

# THE YOUTH CORRIDOR

*How to restore your natural growth hormone levels for a younger looking you!*

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The pharmaceutical drug called human growth hormone (HGH) or for short GH, is a substance produced by the pituitary gland and is regarded by many as a fountain of youth. Injections of synthetic human growth hormone has become an everyday reality for women (and men) seeking to turn their flabby, frail, fat-bulging bodies, into sleeker, stronger, younger selves. With recent studies and real-life stories from people that underwent GH replacement therapy the positive effects they experienced in regaining youthful vitality, increased muscle mass, improved immune system function, better learning and memory abilities, and lowered blood pressure have even further fueled the fire for the use of synthetic GH. The question then remains, does one really have to resort to the use of these invasive exogenous synthetic drugs to experience a younger, better looking and energetic self? Well, read on and you might just have found the corridor to extended youth for a fabulous, younger feeling and looking YOU!



## How is HGH secreted?

Human Growth Hormone is secreted in short and brief bursts when the body grows rapidly during adolescence, hence the name GROWTH hormone (GH). These brief bursts, or pulses, take place during the early hours of the deepest sleep. The hormone lingers in the bloodstream for only a few minutes, but that is long enough to stimulate its uptake into the liver, where it is converted into growth factors, of which the most important is Insulin-like Growth Factor 1 (IGF-1). IGF-1 is directly responsible for most of the positive benefits of growth hormone, although GH does exert some action on a local tissue level.

Aging pituitary cells can release as much GH as younger cells, if they are adequately stimulated

The amount of growth hormone after age 21 to 31 falls about 14 percent per

decade, so that total 24 hour growth hormone production is cut in half by the age of 60. In numerical values, we produce on a daily basis about 500 micrograms of GH at 20 years of age, 200 micrograms at 40 years, and 25 micrograms at 80. The fall in IGF-1 with age mirrors that of growth hormone.

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Studies have shown that the aging pituitary gland cells can if adequately stimulated, still release as much growth hormone as its younger counterparts. This means that the fault must lie in the factors that regulate its release, and not its production. The actual biochemical reason for this till has to be studied further and there are currently ongoing studies in this regard.

Some researchers believe the problem lies with somatostatin, the natural inhibitor of Growth Hormone. Somatostatin has been found to increase with age and may act to block the secretion of Growth Hormone. Other researchers believe the precursor hormone, growth hormone releasing hormone (GH-RH), which stimulates GH release, becomes less sensitive to feedback signals. The latest thinking is that, not only does the Growth Hormone that is available to tissues decline with age, but that our tissues become more

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resistant to the action of the Growth Hormone that is there. In this view, aging can be considered a disease of Growth Hormone resistance in the same way that Type II diabetes is a disease of insulin resistance. This is most significant, as this means that the use of synthetic GH injections will be a total waste of time and money. If our bodies are resistant to GH, then injecting it will have no effect on tissue. The actual answer thus lies in the stimulation of GH production, secretion and the sensitising of cells for the binding and action of GH.

However, the most recent research shows that the decline in growth hormone secretion with age is reversible. In this study old rats (like old people) have a decline in the bursts of growth hormone secreted, but when the scientists took the old rats (26 months) and restricted their caloric intake, growth hormone secretion came back after two months. Scientifically this suggests that the restriction of dietary calories may play an important role in GH secretion and the re-sensitisation of cells for the actions of GH and its active metabolites.

**Growth Hormone has numerous health benefits and having normal to high levels has already shown to have considerable advantages:**

### **Immune function**

GH considerably boosts the immune system. Immune activities that GH improves are the manufacture of new antibodies; increased production of T-cells and interleukin 2; greater proliferation and activity of lymphocytes; higher activity of natural killer cells; stimulation of macrophages; increased maturation of neutrophils; and increased production of red blood cells

### **Cardiac function**

Studies have shown that GH therapy improves cardiac function and protects against cardiovascular disease in a number of ways. It reduces body fat, particularly in the abdominal region, which has been shown to be highly correlated with increased risk of heart attack. GH also improves blood cholesterol profiles, raising high-density lipoproteins (HDL) and lowering low-density lipoproteins (LDL), and reduces diastolic blood pressure by about 10 percent, without affecting systolic pressure.

