Exercise and Immune Disease

Even patients with immune diseases can reap benefits from exercising. Just make sure you are doing enough — but not too much — to ensure optimum health.

By Matthew David Hansen, DPT, MPT, BSPTS

"What can I do to exercise?" and "Is exercise safe?" are two questions frequently asked by individuals living with immune disease. Unfortunately, with more than 150 primary immune deficiency diseases (PIDDs) and 60 autoimmune diseases (AIs) recognized by the medical community, there is no simple answer. However, almost without exception, we all can — and in fact should — perform some type of regular exercise.

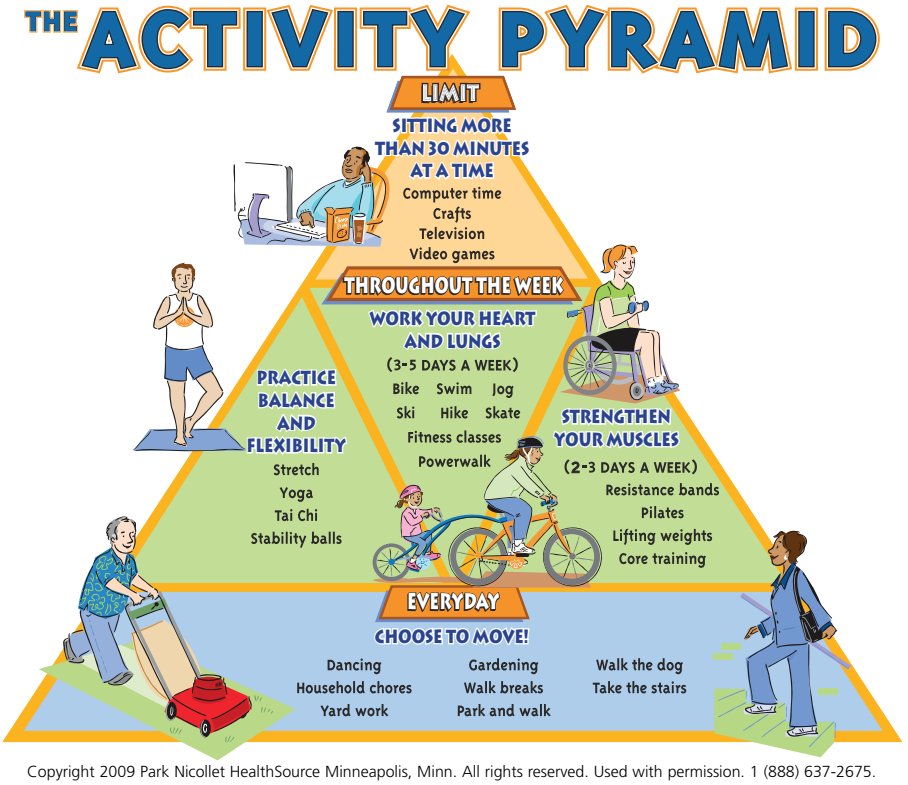
Proper and regular exercise has been proven to help improve mood, self-esteem and intimacy; manage weight and cholesterol; boost energy and concentration levels; promote a better night's sleep; decrease pain and stiffness; increase strength, endurance and function; combat high blood pressure; prevent the formation of secondary chronic diseases, such as osteoarthritis, coronary heart disease, certain types of cancer and type 2 diabetes; and, in many cases, reduce disease activity. Conversely, a number of studies have demonstrated that physical inactivity significantly contributes to the debilitation and disability that can be associated with PIDDs and AIs.

Scientific literature exists on the benefits of certain types of exercises, as well as the recommended precautions to be taken, for a few autoimmune diseases (e.g., multiple sclerosis and rheumatoid arthritis), but precious little has yet been published for the majority of PIDDs or AIs. Consequently, and because a person's response to a given disease or secondary health condition is unique, physical activity should always be prescribed on an individual basis. Nevertheless, there are several guidelines and principles regarding exercise for individuals with PIDD or AI that are global in application.

