

# CLEAN SPIRITS



## The Importance of NAC

An Overview of Clean Spirits™ proprietary cleansing formula with a patent pending formulation intended to support liver health, help protect against oxidative stress, and support the immune system.

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[ROOT GREATNESS](#) WEBSITE, SOCIAL MEDIA, AND [VIDEO](#)

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# What is Glutathione? <sup>1</sup>

## What Makes Glutathione?

### NAC (*N-Acetyl Cysteine*)

1. Here are some of the Benefits of NAC to your Health <sup>2</sup>
2. Many people are not aware of that certain amino acids that are essential. There are amino acids like **NAC** (*N-Acetyl Cysteine*) which has been classified as non-essential, but are important to your overall health, and especially for the health of your liver.

**NAC** is the supplemental version of cysteine and can give you a boost when your dietary intake of the other amino acids is low. **NAC** or cysteine provides numerous benefits to your health, despite being considered non-essential. <sup>3</sup>



### 1. Glutathione Production

*Glutathione* is an important antioxidant and **NAC** is a primary player in its production. Production of *glutathione* helps to protect your body from harmful free radicals and oxidative damage which destroys and ages your cells and tissues. *Glutathione* plays an important role in several chemical processes in your body and also stimulates your immune system to boost overall health.

### 2. Detoxification

**NAC** is important to your body's detoxification process and can prevent damaging side effects associated with drugs and environmental toxins. By helping with detoxifying your body, you can achieve optimal kidney and liver function to protect them from damage.



**NAC** antioxidant properties help protect your liver from disease <sup>A</sup>. **NAC** antioxidant properties also help your liver to heal even better than other alternatives.

You can repair the toxic effects of alcohol and drug use with **NAC** supplementation. Over time, these toxins can seriously damage your liver. **NAC** can protect you from too much damage.

Avoiding excessive alcohol and drug consumption is the best way to keep your liver clean and safe from disease. **NAC** and even probiotics can help in a supporting role.

### 3. Improve Heart Health

Oxidative damage is the most frequent cause of heart attack, stroke, and cardiovascular disease. **NAC** increases **Nitric Oxide** <sup>B</sup> production, which dilates your veins and improves blood circulation.

### 4. Respiratory Relief

**NAC** acts as an expectorant and an antioxidant, which aids in relieving common respiratory conditions. Increasing and replenishing your *Glutathione* levels, can reduce the inflammation in your lung. Conditions such as bronchitis, asthma, cystic fibrosis, and COPD. **NAC** can improve respiration <sup>C</sup> by increasing *Glutathione*.

### 5. Boost Brain Health

**NAC** also boosts brain health, by increasing glutamate and *glutathione* levels. Glutamate is an important neurotransmitter involved in learning and memory. Increased levels could help slow cognitive decline <sup>D</sup> associated with dementia, Alzheimer's and Parkinson's

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A. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5993450/>

B. Nitric oxide (NO) is produced from virtually all cell types composing the myocardium and regulates cardiac function.

C. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2129149/>

D. <https://pubmed.ncbi.nlm.nih.gov/27087133/>



### 6. Manage Blood Sugar

High blood sugar levels and obesity trigger inflammation in the fat tissue of your body. This results in damage to your insulin receptors. This damage increases your risk of diabetes.

**NAC** stabilizes blood sugar levels <sup>E</sup> which in turn reduces inflammation and insulin resistance. You will have less risk of diabetes. Blood sugar levels are easier to manage when you boost glutamate and *glutathione* levels.

### 7. Immune System Boost

Deficiency in **NAC** has been linked to several serious diseases, suggesting that boosted levels of NAC will enhance immunity <sup>F</sup> You can boost your immunity by producing *Glutathione* by effective supplementation with **Clean Spirits. NAC**, in this bioavailable formulation, helps to boost your immunity.

The presence of **NAC** has been shown to reduce the ability of flu viruses to replicate. **NAC** can also restore levels of natural killer cells in people with the *HIV virus*. In additional studies, **NAC** has been linked to cancer cell death <sup>G</sup> and can potentially block cancer cell replication.

### 8. Better Mental Health

Glutamate is an important neurotransmitter in mental health and **NAC** helps to regulate your glutamate levels. Glutamate is necessary for normal brain function but excessive amounts can cause brain damage. When this happens, the risk for a disorder such as schizophrenia, bipolar disorder, and obsessive-compulsive disorder increase. **NAC** regulates Glutamate Levels to avoid these disorders.

