The endocrine system is comprised of organs, tissues, and glands that produce hormones. These include the thyroid, parathyroid, hypothalamus, pineal, pituitary, adrenal, pancreas, and gonads (ovaries and testes). The hormones may be produced in one location, secreted into the blood, and then used by other “target” organs or systems. The target organs may have their own internal control systems or may be regulated by the hormones. Physical conditions may arise when too many (hypersecretion) or too few (hyposecretion) hormones are secreted by the endocrine system. For instance, diabetes mellitus is caused by a lack of insulin produced in the pancreas.

As we age, changes occur in the control of body systems. Target organs may become less receptive to their controlling hormone or may break them down at a slower rate. Hormone levels may change—some increasing, some decreasing, and some remaining unchanged.

**Male Hormones and Aging**

As men age past year 40, hormonal changes occur that perceptibly inhibit physical, sexual, and cognitive function. The outward appearance of a typical middle-aged male shows increased abdominal fat and shrinkage of muscle mass, a hallmark effect of hormone imbalance. A loss of feeling of well-being, sometimes manifesting as depression, is a common psychological complication of hormone imbalance.

Until recently, these changes were attributed to “growing old,” and men were expected to accept the fact that their bodies were entering into a long degenerative process that would someday result in death.

A remarkable amount of data has been compiled indicating that many of the diseases that middle-aged men begin experiencing, including depression, abdominal weight gain, and prostate and heart disease, are directly related to hormone imbalances that are correctable with currently available drug and nutrient therapies. To the patient’s detriment, conventional doctors are increasingly prescribing drugs to treat depression, elevated cholesterol, angina, and a host of other diseases that may be caused by an underlying hormone imbalance.

If doctors checked their male patients’ blood levels of estrogen, testosterone, thyroid, and DHEA (instead of prescribing drugs to treat symptoms), they might be surprised to learn that many problems could be eliminated by adjusting hormone levels to fit the profile of a healthy 21-year-old.

**Female Hormones and Aging**

Concern about the life-threatening side effects of synthetic hormone drugs has caused many women to be deprived of the benefits of safe natural hormone replacement therapy.

Proper hormone modulation can prevent degenerative disease and improve functioning in both the physical and emotional spheres of life, both at menopause and throughout life. For example, many sexual “disfunctions,” including lack of desire, can be mitigated when hormone levels are naturally restored to a youthful profile. Menopause might also be delayed and be less traumatic if hormone adjustments are made in time. Numerous female health problems are tied to inadequate hormone balances.

Forty-five million women are menopausal in the United States today; another 3.5 million women will become menopausal this year. Based on life expectancy trends, women face the prospect of spending the last one-third to one-half of their lives in a state of hormonal imbalance. The quality and quantity of life for these women will be determined by how well they (and their doctors) manage their hormone replacement.

**Restoring Youthful Hormone Levels**

Proper hormone replacement can prevent degenerative disease and improve physical and emotional health in both men and women. In women, many sexual dysfunctions including a lack of desire, can be mitigated when hormone levels are naturally restored to normal levels. In men, perceivable changes in middle age including abdominal weight gain, prostate and heart disease, and depression can be corrected with currently available drug and nutrient therapies. See the Life Extension Foundation’s Disease Prevention and Treatment, 3rd
DHEA and Pregnenolone

In 1981, The Life Extension Foundation had introduced DHEA (dehydroepiandrosterone) to its members through an article that described the multiple antiaging benefits that this hormone might produce. However, the general public did not learn about DHEA until 1996, when the benefits of DHEA were touted by the news media and in several popular books.

DHEA became credible to the medical establishment when the New York Academy of Sciences published a book entitled DHEA and Aging. This book provided scientific validation for the many life extension effects of DHEA replacement therapy.

The Life Extension Foundation has been investigating DHEA for more than 20 years. Only The Life Extension Foundation publishes a DHEA Protocol that enables people to use DHEA safely by providing specific dosing and blood testing schedules. In more than 2,000 published studies, DHEA has been shown to have a role in improving neurological function, immune function, stress disorders, hormonal modulation and numerous diseases associated with normal aging.

