



Welcome to June edition of FIT NEWS!

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FIT Client of the Month! Lynda Greene!

Lynda Green is a 58-year-old client that trains twice a week here at FIT. Troubled by her right hip since 1985 she was active in Yoga, bike riding, and skiing. It was determined that her hip was congenitally displaced, which caused it to wear unevenly. This brought on a lot of pain and deterioration. To make things worse, in 1996 she fractured her sacrum in a skiing accident and then began a long, slow, and painful rehab.



Lynda had worked on and off with personal trainers throughout the years with some success, and then she found Tracey. "Tracey was great and patiently helped me develop more core strength." But that just delayed the inevitable; she eventually had her Hip replaced in 2000.

Unlike most hip replacements, she continued to have significant pain following the surgery, along with persistent lower back spasms. For months she couldn't even lean over to pick something up off the floor, and was still using a walker six weeks after the surgery. Tracey then began training Lynda at home, followed by the pool and ultimately back in the gym. She was encouraged that things were going in the right direction, even though it was a long, slow process. She also credits Dave's Massage therapy that has helped accelerate her progress.

These days Lynda is looking stronger than ever, and one would never guess that she has had a hip replacement. With her amazing flexibility, she is now able to perform a full squat and has recently started the Olympic lifts. Without any complaints, Lynda comes in and works hard everyday, and it shows

[Click here to see past Outstanding Performers!](#)

Ask the FIT Experts!

Question:

Q. How do women keep from bulking up when they incorporate strength training into their routine?

A. The idea of bulking up and getting too big is a sensitive subject for women. Truth be told, all forms of strength training causes a subsequent increase in muscle mass. The trick is that some folks less than others have the genetic potential for fast gains in lean mass. This may be the product of body composition: or number of fast twitch muscle fibers vs. slow twitch fibers. Fast fibers are the larger sized fibers, adding size increases. Diet and nutrition can also play a role growth potential. Steroids have spanned the muscle building programs that continue to surface stereotypes and myths that do not reflect drug-free weight training participation.

The first place to look beyond genetic makeup is program design. To issue a healthy dose of strength training, trainers at FIT , as well as scientific evidence reports that multi joint, multi-angle weight bearing exercise produce greater results in less time. These exercises include weightlifting/powerlifting style lifts like squats, deadlifts, lunges/step ups progressing to the Olympic style lifts, which include the Clean and Jerk and Snatch.

The low weight and high reps is not the only way to curb bulking type symptoms. Studies show performing low reps of 1-3 with heavy weights may produce favorable results for those looking to get strong and not big. Before initiating such a high resistance training program consult with an FIT trainer for proper progression of training intensities.

[Click here to ask our experts a question of your own](#)



Effects of Weight lifting on Osteoporosis

by Scott Kolasinski

Have you ever taken an empty piece of honeycomb and broke it apart with your bare hands? It was not too difficult, was it? The thinner the honeycomb, the easier it is to break. The shape of the honeycomb is similar to a microscopic cross-section of our bones. Healthy bones have a dense honeycomb shape, with thick calcified structures supporting each other, creating a solid support structure for our muscles and organs.

People may think of their bones as solid as steel, like an unshakeable foundation. However, our skeletal system is not solid at all, but composed of living, growing cells. Our bones depend on a dynamic balance of available minerals (such as calcium) and the hormones that control mineral absorption, to stay strong and healthy well into old age. Osteoporosis, the condition that turns so many older women, and some older men, into smaller, shrunken, weakened versions of their former selves, is not inevitable. It is possible to grow older and still stand tall, walk confidently, retain strong bones, and enjoy a great deal of physical strength.

Osteoporosis can often be prevented, or at least minimized, by simple improvements in nutrition and exercise before bone loss begins, generally around age 35. For those already affected by loss, medication therapy and other preventive measures can curb or even reverse bone loss, and minimize the risk of disabilities.

Although 28 million Americans, mostly women, are affected by thinning bones or outright osteoporosis, surveys show that most (3 out of 4) women from ages 45 to 75 have never spoken to their doctor about the disease. This is a missed opportunity, because there is now a great deal of medical science that can do to help halt the progression of this disease.

Today, there are several forms of drug and hormonal therapy that people use to prevent, treat or reverse osteoporosis. It is well known that resistance training causes the bones to adapt to the stress of the loads placed upon it. However, the scope of this article is to look at the benefits of a lesser known form of resistance training, Olympic weightlifting, in particular on preventing osteoporosis in both the young and old.

