

## AoW 4.23.10

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### **HGH: ‘Miracle-Gro’ for Humans?**

*HGH is used by athletes seeking an edge and by baby boomers seeking the fountain of youth. Does it really work?*

Source: *The Week*, 4.16.10

#### **What is HGH?**

Some insist it’s a miracle drug, but science suggests otherwise. Human growth hormone is secreted naturally by the pituitary gland, and stimulates bone, cartilage, and muscle growth. Doctors first extracted HGH from human cadavers in the 1950s, and found that when it was injected into children with stunted growth, it could add several inches to their height. In the mid-1980s, the Food and Drug Administration banned use of the natural version after doctors found it could transfer a fatal, “mad-cow”-like disease. Since then, only synthetic HGH has been used, and not just by children with growth conditions but for two controversial “off-label” uses—as an anti-aging treatment and as a performance enhancer for athletes. Indeed, there’s now a thriving underground market for HGH, providing thousands of customers with injectable HGH, HGH creams, HGH sprays, and HGH pills. And despite the steroids scandals of recent years and subsequent crackdowns, reports suggest a significant number of athletes use HGH in search of greater strength, speed, and ability to recover from injuries.

#### **But hasn’t it been banned in sports?**

Yes. The International Olympic Committee and most professional sports leagues barred HGH several years ago. The problem is that until very recently, testing for synthetic HGH was unreliable, with a window of detection of only a day or two after being injected. For athletes, this made HGH a safer choice when steroids testing became widespread, and professional athletes including Yankees pitcher Andy Pettitte and former New England Patriot Rodney Harrison have admitted using HGH. In six years of Olympic testing, not a single competitor tested positive for HGH. But there have been recent improvements in testing, and last November, a British rugby player, Terry Newton, tested positive for HGH; he was banned from the sport for two years. After that incident, Major League Baseball said it would begin HGH testing of its minor leaguers, though any effort to test players in the majors will require negotiations with the players union, and there has been resistance. In the National Football League, owners and players have started talks over HGH testing, but nothing has been resolved.

#### **Does HGH give players an edge?**

A Stanford University study showed HGH slightly increased muscle mass, though that doesn’t necessarily mean improved performance. And while there’s some evidence it may increase muscle definition and speed up tissue repair, HGH hasn’t been shown to boost strength. HGH’s performance-enhancing effect may be too subtle to show up in a study, but strong enough to give athletes just enough advantage to go from a silver medal to a gold. “I don’t blame the athletes for wanting it,” says endocrinologist Dr. Stanley Korenman. “They operate under tiny percentage differences and worry about the consequences later.”

#### **Can HGH make you look younger?**

The research says it doesn’t, but try telling that to people like Dawn Foley of Los Angeles, who injects HGH into her abdomen each night. She says it has whittled away 10 pounds of belly fat, plumped her wrinkles, boosted muscle tone, and given her more energy—at a cost of \$500 a month. “I’m absolutely going to stay on it forever,” she says. Foley is part of a \$2 billion market for HGH that’s mostly driven by youth-seekers

willing to pay out-of-pocket, since insurance doesn't cover HGH for anti-aging purposes. HGH's reputation as an anti-aging wonder drug came after a 1990 study that showed it increased bone density and lean body mass in men over 60. But the study was small and other studies have not replicated its findings. Some experts insist that simply exercising will have the same effect. "Sneakers are cheaper," says Dr. Marc Blackman of the National Institutes of Health.

### **Are there side effects?**

Plenty. Studies show HGH can result in headaches, muscle swelling, carpal tunnel syndrome, and muscle pain. And those are just the minor ones. More serious effects include high blood pressure, hardening of the arteries, and arthritis. Doctors also worry about another possible danger: Growth hormone is a trigger for unbridled cell growth, which is also the mechanism behind cancer. Indeed, several studies have linked high levels of HGH to increased risk of prostate and breast cancer.

### **Is the government cracking down?**

It's trying. In 2007, the FDA issued an "alert" reminding doctors and the public that it's illegal to distribute growth hormone for athletic and anti-aging purposes. More recently, law enforcement closed down an online HGH operation based in Florida and conducted a sting of several unlicensed pharmacies illegally importing HGH from China and selling it over the Internet. "They're living the lifestyle of the Tony Montanas of the '70s and '80s," says Albany County, N.Y., District Attorney David Soares, referring to the drug lord in the film Scarface. "They're drug dealers." But none of these efforts seem to have dented the HGH trade very much. "If you look at the dollar amounts that are trading hands, there have to be thousands of people who are doing this," said Dr. Thomas Perls of Boston University School of Medicine. "To call it a public health crisis is right on the money."

### **How tall is tall enough?**

At age 11, Jeffrey Stern was just 4-feet-1, a full foot shorter than most of his Manhattan, N.Y., private-school classmates. An endocrinologist prescribed HGH, and Stern grew to 5-feet-7-inches by age 16. But his mother didn't think that was tall enough, and is now battling the family's insurance company to continue Jeffrey's \$2,400-a-month injections. Such cases are becoming more common, as a growing number of parents obtain HGH for their short but otherwise healthy children. Considering HGH's possible side effects, it's a trend that concerns many experts. "It's one thing if your kid has a life-threatening illness," says Susan Cohen, who wrote a book last year about the "medicalization" of height issues, "but what's the threat if your kid is short?"

Possible WN topics:

Do you think any athletes at this school are using HGH?

Do you support HGH testing of professional athletes?

What should the penalty be for an athlete found to have tested positive for HGH?