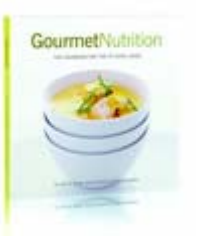

Exercise and Autoimmune Disease

By Tammy Thomas

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After being suddenly afflicted with an autoimmune disease, my most beloved pastime activity of weight training came to a screeching halt. With this shift from being the picture of optimal health to simply striving to be mobile and functional, a new "selective perception" allowed me to see just how prevalent autoimmune disease is. And rather than continuing to think that autoimmune disease was something "the other guy" got, I realized that this idea couldn't be farther from the truth.

The truth is, the societal daily pressures can create overburdening stress. During such stress, some individuals may tax their body's ability to generate a stress response, leaving that individual wide open for autoimmune conditions. Women, in particular, are more at risk, which is evident by the disproportionate number having fibromyalgia, multiple sclerosis, and rheumatoid arthritis.

My writing on this topic is based mostly on my personal experiences and opinions and a small amount of my research, serving two purposes: 1) catharsis and 2) to hopefully inspire individuals who once thought they were invincible but are now living with chronic pain that they can increase their quality of life with diet and exercise, and to leave them with the knowledge that they can be more powerful than they once were - if they so **choose**. With the devastating pain that accompanies autoimmune disease, exercise becomes a privilege, and along with proper nutrition, **a necessity**.

My story

In 1991 I decided to quit smoking and join a gym. I don't know what exactly inspired me to make the lifestyle switch, other than I was really feeling the stigma and embarrassment that accompanied the new prejudices and condescending sneers of disgust I experienced every time I lit up. Since I realized that bouncing on the Stairmaster as a smoker made for an extremely short workout, I knew that either I had to quit smoking, or I had to forfeit the 350 clams that I had spent for a year membership. Now, I had known a few people in the gym who were smokers, but, to me, this seemed to be a huge conflict of interest, bordering on counter-productive self-sabotage. This defied the very reason for being there so, in essence, I put my own back up against the wall and gave myself the quit smoking ultimatum. As a result, I did quit smoking and fell quickly into the gym routine, channeling all my addictive behaviors into daily three-hour workouts. Because of my consistency and impressive strength gains, I eventually earned the respect of the gym regulars who knew that training for me was more than a New Year's resolution.

I had a wonderful first two years of training hard and eating well. But then it began to happen. I had no idea why, but within a period of a few weeks, my body was failing to perform basic biomechanical functions. First, easy squats made my legs tremble with fatigue and weakness. Then I began having unexplained feet pain that made it difficult to walk. Soon, I was unable to raise my arms due to sharp shoulder pain. Helplessly, I watched as all my physical strength adaptations were diminished to the point where the weight of my own limbs was too heavy and painful to lift. After almost a year of misdiagnoses, I finally discovered a doctor who told me I had rheumatoid arthritis.

"Rheumatoid arthritis", according to Webster, "is a chronic disease whose cause is unknown and is characterized by inflammation, pain, and swelling of the joints accompanied by spasms in adjacent muscles and often leading to deformity of the joints." In a short time I had gone from sets of ninety-pound knee extensions to weekly knee injections to have the synovial fluid drawn from my joints. "Arthrocentesis," surgical puncture of the joint, aspiration of the fluid, and intra-articular corticosteroid injections, was a hugely painful experience at first (heck, those are even painful words to pronounce). However, with the ensuing pain that the condition caused, I soon looked forward to 'my fix' into the prioritized 'joint-of-the-week.' This would mark the beginning of yet another lifestyle, one that was not self-imposed.

Rheumatoid arthritis (RA) affects 1% of the population under 60 years of age, with the poor prognosis that 80% of those afflicted will be disabled within 20 years. Due to my RA being very severe and aggressive, I was considered officially disabled within 2 years of its onset, and was forced to retire from a profession I loved at the age of 25. So, I took a couple years to grapple with my new existence, indulging the despair and the disability that sucked me into a downward spiral, and spent some time mourning who I used to be.

My Recovery

Because there is no cure, only treatment of symptoms, for RA, and only the lucky few experience remission, my 'recovery' continues on a daily basis. This recovery process is now my new lifestyle, which has three components to it: mind, body, and spirit. Each of these three departments must be continually nurtured in order for me to stay in 'recovery' ("recovery: to get back; regain; become normal; reclaim"). I realize that many of you will scoff at this mind, body, spirit connection that I bring up, and may think of this interconnected concept as one only realized by bored, lonely, and unfulfilled housewives who watch the Oprah show. However, it is a well-recognized concept that is the foundation of ancient medicine as well as the basis of complementary alternative medicine of today.