Bones and Osteoporosis: A Brief Summary

Before we dive into the benefits of Olympic Weightlifting on the musculoskeletal system, a brief review of general bone physiology is needed.

Bone cells, which store 99 percent of the calcium in our



bodies, are continuously breaking down and building up, in a process called remodeling. The cells, which are interlaced with nerves and blood vessels, both collect calcium molecules from the bloodstream and release calcium back into circulation. The retained calcium adds to bone mass and keeps the skeleton strong.

Our body balances the two processes of building new bone and removing old bone through the actions of a variety of hormones, including estrogen. The steep decline of estrogen in women after menopause seems to be an important reason why osteoporosis is much more common in women than in men.

Estrogen plays a dual role in bone metabolism: It facilitates the absorption of calcium from the blood into the bone and inhibits the loss of calcium from the bone. Bone density peaks in women anywhere from their late 20's to mid-30's. After this time, and especially when estrogen levels drop after menopause, bone loss exceeds new bone formation.

Normal estrogen levels help to ensure an adequate level of calcium in the blood, which, in turn, influences muscle and nervous system functions. As estrogen levels decline, calcium blood levels can drop excessively, stimulating the production of another hormone called parathyroid hormone. This hormone, which is secreted by the parathyroid gland, then triggers the leaching of calcium from the reservoir in the bones. This corrects the deficit in the blood, but does it by decreasing bone health. Bone loss accelerates after menopause, but varies considerably among individuals, for there is a wide variation in blood hormone levels among postmenopausal women. A woman can lose from one-half to 6 percent of her bone mass per year. This percentage may be even higher for women who experience surgical or chemically induced menopause, in which the estrogen supply is abruptly cut down. By the time a woman is 80, she can easily have lost 40 percent of her bone mass. Losing a certain amount of bone mass is therefore a natural result of the aging process, called osteopenia.

Osteoporosis

In osteoporosis, the bones become progressively more porous, making them more likely to break. Because of the thin honeycomb or Swiss cheese shape of osteoporotic bone, you can understand how the slightest trauma can cause debilitating bone fractures—typically occurring in the hip, spine, and wrist.

Since the loss of crucial bone mass usually occurs without symptoms or pain, osteoporosis can go undetected for years, thus this is why osteoporosis is sometimes referred to as the Silent Thief—until a fracture occurs. The healing process of a broken bone is slower as we age – from

healing in a couple of months to maybe not healing at all. A woman's lifetime risk of developing a hip fracture is equal to her combined risk of developing breast, uterine, and ovarian cancer. Hip fractures leave many women permanently disabled; and within 6 months following the injury, between 15 and 20 percent of patients will die because of a hip fracture and its complications, usually pneumonia from the constant bed rest. One in 3 women over 50 suffers vertebral fractures, which can lead to height loss and a stooped posture.

What Can You Do?

There are a number of treatments for preventing and/or treating osteoporosis. Healthy lifestyle choices including vitamin and mineral therapy, safe home environments, a diet replete with calcium, vitamin D, and protein, and weight-bearing and resistance exercises are the best choices available.

It is now recognized that resistance exercise could have a positive effect on osteoporosis. Although there is some research that is controversial, the majority of it has repeatedly shown resistance training could not only prevent osteoporosis, but it may also reverse/improve bone mineral density (BMD) in individuals already diagnosed with it.

The American College of Sports Medicine (ACSM) published in 1998 in their Position Paper on Exercise and Physical Activity for Older Adults that "the effects of a heavy resistance strength training program on bone density in older adults can offset the typical age-associated declines in bone health by maintaining or increasing bone mineral density and total body mineral content. However, in addition to its effect on bone, strength training also increases muscle mass and strength, dynamic balance, and overall levels of physical activity. All of these outcomes may result in a reduction in the risk of osteoporotic fractures. In contrast, traditional pharmacological and nutritional approaches to the treatment or prevention of osteoporosis have the capacity to maintain or slow the loss of bone but not the ability to improve balance, strength, muscle mass, or physical activity."

However, neither the ACSM position paper nor the National Strength and Conditioning Association (NSCA) have any recommendations regarding ballistic exercises such as Olympic weightlifting in terms of improving BMD in adults with osteoporosis. I doubt that the lack of recommendations are intentional, however, it certainly would have to do with the lack of evidence of the Olympic lifts being applied to the elderly population or people already diagnosed with osteoporosis.

