



active  
living for  
all ages

WINTER 2010

# InMotion

## Exercising During the Holidays Minimizes Stress

The holidays are meant to be a season where families gather and share special time in reflection on their lives and faith. However, the holidays have also become a source of increased stress for most, if not all Americans. Busy social schedules, the tasks of entertaining, shopping, and the traditions of mailing cards and decorating can leave us feeling worn out by January 2.

However, exercise can be a great antidote for stress during the holidays. Exercise burns off many of the stress hormones generated when we are anxious or feeling pressure. Excessive amounts of stress can lead to high blood pressure, increased blood sugar, weight gain, lack of sleep, and even memory loss. When we work out, we are literally burning off the hormones that cause these effects. With exercise, we feel more relaxed, restful, and even more productive.

As little as a ten minute walk can do wonders to calm the spirit. If you anticipate a particularly stressful day, it may be wise to exercise in the early morning before the action of the day begins. Weightlifting is especially beneficial and has been shown to have the equivalent calming effect as Valium.

As an added bonus, holiday exercise will do much to prevent the ever present weight gain most experience after too many office parties, elaborate meals, and extra alcohol consumption.

Remember, just a few minutes of exercise can make a big difference in stress levels and weight gain during the holidays.

by John Kelly, MD

## Good Cold Weather Gear Keeps Winter Exercisers Dethawed and Active

A drop in the temperature poses several challenges to even the most seasoned athlete. However, safe and effective exercise in the cold weather is possible with appropriate clothing and protective apparel.

First, dress in several thin layers rather than one heavy layer to allow for layer removal as the body heats up. The first layer should be a thin layer of a synthetic material such as polypropylene which draws sweat away from the body rather than cotton that maintains the moisture next to your skin. The second layer is an insulation layer such as fleece or wool. The third and outer layer should be a wind and waterproof breathable shell that is worn loosely with a zipper that can be zipped up or down to assist with regulating temperature.

Other important gear are hats and scarves. A hat should be worn since more than 30-40 percent of heat loss occurs from the head and neck. A scarf or face mask will also help to warm the air before you breathe, this in turn

may help those individuals that are prone to upper respiratory problems.

A thin pair of gloves worn under heavier gloves lined with wool or fleece will also help to keep the fingers warm as blood is shunted away from the hands to other parts of the body during exercise.

Shoes are also a critical component to your winter workout wardrobe. Remember to wear shoes with good traction and some water resistance to decrease the possibility of ice or cold water leaking into the shoe. Wicking type socks are important for longer exposure to the cold to remove the sweat next to the skin.

Regardless of the cold, during daylight hours sunscreen and dark glasses are essential since the snow and ice can reflect sun rays and make sun exposure even more intense. One should also maintain visibility by wearing reflective gear as the sun sets earlier and the weather may limit visibility.

Keeping active during the winter is critical to maintaining your health and minimizing stress during a busy holiday season. Staying warm and safe outdoors can help you meet those goals.

by Brett Owens, MD



### Inside

- Boot Camp Workouts Kick Fitness Up
- Energy Bars Source of Nutrients, but Not Meal Replacement
- What to Look for in Running Shoes



## Boot Camp Workouts Kick Fitness Up *Safety Also Essential*

Boot camp workout regimens have long been associated with military physical fitness, but throughout the past five years they have gained more exposure to mainstream America. They are featured in prime-time weight-loss television shows and are now an alternative to traditional exercise programs. They have become popular due to the amount of calories that can be burned in a short time and can be made as challenging and unique as the instructor and participant cares to make them. These classes can help solve the common complaint of workout boredom.

Performed either indoors or outside, boot camp workouts typically blend military-style and athletic-performance drills. The workout is straightforward and intense. The challenge is to take your body to its limit, moving from one exercise to the next without the benefit of much rest. It can involve the use of calisthenics, free weights, and objects and tasks not normally employed in a typical workout.

As with any athletic workout, injuries may occur. Common injuries associated with boot camp programs include sprains, strains, low back pain, foot pain, stress reactions, fractures, scrapes, cuts, bruises, dehydration, and heat-related illnesses. Warning signs of an injury include joint pain, swelling, loss of motion, dizziness, nausea, and constant fatigue. Any of these conditions should be taken seriously and evaluated by a licensed

physician before continuing the program.