Mind

Have you ever been depressed and, suddenly, you find you can't get up in the mornings, you eat poorly, and you stop exercising? You may even become ill. It surprises me how quickly people in our society immediately announce that they're "depressed" when something unfortunate happens. For some reason, they ignore the emotion of "sadness" and throw themselves into full-blown depression, and inevitably, all the poor-health perquisites follow it. Of course this is my opinion, but I believe depression (not the clinical type) happens when you are being self-absorbed and have time to feed it. The cure: think about others for a change, and/or keep busy. Allow yourself to be sad, but then get over yourself and get busy again.

The incidence of chronic disease is staggering and I find it hard to comprehend the failure to be responsible and proactive in one's own health. The motivation behind this type of unaccountability is puzzling: is it laziness and lack of control, despair and apathy, or is it a subconscious choice to perpetuate their disease as an excuse or for some sort of pay-off? When learning that mind and body are connected, I had to ask myself the hard questions, such as "what am I doing that may be making me sick?" The trick here is that only an honest answer may open the door to recovery. Louise Hay, a metaphysical writer on healing teaches that "dis-ease" is a manifestation of life patterns and suppressed emotions. Although some may say that this belief is 'kicking someone while they're down,' the concept that 'we are our thoughts and feelings' is the constitutional basis of religions and spiritual movements, as well as ancient and new age philosophies.

Spirit

I am not a religious person, but I consider myself as spiritual. As one of the critical components of well-being, spirituality is essential to give your life purpose. Choose to see a reason and purpose for everything that happens in life. Although you may not know what it may be in the short term, you ultimately have a choice on how you interpret everything that happens to you. Since we may never know the answer to life's hardest questions, I believe that we should always choose the interpretation that empowers us and makes us feel good!

Body

With some of the "unmeasurables" discussed, let's delve into the physiology stuff.

Exercise

Over 60% of Americans are overweight, resulting in pandemic over-fatness and all the health issues that go with it, including hypertension, insulin resistance, endocrine dysfunction, cardiovascular disease, diabetes, certain types of cancer, stroke, peripheral vascular disease, dyspnea, and disability. Exercise is something the body was designed to do. It has an amazing capacity to withstand intense heavy loading and aerobic work, resulting in very positive and beneficial physiological adaptations that increase the body's efficiency on several functional levels.

I find the various connotations that people have of exercise interesting: for those who can but don't, exercise is viewed as boring, dreadful, a waste of time, pointless. For those who can and do, exercise is therapy, required for emotional and physical stress management, a necessity to incur gains in strength needed for greater efficiency in an active and physical life, and insurance for disease prevention and optimal health. One view of exercise that I espouse, one forged through deeply personal experiences, is that exercise should also be revered as a privilege, one that can be taken away from any one of us at any given time.

Me, when first diagnosed with RA, I was in the "can't but wants to" group, but didn't stay there for long. I can and do now; however, at a much more compromised capacity. Unfortunately, with the amount of irreparable damage from which my joints continue to suffer, half of my doctors have expressed their concern over my weight training. However, even at a reduced capacity, the benefits are numerous.

Although there is (outdated) concern over aggravating and exacerbating the inflammatory disease process of RA with weight training, the current medical literature on RA and strength training has shown only improvements in function, strength, range of motion, and disease activity scores. Personally, I have experienced nothing but positive results and therefore I continue to do it. I have been training in the gym for 7 years now with an official diagnosis of "severe, erosive rheumatoid arthritis." When people are shocked to discover that I have the condition, they remark on how I must not have it "that bad." Although I didn't always see it this way, to me, this is the ultimate compliment. For I know I can attribute how I feel, look, and function to the benefits of exercise - and proper diet.

Diet Education

This section underscores "education," since the various types of conditions require certain and specific dietary prescriptions. Therefore, individuals should be responsible for educating themselves on proper nutrition and be informed of any nutrient deficiencies or special considerations that accompany their condition. A great resource is:

http://www.precisionnutrition.com/cmd.php?af=293236

As we know, from the work of Peter Lemon, dietary protein needs for those who exercise regularly are in the range of 1.2-1.8g/kg of body weight per day. However, add on top of that any condition that facilitates muscle atrophy or cachexia, and those needs increase. For example, individuals with active rheumatoid arthritis (RA) need 1.5-2g of protein/ kg of body weight. Since I incorporate weights into my exercise regimen, I try to achieve 2g/kg of protein per day. This is often hard to achieve through diet alone, so I supplement with MRPs and whey protein, which confers numerous health benefits. Some of the benefits of whey protein include participation in antioxidant systems, immune balance, and anti-tumor/anticancer activity. While I do encourage the use of protein supplements, I am not advocate of soy protein with autoimmune disease - for men or women. Since there is evidence that a high estrogen to androgen ratio may mediate autoimmune activity (more specifically RA), I avoid soy products and the phytoestrogens they contain while supplementing with large doses of d-bol (just kidding about this last part).

