



Letter from the editor

by Jeffrey A. Potteiger, Ph.D., FACSM

Welcome to the Fall issue of the *ACSM Fit Society*® Page Newsletter. More than half the world's population is female, and within this percentage there are both active and inactive women. Heart disease is the leading cause of death among women and osteoporosis is a growing health concern for aging Baby Boomers. Based on all this, there is an urgency to incorporate physical activity into a woman's life. We've learned that physical activity brings benefits such as reducing the risks of some of these life-threatening diseases, but realizing the benefits can only go so far. Women have trouble knowing what to do and how to fit exercise into an already busy schedule. This edition of the newsletter is designed to help answer those questions and explain some gender-specific benefits of activity.

Here, ACSM's health and fitness experts have profiled important health and fitness information and tips for women. You will notice that through all facets of a female's lifespan, from youth to womanhood to motherhood, physical activity is critical. Enjoy the issue and please share this information with your friend, wife, mother, or daughter so that perhaps this half of the world's population will be composed of Active Women.

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THEME: ACTIVE WOMEN

Osteoporosis and Exercise: Preserve Bone Health with Activity

by Kerri Winters-Stone, Ph.D.



Osteoporosis is typically on the radar screen of health concerns for most women. Women want to make smart choices now to reduce their risk of a crippling fracture in the future. Most women are aware of the link between physical activity and good health and are interested in learning how an active lifestyle can help prevent osteoporosis and related fractures. However, many women seek information that goes beyond the general "get regular weight bearing exercise" recommendation so that they can be sure the time they spend exercising will help them avoid a fracture in later life. Fortunately, the science of exercise and bone health has advanced quickly in the last two decades so that we can provide evidence-based guidelines to reduce risk factors for fracture through physical activity.

Physical activity plays a very important role in keeping our bones strong. Physically active women have higher bone mass than inactive women, and physically-active persons experience fewer fractures even if they have osteoporosis. Many studies have also shown that when people engage in a certain type and amount of physical activity, their bone mass increases. Another important role of physical activity is to prevent falls. While bone health is certainly a strong indicator of a person's fracture risk, we also know that falling may be an equally important risk factor for fracture. Fortunately, research has also given us a pretty good idea of what type of physical activity and how much can help prevent falls.

The Healthy People 2010 public health initiative (a joint effort of the U.S. Surgeon General, U.S. Centers for Disease Control and Prevention, and the American College of Sports Medicine) recommends the following amounts of physical activity for adults:

- Adults should engage in moderate-intensity physical activities for at least 30 minutes on five or more days of the week.

OR

- Adults should engage in vigorous-intensity physical activity three or more days per week for 20 or more minutes per occasion.

These recommendations fit within the scope of recommendations for lowering fracture risk by improving bone health and reducing fall risk. These published guidelines are rather general, though, and evidence-based guidelines more specific to reducing fracture risk have been developed by a group of experts convened to write the American College of Sports Medicine Position Stand for Physical Activity and Bone Health. These current exercise recommendations from this publication are as follows:

For preserving bone health in adulthood:

- **Mode:** weight-bearing endurance activities (tennis; stair climbing; jogging, at least intermittently during walking), activities that involve jumping (volleyball, basketball), and resistance exercise (weight lifting) ➤

- **Intensity:** moderate to high
- **Frequency:** weight-bearing endurance activities three to five times per week; resistance exercise two to three times per week
- **Duration:** 30-60 minutes/day of a combination of weight-bearing endurance activities, jumping activities, and resistance exercise that targets all major muscle groups

For Elderly Women and Men:

Exercise programs for elderly women and men should include not only weight-bearing endurance and resistance activities aimed at preserving bone mass, but also activities designed to maintain balance and prevent falls.

The most effective fall-prevention exercise programs in older adults are those that include both moderate to vigorous resistance exercise

targeting the lower body and balance exercises. Alternative forms of exercise that focus on dynamic strength and balance, such as Tai Chi, are also effective at reducing falls in older adults.

