

Do Not Go Gentle Into That Good Night, Hormonally Replace the Dying of the Light

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Beginning in the 1950s, human Growth Hormone (hGH) was made available to Growth Hormone deficient children in order to increase their height. The hormone was produced by harvesting pituitary glands from cadavers, so the supply was limited and the treatments were expensive. In the mid-1980s, the problem of limited supply was solved when recombinant DNA technology was used by Genetech, a California corporation specializing in biotechnology, to manufacture hGH in the laboratory. By this time, athletes in many sports had experimented with hGH in an attempt to improve their muscle mass and/or their power.

During the early days of hGH experimentation by athletes, anecdotal evidence about its effectiveness varied widely. Some athletes reported gains beyond those produced by anabolic/ androgenic steroids alone; some reported no gains at all. The situation was confounded by the black market sale of products “advertised” as hGH yet lacking any of its characteristics. Since those early days, some athletes have continued to experiment with hGH for two reasons--its potential capacity to alter body composition and its undetectability through standard drug testing procedures.

Because of the capacity hGH has to increase the height on non-GH-deficient children, pediatric endocrinologists have begun to get requests from parents who would like to “buy” additional height for their children. This raises fundamental issues involving ethics and fair play in sports, as a boy generally programmed to become a six foot, two hundred pound adult could theoretically become a six foot, six inch, three hundred pound adult as a result of receiving injections of hGH during his teenage years.

Another way in which hGH could have an effect on society involves its capacity to alter the body composition of non-exercising adults. Research suggests that hGH could add lean body mass and reduce body fat in a sedentary adult, which could, theoretically, decrease the tendency of adults to exercise or to eat moderately. Obviously, this has considerable consequences for the fitness and food industries. It also raises important public policy issues.

Yet another way hGH could change our society involves its potential in the field of anti-aging medicine--the subject of this paper. Research to date

allows the argument to be made that hGH could expand human life span or slow the onset of frailty among the elderly. A research study published in 1990 asserts that giving hGH to a group of men in their sixties and seventies had the effect of making them physically younger by ten to twenty years. This has led several “clinics” in Europe and Mexico to offer hGH to people of middle age who want to either reverse or slow the aging process. Although hGH is not currently FDA-approved for this use, many research projects are currently underway to determine the risk-benefit ratio of hGH as an anti-aging medication. As is the case with the potential hGH has to alter the body composition of younger adults who want a leaner body without exercise, the potential of hGH to either increase life span or to improve the quality of life within the current life span has important public policy considerations.