Osteopenia (bone softening/thinning and resorption) may occur during chronic pain due to low levels of physical activity and the effects of drug treatment. Supplementing calcium (along with vitamin D to enhance its absorption) is extremely important with smoking, caffeine and alcohol consumption, and high meat diets.

Some conditions may have micronutrient imbalances due to metabolic aberrations in certain disease states; however, many are not yet commonly known. Most of these deficiencies are published in the nutrition medical literature, and much more information is being discovered. For instance, recent, unpublished data may show that pyridoxine (vitamin B 6) metabolism is altered in RA, perhaps requiring supplementation. If motivated, do the research to see if micronutrient supplementation is something you will need. Even better yet, have your micronutrient status assessed clinically - it's certainly worth the expenditure.

Since there is a connection between inflammation and dietary fat, I believe everyone can benefit from omega-3 fatty acid supplementation. These healthy fats have been found in the research to improve nearly all hospitalization recoveries ranging from heart attack to burns. These fatty acids, along with oleic acid (canola and olive oils), decrease the production of the proinflammatory eicosanoids and cytokines, which lead to the production of reactive oxygen species (free radicals) and inflammation destruction.

Glutamine has gained popularity as an ergogenic supplement for its anti-proteolytic effect (reduces protein breakdown) by offsetting the catabolic effects of hormones and providing fuel to the other tissues that use it (brain, liver, kidney, and gut), thereby sparing muscle protein. With exercise glutamine may act as an acid buffer with increasing lactate concentrations, a muscle cell volumizer, and a glucose regulator, improving insulin sensitivity. These reasons may be enough to encourage supplementation in those who want to gain lean mass, such as athletes or those with muscle atrophy. Glutamine also serves as fuel for immune cells, which is beneficial for those who chronically overtrain (or regularly use glucocorticoids for medicinal purposes) and are therefore immunosuppressed. However, in the case of autoimmune disease, I am uncertain as to whether glutamine would be of benefit. After all, do we want to feed the very cells (proinflammatory cytokines and the immune cells causing their proliferation) that are overexpressed and out of balance with glutamine fuel?

I have found that when people are desperate, they resort to desperate measures, and will try just about everything! I have tried all the CAMs (complementary alternative medicines) as well as every diet and food combination that exists. Personally, I am not an advocate of herbal supplements, since there may be purity issues and interactions with other medications; however, I've tried many of them anyway, along with trendy antioxidants, but to no avail: my condition did not improve with these. For me, nothing works better than eating clean and getting enough protein! I suggest finding out what is recommended in the medical literature. Try a "Google" search on "diet" and the name of the condition in question.

Medication

It surprises me that there are those who aren't active in their own medical treatment and passively sit by, using medication that isn't working for them, while never uttering a word to their doctors. Or worse yet, patients are staying loyal to doctors who aren't aggressive enough in their treatment or who are closed to the modern drugs and therapies. This victimization by the health care system is especially common in the elderly, who have been seeing the same doctor for over 30 years -the dinosaurs who may be unaware of the new pharmacotherapies that exist today.

You must play a role in your own therapy by communicating with your doctors what is working and what isn't. If necessary, keep switching medications until you find what works. I just spoke to a woman with RA last week that complained her doctors were unable to control her inflammation; however, she wasn't on any medication and only sporadically used her daily anti-inflammatory medication! This begs me to question the motivation behind this type of behavior?

Also mystifying to me are those patients who refuse drugs that their doctors recommend on the basis of the potential side effects that they may induce. The thought of unnecessary suffering because one is afraid of negative consequences that may or may not happen decades from now is ludicrous to me. Despite the fact that you could be hit by a bus next year, wouldn't you rather take the risk of any potential side effects by taking the medication and soon enjoy an active and enhanced quality of life, or would you rather brag about your healthy liver while sitting in a wheelchair? For godsake, Live in the Now! Take whatever medication necessary allows you to function, without pain, and will allow you to exercise!

Keeping a training log

Don't. Heresy, I know. But unlike Nike, just don't do it. With the exception of taking notice on how you feel during and after each workout, I recommend that you don't keep a training log. Many autoimmune diseases have periods of flares and remissions and, as a result, you may find huge decrements in your performance while in a flare to be defeating. Focusing on these strength losses by recording them may be more damaging to your ego than starting each day in the gym with a fresh attitude, no expectations, and no previous limitations.

Exercise goals

I suggest keeping a consistent workout schedule and do what you can. Rather than focusing on weight load, focus on repetitions. In my case, many repetitions are required in order to warm up the joints and get full range of motion. I have found that focusing on range of motion and proper form, strength gains will follow.