The most remarkable finding about DHEA comes from a human study by S.S.C. Yen and associates at the University of California, San Diego, in which 50 mg a day of DHEA over a 6-month period restored serum levels of DHEA in both men and women to youthful ranges. DHEA replacement was associated with an increase in perceived physical and psychological well-being for both men (67%) and women (84%). Increases in lean body mass and muscle strength were reported in men taking 100 mg a day, but this dose appeared to be excessive for women.

DHEA (50 or 100 mg per day) was also shown to significantly elevate insulin growth factor (IGF). Aging causes a decline in IGF levels that contributes to the loss of lean body mass, as well as to excess fat accumulation, neurological impairment, and age-associated immune dysfunction.

Clinical studies provide evidence that DHEA improves memory, mood, and EEG readings, and may play a protective role against neurodegenerative diseases. DHEA was shown to prevent pharmacologically induced amnesia and mental impairment by benzodiazepine (Valium-like) drugs.

Epidemiological studies show that low DHEA levels are associated with the risk of Alzheimer's disease, and a new study provides some molecular mechanisms for how DHEA supplementation may help in part to prevent Alzheimer's disease in one study, DHEA inhibited chemically induced cancers in the colon, lung, breast, and skin. When DHEA was applied directly to the skin, DHEA prevented chemically induced skin cancer. DHEA had this effect by inhibiting the binding of carcinogens to skin cells and by inhibiting the enzyme G6PDH.

DHEA often declines 80-90% by age 70 or later. DHEA demonstrates a striking ability to maintain immune system synchronization. Oral supplementation with low doses of DHEA in aged animals restored immunocompetence to a reasonable level within days of administration. DHEA boosted beneficial interleukin-2 and suppressed levels of damaging interleukin-6 which is overproduced in the aged, contributing to autoimmune disease, immune dysfunction, osteoporosis and reduced healing. Suppression of interleukin-6 with 200 mg a day of DHEA was shown to be effective against systemic lupus erythematosus.

Elderly people often fail to develop sufficient antibody response to vaccination. For a vaccine to work, the immune system has to generate an immune response to the vaccine. This immune response involves the production of antibodies that recognize a specific antigen on the cell of a virus or bacterium, which directs the immune system to destroy the disease-causing organism. A study in elderly volunteers showed that 100 mg a day of DHEA markedly enhanced the antibody response to the influenza vaccine. In influenza epidemics, 80-90% of mortality occurs in people over age 64. While influenza vaccines can be

ORDER ONLINE AT: www.LifeExtension.com
Some people obtain a baseline DHEAS blood test before beginning DHEA replacement therapy, however, based upon numerous DHEA blood tests evaluated by The Life Extension Foundation, anyone over age 40 who does not supplement DHEA is already deficient in serum DHEA. Therefore, it may be more economical to have the first DHEA blood test 3-6 weeks after initiating DHEA replacement therapy. There are precautions that should be observed that are different for men and women.

**Men**

Before initiating DHEA therapy, men should know their serum PSA (prostate specific antigen) level and have passed a digital rectal exam. Men with prostate cancer or severe benign prostate disease are advised to avoid DHEA since DHEA can be converted into testosterone (and estrogen). These sex hormones and their metabolites can promote cell proliferation. It is important to understand, however, that well-controlled studies show that serum DHEA levels are usually lower in men with malignant prostate disease compared to healthy control subjects. Therefore, men are advised to have a PSA and digital rectal exam before initiating DHEA therapy to rule out existing prostate disease, not because DHEA causes the disease. To the contrary, there is evidence indicating that maintaining youthful levels of DHEA may protect against prostate cancer.

To reduce the risk that hormone modulation with DHEA could contribute to a prostate problem, men taking DHEA are also advised to take:

- Vitamin E .................400-800 IU daily
- Selenium ..................200-600 mcg daily
- Mega Soy Extract ...135 mcg twice daily
- Lycopene Extract ........20-40 mg daily
- Saw Palmetto Extract ...160 mg twice daily
- Pygeum Extract ..........50 mg twice daily
- Nettle Extract ..........120 mg twice daily
- Gamma tocopherol .........200 mg daily

---

Highly effective in young adults, 30-50% of the elderly fail to generate protective immunity. Elderly people who take an annual flu shot may want to consider taking 50 mg of DHEA daily at least two days before vaccination to help the vaccine induce an immune response.

