

Theme: Adapting Fitness for Special Populations

A Proactive Approach to Inclusive Fitness

Allison Hoit, MS, ACSM EP-C

Letter from the Editor

Dixie L. Thompson, Ph.D., FACSM

Welcome to the July 2015 edition of the *ACSM Fit Society® Page*. In this issue, you will read about the benefits of exercise for individuals with special needs or disabilities and how fitness can be incorporated into their daily lives.

After you have read this information that ACSM experts have prepared for you, please feel free to share it with friends and family. We hope these articles will help as you and your loved ones pursue a healthy and active life.

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It is commonly known that exercise is a vital component to leading a healthy lifestyle. Exercise provides a wealth of benefits to your physical and psychological health, and it helps maintain independence. Science-based recommendations are in place to outline and support the minimum amounts of activity that everyone should get. For some, achieving these guidelines may be a simple feat, but for others it can present difficult challenges. Certain population groups, including people with disability, are more susceptible to fitness barriers, most often reported in the areas of architecture, programming and attitudes. Taking a proactive approach to recognize barriers, know your rights, educate others around you and advocate for yourself can help you find solutions and reduce frustration. In addition, establishing fitness as a value, seeing it as something you get to do instead of have to do, can go a long way in promoting intrinsic motivation.

Architectural barriers include physical obstacles to inclusion, such as access to buildings or outdoor facilities. Many people can physically enter a fitness center, only to find that there is no equipment accessible to them. The intent of the Americans with Disabilities Act (ADA) is that people of all abilities can equally access all public accommodations; in the case of fitness centers, this means being able to enjoy all membership benefits and access to fitness equipment. This is not always the case, but efforts to address this barrier and promote universal design are well underway. The American Society for Testing Materials (ASTM) has approved two new standards for inclusive fitness equipment. These standards provide specifications for fitness equipment that is accessible to users of all abilities and will be used to ensure future development and use of fitness equipment that more closely meets the intent of the ADA. The increased availability of accessible fitness equipment in mainstream fitness centers will give all persons the opportunity to be physically active. Another solution to overcoming barriers is to be your own advocate! There are many resources, services and organizations to help you find appropriate fitness opportunities, trained professionals and accessible places to be active.

ACSM teamed up with the National Center on Health, Physical Activity and Disability (NCHPAD) in 2007 to launch the Certified Inclusive Fitness Trainer (CIFT) specialty certification. A CIFT certified individual masters an understanding of exercise precautions for people with disabilities, and how to use safe, effective and

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adapted methods of exercise training to provide exercise recommendations. A database of trainers can be found through the ACSM ProFinder tool. When working with a trainer, always establish open communication about your goals and abilities.

For those who prefer exercising on their own, NCHPAD has several resources to meet the needs of everyone. *Discover Accessible Fitness: A Wheelchair User's Guide for using Fitness Equipment* is a guide that will help you safely and effectively use equipment most often found in fitness centers. This guide discusses safety, stability, adaptive equipment, accessibility, exercise precautions and a full overview of the components of fitness including cardiovascular, strength and flexibility. For fans of high-intensity interval training, the Champion's Rx program is ideal. This program includes a daily workout designed to incorporate all ability levels through its three-class system. The workouts are designed to give ideas and adaptations for traditional exercises while increasing muscle strength and altering body composition. You can find both of these resources at www.nchpad.org. Simply put, fitness is your right and any barrier should not inhibit human nature since bodies are designed to move.



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Moving Through the Cure: How Exercise Benefits Cancer Survivors

Lisa Hoffman, M.A.



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Exercise isn't a cure for cancer, but for more than 14 million Americans diagnosed with cancer, daily life often improves when the body is engaged in regular physical activity. What's more: recurrence of certain cancers may be lowered significantly for those who exercise.

The medical community recognizes that, for many people, cancer is a chronic disease, and people often

continue the treatment or management of their cancer for many years, even decades. A recent shift in perspective means that now a person is considered a "survivor" from the time of diagnosis. The seismic shift from passive recipient to active participant has come of age.