For individuals with diagnosed osteoporosis, *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, Fifth Edition, suggests the following guidelines for physical activity aimed to prevent falls:

- One to three sets, five to eight repetitions, of four to six weight-bearing lower body strength exercises using body weight as resistance
- Two to three days/week
- Additional resistance may be applied gradually and conservatively (up to 10 pounds) with weighted vest
- Therapy bands and rubber tubing may be used to facilitate range of motion exercises

- Avoid impact exercise, spinal flexion against resistance, spinal extension, high compressive forces on the spine, quick trunk rotation

For women who are concerned about their risk of fracture, physical activity is an important strategy to adopt. While our general physical activity recommendations give reasonable guidelines to follow, developing a specific program based on ACSM recommendations can give the extra assurance that a physical activity program is best targeting bone health and fall risk. We know that bone benefits from exercise are lost when someone stops training, so exercise done to target the bones must be a program that can be committed to for life. An ACSM-certified personal trainer or fitness instructor has the background and training to help develop a program that is enjoyable, safe, and effective.

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Q&A

by Anthony Luke, M.D., FACSM

Q: Is it true women or female athletes are more apt to get ACL tears and injuries?

A: Unfortunately, it does seem that women have higher rates of injury to the anterior cruciate ligament (ACL) in the knee. Researchers have speculated that the greater risk to women is due to various factors, since many factors can contribute to tearing the ligament when an athlete lands in an awkward twisting motion. The leading reasons include hormonal causes, anatomical variations between men and women, and differences in neuromuscular control. Estrogen hormone receptors have been found on the surface of the ACL, and researchers have tried to demonstrate whether the menstrual cycle can affect the laxity of one's ligaments. So far, a link has not been clearly shown. The differences in lower extremity alignment is another major area that has been suspected to play a role, particularly the greater angles at the knees due to the wider female pelvis, as well as a smaller notch in the center of the knee where the ligament attaches. Again, no major relationship has been noted so far. The most promising explanation for more common ACL tears in females seems to involve the athlete's ability to balance (proprioception) and control the knee with one's muscles (neuromuscular control). Because of anatomical and muscle-strength differences between men and women, females have less stability and upper-body control which can lead to an awkward fall. Careful work on coordination, balance and hamstring strength can help reduce one's risk of an ACL tear.

Q: I am a long-distance runner and have read about the risks of hyponatremia, especially for women. What should I think about to avoid this?

A: Hyponatremia has been a more recent concern in endurance events, such as marathon running, because the symptoms and signs can be similar to dehydration. A study done at the Boston Marathon in 2003 identified female athletes, especially those who are thin (body mass index less than 18) as at risk. These women were at additional risk if they were taking more than four hours to finish the marathon and/or drinking excessively during the race (more than three liters). During your training for an endurance sporting event, it is important for you to understand how much fluid is appropriate for you for the distance, as well as the intensity level and climate expected on race day. Weighing yourself after a long run and checking the volume and concentration of urine after exercise can give you an idea whether you are hydrating too much or not enough. If you're gaining weight after a training session or noticing that the urine is very pale and you're using the restroom more than expected, these may be signs you're overhydrating, which might put you at

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Time to Exercise for Busy Moms?

by Lynn Millar, Ph.D., PT., FACSM



Keeping up with your exercise program when you are a busy mom can be challenging, but the rewards are numerous. Importantly, in addition to the well-known health benefits, regular exercise can help you maintain your energy. Based on personal experience and ideas from others, it is possible to maintain a regular exercise program while managing a busy household (it helps to have a little flexibility and imagination). In fact, each age range of your child/children may bring different time constraints, and flexibility will be key to fitting an exercise routine into the daily schedule.

First, if your spouse or partner can give you help by covering the home, it makes getting exercise time easier. Some health clubs have child care centers, although there may be age restrictions. Other options for getting time alone may include trading times with another busy mother, or if you are lucky, perhaps you have family nearby that is willing to help out by babysitting. Still, even without help, you can get exercise in with a little ingenuity.

In the first few months after your child's birth, the regular interruptions to your sleep may leave you feeling too tired to think about exercise. However, starting back into some

simple activities may help increase your energy levels. Walking is a great way to get back into a routine and can easily be done with your new child, using either a stroller or a carry-pack. During hot months, get out early in the morning or just prior to sunset. If you are into running, check out some of the special jogging strollers designed for this purpose. If you are having problems getting in 30 minutes of continuous activity, try breaking your workout into sessions, such as two 15-minute walking sessions and some simple strength exercises during another session. Mother/child classes are popular, as they do not take away from your time together and yet provide a directed exercise session.

