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## Human Growth Hormone: Hokum or Fountain of Youth?

**Lisa Drayer, Medical Writer**

Jan.2000

*Forever young, I want to be forever young.*

So the song goes, or rather so reality goes. The desire to find the fountain of youth has not diminished. Face lifts, botox injections, personal training sessions. The Atkins diet, liposuction, antioxidants.

And now the latest antiaging regime on the market being prescribed by some doctors-turned-businessmen--human growth hormone.

"Growth hormone may turn out to be the 'magic pill' we've all been waiting for," says Dr. Ronald Klatz, founder and president of the American Academy of Anti-Aging Medicine, in his book *Grow Young With HGH*. Klatz claims that growth hormone does everything from lifting your mood to removing wrinkles and cellulite to improving memory.

Human growth hormone is approved by the US Food and Drug Administration for children and adults deficient in the hormone and for people suffering with AIDS, but not for antiaging purposes. Yet the hormone began being used to that end after a study performed in 1990 found that when it was given to 21 healthy men between the ages of 61 and 81, they experienced an increase in muscle mass and skin thickness and a decrease in body fat. According to the study, which was published in the *New England Journal of Medicine*, "the effects of six months of human growth hormone on lean body mass and adipose-tissue mass were equivalent in magnitude to the changes incurred during 10 to 20 years of aging." In other words, it appeared as if the clock had been turned back 10-20 years.

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## More and More Prescriptions

Now, more and more doctors are prescribing human growth hormone, and their clientele is growing, despite costs that can run into thousands each year. According to Klatz, about 10,000 adults nationwide are taking human growth hormone for antiaging purposes. But many specialists warn that the hormone can cause serious health problems such as diabetes and that long-term side effects are still unknown. For example, human growth hormone may stimulate not only muscle but also cancerous tumors to grow. And in the meantime, the actual benefits, in terms of beauty and longevity, are still debatable.

**Dr. Klatz claims that growth hormone does everything from lifting your mood to removing wrinkles and cellulite to improving memory.**

But that has not stopped doctors from selling it and using it themselves. "I'm 53 now and I've been on the hormone for 3 years," says Dr. Ronald Livesey, who offers growth hormone injections at Anti-Aging Medicine Associates of Manhattan. "My weight has gone down from 222 to 182 pounds, without any change in my diet or exercise routine. And my total cholesterol dropped from 240 to 180."

Patients taking it seem equally satisfied. "I can safely say that growth hormone has improved my sex life," says Roger Collard, a 53-year-old designer. "As you get older, you don't realize that your sex drive is dwindling. Then, when it kicks back, you think, wow, I was starting to fade." Brigid Winters, a 54-year-old retired businesswoman, says growth hormone has made her look and feel much better. "I wish everybody could take it," she says.

## At a Price

Sounds pretty good. But as with anything else, human growth hormone comes at a price. It can cost up to \$20,000 a year—making it an option only for celebrities or wealthy CEOs. But like many quick fixes, the price to pay for the benefits of growth hormone injections may be more than just monetary. "Studies have shown that growth hormone can precipitate diabetes as well as high blood pressure and carpal tunnel syndrome," says Dr. Howard T. Bellin, a board-certified plastic surgeon who does not offer growth hormone to his patients.

**Many specialists warn that the hormone can cause serious health problems such as diabetes and that long-term side effects are still unknown.**

According to Dr. Roger Katz, a cosmetic facial surgeon who offers growth hormone injections, side effects will occur when the hormone is abused, as in the case of athletes who self-administer superphysiologic levels to "bulk up." But even if side effects do not appear during the first few years, nothing can be said about possible long-term, irreversible side effects, because the studies performed on the hormone have only tracked individuals for a maximum of 10 years. Even Livesey acknowledged that there could be problems down the road.

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Another ominous question about human growth hormone is: If it makes desirable tissue grow, does it stimulate the growth of cancer cells as well? Dr. Mary Lee Vance, an endocrinologist who prescribes growth hormone for deficient adults, says patients with acromegaly, a disease in which the pituitary gland makes excessive amounts of growth hormone, have a 13% increased risk of colon cancer as compared to those without the disease. Katz recognizes the reality that if a tumor is growing, growth hormone will either stimulate the immune system or the tumor itself. The answer has not been established yet, he says. Thus, while there have not been any documented cases of cancer occurring as a result of growth hormone injections, it remains a possibility.

## Hype?

The question of long-term safety remains unanswered, but some doctors are convinced that human growth hormone fails to live up to its purported benefits. "Growth hormone is not a miracle drug, the way it's being hyped," says Bellin. He points out that while a 1996 study showed that human growth hormone increased muscle mass, no increase in muscle strength, function, or mental acuity was noted.

Doctors also question whether the hormone will increase anyone's life span. "The fact is that no one has yet shown that supplements of growth hormone add years to people's lives," says Dr. Stanley Slater, deputy associate director of the Geriatrics Program at the National Institute on Aging. Bellin agrees. "The day I see some scientific article that shows that growth hormone has a true antiaging or life-extending benefit, I will start taking it the next morning," he says.

And there is the question of whether this new wave medicine should exist in the first place. "I don't have the answer to aging. But Mother Nature's probably smarter than we are," says Vance. But she acknowledges that people will do anything to try to satisfy their hopes. "Back in the '30s, people were injecting extracts of sheep testes under their skin to prevent aging."

Jan. 2000

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