This recognition has created an evolving focus on the cancer survivorship period with respect to:

1. Living cancer free.
2. Managing ongoing cancer treatment.
3. Reducing the risk of developing other diseases secondary to cancer treatment.
4. Optimizing quality of life.

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Fatigue, joint pain, lymphedema, depression, weight gain, cardiovascular disease, diabetes—this is only a partial list of what cancer patients may experience during, and years after treatment. Clearly a tailored physical activity program can help with many of these issues.

ACSM's 2010 Roundtable Consensus Statement concluded that cancer survivors generally benefit from engaging in physical activity and that, as much as possible, cancer survivors should avoid inactivity. The expert panel concluded that exercise training is safe during and after cancer treatments and results in improvements in physical functioning, quality of life and cancer-related fatigue in several cancer survivor groups. Conclusions from the Roundtable include:

- Exercise can improve survivors' quality of life: Much of the research in this field started with quality of life, using questionnaires to ask survivors about such issues as depression, anxiety and fatigue. The few trials that looked at women who did both resistance training and aerobics showed even more improvements than aerobics alone.
- Exercise can help cancer-related fatigue. Persistent tiredness, the most common symptom of survivors, can interfere with daily life activities and can occur years after treatment. The literature on exercise helping cancer-related fatigue both during and after treatment is among the strongest in the field.
- Exercise does not exacerbate—and may improve—lymphedema. Years ago, it was advised to rest for fear exercise would worsen lymphedema, a build-up of lymph fluid that causes part of the arm (or leg) to swell, making it painful to use and more likely to get infected.
- Studies suggest exercise may lengthen survivors' life, prevent recurrence. Over the past decade, a growing number of observational studies (breast and colorectal cancer specifically) have shown that the most active survivors have approximately a 50 percent reduced risk of dying from any cause during the course of the study compared to those who are inactive.

With all of the positive findings on exercise and survivorship, one key focus area is to encourage people diagnosed with cancer to adopt and maintain a physically activity lifestyle. Clearly, there is a benefit to many, and there is no time like the present to move!



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60 Minutes or More a Day, Where all Kids Live, Learn and Play

Allison Hoit, M.S., ACSM EP-C



To mark the fifth year of the *Physical Activity Guidelines for Americans*, a subcommittee of experts compiled a new report on *Strategies to Increase Physical Activity Among Youth*. This report highlighted five key settings where youth can be physically active, with evidence-based recommendations for each. The five settings are: school, preschool and childcare centers, community and the built environment, family and home, and primary care. This article will explore how youth can be physically active in each setting adding in inclusive components to engage youth of all abilities.

School

The school setting is an ideal place to incorporate physical activity for youth. The typical school day lasts between six and seven hours, providing ample time for youth to be active in a variety of ways. Some examples are through more traditional methods such as physical education (PE) class and recess to other less common methods such as active transportation, sports clubs, before and after school activity programs and activity breaks during the school day. Areas of emphasis for promoting physical activity in schools include increased time being active, proper training of teachers and activity that meets a moderate to vigorous intensity level. For kids with disabilities, it is also important that their individual education plans include PE and that educators provide inclusive activities. Participation in physical activity and athletics provides opportunities for children to learn from each other, build social skills and optimize their growth and development. Research widely suggests that there is a positive association between physical activity and academic achievement. Not only will being active improve your child's health status, but it also might improve their academic experience.

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Preschool and Childcare Centers

It is imperative that children start being physically active early in life in order to develop lifelong health habits. In this setting, active play with many options for engagement, larger playgrounds, outdoor spaces with active play in mind and trained staff can prove important in getting kids active from an early age.

Community and Built Environment

The community setting has enormous potential for increasing physical activity at the population level, thus establishing ways for all youth to be more active. The main physical activity-related features of the built environment are parks and recreation facilities, transportation systems and sidewalks among other urban planning design factors. Redesigning these structures to incorporate physical activity allows for increased walkability/wheelability, active transportation and helps facilitate physical activity regardless of socioeconomic status. Complete Streets is an example of a design and policy approach with all users in mind.

