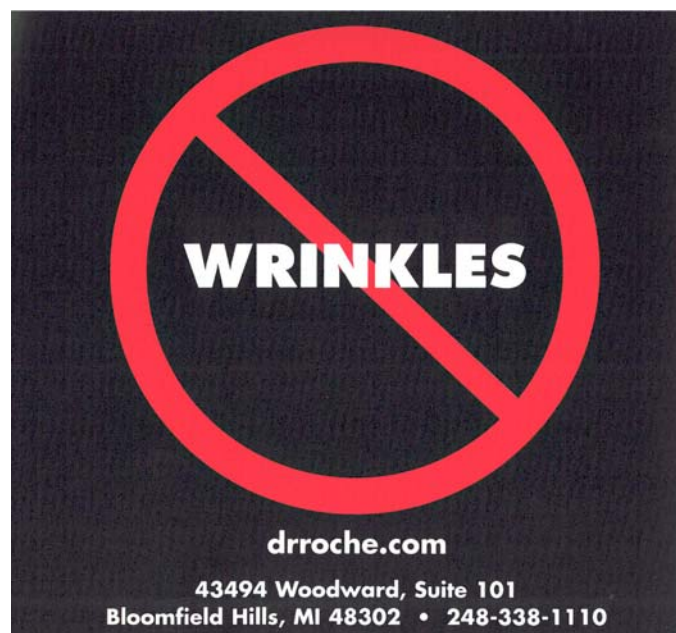


BLOOMFIELD LASER/COSMETIC SURGERY CENTER



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PATIENT INFORMATION PACKET
Rejuvenation Therapy

Dr. Roche's, "Feel-Good", Anti-aging Rejuvenation Therapy

In our continuing efforts to make our patient's look and feel better, the new anti-aging rejuvenation therapy provides us with an opportunity to do both for you. As we age, natural hormone levels decrease. We believe it is possible to retard the aging process or in some cases reverse the aging process with natural hormone replacement therapy – the "Feel-Good" therapy. Diagnostic evaluation and blood chemistries will provide us with a baseline analysis of your present state of health, and what you will require for the rejuvenation therapy to look and feel better. Your progress will be monitored on a regular basis. Dr. Roche will recommend what hormone therapy is indicated for you, according to your present health status. We may also recommend certain vitamins and supplements as indicated, on an individual basis.

What is a Hormone?

The first step in your education is to become familiar with some of the terms and definitions used while discussing Human Growth Hormone. Ready? Let's jump right in...

Hormones are tiny chemical messengers that help our body do different tasks. Hormones are made up of amino acids and are produced by the endocrine glands. Then they are sent all over the body to stimulate certain activities. For example, Insulin is a well-known hormone that helps our body digest food. Our growth, digestion, reproduction and sexual functions are all triggered by hormones.

What is Human Growth Hormone?

Human Growth Hormone (HGH) is the most abundant hormone produced by the pituitary gland (pituitary is one of the endocrine glands). The pituitary gland is located in the center of the brain. HGH is also a very complex hormone. It is made up of 191 amino acids – making it fairly large for a hormone. In fact, it is the largest protein created by the Pituitary gland.

HGH secretion reaches its peak in the body during adolescence. This makes sense because HGH helps stimulate our body to grow. But, HGH secretion does not stop after adolescence. Our body continues to produce HGH usually in short bursts during deep sleep.

Growth Hormone is known to be critical for tissue repair, muscle growth, healing, brain function, physical and mental health, bone strength, energy and metabolism. In short, it is very important to just about every aspect of our life!

What role does HGH play in the body?

Human growth hormone and IgF-1 (insulin-like growth factor-1) have been shown to play a significant role in:

- Conversion of body fat to muscle mass
- Growth of all tissues
- Energy level
- Tissue repair
- Whole body healing
- Cell replacement
- Bone strength
- Brain function
- Sexual function
- Organ health and integrity
- Enzyme production
- Integrity of hair, nails, skin and vital organs

Basically, any function in your body is in some way tied to HGH. This is why HGH is often called the “fountain of youth”. Elevated HGH levels are what make you feel young again.

Does your body always produce HGH?

The good news is that your body must always produce HGH or you would not be able to function. The bad news is that as you pass the age of 20, your body produces less and less HGH each year. By age 60, you will probably have lost 75% of the HGH that your body produced.