DHEA has been shown to protect against heart disease and atherosclerosis. A new study using coronary artery angiography showed that low DHEA levels are a significant risk factor for coronary artery disease. Another new study showed that DHEA inhibits abnormal blood platelet aggregation, a factor in the development of atherosclerosis, sudden heart attack and stroke.

The Life Extension Foundation sells DHEA that conforms to the following specifications:
- 99.9% purity (European-derived DHEA)
- Micronized (for maximum absorption and utilization)
- Manufactured under GMP conditions.

**DHEA dosing and safety precautions**

A DHEAS (dihydroepiandrosterone sulfate) blood test should be taken 3-6 weeks after beginning DHEA therapy to help determine optimal dosing. Some people neglect to test their blood levels for DHEA and wind up chronically taking the wrong dose. When having your blood tested for DHEA, blood should be drawn three to four hours after the last dose. DHEA testing may save you money if it shows that you can take less DHEA to maintain youthful DHEA serum levels.

The standard blood test to evaluate DHEA status is one that measures DHEAS. The DHEAS is calculated in micrograms per deciliter (mcg/dL) of blood.

The youthful ranges of DHEA are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400-560 mcg/dL</td>
<td>350-430 mcg/dL</td>
</tr>
</tbody>
</table>

People over age 40, who do not supplement with DHEA, usually have serum levels below 200, and many are below 100. Chronic DHEA deficiency is a risk factor for developing the degenerative diseases of aging according to the preponderance of evidence existing in the scientific literature.
Note: An aromatase inhibitor should be considered if serum estrogen levels are high. Refer to the Male Hormone Modulation Protocol for complete information about suppressing excessive estrogen levels.

Men over 40 should consider checking their PSA and DHEA-S serum levels every six to twelve months thereafter. Men should also periodically check their blood levels for free testosterone and estrogen to make sure that DHEA is following a youthful metabolic pathway. See the Male Hormone Modulation protocol at www.LifeExtension.com for additional hormone balance testing that can be done at the same time serum DHEA and PSA levels are being tested.

Women

DHEA can increase serum estrogen levels in women and eliminate the need for estrogen replacement therapy in some women.

To help protect cells (especially breast cells) from excessive proliferation in response to estrogen, women taking DHEA should also take: Melatonin.........500 mcg to 3 mg nightly Vitamin E Succinate........400-800 IU daily Mega Soy Extract....135 mg twice daily (40% isoflavone extract) Indole-3-carbinol....200 mg twice daily Vitamin D3............1000-1400 IU daily

Women should consider estrogen and testosterone testing when they take their DHEA blood test in order to evaluate DHEA’s affect on their blood levels of estrogens.

Women who have been diagnosed with an estrogen-dependent cancer should consult their physicians before beginning DHEA therapy. Some studies indicate that higher serum DHEA protects against breast cancer, but no adequate studies have been done to evaluate the effects of DHEA in breast cancer patients. If DHEA were to elevate estrogens too much, this could theoretically increase the risk of estrogen receptor positive breast cancer cells proliferating faster. Women taking DHEA should refer to the Female Hormone Modulation protocol at www.LifeExtension.com for information about restoring youthful hormone balance.

DHEA 335
25 mg • 100 capsules
1 capsule contains
25 mg of pure free base pharmaceutical grade DHEA (dehydroepiandrosterone)
Other ingredients: microcrystalline cellulose, cross-linked povidone, stearic acid, colloidal silica, gelatin and water.

Caution
DHEA can be converted into testosterone (and estrogen). These sex hormones and their metabolites can promote benign and malignant prostate cell proliferation. Men with prostate cancer or severe benign prostate hypertrophy are advised to avoid DHEA. Women with estrogen-dependent cancer should consult their physicians before beginning DHEA therapy.

DHEA 454
15 mg • 100 capsules
1 capsule contains
15 mg of pure free base pharmaceutical grade DHEA (dehydroepiandrosterone). Other ingredients: rice flour, water and gelatin.