Family and Home

The home is a logical setting for encouraging physical activity in youth given that children often develop behaviors, values and attitudes from their family members during childhood. The home setting also provides a structured environment for parents to enable children to be physically active. Parents and family members are important role models for encouraging physical activity in youth.

Primary Care

The health care setting is another promising environment for encouraging physical activity among youth. Physician check-ups are focused on prevention services and can also allow health care providers to check in on physical activity levels. A large number of youth can be reached in a primary care setting and, thus, health care providers should be encouraging and prescribing physical activity.

A collaborative effort is needed to encourage physical activity opportunities for all youth. Childhood obesity is a winnable battle—encourage your kids to get in their 60 minutes or more every day!

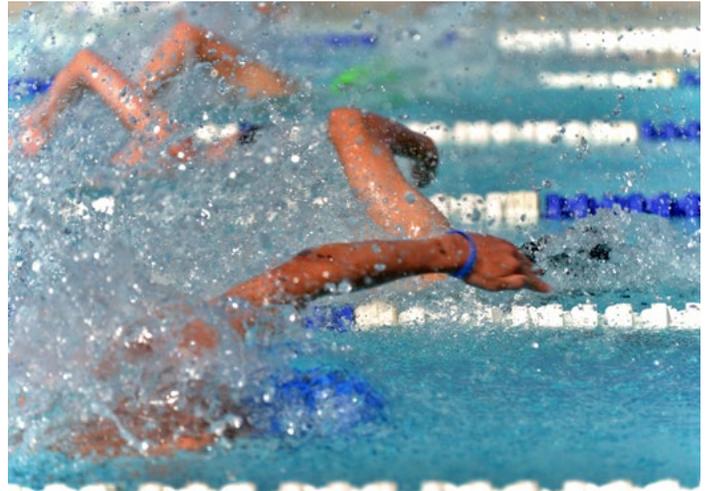


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Theme: Adapting Fitness for Special Populations

Special Olympics: A Sports Medicine Perspective

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Los Angeles 2015

The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities. Doing so gives them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

In the 1950s and 60s, Eunice Kennedy Shriver noted how unjustly people with intellectual disabilities were treated and started a summer day camp in her backyard. The first Special Olympics Summer Games were held in 1968 at Soldier Field in Chicago for one thousand people with intellectual disabilities. Participants came from 26 states and Canada and competed in track and field and swimming.

In summer 2015, 7000 athletes and 3000 delegates from 177 countries will be in Los Angeles for the World Games. More than 30,000 volunteers and 500,000 spectators will be attending the largest sports and humanitarian event in the world to cheer on these amazing athletes who will compete in 25 events.

Although this large event creates attention, the Special Olympics movement is much more. In 2013, more than four million athletes participated in 81,000 competitions around the world. This works out to 222 games per day, or nine games per hour.

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Some 1.4 million free health examinations have been provided in more than 120 countries through the Special Olympics Healthy Athletes program. Screenings are done in seven disciplines:

1. Fit Feet provides podiatric screenings, including checking shoe size (many athletes compete with ill-fitting shoes) and a variety of foot problems.
2. FUNfitness provides physical therapy evaluation for balance and flexibility, with recommendations for improvements and preventing injuries.
3. Health Promotion teaches better health and well-being, including hand washing, sun protection, diet and hydration.
4. Opening Eyes provides vision screening and eyeglasses when needed.
5. Healthy Hearing screens for audiology problems and provides evaluation for hearing aids as needed.
6. Special Smiles provides dental screenings and recommendations.
7. MedFest performs sports physical exams.

As medical director of the 2015 Games, I've experienced many challenges in putting together a medical plan for such a large multi-day event spread over a large geographic area. The medical team has to consider providing medical care for athletes at events, but with a higher number of medical conditions including diabetes, heart disease, and seizure disorders. We also had to give special attention to communicating with athletes with intellectual disabilities. The Special Olympics World Games partnered with medical groups and hospitals to provide medical expertise and oversight for the athletes and delegations during the entire course of the games.

