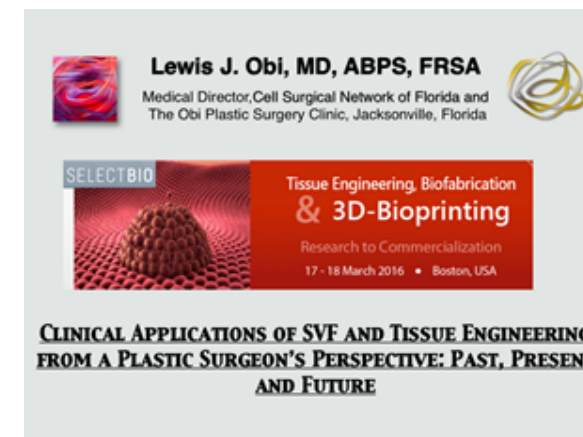


Most recently, Dr Obi was a keynote speaker in Boston on 17 March 2016 at SelectBio's Biofabrication/Bioprinting symposium. At the meeting, an ambitious workshop on 3D Bioprinting for Healing on the Battlefield was planned in Boston by Dr Obi and co keynote speaker Dr Paul Gatenholm of Sweden.

The 3D bioprinter can position several cell types and thus reconstruct the architecture of complex tissues and organs. The cells cannot however be printed alone. They need a support structure or bioink which has to provide cues for cell adhesion, migration, proliferation and differentiation. Bioinks need to be cytocompatible (cell friendly), have shear thinning properties and solidify after printing. The technology platform combining biopolymer inks and a 3D bioprinter for printing larger 3D objects with cells have been recently developed. This workshop will be held at Dr. Lewis Obi's clinic in Jacksonville in early November, 2016.



3D Bioprinting and Stem Cell Expansion for the battlefield

The recent introduction of the Maxstem expansion/storage system by Korean plastic Surgeon

Dr Hee Young Lee will allow Dr. Obi and his team to expand the millions of cells contained in 10 cc of stromal vascular fraction (SVF) into billions of cells that are needed for bioprinting tissues. Approximately 80 million characterized stem cells are needed per gram of printed tissue. The printed tissue, i.e. meniscus, ear, nose, aortic valve, etc., may then be matured in an abdominal pouch prior to implantation. Implantation into the nose or ear may be performed in the foreseeable future but a knee meniscus poses many other challenges. A recent cover of the magazine "Outpatient Surgery" featured the potential use of a bioprinted meniscus as an alternative to knee replacement.

The more likely use of adipose derived stem cell in the near future will be in the area of angiogenesis and wound healing. This already has clinical application for both circulatory compromised wounds such as diabetic and ischemic ulcers in the lower extremity. The focus of Drs. Obi and Gatenholm workshop this fall will be the use of a biologic stem cell portable bandage for treating traumatic wounds on the battlefield.

Lewis J. Obi M.D., FRSA, is a board certified plastic surgeon who established the first licensed plastic surgery center in Florida. As an innovator, he has pioneered many procedures and recently worked extensively with lasers and adult stem cells derived from fat. He has lectured internationally on these topics as well as the broader scope of plastic surgery. His love and passion for art expressed through his international firm of Obiarts resulted in the induction of Dr. Obi as a fellow to the Royal Society of Art, London (FRSA) in 1986. Obiarts has contributed world class art to dozens of major museums and institutions.