

## Professor Basant Puri to Talk at Malta Medical School about his Research on Depression, ME & ADHD

An introduction by **Albert Cilia-Vincenti**

*Professor Basant Puri has been invited to talk about his research on these brain function disorders by our University's Family Medicine Department and Department of Psychiatry. The talk will be delivered at the Medical School on Thursday 11<sup>th</sup> December. All doctors, pharmacists are invited to attend.*

Who is Basant Puri? Professor Sir Graham Hills describes him as a 'distinguished medical scientist who is a leader in the field of brain science, and whose researches are of the highest originality and offer new and sounder basis for the future diagnosis and treatment of depression'. Besides being a consultant psychiatrist, he is also a consultant to the Imaging Sciences Department of the Medical Research Council's Clinical Sciences Centre at the Hammersmith Hospital. He is also head of the Lipid Neuroscience Group of Imperial College.

A Cambridge graduate, Basant Puri recalls how, when he was training in psychiatry, he was struck by a lecture given by the now world famous psychiatrist Dr David Healy, on the many side-effects of antidepressant therapy, as he actively questioned the underlying theories about how depression occurs and how it should be treated - something not found in textbooks - and challenging prevailing medical wisdom.

After psychiatry and neuroimaging training, Puri came across Professors David Horrobin and Malcolm Peet's work on essential fatty acids to treat depression. Information available then, and subsequent research, pointed towards one particular marine omega-3 fatty acid, 'eicosapentaenoic acid' (EPA), being head and shoulders above the others as a likely antidepressant. He set out to try EPA therapeutically as an antidepressant, and the initial astonishing results were followed up with trials confirming that EPA lifts even very serious depression.

He further discovered that EPA improves brain function overall. He believes that the human body has a particular need for omega-3 fatty acids and that a deficiency is likely to lead to many of today's common clinical problems. Western diet and lifestyle may have compromised our ability to make our own EPA. Factors such as caffeine, nicotine, stress hormones, saturated fats, trans-fatty acids and certain vitamin and mineral deficiencies may interfere with our bodies' ability to produce EPA and closely related omega-3 fatty acids. Now that this is understood, he recommends supplementation with EPA and other fatty acids, particularly if plenty of oily fish is not being consumed.

Professor Puri admits that the path to establish the therapeutic role of EPA has not been easy, with the reaction from many of his psychiatric colleagues regarding his EPA research ranging from sceptical to downright scathing. However, he is confident that EPA has been shown to work and that attitudes are slowly changing as evidence reaches a wider audience.

Depression and other mood disorders are characterised by reduced electrical brain activity ('circuit-board malfunctioning'), which is thought to be partly due to low

levels of brain serotonin, noradrenaline and dopamine. Puri's theory is that neurons and neurotransmitters do not function properly because of an insufficient supply of EPA. He has demonstrated, with specialised MRI scanning, that these brain function disorders are accompanied by shrinkage of the grey cortex, and that cortical thickness recovery after a few months of EPA supplementation accompanies lifting of depression.

He believes that EPA enhances the brain's regenerative capabilities. Until recently, we thought that brain tissue was incapable of regeneration, but recent American experiments on rats demonstrated that neurons do regenerate in response to brain exercise. Interestingly, his MRI brain scans have demonstrated that pregnant women's grey cortex shrinks (possibly because the foetus is scavenging the mother's fatty acids for its own brain development) and then recovers its former thickness postpartum. This may well have something to do with pregnancy-related depression in some women.

Puri claims that the naturally-occurring fatty acid EPA has a strong scientific basis for its success in treating depression, whereas pharmaceutical antidepressant drugs do not. He stresses that all antidepressants have side-effects (including the new SSRIs), ranging from minor ones such as nausea, dry mouth and dizziness, to more distressing ones such as sexual function loss, to potentially life-threatening ones such as convulsions and heart disturbances. He adds that EPA can be taken safely with antidepressant drugs, but caution should be exercised in conjunction with anti-coagulant medication (fish oil has anti-coagulant properties). He believes EPA is a more reliable and scientifically sound natural alternative treatment for depression than St John's Wort, and that EPA is also useful in schizophrenia and in Huntington's.

Puri has also researched chronic fatigue syndrome/myalgic encephalomyelitis (ME), a complex controversial illness characterised by variable symptoms, including intense fatigue, muscle and joint pain, depression, poor concentration, disrupted sleep and headaches. There is no definite cause for ME, and triggers such as viruses and personal trauma have been blamed. He believes there is some link with depression, although which comes first, depression or ME, is unclear. He and his Hammersmith colleagues have studied ME patients' brains with MRI spectroscopy, and found a clear and significant chemical abnormality in these patients, which they didn't find in controls. The abnormality is in the phospholipid layer of neuronal membranes, the same problem found in depression. He believes ME results from viral or other influences that reduce essential fatty acids, and that EPA is essential to recovery in the great majority of patients.

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Increasing numbers of children and young adults are being diagnosed with Attention-Deficit Hyperactivity Disorder (ADHD), and the best available treatment for many years has been powerful drugs that help control (but not cure) the worst symptoms. He feels that the potential side-effects of these drugs are worrying and the long-term consequences unknown, facing doctors, parents and adult sufferers with a terrible dilemma. Puri presents a very different way of looking at ADHD, and his starting point is the brain chemistry basis of

behaviour and the many factors that influence this. By understanding behaviour at this level, he argues, it is possible to see how hyperactivity can be reduced and concentration improved in a natural way that is in tune with individual needs. He has been involved in major studies that demonstrate the effectiveness of a completely natural way to treat ADHD.

Prof Puri has published three paperbacks on the natural treatment of depression, ME and ADHD respectively, for use by both doctors

and the general public. His invitation by our University's Family Medicine Department and Department of Psychiatry to talk at our Medical School should benefit our practitioners.

*Professor Cilia-Vincenti is a former London and Malta University teacher of diseases mechanisms. He is presently a consulting surgical pathologist, and represents Malta on orphan diseases at the European Medicines Agency. He has a longstanding interest in natural medicine. <*