Teams are working on the medical care for athletes arriving at the Los Angeles Airport, with a welcome center medical station set up to assure that the athletes are doing well after their trips and have all medications and other needs met. The delegations spend several days at local communities called Host Towns to acclimate to and enjoy Southern California. They will then come to the Olympic Villages at UCLA and USC and have medical care available as needed in the dorms and during non-competition times. Medical teams will be available at each venue to care for minor medical issues that may arise, with sports medicine consultants available to come to the field as needed. Any condition requiring further lab or x-ray testing can be referred to a local "poly clinic" on the campuses or a local hospital clinic or emergency department.

The goal of the medical staff at this event, as at all sporting events, is not to limit or restrict participation, but to allow and encourage safe participation. This is especially true for this population which is often looked at for their disabilities instead of their abilities. As with any such event, the hope is that the medical staff is able to take away more than they put into providing culturally appropriate, current and empathetic medical care with an increased awareness of the medical needs for this underserved population.

Adaptive Fitness

Kelly Bonner M.A. Ed., ACSM Certified Inclusive Fitness Trainer



It is widely known that obesity rates in the United States have been increasing in the last several decades, but not everyone realizes that this issue also affects those with disabilities. Both adults and children with disability have some of the highest obesity rates in our nation. Because many in the fitness and wellness industry are not aware that health and disability can coexist, health and fitness programs often exclude those with disabilities. Other barriers to those with disabilities include inaccessible facilities, lack of transportation and, sometimes, a staff without the training to adapt programs based on client need. These and other challenges contribute to the higher rates of many chronic conditions, including obesity. But the good news is things can change.

Adaptive fitness can mean many different things, from an inclusive yoga class to an aqua aerobics class for individuals with Parkinson's disease, and it can include working with individuals who have multiple sclerosis or someone who has experienced a spinal cord injury. While trainers need to be knowledgeable about the individuals they are working with, it doesn't have to be as intimidating as it might seem. Good personal trainers know that every exercise prescription is a combination of art and science and, when it comes to working with individuals with a disability, it might just take a little more art in terms of creativity.

General exercise recommendations for individuals with a disability are the same as those for other adults: accumulation of at least 150 minutes of moderate intensity aerobic activity a week whenever possible. And, whenever it's not possible, they should

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get as much as they can tolerate. The guidelines are also the same for strength training: two days per week of muscle building exercises. People with disabilities tend to be highly sedentary, which may require beginning with multiple bouts of exercise a day until the individual can sustain the exercise for the given time. Finding appropriate modes of activity can sometimes be a challenge.

Fortunately, there are many types of adaptive equipment in the market today. Investing time to research options will lead to ways to improve physical activity levels for all clients. It is critical to have an individual-centered approach to exercise prescription. The needs and abilities of each person should be central to the development of the exercise program. It is also important to follow any specific recommendations from the client's physician, physical therapist or other health care professional.

Here are some general do's and don'ts for fitness programs for individuals with a disability:

- Do encourage individuals with a disability to be as active as they can. Some activity is better than none.
- Don't expect heart rate to be a reliable measure of intensity. Instead, use measures like RPE or the talk test to gauge the client's level of exertion.
- Do try to engage core muscles whenever possible. Depending on the individual's unique abilities and needs, these exercises may require the assistance of the fitness professional.
- Don't overwork the muscles used for daily living activities. Remember to train the muscles that are the antagonists to those they rely upon for daily activities.
- Fitness activities should always be based on the recommendations of the client's physician, physical therapist, or other health care professional.

Find an ACSM Certified Inclusive Fitness Trainer in your area at acsmcertification.org/pro-finder.



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Should Athletes Avoid Junk Food?

Nancy Clark, MS, RD



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"I'm training really hard, doing double workouts and eating only healthy foods. I feel full all the time—but I am losing too much weight. I don't think I could comfortably eat any more..."

"I generally eat clean—but some days I cheat and have ice cream."

"Fruit juice is bad; it has way too much sugar! I've stopped drinking it."

Many athletes go to great extremes to eat healthfully. Needless to say, the definition of "eating healthfully" varies from person to person—and often takes on a religious zeal. "Healthy eating" tends to include these parameters:

- No refined sugar, gummy candy, soda pop, sweets
- No potato chips, corn chips, salty snacks
- No doughnuts, pastries, croissants, pancakes
- No fast food burgers, pizza, hot dogs
- No cookies, desserts, birthday cake, holiday treats
- No foods in wrappers—particularly among athletes who are "eating clean." (Question: Are wrapped foods actually dirty? Or is trendy terminology breeding craziness?)

