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THE MEDICAL POTENTIAL OF CANNABIS

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BIOGRAPHY

Leslie Iversen PhD is a Visiting Professor at the Department of Pharmacology, University of Oxford. He directed the Wolfson Centre for Research on Age Related Diseases at Kings College London (1999-2004), and was previously Director of the Neuroscience Research Centre set up by the international pharmaceutical company Merck & Co Inc in Harlow, Essex, UK (1983-1995), and Director of the UK Medical Research Council Neurochemical Pharmacology Unit in Cambridge, England (1970-1983). He is interested in understanding how drugs work in the nervous system and in the molecular basis of nervous system disorders and is particularly known for his work on the chemical messengers used for communication between nerve cells. He is the author of several books and of more than 350 scientific publications and is a Fellow of the Royal Society of London and a Foreign Associate of the National Academy of Sciences, USA. He acted as the specialist adviser to the House of Lords Science & Technology Committee's enquiry into Cannabis, 1998, and is currently a member of the Home Office Advisory Council on the Misuse of Drugs. His most recent books are "Speed, Ecstasy, Ritalin: Use and Abuse of Amphetamine", Oxford University Press, 2006; "A Very Short Introduction to Drugs", Oxford University Press, 2001; and "The Science of Marijuana", Oxford University Press, 2000.

ABSTRACT

The principal active component in cannabis delta-9-tetrahydrocannabinol (THC) acts on specific receptors in the body normally activated by members of a family of naturally occurring fatty substances known as endocannabinoids, of which anandamide is the most studied example. The physiological functions of the endocannabinoids are still largely unknown, but in the brain they appear to represent a parallel but distinct system to that involving naturally occurring opiates, the endorphins. Like the endorphins, endocannabinoids appear to be important in controlling sensitivity to pain.

Recent controlled clinical trials of herbal cannabis in the treatment of chronic pain conditions, and in treating muscle spasticity and pain in patients with multiple sclerosis (ms) have been encouraging. A large multi-centre clinical trial sponsored by the UK Medical Research Council involved more than 600 ms patients; they were randomised to three treatment groups and received placebo, pure THC, or herbal cannabis extract. The results were mixed. After 6 months of treatment, patients reported significant

improvements in mobility, limb spasticity, pain and sleep, but objective measures of limb spasticity failed to show any significant benefits. However, significant improvements in spasticity were seen in patients after 12 months of treatment. The results obtained in the use of herbal cannabis delivered by an oral spray device to treat chronic pain were also positive and were of sufficient weight to convince the Canadian government to approve the herbal cannabis product "Sativex" for this indication. Further clinical trials of herbal cannabis are under way and if they yield sufficient positive evidence of medical benefit, a number of European countries may approve cannabis-based medicines.

Meanwhile research on new ways of modifying cannabinoid function in the body may yield entirely novel medicines, which act to enhance the effectiveness of the naturally released endocannabinoids. At the same time medicines which act to block cannabinoid receptors (e.g. rimonabant) appear to offer considerable promise in the treatment of obesity and metabolic syndrome, and possibly to reduce craving for cigarettes and alcohol.