Dosage and use
For optimal results, take 1-4 capsules in the morning only.
Taking DHEA with fat or an oil capsule enhances absorption.
DHEA serum blood tests are suggested 3 to 6 weeks after initiating DHEA replacement therapy to optimize individual dosing.
Refer to the Life Extension Foundation’s DHEA precautions before taking this product.

Member
one bottle........Retail $15.00 $11.25
four bottles......Retail $50.00 $9.38 each

Pregnenolone 302
50 mg • 100 capsules
Pregnenolone is biochemically, the “mother hormone,” made directly from cholesterol within the mitochondria.
In addition to memory enhancement, a partial list of pregnenolone’s diverse benefits include:
• No negative feedback loop. Once produced, pregnenolone leaves the mitochondria so it cannot inhibit its own synthesis.
- By two different pathways, it converts to DHEA and progesterone (which cannot be made from DHEA).
- Enzyme repair. Pregnenolone stimulates the cytochrome P-450 enzyme system which is important in neutralizing cellular toxins.
- Protection from cortisol/cortisone. Cortisol levels increase with normal aging causing immune impairment, atherosclerosis, and neuronal injury. Pregnenolone protects against adrenal atrophy when withdrawing cortisone therapy, and helps protect against the effects of elevated cortisol including atrophy of the skin, osteoporosis, hot flashes in women and possibly adult-onset diabetes.

1 capsule contains
50 mg of pure USP grade pregnenolone. Other ingredients: rice flour, gelatin and water.

Dosage and use
- Take one capsule one to four times daily.
- Take early in the day or on an empty stomach.

Caution
Based on some recent animal research, those with epilepsy or a predisposition for brain seizures may want to avoid pregnenolone. This precaution is based on proconvulsant activity pregnenolone induced when administered directly into the brain. When pregnenolone is orally ingested, it is metabolized in the liver in a way that causes it to work differently than when it is surgically introduced into an animal's brain at artificially high doses.

Member

- one bottle......Retail $26.00 $19.50
- four bottles......Retail $90.00 $16.88 each

Melatonin
A “time-keeping” hormone secreted by the pineal gland, melatonin seems to hold the secret to the aging clock. Crossing the blood-brain barrier efficiently, melatonin releases itself into the system, reaching its peak at night (promoting sleep) and seemingly works with growth hormones and other agents that help maintain our tissues in a state of health.

As a biochemical agent, melatonin keeps our circadian cycle in tune as it communicates with the body's cells. Not only does this time keeper work to maintain cell health, it appears to regulate a system of self-repair and regeneration. When this hard-working hormone is diminished or the pineal gland is damaged, our biological functions are impaired.

The assumption is that melatonin has implications in human functions such as aging, mood, sexual maturation and sleep. Numerous studies have been done and are being conducted that underscore the benefits of melatonin replacement, which is dramatically reduced as we age.

Melatonin has also been identified as an anti-cancer therapy. Animal and human studies revealed that melatonin replacement therapy:
- Lowers the rate of carcinogenic-induced tumors and prolongs life span
- Reduces the toxicity of various chemotherapeutic agents
- Counteracts the body wasting associated with progressing cancer
- Reduces the side effects of radiotherapy
- Diminishes blood cell damage induced by conventional radiotherapy and chemotherapy

The numerous studies that have been done with cancer patients and the resulting positive reactions to this hormone, is encouraging enough for the scientific community to pursue the efficacy of melatonin replacement therapy in the treatment of those with the dreaded disease (see table below).

Phase II Randomized Clinical Trial Results Showing 1-Year Survival Rates of Patients Undergoing Conventional Treatment and Receiving Either Melatonin Supplementation or Placebo