My primary goal is based on exercise frequency: getting my butt to the gym 4-5 days/wk. Once there, I train body parts to ensure adequate recovery before I train those parts again. I also stress cardiovascular exercises. Since I focus on what I can do rather than what I can't, I invest more time on the things I can do. For me, this means cardio and larger muscle groups. However, when not feeling well, I train the smaller muscle groups at home, until I'm strong enough and confident to train them at the gym. After all, the "baby weight" jokes get boring. For an interesting little twist of humor, I sometimes respond to these jokes by telling the cretins that the reason I'm using the baby weights is because I have a severe, erosive, degenerative joint disease so thanks for the comments. Well, I'll be honest. I don't really say that but it would shut them up, wouldn't it.

Another reason to work on the cardio is that some chronic disease conditions can come with the bonus of diminished aerobic capacity, and/or increased risk for cardiovascular diseases. So it's important to train this system as well. Since many individuals with chronic disease are inactive

and gain a whole bunch of excess fat mass, this extra weight can be a burden on compromised joints. I keep it off with my cardio.

Walking is an underestimated exercise. After all, it's an activity that not only improves cardiorespiratory fitness but it is also weight bearing, which helps to inhibit bone resorption and stimulate new bone formation. Walking also strengthens the muscles of the legs, limb girdle, and lower trunk, as well as the shoulder girdle during the contralateral arm swing. This exercise is directly applicable to daily functional activities, such as pedestrian-crossing at timed intersections, climbing stairs, standing from a seated position, and can be mastered by most individuals who are not severely disabled or feeble and frail. Sure, most hardcore trainees laugh at walking as a form of intense exercise. Let 'em spend 1 day with RA and I think they might reconsider!

When training with an autoimmune disease, it's important to realize that not everyone in the gym shares the same specific goals. For some, perhaps many, the goal is to look good naked. All right, all right, we all want to look good naked! However, my workout has had to become more than aesthetics. For me, and possibly others like me, strength gains translate into functional gains, which may mean carrying two more grocery bags on each arm, performing taxing housework, opening doors, or having strength to pull that damn sports bra on over my body.

Exercise prescription

So what happens when you find yourself in the group, "can't but wants to "?

First, find out if you really 'can't.' Consult your physician on whether an exercise program would be feasible for you. However, be forewarned. Depending on the condition, some doctors and health-care professionals may strongly advise against some types of exercise. It will be up to you whether or not to heed their advice.

If pursuing a never previously attempted weight-training program, you will need a personal trainer to show you how to correctly use the equipment in the gym and the proper form and range of motion for each exercise. Unfortunately, because many personal trainers know nothing about exercise for special populations, I suggest you interview those personal trainers with at least a bachelor's degree in the field of exercise science, and those with ACSM or NSCA certifications or CSCS credentials.

There are several books that you can purchase on exercise with chronic disease, disabilities, and disorders. Those that come highly recommended are the ones used by exercise professionals on the ACSM and Human Kinetics websites. Here are a few:

ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities (Human Kinetics)

ACSM's Resources for Clinical Exercise Physiology: Musculoskeletal, Neuromuscular, Neoplastic, Immunologic, and Hematologic Conditions (ACSM)

Resistance Training for Health and Rehabilitation (Human Kinetics)

Arthritis: Your Complete Exercise Guide (Human Kinetics)

Ultimately, you will be the expert on what you can do in terms of types of exercise, weight loads, intensities, and the frequency and duration of exercise bouts. This will require paying close attention to your body and learning the difference between 'good' pain (delayed onset muscle soreness) and 'bad' pain, such as injury. There is also 'joint' pain (the popping and clicking joint

sensations that I call the "yuck-factor") and 'muscle' pain (the desirable muscle "pump" or tightness that results from transient hypertrophy). You will need to monitor if exercise is benefiting you by increasing strength and efficiency, decreasing fatigue, and improving symptoms, without any detrimental repercussions.

Regular exercise and proper nutrition affords numerous benefits for everyone, and therefore, everyone should be encouraged to participate in regular physical activity and healthy eating, regardless of their functional state. For me, this combination is the difference between being totally dependent and highly functioning. Not only can I carry a couple extra grocery bags on each arm, I am once again doing 90 pounds on the knee-extension machine.

In addition to these functional benefits, my exercise program and nutritional habits have empowered my mind and spirit, allowing me to take some amount of control over this disease. And although I often assert that I'm now all about the functionality, I do come from a bodybuilding background. Therefore I have to say that at the age of 34 and at 16% body fat, I also don't look too bad naked either!!

Be sure to check out:

http://www.precisionnutrition.com/cmd.php?af=293236

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