Working moms might consider using part of the lunch hour to exercise. If you write it into your schedule, you are less likely to skip the session and will find it provides a nice pick-me-up for the afternoon. The intensity of the session may depend upon the availability of showers. Other options are also available. One mom said she signed up for a class at a local facility so that she was less likely to skip. Another mom planned her exercise before her child was out of bed, thus getting it out of the way before work, while another mom stopped at the gym on her way from work and before the daycare pickup. A mom with two children walks after getting the children into bed in the evening — outside during the summer and on a treadmill in the winter.

As children get older, juggling work and their sports and school activities makes free time for exercise even more difficult to find. Try planning a workout session for the time when kids are involved in an activity when you can drop them off and return later without concerns for their safety. Otherwise, try using the time you are waiting. For example, walk laps around the playing field or along one side of the field. Once they are more mobile, you can even include them in your exercise session. One mother noted her kids would ride their bikes on the outer lanes of the track while she walked on the inner lane. On the positive side, you can also plan more activities together, such as regular family walks or bike rides, swimming, and or sports you can play together, such as tennis. Exercising with your children can be fun, and better yet, sets a good example for them for lifelong activity.

Just remember, flexibility is the key. What works for you when your child is an infant may not work when he or she is older, especially as he or she becomes involved in activities outside the home. Be creative, focusing on remaining active and healthy.

Exercise and Menopause

by Barbara Bushman, Ph.D., FACSM



Menopause is the end of the monthly menstrual cycle and typically occurs between 40 and 55 years of age (average age 51.3). Often ominously referred to as “the change,” menopause elicits worrisome thoughts for many women. With more than 40 million women entering menopause each year, there is keen interest in a more positive perspective.

The benefits of physical activity are available throughout a woman's life, but are particularly important for women approaching and experiencing menopause. In the United States, cardiovascular disease kills more women than any other disease (more than 500,000 each year). Women who exercise regularly can combat the increased risk of heart disease observed following menopause. Exercise as simple as a brisk walking program has been found to be beneficial for heart health. Additional protection is realized for those who combine walking with more vigorous exercise.

Walking has also been shown to be beneficial for bone health. Peak bone mass is achieved around the age of 30, with the subsequent decline in bone mass accelerating at menopause. Providing stress on the bones is important to maintain bone strength. Including weight-bearing cardiorespiratory activity (e.g., walking, jogging), resistance training (e.g., weight lifting), and flexibility (stretching), has been shown to allow postmenopausal women to maintain bone strength and muscle mass and to provide positive changes in balance, insomnia, and life satisfaction.

These are a few of many health-related benefits of physical activity. Realizing the

benefits, many women struggle with understanding what to do and how to fit exercise into an already busy life. Scheduling exercise sessions on one's calendar is a simple way to show exercise is a priority. Tracking exercise is valuable in maintaining focus and momentum. Some women include specific information on exercise completed on their daily calendar, others use a separate logbook, while others use on-line tracking programs (e.g., <http://www.justmove.org/> hosted by the American Heart Association).

Writing down short- and long-term goals will help women keep on track. The goals should be measurable and achievable. For example, a poor short-term goal would be "I want to exercise more." A better short-term goal would be, "For the next week, I will walk around my neighborhood for 15 minutes when I get home from work." This more specific goal is clear in what it is required to reach it. Updating goals and modifying when needed allows for flexibility and continued focus.

Once committed to a physical activity program, a woman must understand the optimal balance to promote health and fitness. The three components of a balanced exercise program include cardiorespiratory activity, muscular fitness, and flexibility. The American College of Sports Medicine recommends the following number of sessions per week: three to five for cardiorespiratory; two to three for muscular fitness, and two to three minimum (with a goal of daily) for flexibility.

Cardiorespiratory (aerobic) activity includes activities that use large muscle groups in a repetitive manner for a period of time. These activities result in breathing more heavily and raising heart rate. Examples of common aerobic activities include walking, jogging, and swimming. Beginners may start with just 10 minutes of easy activity. The goal of aerobic training is to include a five-to-10 minute warm-up (easy level of activity and stretching), 20-60 minutes of aerobic exercise (workout at a somewhat-hard to hard level of intensity), and a five-to-10 minute cool-down (easy level of activity). The warm-up and cool-down allow for safe transitions into and out of the workout.

Muscular fitness is particularly important for women as they age. Women lose five to seven pounds of muscle each decade, which translates into a loss of strength. One study reported that 40 percent of women between the ages of 55-64 years could not lift 10 pounds! Resistance training can be done using weight machines (found at most fitness centers), free weights (barbells and dumbbells), or resistance bands (elastic bands

that provide resistance to movement). Beginners should initially use minimal resistance which they can lift 12 times without straining. Increasing the resistance over time will allow the muscles to become stronger. As with cardiorespiratory training, including a warm-up and cool-down is important for safety.