If you are a into numbers, here are some average HGH secretion levels:

- At 20 years old we average 500 micrograms/day
- At 40 years old we average 200 micrograms/day
- At 80 years old we average 25 micrograms/day

Why does the body produce less HGH as we get older?

This is the million-dollar question. It really ties into a bigger question – Is aging a preventable disease? For years people have believed that as we get older our body basically wears out. The theory went that all of our organs, tissues, muscles, bones, etc., have a set life span and will get weaker as we age. When someone is 40 and is complaining that they can not do what they used to be able to do at 20, we accepted this as the natural process of getting old.

Research into HGH shows that aging may be preventable to a certain extent. Let me clarify that, I am not saying that we will all become immortal (except for Dick Clark – he never seems to age). What I am saying is that research indicates that our body is very capable at the age of 40 to have the same makeup as we did at the age of 20. Okay, I am getting a little carried away – let's get back to HGH...

It was originally believed that the pituitary gland just didn't have the capacity to produce large amounts of HGH as we get older. However, recent studies have shown that aging pituitary glands are capable of producing as much HGH as young pituitary glands, **if it is adequately stimulated**. This shows that the somatotrophe cell, the cell in the pituitary gland that releases HGH, does not "lose power" as we age.

The question still remains, if the problem is not with the pituitary gland, then why does HGH decrease as we age? One theory is that the pituitary gland does not "know" it should be producing more HGH. Our body has a feedback loop that says when the IGF-1 levels decrease, produce more HGH. For some unknown reason it is possible that this loop is broken and the pituitary gland has a harder time getting the signal to produce more HGH as we age.

Another theory is that as we get older our Somatostatin levels increase. Somatostatin is a natural inhibitor to growth hormone. So, as we age the somatostatin levels increase and this leads to a decrease in HGH.

As we speak a lot of very smart people are trying to come up with a definitive answer as to why HGH levels decrease with age, but as of now we just have theories.

Is there any way to maintain high HGH levels as we age?

Yes. A doctor can do a daily injection of this HGH and it will lead to an overall increase of growth hormone in the body. It is important to understand that recombinant HGH is only available in injection form. The 191 amino acid hormone is too delicate to be made in any oral form.

What effect does this increase in HGH have on the body?

This is where it gets exciting. While numerous studies have been done on the effects of HGH injections, the most ground breaking study was done by Dr. Rudman and published in the *New England Journal of Medicine* on July 5, 1990. The journal reported that men who had taken HGH injections had shown an 8.8 percent gain in lean body mass with a 14 percent loss in body fat – without any change in diet or activity! It bears repeating that there was **no change in diet or exercise** – and the subjects who received HGH injections had a 8.8 percent increase in lean body mass.

If you look at all the studies that have been done on HGH injections you get the following list of benefits:

- 8.8% increase in muscle mass on average after six months, without exercise
- 14.4% loss of fat on average after six months, without dieting
- Higher energy levels
- Enhanced sexual performance
- Regrowth of heart, liver, spleen, kidneys and other organs that shrink with age
- Greater cardiac output
- Superior immune function
- Increased exercise performance
- Better kidney function
- Lowered blood pressure
- Improved cholesterol profile, with higher HDL and lower LDL
- Stronger bones
- Faster wound healing
- Younger, tighter, thicker skin
- Hair regrowth
- Wrinkle removal
- Elimination of cellulite
- Sharper vision
- Mood elevation
- Increased memory retention
- Improved sleep

(* The above is taken from *Grow Young with HGH* by Dr. Ronald Klatz)

Is there any negative to taking HGH injections? Yes – but then you knew there had to be a catch, didn't you? There are actually a few problems with HGH injections:

- **Extremely Expensive**
A year's supply of HGH injections can cost \$20,000! Insurance will not cover the injections because you are not treating a "classified disease".
- **Available by prescription only**
Recombinant HGH is a drug that is available by prescription only. So, even if you had \$20,000 a year to spend, you would need to get a prescription.
- **Possible Negative Side Effects**
Anytime you introduce a large amount of a foreign hormone into the body there is the risk of side effects. In Dr. Rudman's study he found that some of the patients suffered from carpal tunnel syndrome and gynecomastia (enlarged breasts). Dr. Rudman believed that with less HGH the side effects would go away, but tragically he died before he could test his theory.

