GROWTH HORMONE

Description

Growth hormone is a substance released from the pituitary gland, an area of the brain that stores and releases hormones. It enhances many processes in the body, including cellular amino acid uptake and protein synthesis and breakdown of fats. It also inhibits glucose utilization in tissues, which can increase sugar levels in the blood. Without it we cannot reach our normal expected height. Severe deficiency results in decreased height, but excessive amounts of growth hormone result in acromegaly, a condition associated with decreased lifespan. Growth hormone levels increase during exercise and remain elevated immediately after exercise. Supplementing growth hormone levels with injections is controversial and does not clearly improve sports performance.

Why Athletes Use It

Athletes use growth hormone because they believe it will increase strength, decrease body fat, and improve athletic performance.

Adverse Effects

Athletes supplementing growth hormone may experience:

- Elevated blood sugar
- Elevated blood lipids
- Impotence
- Cardiomyopathy
- Carpal tunnel syndrome
- Bony overgrowth of the forehead and jaw (mandible and supraorbital ridges)
- Enlargement of the hand and feet
- Weakness
- Degenerative joint disease

Initial growth hormone preparations were made from pituitary glands of people who had died. With the development of new ways of making growth hormone, these preparations are no longer used. However, black market preparations from cadaver pituitary glands are still available. These preparations are of low quality and carry potential risk of contamination with viruses that are potentially lethal, such as Jakob-Creutzfeldt disease and human immunodeficiency virus (HIV).

Pharmacology

Growth hormone release in the body is controlled by many different factors, including diet, exercise, and medications. Growth hormone itself is present in the bloodstream for only a very short time, but other substances in the body are released by growth hormone to help carry out its functions. Growth hormone must be injected to be effective. Growth hormone pills will be broken down in the stomach.

Preventive Measures

Studies on growth hormone have demonstrated increased lean body mass and decreased fat in older men. These studies have not distinguished if the changes were related to muscle mass or bone, cartilage, or soft tissue. It is important to be educated regarding the potential side effects of growth hormone and the lack of evidence that it increases strength and athletic performance.

Notes: (Up to 4400 characters only)

Notes and suggestions