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### **What is Andropause?**

Andropause is associated with low (bioavailable) testosterone levels. Andropause, also called male menopause, occurs in men are between the ages of 40 and 55. Starting at about age 30, testosterone levels drop by about 10 percent every decade. At the same time, Sex Binding Hormone Globulin, or SHBG, is increasing. SHBG traps much of the testosterone that is still circulating and makes it unavailable to exert its effects in the body's tissues. What's left over does the beneficial work and is known as "bioavailable" testosterone.

Testosterone, or male sex hormone, plays a key role in developing and maintaining masculine sexual organ, and promotes secondary sexual characteristics, including the appearance of facial hair, sexual desire, and sexual behavior. Testosterone stimulates metabolism, which promote fat burning, and accelerates muscle growth. Testosterone helps to build protein and is essential for normal sexual behavior and producing erections. It also affects many metabolic activities such as production of blood cells in the bone marrow, bone formation, lipid metabolism, carbohydrate metabolism, liver function and prostate gland growth.

Other androgens also decline with age. Dihydroepiandrosterone (DHEA) is one of the more studied and popularized of these hormones. It's functions range from maintaining and promoting male characteristics to supporting proper lipid AntiOxidant functioning in the body.

Indeed, there is a tenacious link between the results of Andropause and one of the newest disorders, Syndrome X. Many men with Andropause eventually develop the characteristics associated with this high risk condition.



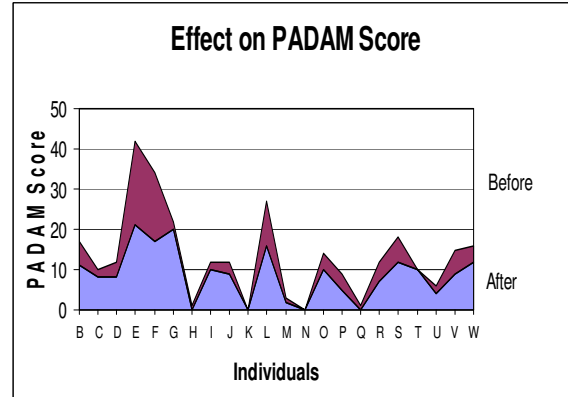
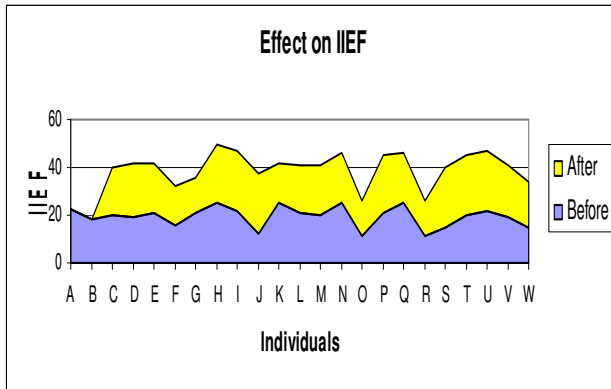
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### Andropause Symptoms

- Fatigue & Lack of Energy
- Increased Risk of Heart Failure
- Moodiness or Tendency toward Sad or Grumpy Moods
- Decreased Strength, Endurance, and Athletic Ability
- Decreased Libido and Sexual Ability
- Weight Gain
- Loss of Height
- Infertility
- Low Sex Drive
- Osteoporosis

### How LJ100<sup>®</sup> can help with Andropause?

Most studied for its ability to improve Androgen levels, LJ100<sup>®</sup> (40% Glyco Saponins, 22% Bioactive Eurypeptides, 30% Polysacharides) has been shown as safe and effective for treating PADAM (Partial Androgen Deficiency Among Aging Men). In a double blind, randomized, placebo controlled human clinical conducted by Dr Iamail Tambi, Senior Andrologist for the National Population and Family Development Board of Malaysia, 7 patients were given 100mg of LJ100<sup>®</sup> while 7 were on placebo for 3 weeks. LJ100<sup>®</sup> significantly decreases SHBG, increase Free Testosterone, increase DHEA, improve Quality of Life Score, and improve PADAM score.



Sexual Health Inventory Questionnaire showed 62% of the cases having an increased or maximum score. PADAM score demonstrated that 82% of the cases showed improvement in total score, resulted in improvement of their quality of life with regards to their physical, sexual, and psychological well being.



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**DHEA LEVELS INCREASE**

At One Week	26%
At Three Week	47%

Analysis of DHEA showed gradual increase in the level from 26% after 1 week to 47% after 3 weeks.

**SHBG ANALYSIS**

	Increase	Decrease	No Change
At 1 week interval	52%	36%	12%
At 3 week interval	27%	66%	7%

SHBG analysis showed reduction in 36% of the patients after one week, and 66% after 3 weeks. When SHBG level declines, the Free Testosterone Index (FTI) goes up. FTI analysis showed an escalation of 39% of subjects after 1 week and 73% after 3 weeks. Free Testosterone result in improved energy level, metabolism, strength, sexual stamina, and overall health.

**How Does it Work?**

Clinical research conducted at Massachusetts Institute of Technology showed that the bioactive Eurypeptides in LJ100<sup>®</sup> activates the androgen biosynthesis by increasing the production of essential enzymes (CYP17) that is responsible for converting cholesterol to pregnenolone to progesterone and DHEA. DHEA is ultimately converted to testosterone. Gene expression analysis showed that Eurypeptides in LJ100 significantly increased the expression of CYP17 gene, which suggests that more of this enzyme is being produced, which will enhanced the metabolisms of androgen biosynthesis.

This research is further confirmed by human clinical conducted by Dr Ismail Tambi that showed the ability of LJ100<sup>®</sup> to increase HDL cholesterol, confirming our previous findings that LJ100 activates the androgen biosynthesis sequence by breaking down cholesterol to Progesterone and testosterone. In addition, LJ100 has a positive influence on the adrenal gland and modulates the release of cortisol which help enhance the immune response during illness. Majority of the patients also showed increase in Tyroxine level which mean higher body basal metabolism rate that can be translated into better weight management. Finally, majority of patients on LJ100 showed increase in IGF-1 level suggesting secretagogue effect on Growth Hormone, making it an ideal healthy aging supplement.



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### Human Clinicals Research Summary

76 patients suffering from late-onset hypogonadism (LOH) were given 200 mg of LJ100 for 1 month. The Ageing Males' Symptoms (AMS) showed that treatment with LJ100 extract significantly improved the AMS score and serum testosterone concentration. Before treatment, only 35.5% patients had normal testosterone levels compared to 90.8% after 1 month of treatment with LJ100.

Parameter	Mean	SD	Median	Minimum	Maximum
Age (years)	51.00	10.06	52.00	28.00	70.00
AMS (before) (score)	38.05	9.25	38.00	23.00	58.00
AMS (after) (score)	23.67	5.11	24.00	17.00	38.00
Testosterone (before) (nm)	5.66	1.51	5.60	2.54	9.80
Testosterone (after) (nm)	8.31	2.47	7.60	4.20	18.00