Flexibility decreases with age. A stretching program including all the major body parts will help to combat the decreases that occur with time. Research shows a relationship between flexibility and ease of movement as well as coordination. Various stretching methods are available, but static stretching is the most commonly recommended. Static stretching involves gentle, slow stretching of a muscle/muscle group until tension (but not pain) is felt and holding that position for 15-30 seconds. Warming up the muscle with some low-intensity activity prior to beginning is recommended (e.g., walking).

For women who are approaching or who have experienced menopause, exercise can be a vital part of attaining or maintaining a healthy lifestyle. For more information on creating a personalized exercise plan, consult ACSM's *Action Plan for Menopause*.

FEATURE

Women and Heart Disease

by Carolyn Albright, Ph.D.



Heart disease is the number-one killer of women in the United States, claiming

approximately 500,000 women per year. Heart disease is a broad term used to describe more specific conditions affecting the heart and cardiovascular system. These include the many forms of cardiovascular disease (CVD) such as coronary artery disease, stroke, high blood pressure, and heart failure. Most women are unaware that CVD actually claims more women's lives each year than cancer, accidents, and diabetes combined. Without knowing the severity and high risk of these conditions, women do not make purposeful choices such as exercising to protect themselves from developing this disease.

Women can prevent CVD development by increasing daily physical activity. Studies have found that women who are less active and have a low fitness level are at a greater risk for developing CVD compared to more active and fit women. This activity can include structured exercise such as walking or activity accumulated throughout the day. Research has found that women walking only one hour per week have a 40 percent less chance of developing CVD than women not walking.

Exercise can also aid in the treatment of cardiovascular disease by having a positive effect on most CVD risk factors. By treating these individual risk factors, a woman can decrease her risk of developing or dying from CVD. The major risk factors that can potentially be prevented or treated by engaging in regular physical activity include:

High Blood Pressure

Research has clearly established that aerobic exercise such as walking and cycling can lower blood pressure. Physical activity is one of the major tools recommended by medical professionals to prevent and treat high blood pressure. Women may actually be able to lower blood pressure to a greater degree than men, and reductions in blood pressure with exercise training can occur in hypertensive women and those with healthy blood pressure levels. One study found that women told to exercise 30 minutes per day, most days of the week were able to significantly lower their blood pressure in as little as four weeks.

Overweight

Sixty-two percent of women in the U.S. are either overweight or obese. Not only is being overweight a risk factor for CVD, but many women who are overweight have high blood pressure and high cholesterol, and are at greater risk for developing diabetes. Exercise in combination with diet is the healthiest way to successfully lose weight and maintain weight loss. Research shows that women who accumulate the most physical activity per day have a healthier body composition and a healthy body mass index (BMI). For

sedentary women, an initial exercise program consistent with the ACSM physical activity recommendation of 30 minutes of moderate activity on most days of the week is a safe and effective starting point. After an individual has established a regular exercise program, an increase in time spent in physical activity may be advantageous in continuing a weight-loss goal.

High Cholesterol

Women on a regular exercise regimen have been able to better their cholesterol by increasing HDL levels and decreasing LDL and triglycerides. This research has found no difference between moderate and vigorous exercise when it comes to changing these cholesterol levels. The degree to which a woman can change these values is extremely variable, and will depend on other current lifestyle factors such as diet. As with blood pressure, women both with unhealthy or normal cholesterol levels can see positive effects from exercise.

Diabetes

Women with diabetes are three times more likely to develop CVD than women without diabetes. The Nurses' Health Study found that women who walked for activity were able to reduce their risk for developing diabetes by up to 42 percent. Structured exercise and accumulating more daily activity can also be therapeutic for women who are already diabetic. Mild-to-moderate exercise is recommended for diabetics because of the resulting decrease in blood glucose following exercise. The degree of blood glucose reduction will depend on the exact duration and intensity of the exercise. A single bout of exercise is also beneficial for diabetics because of its ability to increase insulin sensitivity for up to 24 hours following the exercise bout. These effects following exercise are only temporary, so it is important for diabetics to maintain a regular exercise program.

