

# Eleutherococcus Senticosus

Bridging the gap between alternative and orthodox

by Dr. Moira Williams

Eleutherococcus Senticosus (ES) is an herbal root supplement which seemingly bridges the gap between 'alternative' remedies and 'orthodox' medical treatments. The practices of complementary medicine including herbalism, acupuncture, osteopathy and so on are often not included within the confines of a traditional medical education. Herbal medicines are often regarded with suspicion by 'orthodox' medical practitioners and discarded for not having any scientific foundation for their clinical use.

ES is a herbal supplement which not only has a reputation dating back over centuries as a tonic providing energy and resistance, but it is recognised and used in clinics and hospitals (predominantly in Russia where the majority of research originated) for its adaptogenic effects which assist with the natural defence mechanisms of the body, enabling increased energy, stamina, performance and resistance to various harmful influences such as viruses, toxins and radiation.

Following the introduction of a standardised extract to the UK last year there has been an increasing interest among the medical profession as well as health practitioners in ES.

## HISTORY

Eleutherococcus Senticosus ('Eleuthero' – 'free berried shrub'; 'Senticosus' – 'thorny'), is a member of the Araliaceae family as is Ginseng, but the active ingredients and properties of the plant are different and should not be confused with Ginseng. ES is often wrongly called 'Siberian Ginseng'. The ES shrub itself grows abundantly in the wild of the woods of eastern Siberia, Shansai and Hopei provinces of China.

ES is one of the few recognised herbal tonics of the world with a history spanning thousands of years. The Chinese believe that the regular use of ES increases longevity; improves general health and appetite and restores memory; basically serving as a preventative and general tonic.

It was not until the 1950s that ES was researched scientifically for its pharmacological properties. Prof. Izrale Brekhman of the Far East Science centre of the USSR Academy of Science confirmed that ES had an unique ability to help the organism to resist diverse stresses and was effective in maintaining a physiological

equilibrium despite subjection to adverse factors such as strenuous physical activity, viruses, toxins, radiation, hypoxia and extreme temperatures.

In 1962 ES was approved for human use by the Soviet government's Ministry of Health. It is now monographed in the Russian and German pharmacopoeia (1991) among others.

## ACTIVE CONSTITUENTS

The active constituents (Eleutherosides) are believed to be unique to the plant and were identified by Prof. Elyakov and his colleagues at Moscow State University in the 1960s. These Eleutherosides, the most pharmacologically important of which are Eleutherosides B and E, are glycosides. Eleutheroside A is a glycoside of daucesterol, Eleutheroside B is a glycoside of syringine, Eleutheroside B1 is a 7-a-D glycoside of isofraxidine, Eleutheroside C is ethyl-a-D galactoside, Eleutherosides D and E are di-B-D glycosides of syringaresinol and are dimmers of Eleutheroside B.



There is also a range of compounds such as resins, anthocyanin, pectins and sugars present in the ES root.

It is uncertain how these glycosides act and current research attempting to elucidate their full pharmacology continues under the auspices of Prof. Wagner at Munich University, Germany.

## PHYSIOLOGICAL & IMMUNOLOGICAL EFFECTS

ES has been shown to increase the lymphocyte (predominantly T) activity with a demonstrable increase in the numbers of circulating T lymphocytes in healthy individuals. An immune system-based action is supported by the clinical evidence that ES increases resistance to illness, notably viral infections and speeds up convalescence.

A much-quoted single blind controlled study of more than 13,000 workers at the

Volga Automobile Plant who were given daily doses of ES showed a reduction by one third in the overall disease incidence and absence from work of those taking ES as compared with the controls. This was further supported in a further study of thousands of drivers, steelworkers, miners and other factory workers in Russia who used ES over a period of several years. Another area which supports an immunological mechanism is the effects of ES in oncology. When used as an adjunct to certain radiotherapeutic regimes and chemotherapeutic regimes ES protects against the generalised immunosuppression created by these treatments, enabling higher treatment doses to be tolerated and reducing the occurrence of metastatic disease. ES also acts as an antioxidant, destroying free-radicals in the treatment of cancer and it is used to reduce distressing side effects such as severe nausea and vomiting.

Animal studies show that ES increases resistance to a wide range of harmful influences – immobilisation, temperature stress, toxins, infections and so on. Survival times were increased and indicators of stress such as adrenal hypertrophy, corticosteroid production and hyperglycaemia reduced.

The magnitude of the Alarm (fight or flight) Reaction is reduced and the harmful exhaustion phase of the stress response is delayed. ES appears to conserve the physiological and biochemical processes involved in the stress response. Whether this is the result of a direct action on the adrenal glands or an action on higher centres, such as the hypothalamus resulting in alterations of feedback to the adrenal glands remains as yet uncertain.

## CLINICAL STUDIES

There are many clinical studies on the use of ES from Russia encompassing a wide range of work not only with oncology patients but notably including the use of ES in arteriovascular insufficiency, heart disease (e.g. rheumatic heart disease), chronic illness (e.g. chest medicine) and perioperative use of ES for surgical cases as well as paediatrics and obstetrics.

