

WinterGreen Research, Inc.

WinterGreen Impact

White Paper: Supplemental Oxygen Can Remedy both Low and High Carbon Dioxide Blood Levels to Improve Endurance

Mountains of Opportunity



Picture by Susan Eustis

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WHITE PAPER

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2016

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White Paper Outlines Unique Opportunity

Many people get out of breath quickly after starting to work out, experience muscle fatigue, and subsequently exercise less than they did previously creating a vicious cycle. We suggest that the oxygen and carbon dioxide concentrations can quickly get out of balance in otherwise healthy people during exercise. We further suggest the addition of supplemental oxygen to establish a balance of oxygen and carbon dioxide.

Obesity hypoventilation syndrome (OHS) illustrates extreme cases of how carbon dioxide and oxygen get out of balance inside obese, but otherwise health individuals. OHS essentially prevents exercise through a near paralysis of the muscles by the build-up of excess carbon dioxide. Supplemental oxygen can provide relief for some patients with OHS.

Supplemental oxygen was used by Federal Judge Wesley E. Brown to improve his brain functioning permitting him to preside over oral arguments in his 100's. Recreational and professional athletes have many examples of using oxygen to improve body functioning, increase endurance, and recover faster from strenuous exercise.

Thus, supplemental oxygen is not just providing oxygen to the body, but it is creating the proper balance of carbon dioxide and oxygen inside the body.

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New Opportunity to Improve Endurance

The conventional wisdom that we have all heard “exercise more and lose weight” is quite well established in our community at this time, but very few people succeeded with this seeming simple piece of advice. This white paper suggests that often more is needed in order to succeed with this simple statement. It is the straight forward addition of supplemental recreational oxygen that helps the body remove any excess carbon dioxide, replace any lost oxygen, and form carbon dioxide to aid delivery of oxygen to the cells. Therefore, the supplemental oxygen establishes a balance of oxygen and carbon dioxide inside the body.

Key words: Oxygen, Recreational Oxygen, Supplemental Oxygen, Exercise, Improve Endurance, Increase Memory, Aging, Carbon Dioxide, Excess Carbon Dioxide, Acidosis, Bicarbonate, Oxygen Bars, Pulse Oximeter, Pulse Oximetry, Exercise with Oxygen, EWOT, Sports, Brain Functioning

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Report Methodology

WinterGreen Impact White Paper is created using a methodology which includes conducting interviews, mining published data, tracking industry trends, and expert analysis. The combination of the different sources of information allows a unique look at new opportunities. Interviews are conducted with vendors, former employees, distributors, users, government regulators, and industry experts who inform senior staff of ongoing trends and events. Sufficient interviews are performed to insure understanding of the new opportunity.

Published data sources include vendor information, journal publications, social media comments, blogs, SEC filings, and Internet searches.

WinterGreen Research has a 30 year proven track record of accurately forecasting markets. The expertise in tracking technology trends is what has allowed accurate forecasting of many diverse and emerging markets.

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ABOUT THE COMPANY

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care, software, internet, energy generation, energy storage, renewable energy, and advanced computer technology.

Industry reports focus on opportunities that expand existing markets or develop major new markets. The reports access new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Innovation that drives markets is explored. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

The studies provide primary analytical insight about the market participants. By publishing material relevant to the positioning of each company, readers can look at the basis for analysis. By providing descriptions of each major participant in the market, the reader is not dependent on analyst assumptions, the information backing the assumptions is provided, permitting readers to examine the basis for the conclusions.

WinterGreen Research is positioned to help customers facing challenges that define the modern enterprises. The increasingly global nature of science, technology and engineering is a reflection of the implementation of the globally integrated enterprise. Customers trust wintergreen research to work alongside them to ensure the success of the participation in a particular market segment.

WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

ABOUT THE PRINCIPAL AUTHOR

Susie Eustis, Ph. D., Vice President of Development, member of the Board of Directors of WinterGreen Research; Dr. Eustis has worked with WinterGreen Research for almost 20 years on market research reports to determine size of future markets and identify best in class technologies. Her Ph. D. was on the optical properties of gold and silver nanoparticles. Her review article "Why Gold Nanoparticles are More Precious than Pretty Gold" which introduces the science and applications of gold nanoparticles is one of the premier articles in nanotechnology with more than 1,700 citations. Previously she was a Research Scientist at Directed Vapor Technologies International (DVTI), specializing in grant writing and grant execution as well as strategic project direction planning. Prior to DVTI, Dr. Eustis was a National Research Council (NRC) Post-Doctoral Associate at the National Institute of Standards and Technology (NIST) working on characterizing nanomaterials. She is a graduate of Georgia Institute of Technology Laser Dynamics Laboratory and Rochester Institute of Technology (RIT). She also participated in Research Experiences for Undergraduates (REU) at CERN (European Organization for Nuclear Research) in Geneva, Switzerland.

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