



CLINICAL APPLICATIONS

- Supports glutathione synthesis
- Supports detoxification of environmental toxins and heavy metals
- Provides potent nutritional support to all body cells as a powerful antioxidant
- Supports individuals with a compromised antioxidant defense system
- Supports healthy respiratory function via mucolytic and antioxidant properties

All 360 Medicine® Formulas Meet or Exceed cGMP quality Standards

DISCUSSION

N-acetyl cysteine (NAC) is a derivative of the dietary amino acid l-cysteine, which serves as a precursor for the synthesis of glutathione, an important antioxidant and detoxifying agent. Glutathione is the principle defense within the body against reactive oxygen species and is also responsible for the detoxification of drugs, metabolites, and other compounds. NAC is also known for its mucolytic properties^{1,2} and its ability to chelate heavy metals.^{3,4}

While the absorption of oral glutathione has been reported to be negligible,⁵ supplementation with the glutathione precursor, NAC, has been shown to significantly increase circulating levels of glutathione in the body.^{6,7}

GLUTATHIONE CONJUGATION AND DETOXIFICATION

Glutathione plays a critical role in protecting the liver from toxins and protecting cells from oxidative damage. In a process known as glutathione conjugation, glutathione binds to fat-soluble toxins converting them into a water-soluble form, which allows for their excretion. The elimination of fat-soluble exo and endotoxins is critically dependent upon adequate levels of glutathione.

A variety of factors may cause an increased need for glutathione synthesis in the body. Chronic exposure to toxins, such as cigarette smoke, causes glutathione to be used up faster than it can be produced. When this occurs, the body becomes more susceptible to the damaging effects of toxin-induced illness, particularly in individuals who have highly active Phase I detoxification activity. Supplemental intake of NAC provides support to Phase II liver detoxification processes by helping to prevent the depletion of glutathione, which protects the liver from damage and facilitates the removal of toxins from the body.

SUPPORT AGAINST OXIDATIVE STRESS

Oxidative stress and glutathione deficiency are characteristic of a number of health conditions.^{6,8} Research has shown that individuals with compromised antioxidant defense, such as those with respiratory disease, hepatic cirrhosis, chronic inflammatory diseases, malnutrition, and HIV infection, have decreased blood levels of antioxidants and increased peroxidation products of lipids and proteins.⁸⁻¹¹ This blood profile is known to contribute to the progression of disease; in particular, it has been shown to promote the progression of HIV to AIDS in infected individuals.¹⁰ This is in part because reactive oxidants tend to stimulate viral replication while antioxidants such as glutathione prevent it.^{10,11} Restoring glutathione homeostasis with NAC appears to have a beneficial effect in individuals with conditions associated with oxidative stress and decreased glutathione.¹²

One Capsule Supplies:

NAC (N-Acetyl Cysteine) 600 mg

Recommendation: Take one to two capsules daily or as directed by your healthcare practitioner.

Form: 60 Capsule Bottle

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GLUTATHIONE AND AGING

Impaired antioxidant defense is also known to be an underlying event in the progression of chronic degenerative diseases of aging, such as atherosclerosis and Alzheimer's disease. Levels of endogenous antioxidants, including glutathione, are known to decrease with age.¹³ It therefore becomes increasingly important to ensure that adequate glutathione synthesis is maintained in elderly age groups.

SUPPORT FOR LUNG FUNCTION

NAC is widely known for its mucolytic properties. NAC is reported to support the respiratory system by helping to reduce the production of excess mucous within the lungs. Studies in patients with chronic respiratory disease suggest that oral administration of NAC over a prolonged period of time may help to reduce exacerbations and improve symptoms.^{4,5}

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*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.



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