The physical activity recommendation of 30 minutes of moderate activity on most, preferably all, days of the week is aimed at preventing conditions such as heart disease in women. Women who maintain a regular exercise program following these guidelines will see the greatest benefits. Not only can regular exercise decrease a woman's risk for developing CVD; it can also reduce the risk for coronary events and death from CVD. Any women already suffering from CVD or one or more of these risk factors should see her physician before beginning an exercise program.

FEATURE

Physical Activity During Pregnancy and the Postpartum Period

Exercise Reduces Maternal Disease Risk and Enhances Offspring Growth and Development

A Report from ACSM's Roundtable Consensus Statement: Impact of Physical Activity during Pregnancy and Postpartum on Chronic Disease Risk



ACSM's Roundtable Consensus Statement published this spring supports the safety of exercise and physical activity during pregnancy and the postpartum period. The statement strongly endorses the health benefits of activity for both the mother and fetus, and provides recommendations related to specific issues, including preeclampsia, gestational diabetes, breastfeeding and weight loss, musculoskeletal disorders, mental health, and offspring health and development.

"More than 20 years ago, women were advised not to perform intense, continuous activity for more than 15 minutes, and avoid getting their heart rate up to what is now considered a moderate-activity level. Our panel analyzed the most current research, which clearly suggests long-term benefits from physical activity for both the mother and her baby. For these reasons, and what we suspect are more, it's important all women having a normal pregnancy be active," said James Pivarnik, Ph.D., FACSM, lead author of the consensus document and Roundtable Chair.

The consensus statement focuses on the impact of physical activity on chronic disease risk. Based on the findings of this report as well as previously published studies, ACSM issued the following statements on exercise during pregnancy and the postpartum period. It is the consensus of the expert panel that exercise during this time:

- **Reduces Risk of Preeclampsia.** Preeclampsia is a condition marked by high blood pressure, proteinuria (protein in urine) and edema in the mother, which makes her more likely to experience metabolic disturbances during this time similar to those with coronary heart disease and chronic hypertension. One study indicated women who were physically active on a regular basis experienced a 43 percent risk reduction of preeclampsia as compared to sedentary women. Also, risk appears to decrease as average time spent performing physical activities increased. A reduction in risk has been related to moderate activities most pregnant women can do, such as walking or climbing stairs.
- **Treats or Prevents Gestational Diabetes.** Gestational diabetes is a form of diabetes during pregnancy, related to a shift in hormones causing insulin resistance and high blood glucose. Physical inactivity and obesity are risk factors. Exercise is considered an adjunctive therapy for this condition. For some women, exercise alone may be sufficient to control glucose levels due to increased insulin sensitivity. The panel noted guidelines for frequency, intensity, duration and type of exercise that will produce optimal outcomes for women at risk or with gestational diabetes are unknown with existing data, and more research is needed.
- **Helps Manage or Alleviate Pregnancy-Related Musculoskeletal Issues.** While virtually all women experience some musculoskeletal discomfort during pregnancy, exercise and previous physical fitness can help manage low back pain, pregnancy-related urinary incontinence, abdominal muscle disturbances, and joint and muscle injuries.
- **Links Breastfeeding and Postpartum Weight Loss.** Studies performed on breastfeeding women who exercise indicate benefits through improved aerobic fitness, plasma lipids and insulin response. It is the consensus of the panel that weight loss can occur through moderate exercise and calorie restriction without negatively affecting breast milk production and infant growth.
- **Positively Impacts Mood and Mental Health.** Most women experience negative mood symptoms during pregnancy and the postpartum period. Exercise has been shown to improve mood, increase vigor, reduce fatigue, stress and anxiety, decrease

symptoms of negative mood and depression and improve self-concept.

• **Offspring Health and Development.**

Evaluation of the many types of exercises and physical activities performed by pregnant women indicate no increased risk of abnormal outcomes to the baby based on their activity. The panel advises that beginning or continuing recreational weight-bearing exercises during pregnancy has both short- and long-term positive effects on offspring growth and development.

For more information, read *ACSM Roundtable Consensus Statement: Impact of Physical Activity during Pregnancy and Postpartum on Chronic Disease*. ACSM's Current Comment on "Exercise during Pregnancy" is also available.

FEATURE

The Female Athlete Triad

by Martha Pyron, M.D.



Key Words: Female Athlete Triad; Eating Disorder; Osteoporosis; Amenorrhea; Thinness; Bone Strength

What is the Female Athlete Triad?