Benefits of Human Growth Hormone Clinically, the following benefits have been observed from patients who were Growth Hormone Deficient. Not all individuals on the growth hormone program may experience the same or similar results. The lower your growth hormone level, the more dramatic the results may be.

- Increased sense of well-being
- Increased strength and ability to exercise
- Increased productivity at work and at home
- Increased mental functioning
- Improved memory
- Improved immune system
- Decreased incidence of illness
- Improved healing and more rapid recovery if/when illness does occur
- Enhanced sexual energy
- Increased libido
- Improved sensitivity
- Increased sexual performance
- Improved cardiac and diabetic risk profiles
- Improved lipid panels
- Improved serum glucose levels
- Improved serum glucose levels
- Improved homocystine levels
- Decrease in cardiac risk factors
- Improved physical appearance
- Decreased body fat
- Increased lean muscle mass
- Improved skin thickness
- Improved dietary habits

What is Testosterone?

Testosterone is the most important sex hormone in the male body, and it plays a key role in keeping men physically and psychologically healthy.

Key role for testosterone include:

- Maintaining sex drive, sexual function and sperm production
- Increasing muscle mass
- Maintaining mood and energy levels
- Stimulating development of the penis and the testes
- Growth of facial and pubic hair
- Deepening the voice

The male body makes testosterone primarily in the testes (95%) and in the outer layer of the adrenal glands, called the adrenal cortex (5%).

More about Testosterone Production

Under normal circumstances, the body carefully controls the production of testosterone. Chemical signals from two glands in the brain – the pituitary and hypothalamus – tell the testes how much testosterone to produce.

The hypothalamus controls hormone production in the pituitary gland by means of gonadotropin releasing hormone (GnRH). This hormone tells the pituitary gland to make luteinizing hormone (LH). LH orders the testes to begin producing testosterone. If the testes begin producing too much testosterone, the body sends signals to the pituitary gland to make less LH. Thus, in turn, slows down the production of testosterone. If the testes begin producing too little testosterone, the body sends signals to the pituitary gland telling it to make more LH, which causes the testes to make more testosterone.

Effects of Aging on Testosterone Levels

As men age, two things may happen with respect to testosterone: (1) The male ability to produce testosterone declines, and (2) blood levels of free testosterone decline, making less testosterone available to tissues, such as muscles. If testosterone levels fall below normal, symptoms such as loss of libido, reduced lean body mass, decreased bone density, depression and fatigue can occur.

DHEA (dehydroepiandrosterone)

DHEA supplementation has proven to have potent anti-aging effects, increasing energy, vitality, memory, and psychological sense of well being. Blood levels of DHEA and its circulating metabolite DHEA-sulfate (DHEA-S), decline greatly from youth to old age. The decline continues gradually throughout life until, by 80, the levels remain at about 20% of levels in youth. Clinical evidence clearly correlates DHEA decline with many aging related health problems. Regular supplementation of DHEA to restore youthful levels of the hormone has prevented aged related health problems in thousands of people worldwide. Although DHEA may be purchased in the US without a prescription, we recommend that long-term usage of the hormone be done with some precautions under the guidance of a knowledgeable physician.

Using the Optimum DHEA Dosage

The ideal DHEA dosage range can vary considerably among different individuals. Many human clinical studies with DHEA have used a total dose of 50 mg a day. This dosage level is quite typical of what is required to restore youthful DHEA serum levels for many users. But men typically require more than women. And some people only require 25 mg while others may require as much as 100 mg to accomplish the goal of attaining youthful DHEA serum levels. Because of this variation it is recommended that periodic DHEA blood tests be taken to monitor the effects of supplementation. A standard blood test to monitor DHEA levels, measures serum DHEA Sulphate (DHEA-S). DHEA-S is measured in micrograms per deciliter of blood. Normal youthful levels of DHEA-S are 350 to 430 mcg/dl for women and 400 to 550 mcg/dl for men. People in their forties typically have DHEA-S levels from 100 to 200 mcg/dl. These levels continue to decline with age. You should take a DHEA-S blood test from one to two months after starting DHEA therapy in order to determine whether your supplementation levels should be adjusted up or down. The blood test should be performed several hours after the last DHEA intake. Neglecting DHEA blood tests over the long term is unwise, since there is no other way to determine your personal individual dosing requirement.