When I speak of "resistance training", I am referring to performing several sets of sub-maximal work for a certain body part, such as 3 sets of back squats for 10-12 reps

each set. An individual cannot perform 12 reps of any exercise with heavy weight or greater than 80% of their 1 rep maximum. Olympic weightlifting (OWL) protocols can involve performing 1-5 reps while lifting heavy weight. Because of the lack of research investigating the benefits of OWL, I will use some of the research from utilizing resistance training protocols. Understand that these protocols are usually less intense, thus I realize I am extrapolating the research in one sense, yet OWL is still a form of resistance training in that it involves perform weight-bearing exercise. There is plenty of evidence to suggest why the Olympic lifts are the best choice for improving BMD, and should be applied early in an individual's life – the sooner, the better.

Olympic Weightlifting and Bone Mineral Density
Physical activity is a determinant of peak BMD. There is also evidence that activity during growth modulates the external structure of bone, potentially enhancing skeletal strength, while during the adult years activity may reduce age-related bone loss. There are several studies demonstrating that when resistance training has been removed from pre- and postmenopausal women, BMD subsequently decreases.

The magnitude of the effect of a 7% to 8% increase in peak BMD, if maintained through the adult years, could translate to a 1.5-fold reduction in fracture risk. Low BMD at the hip increases the risk of fracture, and it is estimated that each 1 standard deviation decrease in BMD increases fracture risk 10%. However, most reported broken hips are not caused by low BMD alone, but rather result from injury associated with a fall. Thus, the combination of low BMD and a propensity to fall significantly increases an individual's risk of a broken hip. Poor lower extremity strength and power and instability are independently associated with increased fall risk. As individuals get older, osteopenia, decreased muscle mass, and decreased physical function occur. However, age-associated declines may be attributed partly to accompanying reductions in habitual physical activity, as inactivity, immobilization, and bed rest also lead to significant musculoskeletal and functional decrements. There is limited evidence that engaging in activities that apply high loads to the musculoskeletal system may reverse or slow these physiological and functional declines.

Unfortunately, in this country, the sport and benefits of Olympic weightlifting (OWL) have been overlooked for far too long, but finally they have been applied to developing power in athletes of various sports. OWL refers to the collection of exercises called the snatch, the clean and jerk. The most powerful athletes in the world are elite level Olympic weightlifters. The ground reaction forces these athletes develop have been measured to be as much as

150% greater than the body weight and barbell weight they are lifting. When compared to other powerlifting exercises (i.e. squats, deadlifts, or bench press), Olympic weightlifters create more human power outputs than powerlifters – almost 5 times more power during the jerk. The amount of force these athletes must produce in order to perform these ballistic movements must be at a very high intensity when performing maximal effort lifts. This is why strength and conditioning coaches believe that these lifts are vital for developing athletes involved in explosive sports.

The NSCA paper entitled Health Aspects of Resistance Exercise and Training (2001) says that “animal and human studies suggest that muscular activity is effective in maintaining BMD if the forces developed reach a minimal effective strain, which is the level required to stimulate new bone formation. Because of the high forces that may be developed, resistance exercises appear to be specifically suited to prevent the loss of BMD and development of osteoporosis.”

One author has suggested that vigorous physical activity (including weight-bearing, resistance, and impact components) during childhood may maximize peak BMD. Therefore, because muscle strain is necessary to maintain BMD, and high-intensity OWL is the best for creating high power outputs and strength, I propose that the ideal choice of resistance training for treating and preventing osteoporosis would be OWL. According to the author’s statement above, the sooner one would perform OWL, the better. This could overload the skeletal system during childhood in order to create optimal BMD, especially during puberty while estrogen is pumping high in the developing female body. If optimal BMD is created early in life, then this may decrease the likelihood of developing osteoporosis later in life. I do not know of any long-term evidence that has specifically looked at junior weightlifters and their BMD when compared to it later in their life.

One study in particular did look at the benefits of OWL on BMD of the lower back and neck of the femur in elite junior Olympic weightlifters (average age was 17 years old). The weightlifters had a significantly greater BMD than their paired-age controls, and when compared with adult reference data of 20-39 yr old men, the BMD values were found to be significantly greater still. The authors concluded that the chronic high overloads of stress from OWL has a major influence on BMD.

Safety of Olympic Weightlifting

There are a number of studies showing the safety of OWL in an assortment of populations. The literature has

concluded that OWL is safe. Injuries among youth are one of the most infrequent among all sports in the world. When injuries do occur in a young population, it is usually because of incompetent supervision, improper technique or maximal lifting. Greater catastrophic events have been recorded with the bench press in youth than with any of the weightlifting movements. Rest assured, OWL is one of the safest sports on the planet.