The Female Athlete Triad is a syndrome that was first named in 1992. Since then, it has been shown to occur in non-athletes as well as athletes. It is composed of three interrelated components: malnutrition, loss of the menstrual cycle, and bone weakness. The medical terms for these three parts are eating disorder, amenorrhea, and osteoporosis. It has

been shown that if a woman is not eating enough, her body responds in a way to conserve energy. In doing so, bodily functions which are not essential to immediate survival, such as the menstrual cycle, shut down. When the menstrual cycle has stopped in this way, the production of estrogen also ceases. One of the actions of estrogen is to prevent bone breakdown. Therefore, when a woman is not producing estrogen, her bone strength declines, which leads to osteoporosis. So, a woman who is pushing her body to perform in sporting events or is obsessed with fitting into size 0 jeans may diet excessively, become nutritionally imbalanced, stop having her periods, and develop osteoporosis. The complications of the Triad stem from the eating disorder and osteoporosis. These women end up breaking their bones, and may never recover the bone mass lost. Thus, they are at risk for bone loss and bone breaks for the rest of their lives. Eating disorders also have a very high associated risk of death.

How Common is the Female Athlete Triad?

Depending on the sport, athletes may be at greater risk for the Triad. In the non-athlete population, the rate is about three percent. Sports which emphasize thinness, are judged by appearance, or have an advantage if lighter weight are at highest risk. Some high-risk sports are cross-country running, gymnastics, ballet, volleyball, dance, and track. Girls who grow up in a controlling environment, are over-achievers, or have a family member with an eating disorder are also at increased risk.

Why Does the Triad Happen?

In most cases, the Triad begins with malnutrition. This can occur because the woman has an abnormal idea about what her body should look like, or because she is unaware of nutritional concerns. For those, simple counseling from a nutritionist (preferably a Registered Dietitian) usually cures the problem. However, for those who have an abnormal idea about what their body should look like, the problem is both nutritional and psychological. These women or girls really think they should be thinner, even when in reality they are already underweight. Unfortunately, this condition can be fatal, and up to 10 percent of women with an eating disorder ultimately die from it. It becomes fatal because their bodies don't have enough nutrition to survive and, in effect, they starve themselves to death. Death usually occurs from heart failure in these cases.

What is an Eating Disorder?

Eating disorders cause dieting and/or exercise in excess which leads to malnutrition. They are more common in women, but may rarely occur in men. Persons suffering from an eating disorder tightly controls the intake of calories because of an unrealistic fear of becoming fat. They may use techniques such as vomiting, laxatives, diuretics, excessive exercise, diet pills, fasting or excessive dieting in hopes of not gaining weight. This disorder is psychological, with the main problem being an unrealistic vision of what the body should look like. In extreme cases, the body is emaciated, looks starved, has lost most muscle mass, is basically skin and bone, and has an extremely low pulse rate and blood pressure, and the mind has slowing of thought processes. Yet even in these starvation-like states, the sufferer of an eating disorder still wants to lose weight, fears being fat, and if not treated, may continue with unhealthy behaviors to maintain weight loss until she ultimately dies.

What is Osteoporosis?

Osteoporosis is thinning of the bone. Most people are aware of this as something that may occur in women after menopause. When you have osteoporosis, the bones are weak and vulnerable to breaking with very little stress. The thinning of the bone can also occur in a young women if they have Triad symptoms because of low levels of estrogen caused by the starvation status of their bodies.

How Do You Treat This Problem?

Ideally, prevention of the Female Athlete Triad would be preferred. This can be accomplished by educating coaches, young women, and parents about the Triad and its complications, as well as nutrition, bone health, and helping young women feel valued for more than their bodies. Once the Triad is discovered, the treatment focuses on dietary changes, psychological counseling for the eating disorder, and increasing bone strength. This is best accomplished by a team approach with a physician, psychologist, and nutritionist working together with the woman in need. Hospitalization, medication, psychotherapy, and long-term treatment plans may become necessary.

Information and resources are available online at www.femaleathletetriad.org.

Breast Cancer and Physical Activity

by the American College of Sports Medicine



Physical activity is crucial to restoring health in breast cancer patients. In fact, research studies have shown us that physical activity may reduce the risk of breast cancer as much as 30 to 50 percent. And, fortunately, it is not too late for the 214,640 U.S. men and women who are already diagnosed with breast cancer to implement a physically active lifestyle

A host of other studies indicate that moderate amounts of physical activity after a breast cancer diagnosis improve survival and lessen the chance of relapse. In addition, an exercise program will help regain and improve flexibility, strength, and endurance as part of the rehabilitation process. Physical activity is also said to have profound psychological benefits, particularly since depression is common in cancer patients. Patients in remission have the most to gain from rehabilitation and exercise training, but patients who are undergoing treatment may receive benefit as well.

