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HGH Study Shows Huge Benefits in Adults Over 60, Published 1990

Dr. Rudman HGH Study, Published in the New England Journal of Medicine, 1990.

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EFFECTS OF HUMAN GROWTH HORMONE IN MEN OVER 60 YEARS OLD

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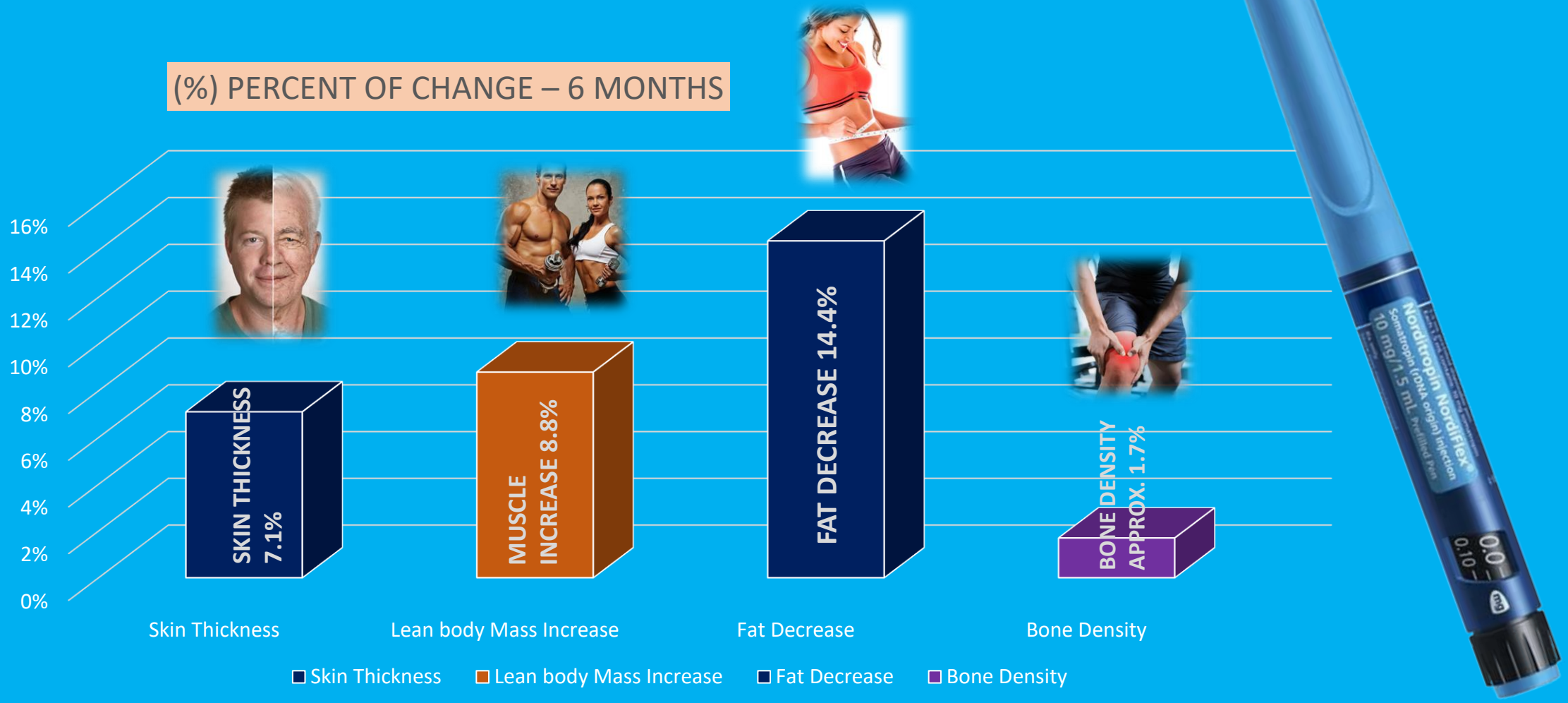
Abstract *Background.* The declining activity of the growth hormone–insulin-like growth factor I (IGF-I) axis with advancing age may contribute to the decrease in lean body mass and the increase in mass of adipose tissue that occur with aging.

Methods. To test this hypothesis, we studied 21 healthy men from 61 to 81 years old who had plasma IGF-I concentrations of less than 350 U per liter during a six-month base-line period and a six-month treatment period that followed. During the treatment period, 12 men (group 1) received approximately 0.03 mg of biosynthetic human growth hormone per kilogram of body weight subcutaneously three times a week, and 9 men (group 2) received no treatment. Plasma IGF-I levels were measured monthly. At the end of each period we measured lean body mass, the mass of adipose tissue, skin thickness (epidermis plus dermis), and bone density at nine skeletal sites.

Results. In group 1, the mean plasma IGF-I level rose into the youthful range of 500 to 1500 U per liter during treatment, whereas in group 2 it remained below 350 U per liter. The administration of human growth hormone for six months in group 1 was accompanied by an 8.8 percent increase in lean body mass, a 14.4 percent decrease in adipose-tissue mass, and a 1.6 percent increase in average lumbar vertebral bone density ($P<0.05$ in each instance). Skin thickness increased 7.1 percent ($P = 0.07$). There was no significant change in the bone density of the radius or proximal femur. In group 2 there was no significant change in lean body mass, the mass of adipose tissue, skin thickness, or bone density during treatment.

Conclusions. Diminished secretion of growth hormone is responsible in part for the decrease of lean body mass, the expansion of adipose-tissue mass, and the thinning of the skin that occur in old age. (N Engl J Med 1990; 323:1-6.)

Dr. Rudman Et. Al. “HGH Study”



SOURCE: Info-graphic adapted from The New England Journal of Medicine, Rudman Et. Al. July 1990

It depicts typical body composition changes for patients 61-81 years of age over a 6-month period.

RUDMAN HGH STUDY