One of the traditional arguments against resistance training in general for today's youth is an injury to the growth plate. The NCSA paper on basic guidelines of resistance training in athletes reports that there has not been an injury to the growth plates reported in a supervised environment with properly educated athletes. Although it is a concern, the risk is not greater than any other sport.

As for the elderly taking up OWL, this is a little more fuzzy. Because age-related declines in ability vary by individual, it is more of a question on whether or not the individual has the balance and/or flexibility to perform the movement. Research has shown the benefits of explosive movements (plyometrics) in post-menopausal women and the elderly population for BMD. These require less flexibility in some individuals, thus, they are a great alternative to the Olympic lifts if they are not comfortable.

Summary

Here are some fast facts on osteoporosis:

Osteoporosis is a major public health threat for an estimated 44 million Americans, or 55 percent of the people 50 years of age and older. In the U.S. today, 10 million individuals are estimated to already have the disease and almost 34 million more are estimated to have low bone mass, placing them at increased risk for osteoporosis.

Of the 10 million Americans estimated to have osteoporosis, eight million are women and 2 million are men.

Thirty-four million Americans have low bone mass, which puts them at increased risk of developing osteoporosis and related fractures.

One in two women and one in four men over age 50 will have an osteoporosis-related fracture in her/his remaining lifetime.

Significant risk has been reported in people of all ethnic backgrounds.

While osteoporosis is often thought of as an older person's disease, it can strike at any age.

Therefore, a healthy lifestyle and resistance exercise would be the best protection from the disease. Ideally, resistance training involving OWL would provide the best protection starting during childhood, however, it can be taken up at

any time. Even if an individual has been diagnosed with osteoporosis, it is still not too late to try it and reap its benefits.

Until next time...

[Click here for more information regarding your health.](#)

Fish & Omega 3 Fatty Acids

New Guidelines published by the American Heart Association



Omega-3 fatty acids benefit the heart of healthy people, and those at high risk of — or who have — cardiovascular disease.

We recommend eating fish (particularly fatty fish) at least two times a week. Fish is a good source of protein and doesn't have the high saturated fat that fatty meat products do. Fatty fish like mackerel, lake trout, herring, sardines, albacore tuna and salmon are high in two kinds of omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

To learn about omega-3 levels for different types of fish — as well as mercury levels, which can be a concern — see our Encyclopedia entry on Fish, Levels of Mercury and Omega-3 Fatty Acids.

We also recommend eating tofu and other forms of soybeans, canola, walnut and flaxseed, and their oils. These contain alpha-linolenic acid (LNA), which can become omega-3 fatty acid in the body. The extent of this modification is modest and controversial, however. More studies are needed to show a cause-and-effect relationship between alpha-linolenic acid and heart disease.

The table below is a good guide to use for consuming omega-3 fatty acids.

Summary of Recommendations for Omega-3 Fatty Acid Intake

Population Recommendation

Patients without documented coronary heart disease (CHD)
Eat a variety of (preferably fatty) fish at least twice a week. Include oils and foods rich in alpha-linolenic acid (flaxseed, canola and soybean oils; flaxseed and walnuts).

Patients with documented CHD Consume about 1 g of EPA+DHA per day, preferably from fatty fish. EPA+DHA supplements could be considered in consultation with the physician.

Patients who need to lower triglycerides 2 to 4 grams of

EPA+DHA per day provided as capsules under a physician's care.

Patients taking more than 3 grams of omega-3 fatty acids from supplements should do so only under a physician's care. High intakes could cause excessive bleeding in some people.

Background

In 1996 the American Heart Association released its Science Advisory, "Fish Consumption, Fish Oil, Lipids and Coronary Heart Disease." Since then important new findings have been reported about the benefits of omega-3 fatty acids on cardiovascular disease. These include evidence from randomized, controlled clinical trials. New information has emerged about how omega-3 fatty acids affect heart function (including antiarrhythmic effects), hemodynamics (cardiac mechanics) and arterial endothelial function. These findings are outlined in our November 2002 Scientific Statement, "Fish Consumption, Fish Oil, Omega-3 Fatty Acids and Cardiovascular Disease."