Most commonly, cancer patients experience range-of-motion, flexibility, and posture limitations as a result of surgery, which stretching helps restore. Chemotherapy may increase the risk of osteoporosis (bone loss) and sarcopenia (muscle deterioration).

Because of this, strength training is essential to combat bone loss and rebuild muscular strength. Additionally, weight gain during chemotherapy is common, and is also a risk factor for breast cancer recurrence and mortality. Aerobic (cardiovascular) exercise limits both dangerous weight gain and risk of osteoporosis and sarcopenia.

Breast cancer surgeon Carolyn M. Kaelin, M.D., M.P.H. prescribes a three-part program for those who have not previously exercised or are fatigued by treatment. The program involves walking with the aid of a pedometer to count daily accumulated steps, stretching to regain shoulder range-of-motion and comfortable up-right posture, and light strength training to avoid muscle deterioration.

“Both chemotherapy and surgery have profound impacts on the body,” said Kaelin. “After breast reconstruction following a mastectomy, certain motions may be challenging or even impossible to perform, so stretching and strength training need to be personalized to reflect how the body has changed. Treatment-related changes and tailored exercise programs that will enable a woman to resume her daily activities have to be demystified for the breast cancer survivor, trainers, and physicians.”

Since each malignancy and mode of therapy carries its own complications, the health and rehabilitative needs of the breast cancer survivor vary, and therefore so should formal exercise testing. For survivors of cancer (in remission or after cure), exercise training should have the objective of returning one to his or her former level of physical and psychological function. For persons who are undergoing therapy for breast cancer, exercise training should have the objective of maintaining endurance, strength, and level of function.

By the end of 2006, the American Cancer Society has estimated that 40,970 U.S. men and women will have died from breast cancer. And with the median age of the female population increasing, so is the prevalence of breast cancer. Physical activity and exercise promotion is most needed among inactive breast cancer patients.

When Food is Foe

by Nancy Clark, R.D., FACSM



“I try to stay away from peanut butter; I end up eating the whole jar.”

“I don't keep cookies in the house.”

“I can't eat just one Hershey's Kiss. It's all or nothing.”

All too often, I hear my clients bemoan their battles with food. For them, peanut butter and chocolate are “trouble foods,” not one of life's pleasures. Ice cream is also taboo, and fights with food are a daily energy drain.

Because too many fitness exercisers and competitive athletes deem food to be the fattening enemy, SCAN (the Sports and Cardiovascular Nutrition Practice Group of the American Dietetic Assoc.; www.SCANDpg.org) focused their 2006 conference on ways to help athletes improve their relationships with food and their bodies. Below are just a few tips from sports dietitians and other health professionals who help active people transform their food fears into peaceful fueling.

Hungry or Bored?

When you cannot determine whether you want to eat because you are hungry or bored, Dallas eating disorder specialist Jessica Setnick, R.D. suggests you try the Apple Test. Simply ask yourself “Would I want to eat an apple now?” (or any other food that is boring for you). According to Setnick, if you are hungry enough to eat a boring apple, then you most likely are truly hungry. But if you bypass the

apple only to indulge in apple pie, think again. Maybe you are just bored and are using food to entertain yourself?

Food or Drug?

Why do you want to eat apple pie even when you are not hungry? Setnick suggests the treat acts as a drug and diverts your attention away from uncomfortable feelings. Eating something yummy is far more fun than feeling bored, lonely, anxious or unloved. But unfortunately, frequent sessions of overeating to smother feelings with food can easily lead to weight gain. The weight gain then leads to dieting, blowing the diet, gaining more weight, then going back on the diet...

While few of us readily share our feelings, our culture does allow us to talk about cookie cravings and pizza "pig-outs." While some of these overeating episodes are enjoyable, others can be depressing — a red flag for emotional hunger. If that's your case, be gentle with yourself when your eating feels out of control. Acknowledge your struggles, write in a journal, talk to a friend, and get enough sleep.

