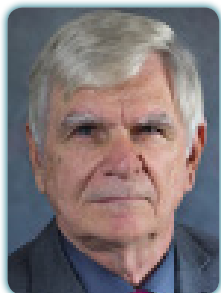


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*The Institute for Molecular Medicine, USA*

## Lipid replacement therapy for enhancing mitochondrial function and improving chronic disease symptoms and aging

Loss of function in mitochondria, the key cell organelle responsible for cellular energy production, can result in cell death, excess fatigue and other symptoms that are common problems in almost if not every chronic disease. These include: Neurodegenerative diseases, diabetes and metabolic syndrome, cardiovascular diseases, autoimmune diseases, neurobehavioral and psychiatric diseases, musculoskeletal and gastrointestinal diseases, fatiguing illnesses, cancer and chronic infections, among others. The molecular level reduction in mitochondrial function occurs when there is loss of mitochondrial maintenance and inner membrane trans-membrane potential due to oxidative damage by reactive oxygen species (ROS), resulting in reduced efficiency of the electron transport chain and less generation of ATP. Lipid replacement therapy (LRT) using an all-natural nutritional supplement mixture containing membrane glycerolphospholipids can be used to repair mitochondrial inner membrane damage, improve mitochondrial function, reverse ROS damage and increase the efficiency of the electron transport chain. Recent clinical trials have shown the benefits of lipid replacement therapy in enhancing mitochondrial function, reducing fatigue and improving mood and cognition. For example, mitochondrial function and inner membrane trans-membrane potential has been enhanced by 25-35%, resulting in decreases in fatigue by 35-45% in chronically ill patients in clinical trials. LRT has also been used to reduce the adverse effects of cancer chemotherapy and improve symptoms other than fatigue in chronic illness patients.

### Biography

Garth L Nicolson is the President, Chief Scientific Officer and Professor Emeritus at the Institute for Molecular Medicine in Huntington Beach, California. Having published over 650 medical and scientific papers, including editing 20 books, he has served on the Editorial Boards of 30 medical and scientific journals. He has won many awards, such as the Burroughs Wellcome Medal of the Royal Society of Medicine (London), Stephen Paget Award of the Metastasis Research Society, US National Cancer Institute Outstanding Investigator Award, and the Innovative Medicine Award (Canada). He is also a Colonel (Honorary) of the US Army Special Forces and a US Navy SEAL (Honorary) for his work on Armed Forces and veterans' illnesses.

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