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Patient Number</th>
<th>Comparison</th>
<th>Melatonin Dose</th>
<th>One Year Survival (Melatonin)</th>
<th>One Year Survival (Placebo)</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metastatic Non Small Cell Lung</td>
<td>63</td>
<td>Supportive Care Only</td>
<td>10 mg</td>
<td>26% Under 1%</td>
<td>&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Glioblastoma</td>
<td>30</td>
<td>Conventional</td>
<td>10 mg</td>
<td>43% Under 1%</td>
<td>&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Metastatic Breast</td>
<td>40</td>
<td>Tamoxifen</td>
<td>20 mg</td>
<td>63% 24%</td>
<td>&lt;0.01</td>
<td></td>
</tr>
<tr>
<td>Brain Metastases</td>
<td>50</td>
<td>Conventional Radiotherapy</td>
<td>20 mg</td>
<td>38% 12%</td>
<td>&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Metastatic Cerebral</td>
<td>50</td>
<td>IL-2</td>
<td>40 mg</td>
<td>36% 12%</td>
<td>&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Metastatic Non Small Cell Lung</td>
<td>60</td>
<td>IL-2</td>
<td>40 mg</td>
<td>45% 19%</td>
<td>&lt;0.05</td>
<td></td>
</tr>
</tbody>
</table>

Adding to the mounting evidence that melatonin is indeed important to the human lifespan, the hormone has also been shown to be effective in inducing healthy sleep. Studies have found that melatonin increases the speed of falling asleep and adds to the quality of sleep. It also has an affect on mood. Again, the role of melatonin in the cancer patient's life is underscored since many of these patients suffer from depression and disruptive sleep.

**Melatonin 547**

300 mcg • 100 capsules

This melatonin product is the 300 mcg low-potency formulation in capsule form.

1 capsule contains

300 mcg melatonin.

Other ingredients: rice flour, gelatin.

**Dosage and use**

- 1 capsule 30 to 60 minutes before bedtime.
- Melatonin should only be taken at night for optimal results. Because melatonin may cause mild drowsiness, do not attempt to drive after taking melatonin.

**Melatonin Timed Release 546**

300 mcg • 100 capsules

Life Extension Foundation's Melatonin 300 mcg Timed Release product is a low-potency melatonin supplement that helps you sleep better because of its time-release formulation. Because the ingredients are released gradually throughout the night, sleep is sustained so you get a good night's rest.

1 capsule contains

300 mcg melatonin.

Other ingredients: sucrose, gelatin, starch, ethylcellulose.

**Dosage and use**

- 1 capsule 30 to 60 minutes before bedtime.
- Melatonin should only be taken at night for optimal results. Because melatonin may cause mild drowsiness, do not attempt to drive after taking melatonin.

**Melatonin 328**

500 mcg • 200 capsules

1 capsule contains

500 mcg of pharmaceutical grade pure melatonin.

Other ingredients: rice flour, gelatin and water.

**Dosage and use**

- 1-2 capsules 15-30 minutes before bedtime is the minimum dosage of melatonin recommended for everyone over 40. Many experts are now recommending that healthy people take only 500 mcg a night of melatonin for disease prevention.

**Melatonin Timed Release 540**

750 mcg • 60 capsules

This Timed Release melatonin is a pharmaceutical grade nutritional supplement that helps you sleep throughout the night because of its timed release formula.

1 capsule contains

750 mcg melatonin.

Other ingredients: sucrose, cornstarch, ethylcellulose, magnesium stearate, gelatin, water.

**Dosage and use**

- 1 capsule 30 to 60 minutes before bedtime.
- Melatonin should only be taken at night for optimal results. Because melatonin may cause mild drowsiness, do not attempt to drive after taking melatonin.

**Melatonin 329**

1 mg • 60 capsules

1 capsule contains

1 mg of pharmaceutical grade pure melatonin.

Other ingredients: rice flour, gelatin and water.

**Dosage and use**

- 1 capsule 15-30 minutes before bedtime is recommended for everyone over 40.

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**ORDER ONLINE AT:** www.LifeExtension.com
Melatonin 330
3 mg • 60 capsules

1 capsule contains
3 mg of pharmaceutical grade pure melatonin.
Other ingredients: rice flour, gelatin and water.

Dosage and use
■ 1-2 capsules 15-30 minutes before bedtime are recommended.