When you get mad enough at yourself for using food as a drug to smother your feelings, Setnick suggests you think about alternative ways to cope with life's problems. Ask yourself "How would someone without an eating disorder manage this situation?" Normal eaters who overeat on holidays, at restaurants, etc. don't beat themselves to a pulp by running 10 extra miles or starving themselves the next day. They simply feel less hungry and naturally eat less. They trust their bodies to make up for their mistakes in eating.

If you cannot trust your body to regulate your food intake, you might benefit from professional help; the referral networks at www.eatright.org or www.SCANDpg.org can help you find a local sports dietitian.

To eat or not to eat?

When you know you should eat better but cannot manage to do so, a part of you is unwilling to make the required food changes. Perhaps you believe eating more at breakfast will make you fat? Or eating a little peanut butter on a bagel will lead to devouring the whole jar of peanut butter?

According to nutrition therapist Molly Kellogg, R.D., LCSW of Philadelphia, try making your fear — If I eat breakfast, I'll end up eating more all day — into an experiment. Promise yourself you will eat more breakfast for one week (or even just for three days) and observe what happens. At the same time, tell yourself you can always go back to your old ways after having experimented with the new eating plan.

Keep an open mind and observe any benefits that occur as a result of the dietary improvement. That is, if you experiment with eating a bigger breakfast, do you feel better? Are you less hungry all day? More productive? Do you have better workouts? Crave fewer sweets? Eat a smaller dinner followed by less desire to snack? Perhaps you will come to appreciate breakfast as being the most important meal of your sports diet! If the benefits of the new food plan outweigh the past fears of weight gain, you may even lose the desire to revert to your coffee-only breakfast. Give it a try?

Who is the prettiest of them all?

When you look at your body in the mirror, do you admire your whole body's beauty? More likely, you just see flaws in your chest, abdomen and thighs. No glamour model here! Advertisements from the "beauty industry" (the businesses that sell make-up, hair coloring, plastic surgery, liposuction, etc.) increase anxiety about how we look — especially as we age. According to Larry Kirkwood, Kansas artist and body image educator, the beauty industry defines women as being sex objects and possessions. The industry's messages are "Be sure you look good every minute of every day so you'll be attractive to men" and "Don't lose your good looks as you age."

The fear of losing youthful beauty makes many people feel anxious; they might color their hair to look "normal" again, buy cream to hide wrinkles, or starve themselves to be sleek. They easily forget that aging is a normal process and adds a beauty of its own.

Kirkwood reminds us beauty is neither an inherent quality nor a contest; beauty comes from the mind and soul. You can be beautiful at any size. If you don't believe that message and, like many athletes, are struggling with your body image, you might want to learn skills to help you feel better about yourself regardless of your perceived flaws. Two Web sites, www.about-face.org and www.AdiosBarbie.com, can help you find peace and appreciate your body for what all that does for you... like let you be an athlete.

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Q & A (continued from page 2)

risk. Drinking fluids with sodium, such as sports drinks, can also decrease your risk of hyponatremia.

Q: Do birth control pills affect performance?

A: Estrogen and progesterone are steroids — female sex hormones that can have effects on physiology and energy levels as well as mood. Therefore, athletic performance has been suspected to be associated with the menstrual cycle, including use of the birth control pill. Dr. Connie Lebrun, a previous Vice President of ACSM, has researched this question in the past. It did not seem that oral contraceptives had any significant effect on performance. However, she recognized that further study is required in light of the variety of birth control pills that are available with different estrogen and progesterone dosages and combinations.

She added that using oral contraceptives might be advantageous for female athletes who may be negatively affected by their menstrual cycles, allowing for more effective training.

An interesting note for competitive female athletes who may use the birth control by the brand name Yasmin (drospirenone and estradiol from Berlex): Yasmin was previously prohibited based on the presence of the diuretic drospirenone, which is similar to spironolactone. This was approved for competition by the World Anti-Doping Agency (WADA) on January 27, 2005, and the drug has been removed from the banned substance list by the United States Anti-Doping Agency (USADA) and other anti-doping agencies.

Q: Are women more flexible than men?

A: Women have been shown in epidemiologic studies to be more flexible than men. The laxity of the ligaments did not seem to change noticeably during the menstrual cycle in studies of the knee. However, female sex hormones do play a role. There is an obvious increase in ligamentous laxity during pregnancy due to the hormone relaxin, which affects tissue flexibility and allows them to stretch more. Estrogen also has some effects on ligaments and soft tissue, though its direct effects on ligamentous laxity are unclear. It's still unclear whether being really flexible is a good or bad thing... in life as well as in the joints.



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