### **Lung function**

GH improves heart-lung function by increasing the ability of individuals to exercise, raising their maximum oxygen uptake, and increasing their stroke volume and cardiac output

### **Osteoporosis and Bone density**

While GH therapy is used to grow the skeletal bones of children who are deficient in the hormone, results in adults have been inconsistent and there was no increase in the bone density of the radius bone in the arm or the femur of the leg. However, several groups have reported an increase in bone mineral content.

### **Brain function**

GH raises energy levels, improves slow-wave sleep, and elevates mood. In



some studies it was found that GH actually changed the levels of certain neurotransmitters in the human brain, raising the level of B-endorphin, which has been called the brain's own opiate, and lowering the level of dopamine, which is associated with feelings of agitation. This is similar to the concentrations of these neurotransmitters one sees in antidepressants.

### **Stress and concentration**

In some studies, GH appears to reduce stress, improve focus and concentration, and build self-esteem and self-confidence. GH can reverse decline in memory and cognitive performance

### **Sexual function**

Although there have been no clinical studies looking at the effects of Growth Hormone on sexual function, people who are GH deficient due to pituitary disease have decreased libido and sexual function.

### **Obesity and body composition**

Increasing your natural levels of GH adds to any weight loss regimen. GH recontours the body, assisting with shedding body fat and building muscle. In many cases, people look like they've shed years away along with the fat they've lost. Even better, the greatest loss occurs in deep belly fat, the area associated with increased risk of heart attack. In every study of GH's effects on 'normal' people who are aging, GH reduced body fat and increased lean body mass. While concrete proof is still lacking, it is reasonable to assume that, over the long run, stimulation and secretion of GH could help to prevent Type II diabetes or even reverse the disease process.

### **Skin**

Studies have shown that restoring normal to high levels of GH will have considerable positive contributions in preventing the effects of aging on the skin. One of the major contributing factors is the improvement in the thickness of the skin, as age is usually associated with the thinning of the skin.

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## **Natural nutrients that increase GH levels**

Many nutrients have been shown to increase GH in both young and old subjects:

**The amino acids so avidly used by fitness enthusiasts, Arginine and Ornithine,** have been used for a number of years to enhance production of GH. The mixture of ornithine alpha-ketoglutarate and arginine alpha-ketoglutarate worked in combination much better than either alone, and at much lower doses.

**A synergistic effect also has been shown between Arginine and another amino acid, Lysine.**

According to a 1981 study, the combination of 1,200 mg of lysine and 1,200 mg of Arginine showed that this combination proved to be 10 times more effective than taking Arginine alone.

**Glutamine, also used regularly by athletes, is the latest amino acid to generate excitement as a GH releaser.** A surprising small oral dose of two grams of glutamine raised GH levels more than four times. Even more exciting, age did not diminish the

response, at least in this study of volunteers ranging from 32 to 64 years of age.

**Niacin (vitamin B-3) is also a highly effective stimulator of GH.** Two scientific studies show that 200 mg of niacin given intravenously increased GH levels eight-fold, with the GH peak occurring two hours after the administration of the niacin.

**Melatonin has an interesting effect in that it increases the response to the other stimulants of secretion.** Melatonin at a dose of 10 mg doubles the production of GH in response to arginine aspartate, glutamine and glycine.

**The B vitamins also showed GH stimulating effect.** The major B vitamin involved here is calcium pantothenate given intravenously. A combination of two molecules of pantothenate, called pantothen, also worked well to raise the levels of GH.

## **The youth corridor conclusion**

The take-home message here is that the age related decline of GH can be reversed or prevented. Even if GH releasing activity declines, or somatostatin increases, or receptors becomes less responsive to GH, it can all be overcome by the administration of GH releasers. Taking these GH releasing nutrients on a daily basis, can result in normal levels of GH and its active metabolites and you can consequently experience its considerable benefits. Clinical trials by

leading Nutrition Laboratories are also currently underway on oral substances that stimulate the pituitary to release normal youthful levels of GH. So in the meantime it might be a good idea to visit a sports nutrition store and invest in products that are so avidly used by body builders and fitness enthusiasts, as those products are usually loaded with YOUTH creating super nutrients [visit The Nutrition Lab – [www.matrix.com](http://www.matrix.com) for more info].