While eliminating "bad" and "dirty" foods is a noble attempt to put premium nutrition into your body's engine, the questions arise:

1. Do you really need to eat a "perfect diet" to have an "excellent diet?" Answer: No
2. Does enjoying a hot dog or a candy bar once in a blue moon negate all of the "good stuff" you generally eat? Answer: No
3. Do you have to "cheat" on your birthday so you can partake in cake with your family and friends? Answer: Heavens no!

In my opinion, there is no such thing as a “bad food.” There is a bad diet, yes, as judged by looking at the whole day’s intake. That is, 50 calories from refined sugar in eight ounces of sports drink will not ruin your health. But consuming 400 calories from a half-gallon of sports drink displaces a significant number of nutrient-dense foods—and can ruin your teeth.

While foods with little nutritional value fail to invest in an athlete’s well-being and ability to withstand the demands of rigorous training, occasional junk food does not ruin health when eaten in moderation. You can indeed have an excellent diet without having a perfect diet.

How much “junk food” is OK to eat?

A healthful sports diet can target 85 to 90 percent of calories from quality foods and 10 to 15 percent from “whatever.” Some days “whatever” might be blueberries and other days it might be (guilt-free) blueberry pie with ice cream. Given that you can ingest the recommended intake of all the vitamins, minerals, and protein you need within 1,500 calories from a variety of wholesome foods, a hungry athlete who consumes 2,000 to 4,000 calories a day has the opportunity to consume LOTS of nutrients. For example, eight ounces of orange juice offers 100% of the Recommended Dietary Allowance (RDA) for Vitamin C. A thirsty runner who chugs the whole quart can consume four times the RDA in that one snack. OJ is better than an all-natural vitamin pill!

But isn't fruit juice filled with sugar?

Yes, all the calories in juice come from natural sugar. This sugar fuels muscles. Vitamin C, potassium, folate and a multitude of health-protective, anti-inflammatory bio-active compounds also come in the juice. For athletes who want to eat “healthy” but have trouble getting in enough calories to maintain weight, I often recommend grape, pomegranate, tart cherry, orange and blueberry juices. (In contrast, overfat people who reduce their juice intake can easily delete some calories. For them, eating the whole fruit would be more satiating.)

Should athletes try to avoid refined sugar?

Refined white sugar is a nutritional zero, void of any vitamins, minerals or protein. Yet, the calories in sugar come from carbohydrates. Muscles welcome these carbs to fuel depleted glycogen stores. Muscles don't know the difference between carbs from juice, candy, and sports drinks vs. apple, sweet potato and banana. The difference shows up in health, immune response and ability to fight off colds and flu.

A rule of thumb is to limit refined sugar to 10 percent of total calories. For most active women, that equates to 200 to 250+ calories from sugar a day. And for active men, 250 to 300+ calories. That means an athlete could enjoy either 16 ounces of a sports drink and a gel or a few cookies—and stay within the recommended sugar budget for the day.

Note: The “sugar is evil” message is targeted to the 66 percent

of Americans who are overfat and underfit, not to athletes. The muscles of athletes easily take up sugar from the bloodstream with far less insulin than needed by unfit people. Hence, unfit people who sip on sugary drinks all day easily consume excessive, health-erosive sugar calories. They need to seriously think about their future and if they want to be vibrant and healthy enough to enjoy fun times.

Can you eat too healthfully?

Yes. Eating too many healthy foods can actually be bad for you. For example, fruits and veggies are healthy foods, but eating only fruits and veggies creates a bad diet. Eliminating all unhealthy foods is also needless. Enjoying birthday cake can be good for the soul!