In such cases ES was shown overall to have a tonic subjective effect, improving the sense of well-being and increasing energy by reducing the effects of stress and speeding convalescence. As an adaptogen ES acts to restore physiological imbalances towards normal, regardless of whether the

imbalance is an excess or a depletion. This is done without harmful effect to the organism and without essentially disrupting the normal physiological processes.

In such a way ES has been shown to be useful in the early stages of arteriovascular disease (including cardiovascular and cerebrovascular disease). ES not only helps to restore blood cholesterol levels towards normal but it also acts to normalise blood pressure and has a mild anti-diabetogenic effect. Unfortunately in these areas most of the research is in Russian and difficult to obtain, so exact details of the trials are uncertain.

Russian Olympic teams use ES as a supplement to their training during the weeks leading up to major sports events and continuing throughout these events. ES increases the uptake of oxygen and improves stamina and recovery, especially in endurance events such as marathons. Russian cosmonauts took ES and are reported to have been continuing to study its effects in space.

#### STANDARDISATION

Before choosing a preparation of ES there are a variety of factors to be considered. The most important factor from which the others lead is the question of standardisation. By standardisation, the levels of active constituents are quantified to pharmacologically necessary levels; many herbal products are merely ground up whole root with wide variations, not only between different manufacturers, but between individual batches of product – some containing no active ingredients at all!

With ES, research shows that it must be standardised according to the levels of Eleutheroside E (no less than 0.05 per cent) and Eleutheroside B (no less than 0.0001 per cent) with total extract ratio being no less than 15 per cent.

Only when standardisation has been assured can the daily dose level be administered accurately. For ES the recommended daily dose is the equivalent to 2g whole dried root, established by the level at which therapeutic effects are derived in research and clinical studies.

Manufacturers' recommendations for many herbal products vary widely and without knowledge of the constituents in each tablet the dose level is entirely guesswork.

Many products are not purified and contain contaminants or are harvested from cultivated crops, thus affecting the constituents and properties of the active ingredients. Also, extraction processes may lead to evaporation and loss of active ingredients.

These points are often overlooked by the public when searching for a specific herbal product, and should be highlighted. It is incredible to consider how few products are standardised.

If there is no quantitative analysis (and no qualitative guarantee) then it follows that many herbal medications would seemingly be poorly effective apart from placebo effects, in which case it is little wonder that observers such as orthodox practitioners are sceptical about herbal supplements. If all such supplements were standardised, perhaps they would fulfil their therapeutic potential and become more widely acclaimed. As regards ES, the product available in the UK which meets all these criteria is *Elagen*. *Elagen* is a pure standardised extract of ES (standardised to Eleutheroside E at 0.38 per cent and Eleutheroside B at 0.32 per cent) concentrated five times, guaranteeing that each capsule provides the minimum daily dose (2g equivalent) as pharmacologically specified. The extract used is from the same sources as that which has been widely researched in Russia and Germany.

#### CLINICAL USE OF *ELAGEN* IN THE UK

From experience with *Elagen*, the results have all been very encouraging, with no reports of any side-effects. An increasing number of health practitioners and medical practitioners are using *Elagen* with their patients for complaints such as ME, arthritis, psoriasis, sports medicine, convalescence from illness and surgery and stress-induced conditions.

A record is kept, updating certain individual case reports confidentially supplied by practitioners. Particularly noteworthy is how its use in treating ME has grown, with significant improvements resulting for many of these sufferers.

Formal research is developing, involving a double-blind placebo-controlled study, the results of which are awaited. Further research is also about to start involving a trial with marathon athletes, and further trials are planned with animals using *Elagen* as a feed supplement; currently its effects are being monitored with competitive horses. Regarding individual case histories there have been many individual reports citing the benefit of increased 'energy levels' among people of all ages ranging from 12 to 90 years. Not only did those with chronic illness such as ME and arthritis experience varying degrees of relief but the apparently well population benefited too.

A natural health therapist who regularly uses *Elagen* herself as well as for her patients gave several case histories, including that of a 48-year-old woman on

chronic steroids (for bronchial asthma) who had been suffering increasingly from extreme fatigue as well as food allergies and depression.

After one week of once-daily *Elagen* capsules she noticed an improvement in her energy levels; within two weeks she seemed less depressed and more able to cope; within two months she had become less vulnerable to infections and had increased stamina.

Another medical herbalist practising in London not only finds *Elagen* good for her patients but found that her own energy levels were increased even on the first day of taking *Elagen*. She now finds she is able to maintain her energy levels after a busy week's work without effort – whereas previously she would have been extremely tired.

#### CONCLUSION

Although unlike herbal medicines most proprietary drugs are artificially manufactured, the origins of pharmacy remain in nature. Substances such as ES, which are not only pure herbal supplements but can also be considered as valuable medicinal products, bridge the psychological barrier – often perceived by the medical profession between themselves and the herbalists.

ES acts to relieve the manifestations of stress (chronic illness, overwork, convalescence, viral changes, radiation, surgery and so on) and as such it is a preventative of disease; a restorative of health and not a specific cure for designated symptoms, although it can be used as such.

Perhaps medicinal supplements, including ES, will promote the present trend towards awareness of the preventative medicine and the maintenance of good health as well as an interest on alliance of the 'orthodox' medical profession with 'complementary practitioners'.

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