**NAC**, among its many uses <sup>H</sup> helps to relieve symptoms of depression and can moderate severe OCD symptoms as well. **NAC** has also been shown to reduce cravings associated with drug use and addictive behaviors.

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E. <https://bmccardiovascdisord.biomedcentral.com/articles/10.1186/s12872-015-0076-3>

F. <https://pubmed.ncbi.nlm.nih.gov/11115795/>

G. <https://pubmed.ncbi.nlm.nih.gov/37142668/>

H. <https://www.sciencedirect.com/science/article/abs/pii/S030441651300144X>

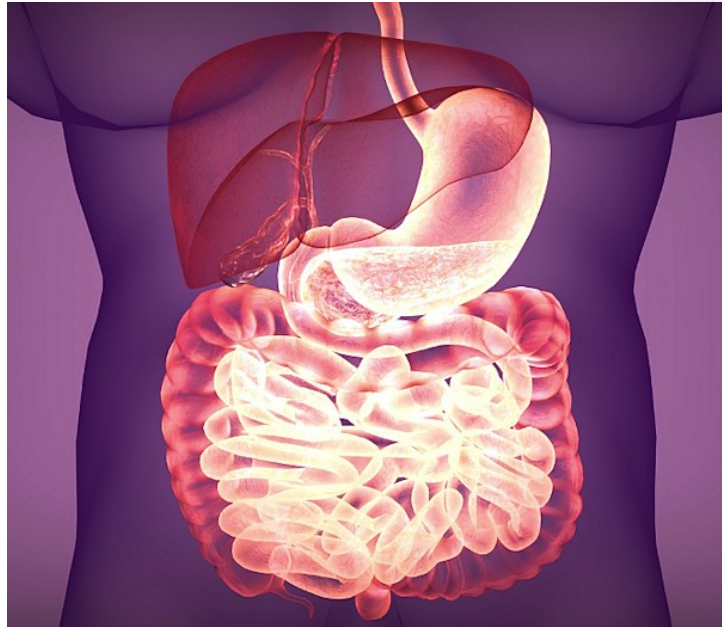




### 9. Digestive Health

Poor diet, as well as allergies, can cause *Leaky Gut Syndrome*, which allows particles to escape through the intestinal wall into your bloodstream. **NAC** improves the intestinal lining in your gut thus protecting you from *Leaky Gut Syndrome*.

When these particles move through your body they trigger inflammation <sup>1</sup> and increase the risk for serious disease. These particles never get the chance to cross over into your blood when your intestinal wall is returned to a healthy state with **NAC**.



### 10. Improved Fertility



Oxidative stress is a major factor in infertility. Both men and women can benefit from **NAC** with regards to fertility. **NAC** helps to combat oxidative stress, thus improving semen integrity.

Women with polycystic ovary syndrome <sup>3</sup> often experience low fertility levels and infertility. **NAC** helps to induce the ovulation cycle and promote fertility. For those trying to get pregnant, adding **NAC** supplements may be a good option to consider.

### 11. NAC Effectiveness

Acetaminophen (*Tylenol*) poisoning.

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1. <https://pubmed.ncbi.nlm.nih.gov/25553484/>

3. <https://pubmed.ncbi.nlm.nih.gov/17364286/>



Taking prescription **NAC** by mouth or by IV reduces the death rate and prevents permanent harm caused by acetaminophen poisoning.

### 12. Possibly Effective For

- Chest pain (angina). Taking **NAC** by mouth or by IV seems to improve chest pain when used with the drug nitroglycerin.
- Autism. Taking **NAC** by mouth might improve irritability in children and adolescents with autism. But it doesn't seem to help other autism symptoms.
- Swelling (*inflammation*) of the main airways in the lung (*bronchitis*). Taking **NAC** by mouth seems to reduce shortness of breath and coughing from this condition.
- Taking **NAC** by mouth, with or without other drugs, might help to prevent kidney problems caused by dyes used during some X-ray exams. But it only seems to help in people who already have poor kidney function.
- High levels of cholesterol or other fats (*lipids*) in the blood (*hyperlipidemia*). Taking **NAC** by mouth seems to reduce levels of a blood fat called lipoprotein in people with high levels of this blood fat.
- Toxicity in people taking the cancer drug ifosfamide (*Ifex*). Taking **NAC** by mouth seems to help prevent side effects of the cancer drug ifosfamide. But a drug called mesna seems to work better than **NAC**.
- Flu (influenza). Taking **NAC** by mouth seems to reduce flu symptoms.
- Kidney failure. Taking **NAC** by mouth seems to help prevent problems such as heart attack and stroke in people with kidney failure.