Consulting with a Physician

Individuals should consult with their doctor before beginning an exercise program. Physicians will have the best understanding of each patient's specific condition and of what special precautions should be considered. Some doctors may feel comfortable helping to set up a program. If not, they can refer patients to a physical therapist with a background in treating chronic diseases. It

should not take more than one to three visits for the therapist to get to know the patient and their needs, and to set up a program. Once a program has been established, individuals should check in with the therapist or a qualified athletic trainer or exercise physiologist at least every six months (or any time there is a significant change in health) to reassess the program. If patients experience severe or lasting pain from any of the activities, or a notable exacerbation of symptoms, they should discontinue the activity and contact their doctor immediately.



Choosing a Suitable Exercise Program

Regardless of a patient's current situation, there is almost assuredly an exercise program that will improve their physical, emotional and/or mental well-being. Even those individuals who are experiencing an uncontrolled or advanced disease state may be able to benefit from breathing exercises or assisted strengthening exercises. We need to change the preconception that, unless we are running a 5K or doing 100 sit-ups at a time, we're not exercising! Perhaps running competitively in races is one person's reality, but for many others, it is not. Many patients enjoy the benefits of exercise by taking daily walks, lifting soup cans while sitting on the couch and watching the evening news, blowing up balloons to make animal caricatures or to simply release them into the air, etc. Countless exercise options exist to meet an individual's current abilities, needs and interests.

The correct healthcare professional can help a patient select suitable activities to include in their exercise program, as well as prescribe the appropriate frequency, duration and intensity. The Activity Pyramid (see Table 1) is analogous to the USDA's Food Guide Pyramid, and provides some general guidelines for activity levels. According to the pyramid, an activity plan begins with daily activities at the bottom of the pyramid, which include lifestyle changes (e.g., taking extra steps in your day by walking the dog, taking the stairs instead of the elevator or parking the car farther away and walking), and is a great place to begin for those who haven't exercised much in the past.

The pyramid's second level consists of aerobic or recreational activities that should be performed three to five times a week (e.g., long walks, biking, swimming, tennis, basketball and racquetball). And, the third level is made up of leisure activities and strength activities that are recommended two to three times a week (e.g., golf, yard work, bowling, weightlifting, yoga, push-ups/sit-ups). These are examples only of possible activities, and any physical exercise should be cleared with the patient's physician first. All levels of the pyramid can be adapted to an individual's needs. A healthcare professional and/or an occupational therapist may be able to help you find a way to make accommodations or adaptations to allow your participation in a preferred activity that you previously believed was no longer possible. The top level of the pyramid suggests activities that individuals should cut down on (e.g., watching television, playing video or computer games or sitting down for more than 30 minutes at a time without a movement break). The point is to get moving and have fun doing it!

Patients looking for somewhere to start their program

should consider several aerobic exercises that reduce the stress on the joints (and are generally safe for most people). These include stationary biking; walking on even terrain or a treadmill; and swimming, water aerobics or wading. Individuals should stay away from public swimming sites if they have any open sores to avoid increased exposure to infection. Another possible starting point may be with an individual's own family. Many PIDDs and AIs are inherited, or at least have a genetic component. If a family member has the same or similar diagnosis, they may have discovered what type of exercise has worked for them. Even if they have or haven't been actively exercising, this may be an opportunity for family members to get started on a program together.

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Keeping Motivated to Exercise

Individuals should take an active part in designing their exercise routine because it increases motivation and improves follow-through. If they choose activities that are of interest or can include a hobby into the mix (or learn a new one), they are much more likely to be faithful and committed to the program. Other ideas to help boost exercise motivation include:

- exercising with a friend and making it a social event
- incorporating exercises into their daily routine (many exercises can be done while sitting at the computer, watching television, performing housework, standing in line at the grocery store or even brushing their teeth)
- keeping a personal exercise log to track improvements
- listening to music, reading a book or learning a language while working out
- buying workout clothes that make them feel good
- rewarding themselves for meeting their exercise goals (as long as the rewards aren't contra-beneficial, such as a big milkshake or chocolate cake — or so large, that they become difficult to keep up with!).