<table>
<thead>
<tr>
<th>_quantity</th>
<th>price</th>
<th>Member price</th>
</tr>
</thead>
<tbody>
<tr>
<td>one bottle</td>
<td>$8.00</td>
<td>$6.00</td>
</tr>
<tr>
<td>four bottles</td>
<td>$27.52</td>
<td>$5.16 each</td>
</tr>
</tbody>
</table>

Melatonin Sublingual 332
3 mg • 60 lozenges

This melatonin formulation is for those who need the fastest possible sleep-inducing action. Sublingual absorption of melatonin goes directly to the brain and bypasses the liver where much of orally ingested melatonin can be metabolized (in some people) before it reaches the brain. If you have a problem in getting to sleep and staying asleep, take sublingual melatonin 1/4 hour before bedtime to induce drowsiness and timed-release melatonin right before bedtime.

1 lozenge contains
3 mg of pharmaceutical grade pure melatonin.
Other ingredients: sorbitol, mannitol, cellulose, croscarmellose sodium and magnesium stearate.

Dosage and use
■ 1-2 lozenges 15-60 minutes before bedtime are recommended.

<table>
<thead>
<tr>
<th>_quantity</th>
<th>price</th>
<th>Member price</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$8.00</td>
<td>$6.00</td>
</tr>
<tr>
<td>four bottles</td>
<td>$27.52</td>
<td>$5.16 each</td>
</tr>
</tbody>
</table>

Melatonin Timed Release 333
3 mg • 60 capsules

This 6-hour, timed-release melatonin formulation is especially good for those people who tend to wake up too soon. If you can get to sleep, but find that you wake up during the night, timed release melatonin can help you stay asleep all night long.

1 capsule contains
3 mg of pharmaceutical grade pure melatonin in a timed-release matrix.
Other ingredients: sucrose, cornstarch, ethyl cellulose, magnesium stearate, gelatin and water.

Dosage and use
■ 1 or 2 capsules immediately before bedtime are recommended for those who have early-waking insomnia.

<table>
<thead>
<tr>
<th>quantity</th>
<th>price</th>
<th>Member price</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>four bottles</td>
<td>$37.52</td>
<td>$7.04 each</td>
</tr>
</tbody>
</table>

Melatonin 331
10 mg • 60 capsules

This capsule contains a dosage appropriate for adjuvant disease treatment.

1 capsule contains
10 mg of pharmaceutical grade pure melatonin.
Other ingredients: rice flour, magnesium stearate, silicon dioxide, gelatin and water.

Dosage and use
■ 1-5 capsules at bedtime.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>price</th>
<th>Member price</th>
</tr>
</thead>
<tbody>
<tr>
<td>one bottle</td>
<td>$28.00</td>
<td>$21.00</td>
</tr>
<tr>
<td>four bottles</td>
<td>$96.00</td>
<td>$18.00 each</td>
</tr>
</tbody>
</table>

Natural Sleep (Melatonin) 277
5 mg • 60 capsules

Natural Sleep is the Foundation’s premier sleep-enhancing melatonin formula. Natural Sleep duplicates the body’s own secretion of melatonin which occurs naturally in youth. It contains pharmaceutical grade melatonin, along with synergistic sleep-enhancing nutrient cofactors to boost levels of the tranquilizing neurotransmitter serotonin, lower serum glucose, induce muscle relaxation and improve circadian rhythm.

1 capsule contains
Melatonin...........................................5 mg
Vitamin C (as niacinamide ascorbate)....220 mg
Niacin (as niacinamide ascorbate)....73.5 mg
Vitamin B-12 (as cyanocobalamin) 100 mcg
Calcium (as calcium citrate)...........48 mg
Magnesium (as magnesium oxide)....120 mg
Chromium (as chromium polynicotinate)50 mcg
Pyridoxal 5 Phosphate..................10 mg
Inositol...........................................100 mg

Other ingredients: rice flour, magnesium stearate, silicon dioxide, gelatin and water.
Dosage and use
1-2 capsules 15-45 minutes before bedtime.

Female Hormones

Natural Estrogen 323

60 caplets

Millions of women fail to replace the estrogen they lose when they grow older because of their fear of cancer. The risks of estrogen-induced breast and ovarian cancer for postmenopausal women have been well documented. So have the remarkable benefits of estrogen replacement, such as stronger bones, more youthful appearance, smoother skin, better sex life, sharper mind, better mood and possible lower risk of Alzheimer's disease.