Due to the intensity involved, understanding what is involved in a class and how to prevent injury is critical:

- Assess your abilities and know your limitations and restrictions
- Modify moves to adjust intensity levels
- Discuss any pre-existing conditions with your doctor prior to participating or beginning any new fitness program; a fitness assessment should be performed to gauge the level of training that is appropriate.
- Choose an instructor that has a national personal training and/or group fitness certification along with CPR and first aid
- Get instructions about unique pieces of equipment and unfamiliar activities
- Instructors should be willing to answer all your questions and focus on your workout, while avoiding the promotion of supplements, vitamins, or other moneymaking ventures

Keeping these tips in mind, boot camp workouts can be a fun, challenging, and effective workout to help you safely achieve your health and fitness goals.

*by Andree Leddy, J.D., ACE, CGFI  
Michael J. Leddy, III, MD*

## Energy Bars Source of Nutrients but Not Meal Replacement

These days it seems like we're always running from one activity to the next—making it hard to consume a healthy snack or sit down to a well-balanced meal. You may be thinking an energy bar is a perfect supplement or meal replacement for after your workout or as you drive home, but before you peel back the wrapper, you might want to learn a bit more.

### Types of Energy Bars

Energy bars take our three sources of energy, carbohydrates, protein, and fat, and mold them into one conveniently sized snack bar. What isn't so simple is the ratio of each of these sources in any given bar. It's this ratio that dictates what type of energy bar it is, its purpose, and who should consume it.

It's important to remember that energy bars don't contain all the nutrients you're going to find in a healthy meal. However, they are a good source of fiber, something most people do not get enough of, and are usually healthier than a candy bar from the vending machine. Whenever possible, opt for fruits and vegetables which will fill you up and give you energy with fewer calories. Pair fruits and veggies with some protein and you can create a perfect snack.

*by Rachel Holmes*

### Energy Bars And When To Eat.

Bar	Consumer	When
Hi-Carb Low Fat	High intensity athletes	Best consumed after strenuous exercise/activity, such as running or biking for an hour or more
40-30-30	Average individual	On the run
High Protein	Body builders	Before or after a workout
Supplemental	Women	On the run

# What to Look for in Running Shoes

As runners run longer distances, the number of overuse injuries to the knees and ankles increase. One of the ways to help prevent these injuries is purchasing appropriate running shoes. When selecting running shoes, it is important to know what type of arch you have and your running style. A qualified salesperson in a specialized running footwear store should be able to screen a runner's mechanics to match the appropriate footwear to maximize comfort and reduce overuse injury risk.

Foot arches can be categorized as low, neutral, or high. Low and high-arch runners have been reported to have an increased incidence of injury compared to neutral-arch individuals. Low-arch individuals are "pronators" and have excessive motion in their feet which makes them more prone to "soft tissue" injuries such as tendinitis. High arch runners, on the other hand, are "supinators," and have more rigid feet, and experience high impact loads which make them more prone to bony injuries such as stress fractures.

Analysis of one's running mechanics and arches can be performed at running shoe stores or by physical therapists who specialize in running or foot and ankle disorders.

There are two main types of specialized running shoes, motion control (MC) and cushioning training (CT). MC shoes provide rear foot control of motion and, thus, more rigidity, whereas CT shoes provide more shock absorption. To limit the excess motion in the joints of the feet, the more rigid MC shoes are recommended in low-arch runners. To provide more "cushion" or shock absorption for rigid

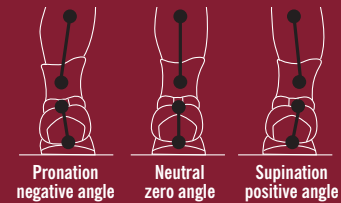
feet, CT shoes are recommended for high-arch individuals.

In special circumstances where the shoes do not completely correct the underlying problem, orthotics may be indicated. Orthotic choices include "off the shelf" orthotics and customized orthotics. With customized orthotics, molds are made of your feet and pressure measurements are obtained by professionals trained in orthotics. Orthotics are then constructed based on the analysis.