Staying Injury Free

A key to exercise adherence is not to overdo it and to be flexible. The old saying, "No pain, no gain," is exactly that — old advice — and should not become any individual's personal exercise mantra. Many medical professionals consider the jury still out on whether the inflammatory response that can occur with intense, prolonged and/or new exercise exacerbates PIDD or AI activity, although a number of studies conclude that it does not. However, other negative consequences can occur. Overuse or over-extension injuries and exhaustion are common results of pushing too long or too hard and can lead to further disability or complications. At the very least, overuse injuries and exhaustion will almost assuredly affect your daily routine and activity level.

Acute, sudden pain during exercise (that may be accompanied by swelling and/or bruising) is usually indicative of a muscle strain or sprain. The activity causing the pain should be discontinued and the injury attended to immediately. The acronym RICE (Rest, Ice, Compression and Elevation) is the most common treatment response for this type of injury; however, treatment might need to be modified based on an individual's condition. For example, some people can experience a flare-up of symptoms or other negative responses to either cold or compression therapy modalities. If an individual suspects that an injury may be more severe, or if they have a bleeding disorder, they should seek immediate medical attention.

Muscle soreness or stiffness that is felt 12 to 48 hours after exercise is referred to as delayed onset muscle soreness (DOMS) and is probably the result of micro-tears in the muscle. As a general rule, this type of muscle soreness should not be excruciating (though it may be very uncomfortable), should decrease in intensity over time and should not last longer than four to seven days after the activity. If it does not meet these expectations, the exercise needs to be modified or substituted for a comparable activity, and the patient's body may need a short break from its routine until the discomfort subsides completely.

Individuals at greatest risk for "over-doing it" are those who have, for the most part, been previously sedentary and are just beginning to feel the beneficial effects of exercise, those who have recently developed or been diagnosed with a PIDD or AI and are still learning how to manage their care, and the age group consisting of teenagers to young adults (who are more prone to a feeling of invincibility or — at the very least — desire to keep up with their friends). In contrast, the middle-aged and older adult groups tend to be less active than they should, and may be in danger of developing complications of inactivity. Initially, it may be difficult to tell the difference between exercise-induced soreness and the disease-related process. In this case, an individual should begin their routine slowly and pay close attention to their body's response. If they are experiencing an exacerbation of symptoms, or have an infection, it is all right (and may, in fact, be recommended) to decrease or even temporarily discontinue their exercise program. Yet they shouldn't remain out of the game too long, but rather ease back into it!

A special word of advice should be shared with those who feel well enough and are determined to run the long races, hike the mountain peaks and train hard, after already having consulted their physician. There is ample evidence to imply that anyone is more prone to developing an upper respiratory tract infection for the first one to nine hours after acute bouts of prolonged, heavy endurance exercise (due to the suppressed function of certain immune system mechanisms). If an individual does decide to participate in more strenuous exercise, medications should be monitored more closely and precautionary measures against infection (e.g., keeping hydrated, but not drinking from someone else's bottle) should be taken.

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Any Exercise Is Worth the Effort

Individuals not currently participating in an exercise program should understand the many potential benefits of doing so, and they should speak to their physician about getting started. It does not necessarily take much effort to make an improvement in well-being and quality of life. Even if an individual doesn't yet know the answer to the question, "What can I do to exercise?" after reading this article, they should now know where to start.

As a common expression reminds us, "Excuses are a dime a dozen," but in this case, the benefits of exercise can be absolutely priceless. Whether beginning a program helps to prevent a secondary, and potentially mortal, condition like coronary heart disease, or simply makes a better night's sleep or more time playing with children or grandchildren possible, it's well worth it.

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