In an attempt to provide aging women with the multiple rejuvenation effects of estrogen without side effects, scientists have developed plant extracts with estrogenic activity (phytoestrogens) to substitute for FDA-approved drugs.

Natural Estrogen is one answer to concerns about the risks of estrogen replacement. Although women can go “cold turkey” from estrogen drugs to Natural Estrogen without adverse side effects, it is recommended that women who have been taking estrogen drugs gradually wean themselves off these drugs.

1 capsule contains
Phytoestrogens (isoflavones) from 110 mg of Mega Soy extract...............55 mg

Genistein and its precursor isofor
Genestin...........................................25.81 mg
Daidzein and its precursor isofor
Daidzin...............................................24.97 mg
Glycitein and its precursor isofor
Glycitin................................................4.69 mg
Black cohosh extract, powdered
(Cimicifuga racemosa) (root and rhizome)
2.5% triterpene glycosides.....................20 mg
Dong quai extract, powdered (Angelica
sinensis) (root) 1% ligustilide.................12.5 mg
Licorice extract, powdered
(Glycyrrhiza glabra) (root).......................12.5 mg
Vitex extract, powdered (Vitex agnus-
castus) (fruit)........................................10 mg
5% vitexcarpin
Other ingredients: dicalcium phosphate, cellulose, stearic acid and magnesium stearate.

Dosage and use
1 caplet morning and evening is suggested, or as recommended by your health practitioner. Natural Estrogen should be taken cyclically: three weeks on and one week off, beginning on the 5th day of the menstrual cycle for premenopausal women, and every day for postmenopausal women.

Caution
Do not use during pregnancy, lactation or with estrogen-dependent tumors.

Member
one bottle......Retail $38.00 $28.50
four bottles......Retail $132.00 $24.75 each

Pro Fem 231

2 oz jar

Pro Fem contains USP natural progesterone from soy. Pro Fem is used by women to prevent osteoporosis, premenstrual syndrome, some cancers and some of the side effects of estrogen replace-

Order online at: www.LifeExtension.com
Dosage and use (Men)
- 1/8 teaspoon should be used once or twice daily as above.
- It may be more effective for the prostate if applied to the scrotum or other lower abdominal skin.

Caution
Consult your physician before using this product if you have an estrogen-dependent cancer.

Member
one jar .......... Retail $26.95 $20.21
four jars ......... Retail $96.00 $18.00 each

Growth Hormone Releasing Formulas

As we grow older, we suffer major declines in the hormones we need to stay healthy. One of the most important is growth hormone (GH) — often called human growth hormone (hGH) to distinguish it from animal-derived products.

Growth Hormone Injections
The most effective way of boosting GH blood levels is regular injections. While the cost of synthetic GH injections for anti-aging purposes is very high, it is now available from various doctors in North America. For information about how to locate a doctor in your area phone 1-800-226-2370.

Amino Acid GH Releasers
For some years now, scientists have been exploring the ability of high doses of nutrients to restore GH to younger levels. It has been shown that while GH is adequately produced by the aging pituitary, its secretion from the pituitary is down-regulated with age. However, scientists have found that certain amino acids and vitamins can stimulate the natural release of GH from the pituitary in many people.

The B vitamin, niacin and the following amino acids have been shown to stimulate GH release:
- L-arginine
- L-lysine
- L-glutamine
- L-ornithine
- glycine
- Persons who have not completed their bone growth (children and teenagers) and pregnant or lactating women should not use GH releasers except under a physician's supervision.
- L-Arginine and L-ornithine sometimes reactivate latent herpes virus infections. Therefore, persons who have ever had ocular or brain herpes should not use these products.
- Those with certain psychoses may experience worsened symptoms if they take L-arginine or L-ornithine supplements.

GH Formulas
The principle behind the use of multiple growth hormone releasing compounds at the same time is called "stacking." The theory behind this principle is that since many of these compounds operate to stimulate GH release by different mechanisms, taking them together will cause a larger release effect. The doses of each can be made smaller than normally used, with fewer consequent side effects. Some people even think that these compounds may be synergistic when taken together, thereby increasing the effect beyond the additive amounts from each compound.

Natural GH (Growth Hormone Releasing) Formula 324
120 capsules
This formula contains every non-prescription compound that has been shown to promote growth hormone release.

