

International Conference on

WOUND CARE, TISSUE REPAIR AND REGENERATIVE MEDICINE

&

8th World Congress on

BREAST CANCER MANAGEMENT AND THERAPY

 June 14-15, 2018 | London, UK

Demystifying hyperbaric oxygen therapy

Thomas K Hunt

University of California, USA

In the sixty years that the speaker has been associated with oxygen research in its various circumstances, its verity with respect to wounds has been established both by usage and by discovery of its mechanisms. This process is now almost completely known from the initial injury through its immunity and re-establishment of the local tissue architecture. The various steps will be outlined from the activation of complement to phagocytosis, oxidative killing of contaminants, and angiogenesis. The apparent paradox between stimulation of growth factors by both hypoxia and hyperoxia will be explained. Both are real! Recently, a very real relationship between the rise in lactate in oxygen-treated injuries and the acceleration of vascular stem cell growth is emerging. When all these steps are put in place, a chain of events arises from injury, inflammation, oxidative-immunity, and lactate production. It appears that few mysteries remain to be explained. The critical steps, the effect

of lactate, and a short discussion of the ongoing debate on perioperative hyperoxia to prevent surgical site infections and the role of the sympathetic nervous system will be discussed. If there is time, the role of oxygen in the killing of microbes by antibiotics and the use of hyperbaric oxygen to combat biofilm infections, as well as some of the research that is ongoing that promises quite extraordinary amplification of hyperbaric usage will be discussed.

Speaker Biography

Thomas Hunt began his study of oxygen and wound healing in Glasgow in 1964. He has dealt with the effects of various stressors on its mechanisms in about 200 papers since then. He does not practice hyperbaric medicine, preferring instead his career as a surgeon at the University of California, San Francisco. He likes to think that this distance allows a certain objectivity that has been useful to the practice. He is now retired but continues to follow advances in the basic sciences.

e: hunt.thomas@ucsfmedctr.edu Notes: