Hepatitis C and Non-alcoholic Fatty Liver Disease

Hepatitis C increases the risk of non-alcoholic fatty liver disease (NAFLD), a metabolic disease that generally occurs in overweight patients. This article suggests ways to decrease risk of NAFLD. This article originally appeared in the HCV Advocate.

September 7, 2015 By Lucinda K. Porter RN

Recently I saw a post from a patient who was cured of hepatitis C, only to find out that he had fatty liver disease. I felt badly for him, since now he has another liver disease to contend with, but then I thought it over. Fatty liver disease can be fixed, and the cure may help more than his liver—it may help him live longer and feel better.

Non-alcoholic fatty liver disease (NAFLD) is a metabolic disease that generally occurs in overweight patients. It may also occur in patients whose weight is normal, but because of prior excess weight, they developed insulin resistance, diabetes, or fat in the liver area, called visceral fat. NAFLD may also arise in people who eat a high fat, low-nutrition diet.

NAFLD is the most common liver disease, and it is increasing in prevalence and severity. Since fat impairs liver regeneration, NAFLD can lead to fibrosis and cirrhosis. NAFLD is the third most common risk factor for primary hepatocellular carcinoma. The American diet is so harmful, that children are developing NAFLD. If we keep on this course, NAFLD may overtake hepatitis C as the...
single most common reason for liver transplantation. Tragically, the prevalence of NAFLD is so great, that there has been a decrease in the number of viable livers that can be used for transplantation.

Hepatitis C appears to increase the risk of NAFLD. However, before blaming hepatitis C for fatty liver disease, keep in mind that the prevalence of hepatitis C in the U.S. is less than 2 percent, whereas the prevalence of NAFLD is 30 percent. This makes it hard for hepatitis C to be the sole link to NAFLD. An exception is in genotype 3, where there is clearly a higher risk for NAFLD.

As I stated, fatty liver disease can be fixed. You probably already figured out that good nutrition and maintaining a healthy weight is important, but did you know that physical activity could improve NAFLD? Exercise also improves insulin resistance as well as cardiovascular health. A few studies bear this out, but the question some of us have is, “What kind of exercise, how much, and how often?”

Let me state this in a way that I can relate to, “What is the least amount of exercise in both time and intensity that I can get away with, and still look my doctor in the eye and say I am a regular exerciser?”

In a retrospective analysis of obese middle-aged men (Hepatology April 2015), Sechang Oh and colleagues reported that moderate to vigorous physical activity had a dramatic effect. Those who engaged in $\geq 250$ minutes a week of moderate to vigorous physical activity had the most improvement of NAFLD.

That is more than four hours of exercise weekly. Surprisingly, the exercise seemed to improve liver health, regardless of weight loss. Other research shows similar benefits. When it came to liver health, aerobic activity showed more improvement than resistance training.

**What is moderate to vigorous physical activity?**

There are various ways to measure intensity. I prefer the concept of relative intensity. Using this method, people pay attention to how physical activity affects their heart rate and breathing. Intensity level is subjective. What may be intense for one person may be less intense for someone else. For instance, I don’t play tennis, but if I were to try, I would probably be huffing and puffing after the first serve. On the other hand, I do aerobic dance, and it takes me a bit of effort to raise my heart rate.

In general, if you are doing moderate-intensity activity you can talk, but not sing, during the activity. If you are engaged in vigorous-intensity activity, you will not be able to say more than a few words without pausing for a breath.

According to the Centers for Disease Control and Prevention, examples of moderate-intensity activity are:

- Walking briskly (3 miles per hour or faster, but not race-walking)
• Water aerobics
• Bicycling slower than 10 miles per hour
• Tennis (doubles)
• Ballroom dancing
• Gardening

Examples of vigorous-intensity activity are:
• Race walking, jogging, or running
• Swimming laps
• Tennis (singles)
• Aerobic dancing
• Bicycling 10 miles per hour or faster
• Jumping rope
• Heavy gardening (continuous digging or hoeing)
• Hiking uphill or with a heavy backpack

Then there is the concept of duration. Perhaps 250 minutes a week is too much for you. Before you throw in the towel, bear in mind that any exercise is better than none. I don’t care if you are walking once around the table, it is better than sitting all the time. In fact, prolonged sitting is very unhealthy.

Prolonged sitting (eight to 12+ hours per day) increases risk of developing type 2 diabetes by 90 percent. It is also associated with increased premature death from cardiovascular conditions and cancer. The World Health Organization lists physical inactivity as the fourth-leading risk factor for death for people all around the world. It ranks up there with smoking.

When I first heard this, I thought, “I am screwed.” Writers sit a lot. Yes, I exercise every day, but I also sit a lot. After I was done whining, I set about to solve my sitting problem. I bought a stand-up desk, and set a timer to remind me to walk every hour. In addition to my regular workout, I added in a longer walk after dinner. I set a goal to stand during phone calls and commercials.

There are many other benefits of adding more physical activity into your life. Last month, I talked about hepatitis C and the value of exercise for reducing chronic pain. Exercise helped alleviate arthritic and inflammatory pain, fibromyalgia, migraine headaches and back pain. Being active improves our sleep and our moods. We live longer, and the quality of our lives is better.
If you are new to exercise, be sure to talk to your medical provider before starting. Start slow and only do what feels comfortable. Most of all, do it. Find ways to battle every excuse. Make exercise a non-negotiable part of your life. It may be hard, but it is worth it.

Resources

- [Centers for Disease Control and Prevention’s Division of Nutrition, Physical Activity, and Obesity](#)
- [Medline Plus’s Exercise and Physical Fitness](#)

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