Dosage and use
- The suggested dosages for healthy, adult men and nonpregnant, nonlactating women are:
  Men.........Weight lbs ....# Capsules
  100-140....................6
  140-200....................9
  over 200..............12
  Women........Weight lbs ....# Capsules
  under 120..............3
  120-180....................6
  over 180..............9

CALL TO ORDER: 800-544-4440 • Fax: 954-761-9199
GH release is greater when releasers are taken on an empty stomach before exercise or at bedtime.

Start with about 25% of your target quantity and increase it gradually over a period of a few days to minimize the occurrence of minor side effects such as nausea.

GH release may be improved if 1 to 3 grams of choline and 1/2 to 2 grams of pantothenic acid are taken at the same time.

4 capsules contain
- L-Arginine: 1300 mg
- L-Ornithine: 500 mg
- L-Ornithine alpha-ketoglutarate: 250 mg
- L-Glutamine: 500 mg
- Glycine: 500 mg
- L-Lysine: 250 mg
- Xanthinol nicotinate: 50 mg
- Vitamin C (as ascorbic acid): 200 mg
- Vitamin B6 (as pyridoxine HCL): 50 mg

Other ingredients: magnesium stearate, gelatin and water.

Member
one bottle: $24.95 $18.71
four bottles: $80.00 $15.00 each

Daytime GH (Growth Hormone) Formula 188
180 capsules

Daytime Growth Hormone Formula contains potent amounts of the superior GH releasing amino acid, L-ornithine as well as the milder GH releasing amino acid L-tyrosine, which also produces a stimulating effect. This combination may be ideal to promote GH release during exercise.

6 capsules contain
- L-Ornithine HCL: 3000 mg
- L-Tyrosine: 500 mg
- Vitamin C (as ascorbic acid): 1000 mg
- Vitamin B6 (as pyridoxine HCL): 100 mg

Other ingredients: magnesium stearate, gelatin and water.

Dosage and use
- The suggested dosages for healthy, adult men and nonpregnant, nonlactating women are:

Men
- 100-140 # Capsules: 6
- 140-200: 9
- over 200: 12

Women
- under 120: 3
- 120-180: 6
- over 180: 9

GH release is greater when releasers are taken on an empty stomach before exercise or bedtime.

Start with about 25% of your target quantity and increase it gradually over a period of a few days to minimize the occurrence of minor side effects such as nausea.

GH release may be improved if 1 to 3 grams of choline and 1/2 to 2 grams of pantothenic acid are taken at the same time.

Caution
- Cancer patients should avoid L-tyrosine.
- Supplemental use of L-tyrosine may raise or normalize blood pressure.
- Insomnia may occur from overstimulation if taken too close to bedtime.

Member
one bottle: $32.00 $24.00
four bottles: $116.00 $21.75 each

Nighttime GH (Growth Hormone) Formula 189
360 capsules

Nighttime Growth Hormone Formula contains the GH releasing amino acids L-ornithine, L-arginine and glycine appropriate for best GH release during the night. Glycine and niacinamide both have a relaxing effect that aids sleep.

Dosage and use
- The suggested dosages for healthy, adult men and nonpregnant, nonlactating women are:

Men
- 100-140: 12
- 140-200: 18
- over 200: 24

Women
- under 120: 6
- 120-180: 12
- over 180: 18

GH release is greater when releasers are taken on an empty stomach before exercise or bedtime.

Start with about 25% of your target quantity and increase it gradually over a period of a few days to minimize the occurrence of minor side effects such as nausea.

GH release may be improved if 1 to 3 grams of choline and 1/2 to 2 grams of pantothenic acid are taken at the same time.

12 capsules contain
- L-Ornithine HCL: 3000 mg
- L-Arginine: 2000 mg
- Glycine: 4000 mg
- Niacinamide (vitamin B3): 250 mg
- Vitamin B6 (as pyridoxine HCL): 70 mg

Other ingredients: rice flour, magnesium stearate, gelatin and water.

Member
one bottle: $49.00 $36.75
four bottles: $184.00 $34.50 each

ORDER ONLINE AT: www.LifeExtension.com