopefully the following information can serve all of us well.

With winter sport season well underway, you may have already made a trip to the slopes, or have one in the works. Anyone who's strapped on skis or shredded on a board can attest to the thrill and chill that comes with whooshing down a wintry white mountain. But what about the things that can go wrong? What's the difference between the two sports when it comes to potential injuries?

Skiing has been around for over a century, while snowboarding has become popular in the last 40 years or so. In "Sports Tips: Alpine Skiing and Snowboarding Injuries," the American Orthopedic Society for Sports Medicine (AOSSM) estimates that "almost 40% of all 'sliding snow' sports participants today are snowboarders." There is an element of risk in both winter sports, with most being attributed to ability, age, gender, physical conditioning and snow conditions. Of course, sometimes it's just plain old bad luck! However, because of equipment differences and the unique motions involved in each, skiing and snowboarding lend themselves to very different types of injuries.

The most common ski injury is the ACL tear. Since each leg moves independently and the ankle is held rigid by the ski boot and binding, the next link in the chain is left vulnerable—the knee. Although bindings are designed to release when certain amounts of stress or torque are applied, ACL tears still occur. Some causes are: a sudden twist combined with a binding that fails to release; a single ski "catching," forcing the leg to move in an unnatural manner; or a fall where the ski tip wedges in the snow while the leg keeps going. Despite improvements in equipment and training techniques, some experts estimate that the "incidence of this injury has tripled over the last 20 years."

Since both feet are attached to the snowboard, this sport tends to be easier on the knees than skiing. However, there is a higher incidence of upper body and ankle problems as a result. Another unique risk to the snowboarder is the potential for more “high energy injuries such as femur fractures, high speed injuries and injuries caused by getting ‘big air’.”

Here are some tips from the AOSSM for preventing winter sports injuries:

- Get in shape before the season starts
- Have your equipment checked and tuned regularly
- Test your bindings each day before you hit the slopes
- Warm up and stretch before your first run
- Wear a helmet

Medical Editor comment: Unfortunately the first item is the one most commonly over-looked. I have seen too many people start their exercises on the flight to Aspen. It is a sad comment that we can spend thousands of dollars on equipment and lessons, but have no clue on why our legs (and hearts) have no strength or endurance. Please, take away the business from our surgeons and save a lot of pain and money by working with a personal trainer on a good conditioning program! And even more unfortunately the last item is ignored. Wear a helmet. I am certain this saved me a major injury on my last run down the slopes in aspen.

## SYNERGY NEWS:

### WARM WELCOME TO DR. RONICA MARTINEZ

Ronica A. Martinez, MD is board certified by the American Board of Family Practice in both Family Practice and Sports Medicine. Dr. Martinez received her undergraduate degree in exercise physiology from the University of New Mexico, and her medical degree and family practice training at the University’s Health Science Center in Albuquerque. She completed a primary care sports medicine fellowship at Kaiser Permanente in Fontana, California, and then returned to New Mexico where she practiced with Lovelace Health Systems as a primary care provider. After recently relocating back to Southern California, she is building a practice in primary care sports medicine.

Dr. Martinez has taken care of athletes at the University of New Mexico, as well as numerous high schools in New Mexico and

the Inland Empire. She also served as team physician for Pomona-Pitzer College in Claremont, California.

While pursuing her undergraduate degree at the University of New Mexico, Dr. Martinez played on the basketball team. As a former collegiate athlete, she can relate to the desire to improve one’s health and rehabilitate injuries quickly and properly. She continues to enjoy basketball as well as golf, mountain biking, camping, and snow skiing.

Professionally, Dr. Martinez is a member of the American College of Sports Medicine, American Medical Society for Sports Medicine, and American Academy of Family Practice. She has published scientific articles and chapters in several sports medicine journals and books.

Dr. Martinez is available to see patients at the Synergy Performance and Health Centers in Woodland Hills and Burbank.

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