Melatonin

Melatonin is secreted by the pineal gland. It is the circadian rhythm hormone. It increases deep sleep and/or Stage IV sleep, thereby increasing and enhancing immunity. It improves sleep pattern, is an energizer and a mood enhancer. It increases natural killer cells or CD-4 cells. Melatonin deficiency results in poor sleep, jet lag, irritability, hypersensitivity, and premature aging. Melatonin modulates the immune function by activation of the cytokine system.

Pregnenolone

Pregnenolone is a precursor to DHEA, and like DHEA is produced in the brain and in the adrenal glands. It functions as a memory enhancer and assists with cellular repair, particularly in the brain and nerve tissue. It protects cerebral function and protects against neuronal injury.

Thyroid

Thyroid hormone is a metabolic hormone secreted by the thyroid gland that regulates temperature, metabolism and cerebral function; resulting in increased energy, temperature and warmth. It increases fat breakdown, resulting in weight loss, as well as lower cholesterol. It protects against cardiovascular disease, improves cerebral metabolism and prevents cognitive impairment. It relieves symptoms of thin, sparse hair, dry skin and thin nails. Over time, the amount of thyroid hormone decreases secondary to a decreased production by the gland, decreased conversion from T-4 to T-3 and less effectiveness on the receptor sites.

Progesterone

Progesterone is secreted by the ovary, and reduces symptoms of pre-menstrual syndrome. It decreases headache and bloating associated with menstruation. Natural progesterone protects against uterine and breast carcinoma, osteoporosis, fibrocystic disease, and ovarian cysts. It also decreases menopausal symptoms. Synthetic progestins frequently cause bloating, headache, fatigue, weight gain, depression, and increased symptoms of PMS by stimulating the estrogen receptor.

Estrogen

Estrogen is produced in the ovaries and adrenal glands. There are three types of estrogen found in a woman's body: (1) Estrone, (2) estradiol and (3) estriol. The levels of all of these hormones fall dramatically at the onset of menopause, which is responsible for the symptoms and detrimental health effects of menopause. Estrogen protects against heart disease, stroke, osteoporosis, Alzheimer's disease and memory disorders. Estrogen replacement should be in the form of a natural, bio-identical estrogen.

BILLING INFORMATION

1. HGH Genotropin (Human growth hormone) - .2 mg	\$ 1,265.00 for 4 weeks
2. Testosterone Gel – 100 mg	\$ 176.00 per 3 month supply
3. Injectable Testosterone – 200mg/10mL	\$ 330.00 for 10 weeks
4. DHEA (dehydroepiandrosterone) 100 mg # 90	\$ 77.00 per 3 months supply
5. Multi-vitamin # 120	\$ 66.00 per 4 month supply
6. Thyroid – 1 mg	\$ 44.00 per 3 months supply
7. Melatonin SR – 5 mg	\$ 39.00 per 3 months supply
8. Pregnenolone SR – 25 mg	\$ 88.00 per 3 months supply
9. Biest	\$ 88.00 per 3 months supply
10. Progesterone	\$ 114.00 per 3 months supply
11. Saw Palmetto –150/25	\$ 60.00 per 3 months supply
10. Alcohol Swabs – 100 each	\$ 6.00 per box

LAB COSTS

Male initial and 3 month follow up panel (required to determine adequate levels)

Includes: History & lab work \$ 1,100.00

Female initial and 3 month follow up panel (required to determine adequate levels)

Includes: History and lab work \$ 1,100.00

Additional follow-up (if needed) \$ 550.00

MEDICATION DIRECTIONS

HGH – Genotropin 0.2 mg	One injection per day in the buttocks
Testosterone Gel	Apply as directed to inner thighs and inner arms
Injectable Testosterone – 200mg/10mL	In-office deep muscle injection- Once weekly
DHEA (dehydroepiandrosterone)	One tablet daily by mouth
Multi-vitamin	One tablet daily by mouth
Thyroid – 1 mg	One tablet daily by mouth
Melatonin SR – 5 mg	One tablet daily by mouth
Pregnenolone SR – 25 mg	One tablet daily by mouth
Biest	One tablet daily by mouth
Progesterone	One tablet daily by mouth
Saw Palmetto	One tablet daily by mouth
Alcohol Swabs	Used for cleansing skin prior to injection

Consent Form - HGH

I, _____, understand and have been advised of the risks and benefits of taking human growth hormone. I also understand that this drug is not FDA approved for anti-aging.

Patient's Signature: _____ Date: _____

Witness Signature: _____ Date: _____