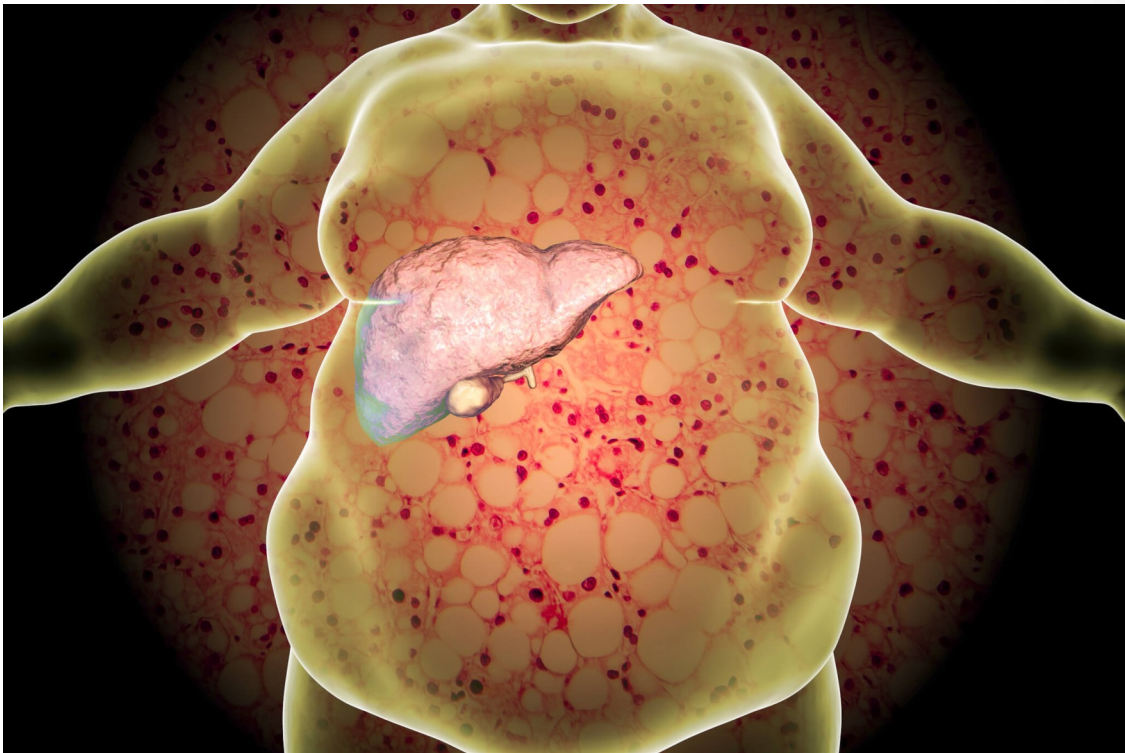


## Root Greatness

- During oral administration deacetylation reaction of **NAC** happens while *passing along the small intestine as well as liver, thus its bioavailability is decreased to 4-10%. NAC* stimulates glutathione biosynthesis, promotes detoxification, and acts directly as a scavenger of free radicals

### NAFLD - Non Alcoholic Fatty Liver Disease

**NAC**, N-acetylcysteine, [CLEAN SPIRITS](#), can improve liver function in patients with non-alcoholic fatty liver disease <sup>4</sup>.



Non-alcoholic fatty liver change is a common disease of the liver in which oxidative stress plays a basic role. Studies are largely focused on protecting the liver by means of anti-oxidative material.



# RESOURCES

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5241507/>
2. <https://1md.org/health-guide/digestive/ingredients/nac-amino-acid>
3. <https://1md.org/health-guide/digestive/ingredients/nac-amino-acid>
4. <https://pubmed.ncbi.nlm.nih.gov/24835770/>