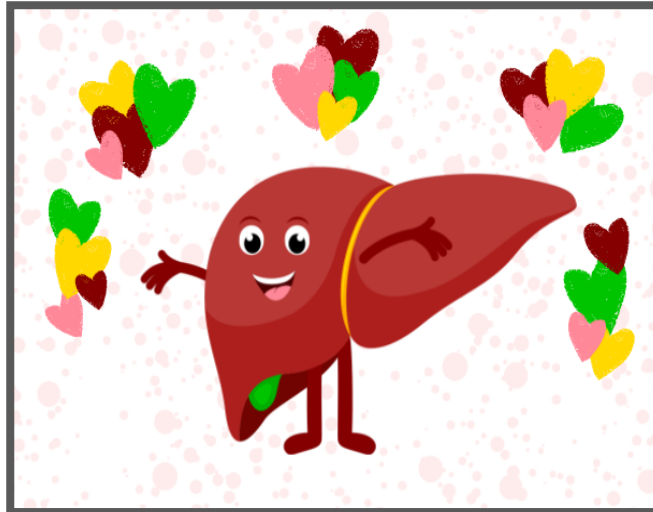


Show Your Liver Some LOVE!

The largest solid organ in our bodies, our livers play an equally large role in maintaining our health. It [performs over 500 functions](#) that are vital to our well-being, such as removing waste products and foreign toxins from the bloodstream, helping to regulate blood sugar, and creating nutrients.

A few of our livers' [essential jobs](#) include:

- **Blood Filtering:** As blood passes through the liver, it's cleansed of harmful materials.
- **Infection Protection:** Some of the harmful substances that are filtered out include dangerous bacteria. The liver also makes "immune factors," substances that play a role in immune recognition and response.
- **Bile Manufacturing:** The liver makes bile which helps carry away waste and is critical for the digestion and absorption of fats.
- **Blood Clotting:** Bile also helps with the absorption of Vitamin K. The liver uses this vitamin to create coagulants that allow our blood to clot if we get cut.
- **Blood Sugar Regulation:** The liver plays a role in carbohydrate metabolism. When we have excess blood sugar (glucose), the liver can remove some of it and change it into a substance called glycogen. Glycogen can be stored in a way that glucose can't. Then, later, if blood sugar levels fall, the liver can convert that glycogen back into glucose for a little boost of fuel!



- **Hemoglobin Processing:**

The liver takes the iron from the hemoglobin in the blood and stores it as ferritin, which is then used to make new red blood cells.

- **Amino Acid Regulation:** Our body needs proteins to function. Proteins are built from amino acids, and the liver is in charge of keeping a healthy balance of those amino acids circulating in the blood.

- **Vitamin and Mineral Storage:**

The liver stores vitamins A, D, E, K, B12, iron, and copper.

- **Cholesterol Creation:** The liver creates cholesterol which is used to make hormones, Vitamin D, and substances that help your body to digest food.

As if this wasn't amazing enough, the liver is the only internal organ that can regenerate itself. Because of this regenerative capacity, it's possible for someone to [donate](#) part of their healthy liver to another person whose liver is diseased. In only a couple of months, both people end up with whole, healthy, livers!

If you're thinking that your liver is an impervious super-hero, you're half right. Because of their complexity, healthy livers are marvels of efficacy, but this complexity also means that they can be vulnerable to damage from multiple causes.

Flip this newsletter over to read more about the dangers that your liver faces, the impacts of Non-Alcoholic Fatty Liver Disease, and the steps you can take to both protect and heal your liver. It's time to show your liver some LOVE!

As always, if you've got questions or concerns about your health, feel free to reach out to one of the providers at Sawtooth Mountain Clinic.



When Your Liver's Feeling Lousy

While livers are resilient and their functions multifaceted, these vital organs aren't indestructible. They're still vulnerable to:

- **Hepatitis:** This is any general liver infection and can be caused by viruses, autoimmune responses, or toxins. It can also lead to liver cancer.
- **Cirrhosis:** When the liver is damaged (by toxins such as alcohol or disease), it tries to repair itself. As it does, scar tissue is formed. This can lead to liver failure, because eventually a point is reached when there is just too much scar tissue and too few healthy liver cells.
- **Fatty Liver Disease:** This is the build-up of fat globules inside the liver cells. It can be caused by genetics or medication, but is most commonly found occurring with obesity or alcohol abuse. When it's not caused by alcohol misuse, it's called Non-Alcoholic Fatty Liver Disease (NAFLD).

NAFLD & NASH

[Non-Alcoholic Fatty Liver Disease](#) is the name of a range of liver conditions that affect people that drink little to no alcohol. A "silent" disease, it can develop without causing any symptoms. In the US, it has become the most common type of chronic liver disease, affecting about 1 in 3 Americans. The number of children experiencing NAFLD has more than doubled in the last 20 years - today [1 in 10 children](#) are affected.

If left untreated, NAFLD can develop into non-alcoholic steatohepatitis (NASH). Like a liver with NAFLD, a liver with NASH has fat deposits, plus it also has inflammation and cell damage. It can take years for symptoms to show up, and by the time they do, permanent scarring has occurred. Symptoms of NASH may include:

- Severe tiredness
- Weakness
- Weight loss
- Yellowing of the skin or eyes
- Spiderlike blood vessels on the skin
- Long-lasting itching

NASH can develop into cirrhosis. Symptoms can include:

- Fluid retention
- Internal bleeding
- Muscle wasting
- Confusion

Eventually, people with cirrhosis can develop liver failure and need a liver transplant.

Who's At Risk of Non-Alcoholic Fatty Liver Disease ?

People with the following conditions are at [greater risk](#):

- High cholesterol
- High triglycerides
- Metabolic syndrome
- Obesity, particularly if fat is around in the abdomen
- Polycystic ovary syndrome
- Sleep apnea
- Type 2 diabetes
- Underactive thyroid
- Underactive pituitary

Rapid weight loss or poor eating habits can also contribute to NAFLD.

Is There Any Good News?

Yes! Because of the liver's amazing regenerative capabilities, there's a lot we can do to keep our livers healthy, help them repair themselves if they've developed NAFLD or NASH, or at least stop the damage from progressing.

Show your liver some love!

- **Avoid illicit drugs.** Take only the medications that you need, follow the recommended dosages, and be cautious about mixing substances. Drugs and medicines must be filtered out by the liver.
- **Eliminate or minimize alcohol intake.** Alcohol is a drug, and the liver can only effectively break down a limited amount. Too much alcohol, consumed too often, can become more than the liver can handle.
- **Stay current on your vaccinations,** especially when traveling. Hepatitis A and B, malaria, and yellow fever can damage the liver.
- **Keep sex safe, and keep tattooing and piercings sterile.** These activities can transmit diseases that injure the liver.
- **Avoid exposure to other people's blood and germs.** For instance, don't share toothbrushes or needles.
- **Avoid breathing airborne chemicals,** like paint, cleaning products, etc. The liver has to filter out these toxins too.
- **Tweak your diet.** Maximize healthy whole foods, and minimize highly processed foods, [especially sweets](#). The [fructose](#) in soda pop damages the liver just like alcohol does.
- **Get moving!** Physical activity improves the health of every organ in your body - including your liver.
- **Skip the supplements or diets** that promise to "detox" or "cleanse" your liver. Just don't overload your liver with gunk that it has to filter out, and it will handle the detoxing itself!