Rather than categorize a food as being “bad,” please look at your whole diet to see if it is balanced. I differentiate between a diet filled with processed snacks for breakfast, cookies for lunch, candy bars for snacks and sweet & sour chicken for dinner vs. the occasional energy bar tossed into a gym bag for a pre-exercise energy booster when traveling to an event. While not trendy, choosing a balanced sports diet based on moderate portions offers a sustainable, effective path that can help you eat well, perform well and feel great.

Q&A

James MacDonald, M.D., FACSM



Q: I am a fifth grade teacher and have 22 children with a wide variety of physical abilities in my classroom. Some of my students have special needs, ranging from a Down's Syndrome child who has been mainstreamed to a child with arthrogyposis, a congenital condition where her joints are fused (after some surgeries she is just beginning to transition from a wheelchair). I know there are sporting opportunities for these children: I've heard of the "Paralympics" and the "Special Olympics." What's the difference? Which program is appropriate for which child?

A: It is great to see your recognition of the value of sport for all children, not just those who are athletically gifted. Sports participation can teach wonderful, lasting values (teamwork, goal setting, sportsmanship) and can lay the foundation for a lifetime of physical activity, which we all need.

You correctly point out that there is a difference between the Paralympic and the Special Olympic movements. From the specific examples you have given, we would recommend your student with Downs' Syndrome consider the Special Olympics and your student with arthrogyposis consider the Paralympics.

The Special Olympics was founded to help individuals with intellectual disabilities (e.g. Downs' Syndrome or autism) overcome barriers to sports participation. At its highest levels, a quadrennial Special Olympics similar to the Olympics themselves is held. The next Special Olympics Summer Games will be taking place in Los Angeles in July 2015. Many local communities hold their own Special Olympics games.

The Paralympics is run by the International Paralympic Committee and fosters competitive sports participation among individuals with physical disabilities (e.g. athletes who use a wheelchair, have had an extremity amputated, have vision impairment). It too involves millions of athletes of all ages and is a global movement.

The Paralympics and Special Olympics are for athletes of all ages. In the United States, there are chapters of each organization in or near most communities. There is information on both movements readily available on the internet that can be shared with the parents of your students so they can start their sporting careers!

Q: I had Ewing's Sarcoma as an adolescent and, as part of treatment, had an above-the-knee amputation. I have been a proud, cancer survivor for more than 30 years. I work in the tech industry and telecommute most days. Since I turned 50, my wife has been 'after me' to get more physically active, and it's true: I can't fit into the same suits and pants I wore when I was 40. She makes sure I eat healthfully, and I know she is right about needing to get active. How can I go about doing this?

A: Your wife deserves a gold star! Seriously, it is great to see you starting to think through this. In formal behavior change terms, you are moving from a state of precontemplation to contemplation and even preparation. Now, it's time to move to action!

If you are talking about getting active, you can begin right now. When you are running an errand outside of the house or on those days you actually go into the office, you can walk stairs instead of taking the elevator, or you can park in such a way as to maximize the distance you may need to walk. We even know of some clever people who use grocery carts as something of an

adaptive device and walk the aisles making their healthy food choices in an intentional way: for instance, making a goal, of getting 1000 or more steps before they leave the store.

If you are talking about exercise like starting a swimming program or training for a running event, that is great, but there is one more step to consider. In many important ways, you are no different than most people facing mid-life challenges; your self-description (50, sedentary, overweight) would put you in a category that ACSM describes as moderate risk: if you wanted to undertake a program of "vigorous exercise," the ACSM would recommend you first consult a physician and consider cardiovascular screening prior to formal training.

In some important ways you are special, given your medical history both as a cancer survivor and as an athlete with an amputation. Depending on what treatments you underwent in addition to your surgery, there may be other issues to consider. For instance, some chemotherapy agents can have long term effects on the heart and lungs. You may not need a special prosthesis for swimming (you may elect simply to swim without one), but you will most definitely need a special prosthesis to run safely. It would help to talk with a sports medicine physician well-versed in these various issues, and one who may consider consulting appropriately with other physicians (e.g. oncologists or physiatrists).

Do not let this extra step of physician consultation discourage you, however. The safety concerns are real and should be addressed, but the benefits of exercise once you have been screened are enormous. So, start being active now, consult a physician before vigorously exercising and thank your wife!



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