When to obtain new running shoes is often confusing. Running shoes lose stability and shock absorption capabilities with increased mileage. This can lead to increased stress on the lower extremities and increased risk of an overuse injury. It is recommended that shoes be replaced every 350-550 miles depending on running style, body weight, and the running surface. Lighter weight runners, runners who run at a slower pace, and runners who run on softer surfaces can safely change shoes at the higher end of the range. Heavier runners who run at a faster pace, or those who run on harder surfaces, should change shoes at the lower end of the above range.



View of right foot pronation/supination angles



In addition to the above mileage recommendations, runners should look for signs of shoe wear. Aches or pains in the knees, legs, ankles, and feet may be indicative of increased stresses on the lower extremities as a result of excessive shoe wear.

Next, you can look for wrinkles or creases in the shoe which can be indicative of a worn out midsole. You can also twist the shoe to test for stiffness, as a worn out shoe will twist more easily.

Finally, you can try on a new pair of shoes to see if there is a significant difference in comfort and cushion. If there is, this may be an indication that the older shoes need to be replaced.

Knowing when to replace a running shoe and with what, in conjunction with common sense, can help runners keep on the track and healthy.

*by Grant Jones, MD*

For more information, please visit AOSSM's patient education site at [www.sportsmed.org](http://www.sportsmed.org) and download a free Sports Tip on running injury prevention or send an e-mail to [inmotion@aossm.org](mailto:inmotion@aossm.org) and put Running Injury Sports Tip in the subject line.

Postmaster: Please deliver between November 1 and November 15.



### About AOSSM and *In Motion*

As a world leader in sports medicine education, the American Orthopaedic Society for Sports Medicine (AOSSM) is pleased to provide you with this complimentary copy of *In Motion: Active Living for All Ages*. We have designed the publication to highlight relevant information for multiple age groups from exercise and rehabilitation to nutrition and psychology.

This important educational tool is published quarterly and can be purchased in bulk for a nominal fee for distribution in waiting rooms and other public areas. **If you purchase 50 or more copies of any three issues (Spring, Summer, Fall, Winter) you'll get the fourth set of issues free!**

*In Motion* is now also available electronically! AOSSM members can add their practice name and logo to an electronic version of *In Motion*. Personalizing *In Motion* is an easy way to get pertinent, patient-friendly sports medicine information to your patients with just a click of a mouse. For more information, please e-mail Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org) or contact the Society at 847/292-4900.

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## Early Ski Season Conditioning May Keep You On the Slope More



Skiing and snowboarding have become a favorite pastime for many Americans. However, before one embarks on a ski/snow board excursion, it is important to recognize that these activities are very physically demanding and can cause injury. However, with a little preseason conditioning, including aerobic exercises and strength training, you should be able to keep in your boots all season.

Both activities require a lot of energy and a poorly conditioned skier may fatigue early if not properly conditioned. Consequently, he or she will be less able to control their skis or snowboard and may fall more easily, causing an injury. A reasonable approach for the ski/snow board enthusiast is to embark on an aerobic conditioning program approximately six weeks before the first winter trip. A goal of 30 minutes

of sustained aerobic activity three times a week is attainable and will reap dividends on the slopes. Biking, elliptical machines and swimming are all low impact and are especially kind to the joints.

Both skiing and snowboarding are very demanding on the thigh muscles. Weak quads may cause one to assume a straightened knee posture, which, in turn renders the knee more vulnerable to injury. A simple twice-a-week leg strengthening program can yield appreciable strength gains for the entire thigh. Three sets of 8-12 repetitions of leg extensions and leg curls may produce strength gains exceeding 20 percent in as little as six weeks. Stronger legs not only mean less injury, but also will allow one to comfortably ski longer. For more specific training programs, speak with a qualified trainer at your gym or local recreation center.

Winter is a great time to get out and get some exercise on the slopes. With proper preparation now you'll be able to enjoy safe, winter fun all season.

*by John Kelly, IV, MD*

For more information on ski and snowboarding injury prevention please visit the patient education section at [www.sportsmed.org](http://www.sportsmed.org) or send an e-mail to [inmotion@aossm.org](mailto:inmotion@aossm.org) and put Ski and Snowboarding injury prevention Sports Tip in the subject line.