Hepatitis C and Non-alcoholic Fatty Liver Disease

June 13, 2016 By Lucinda K. Porter RN

Non-alcoholic fatty liver disease (NAFLD) is a metabolic disease that can cause liver damage. NAFLD increase risk of fibrosis of the liver in people with hepatitis C. NAFLD 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 (liver cancer). 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 is the sole link to NAFLD. An exception is in genotype 3, where there is clearly a higher risk for NAFLD.

Fatty liver disease can be fixed by lifestyle changes. 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?”

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 ≥ 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 was 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

Not ready for this amount of activity? 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.

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.

Also see:

Diet, Weight Loss, and Liver Health in Nonalcoholic Fatty Liver Disease: Pathophysiology, Evidence, and Practice - G. Marchesini, et al. Hepatology June 2016

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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http://beta.docker.hepmag.com/blog/hepatitis-c-nonalcoholic-fatty-liver-disease