TOTAL DHEA
(CHEWABLE)

Ingredients: Each Chewable Tablet Supplies: DHEA 2.4mg, Maltodextrin 125mg, Xylitol 50.6mg, Natural spearmint flavor.

Supportive Function: Support for stress; hormonal imbalance; bone growth; healthy mental attitude; sexual drive; immune function; adrenal function; aging processes; autoimmune tolerance; sense of well-being; energy levels; increased mobility; decreased pain; higher quality of sleep; memory; bone growth; osteoporosis; atherosclerosis; Alzheimer's; MS; systemic lupus erythemetosus and Crohn's disease.

Clinical Applications/Research: DHEA production is depressed during periods of stress. DHEA levels are used as lab values to determine adrenal stress. Declines in DHEA levels have been associated with many health conditions including trauma, systemic lupus erythematosus and sepsis (Chen & Parker 2004). Depressed patients and women with asthma have been reported to have low levels of DHEA (Lininger et al 1998:156). Age-associated declines in DHEA production have been linked with decreased immune function, osteoporosis, and atherosclerosis (Dharia, Parker 2004). Decreased concentrations of DHEA have been found in rheumatoid arthritis (Dessein et al 2001).

Epidemiologic evidence links low levels of DHEA to an increased risk of developing cancer or death from cardiovascular disease. In an animal study, supplementation with DHEA inhibited the development of atherosclerosis, including a 50% reduction in plaque size, and marked reductions of fatty infiltration into the heart and liver (Gordon, Bush, & Weisman 1988). Apostolova et al (2004) demonstrated how supplementation with DHEA exerts beneficial effects on blood glucose levels and insulin sensitivity in obese rodents and humans, and in individuals with DHEA adrenal insufficiency,

DHEA deficiency has been associated with negative effects on well-being, energy levels, mood, and libido, particularly in female patients. DHEA suppression has also been reported in individuals receiving glucocorticoid drug therapy (Arlt 2004). In an 80 person study comparing healthy pre- and postmenopausal women with women having low libido, decreased DHEA and other androgens were linked with low libido and other decreased sexual functions (Turna et al 2004).

In an animal study, DHEA oral supplementation was shown to rapidly decrease pulmonary artery hypertension (Bonnet et al 2003). In a year long placebo controlled, double blind study of 280 healthy people aged 60-79 taking DHEA supplementation, women were reported to show improvement in bone structure, most sexual parameters, and skin health, without harmful consequences or side effects (Baulieu et al 2000). In one animal model study, DHEA supplementation prevented autoantibody formation and prolonged the survival time in animals with lupus erythematosus (Lucas et al 1985). In a small human study of people with systemic lupus and other diseases, indices for lupus activity were improved. (Van Vollenhoven 1994).

DHEA, an intermediate in the biosynthetic pathway of sex hormones, has recently been found in large concentrations in the human brain and plasma. DHEA stimulates

axons and dendrites in brain cell growth and has been suggested to account for memory performance (Baulieu and Robel 1998).

During the past five decades, numbers of studies have suggested that DHEA is a multifunctional hormone precursor with immunoenhancing, antidiabetic, antiobesity, anticancer, neurotropic, memory-enhancing, and antiaging effects (Yen 2001).

DHEA is produced abundantly during youth, peaking in production about age 25, gradually declining until by 80 years of age, we produce only 10-20% of the DHEA adrenal hormone we had at 20. DHEA plays many roles in enhancing health and longevity, helping generate the sex hormones, enhancing muscle mass, decreasing body fat, and stimulating the formation of strong bone. In a 1986 study with 246 middle aged and elderly men that lasted 12 years, small doses of DHEA were reported to be responsible for a 48% reduction in death rate from heart disease and a 36% reduction in death from other causes. In a 28-day study, DHEA therapy was credited with a 31% reduction in body fat without changing overall body weight. Middle aged and elderly men experienced better stress coping abilities, an improved sense of well-being, increased mobility, decreased pain, and higher quality of sleep. Other studies show many beneficial effects in helping prevent or ameliorate many diseases including Alzheimer's, MS, and Crohn's disease (Andus et al 2003), while improving memory. In animal studies, DHEA increased life span by as much as 50% (Balch & Balch, 1997: 544-545).

Maltodextrin is a sweetening agent that has no effect on blood sugar.

Xylitol is a substitute sweetening agent that is naturally found in several fruits with many beneficial effects that ordinary sugar does not have: it inhibits bacteria associated with caries, several respiratory microbes, and pneumonia (Kontiokari T, Uhari M, and Koskela M, "Effect of xylitol on growth of nasopharyngeal bacteria in vitro," *Antimicrob Agents Chemother*. 1995 Aug;39(8):1820-3).

Natural spearmint flavor is not only a pleasant flavoring agent, but also has been traditionally used by herbalists to help in melancholy and depression (Tierra 1990:234).

References (Available on request)

Suggested Dosage: As directed, or one tablet in the evening and one at bedtime, whenever cortisol is high according to lab results.

Size: 90

Vegetarian: Yes

Contraindications: DHEA is a hormone precursor and should be used under the supervision of a trained licensed professional (use only as directed). While it is not suspected of increasing risk for any disease, it is contraindicated in existing hormone related diseases. Avoid in pregnancy/lactation and keep away from children.