The ways that omega-3 fatty acids reduce CVD risk are still being studied. However, research has shown that they

decrease risk of arrhythmias, which can lead to sudden cardiac death

decrease triglyceride levels

decrease growth rate of atherosclerotic plaque

lower blood pressure (slightly)

What do epidemiological and observational studies show?

Epidemiologic and clinical trials have shown that omega-3 fatty acids reduce CVD incidence. Large-scale epidemiologic studies suggest that people at risk for coronary heart disease benefit from consuming omega-3 fatty acids from plants and marine sources.

The ideal amount to take isn't clear. Evidence from prospective secondary prevention studies suggests that taking EPA+DHA ranging from 0.5 to 1.8 grams per day (either as fatty fish or supplements) significantly reduces deaths from heart disease and all causes. For alpha-linolenic acid, a total intake of 1.5–3 grams per day seems beneficial.

These data support the 2000 AHA Dietary Guidelines recommendation to include at least two servings of fish (particularly fatty fish) per week.

Randomized clinical trials have shown that omega-3 fatty acid supplements can reduce cardiovascular events (death, non-fatal heart attacks, non-fatal strokes). They can also

slow the progression of atherosclerosis in coronary patients. However, more studies are needed to confirm and further define the health benefits of omega-3 fatty acid supplements for preventing a first or subsequent cardiovascular event. For example, placebo-controlled, double-blind, randomized clinical trials are needed to document the safety and efficacy of omega-3 fatty acid supplements in high-risk patients (those with type 2 diabetes, dyslipidemia, hypertension and smokers) and coronary patients on drug therapy. Mechanistic studies on their apparent effects on sudden death also are needed.

Increasing omega-3 fatty acid intake through foods is preferable. However, coronary artery disease patients may not be able to get enough omega-3 by diet alone. These people may want to talk to their doctor about taking a supplement. Supplements also could help people with high triglycerides, who need even larger doses. The availability of high-quality omega-3 fatty acid supplements, free of contaminants, is an important prerequisite to their use.

Related AHA publications:

An Eating Plan for Healthy Americans
Easy Food Tips for Heart-Healthy Eating (also in Spanish)

Detailed Research

AHA Scientific Statement: Fish Consumption, Fish Oil, Omega-3 Fatty Acids and Cardiovascular Disease, #71-0241 *Circulation*. 2002;106: 2747-2757

AHA Scientific Statement: AHA Dietary Guidelines: Revision 2000, #71?0193 *Circulation*. 2000;102:2284-2299; *Stroke*. 2000;31:2751-2766

Environmental Protection Agency's National Listing of Fish and Wildlife Advisories, www.epa.gov/waterscience/fish/

Food and Drug Administration's list of mercury content of selected fish, www.cfsan.fda.gov/~frf/sea-mehg.html

[Click here for more information!](#)

Trainer Spotlight- Josie Douglas

Bachelor of Arts, Business Administration
Certified Personal Trainer - ISSA
USA Weightlifting Club Coach

Josie, originally from Ireland, moved to the United States in 1990. Her education and background is in Business Administration, however, moving to the U.S. inspired her interests in the Fitness industry. She has acquired a number of years experience in both strength, and weight training. Josie is a certified personal trainer with the International Sports Sciences Association.

Josie's interests have included a number of years in the equestrian sport, in Ireland. Living in the U.S. she has acquired many other interests including bike riding, running and snowboarding.

[To schedule a personalized session please contact: admin@focusedtrainers.com](mailto:admin@focusedtrainers.com)



American Cancer Society Relay for Life!

June 25th-26th, 2005 Los Altos High School

The American Cancer Society Relay For Life® of Los Altos, California is an overnight team event that raises awareness of cancer, celebrates survivors, remembers those lost to the disease, and raises funds to fight cancer through research, education, advocacy and patient services.

Be part of the American Cancer Society Relay For Life of Los Altos! Use this website to form a team and start raising money for the fight against cancer! Together, we'll honor the courageous spirit of people who have been touched by cancer.

Throughout Relay For Life, teams of friends, families and co-workers from the community commit to keeping at least one member walking the track...because cancer never sleeps.

Relay For Life provides hope that those lost to cancer will not be forgotten, that those who face cancer will get support, and that one day, cancer will be eliminated.

Relay For Life is the American Cancer Society's signature activity. It unites millions of people in thousands of communities nationwide each year to raise money to help prevent cancer, save lives, and diminish suffering from the disease. Every dollar you raise makes a difference to people touched by cancer.



[Please click here to donate or to sign up to walk in this years Relay!](#)



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