

Leonard Makowka, M.D., Ph.D., FRCS(C), FACS

MEDICAL:

A distinguished clinical surgeon, transplantation specialist and medical researcher, Leonard Makowka, M.D., Ph.D., is recognized as one of the world's leading authorities in hepatic science (study relating to the liver). With nineteen years of experience, Dr. Makowka has emerged as one of America's most eminent liver experts, known for his prolific and influential scientific research in organ regeneration and transplantation, and a recognized leader in hepatobiliary and transplant surgery. His pioneering vision, born of a profound appreciation for the multi-faceted and complex needs of liver disease sufferers, inspired him to bring together an elite team of hepatobiliary and transplant surgeons, hepatologists, and specialists from many other disciplines. Through aggressive and often ground breaking experimentation, Dr. Makowka and his associates expanded academic and clinical knowledge concerning hepatic function and disease, and identified and developed improved methods for treating ill patients with any of the spectrum of liver diseases.

A native of Toronto, Canada, Dr. Makowka received his M.D. from the University of Toronto Medical School and Masters of Science and Doctor of Philosophy degrees from the University of Toronto's Department of Pathology. In the early 1980's, during his residency in surgery at the University of Toronto, Dr. Makowka began to lay the biological foundation for his future xenograft research conducted at the University of Pittsburgh. As a Fellow in Hepatobiliary Surgery at the University of Toronto and then at the University of Pittsburgh, he made fundamental discoveries about prostaglandins (a class of substances present in many body tissues and part of the immune cascade) and protocols to achieve more effective immunosuppression (the process of inhibiting the immune system's organ transplant rejection). Moreover, his Ph.D. thesis in 1982 formed the basis for his future as an outstanding and well-respected researcher in the fields of hepatic regeneration, acute liver failure and hepatic support.

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In 1985, Dr. Makowka was named a Medical Research Council of Canada Centennial Fellow, and selected to join the internationally renowned liver transplant pioneer Dr. Thomas E. Starzl's trailblazing University of Pittsburgh team. (Dr. Starzl performed the world's first human liver transplant in 1963.) As an Associate Professor in the Department of Surgery at the University of Pittsburgh, Dr. Makowka began his important xenograft research, research that would later lead to his performance of medical history's first pig to human liver xenograft transplantation (the transfer of the graft from an animal of one species to one of another species). While at the University of Pittsburgh, he was responsible for both the administration of the transplant program and oversight of the research program. Continuing his research into liver regeneration, Dr. Makowka discovered that the process was augmented by the immunosuppressive agent cyclosporine. His influential xenograft and other transplant biology research led to a series of major breakthroughs that may result in the ability to transplant animal organs to humans.

In 1989, Dr. Makowka joined Cedars-Sinai Medical Center in Los Angeles as Chairman of the Department of Surgery and Director of Transplantation Services. He was one of the youngest ever to be appointed Chairman of a Department of Surgery at an academic institution in the United States. While at Cedars-Sinai, Makowka's liver transplant survivability rates were among the highest in the nation. During this tenure, he spearheaded a number of cutting-edge research programs, including prevention and treatment of recurrent hepatitis B and hepatitis C, clinical evaluations of new immunosuppressive agents, mechanisms of rejection, and diagnosis and treatment of hepatobiliary malignancies, placing him at the forefront of the fight against liver disease. His research in xenografting continued, culminating in the first clinical case of pig liver to human xenograft transplantation in 1992. He held the positions of Professor of Surgery and Vice Chairman, Department of Surgery, at the U.C.L.A. School of Medicine.

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In 1995, Dr. Makowka founded the Comprehensive Liver Disease and Treatment Center at St. Vincent Medical Center in Los Angeles. The center, represented Dr. Makowka's unique visionary concept in multi-disciplinary health care, and functioned as a model for the future in providing comprehensive patient treatment. Dr. Makowka retired from medical practice in December 1997 to pursue other interests.

Dr. Makowka has received numerous honors and distinctions. In the last decade, as principal investigator and co-investigator, he has been awarded more than \$9 million in transplantation research grants by prominent pharmaceutical companies and public health organizations, including the National Institutes of Health (NIH). He is the only two-time recipient of the Royal College of Physicians and Surgeons of Canada Medal in Surgery. He was a United Liver Association Man of the Year and was named the 1992 recipient of the World Children's Transplant Fund's Humanitarian of the Year Award. Additionally, he has received an award from the Southern California Organ Procurement and Preservation Center (SCOPPC) and he is the recipient of a Thirteenth Annual International Film and TV Festival of New York Finalist Award for "Liver Transplantation: The Recipient Operation." Dr. Makowka is a Fellow of the Royal College of Physicians and Surgeons of Canada, a Diplomat of the American Board of Surgery (Board Certified in General Surgery) and a Fellow of the American College of Surgeons.

Dr. Makowka has authored or co-authored more than 350 medical journal articles. With Thomas E. Starzl, M.D., Ph.D., he co-edited *Clio Chirurgica: Liver Transplantation* (Silvergirl, 1988), he was the chief editor on *The Handbook of Transplantation Management* (R.G. Landes & Company, 1991), now in its second edition and considered by many to be the definitive guide to transplantation, and *Transplantation 2000* (R.G. Landes & Company, 1994). He is a frequent invited speaker at professional conferences and symposia and guest lecturer at medical schools throughout the world.

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Dr. Makowka is also a member of many professional societies, including the American Society of Transplant Surgeons and Physicians, the American Surgical Association, the Association for Academic Surgery, the American Association for the Advancement of Science, the International Transplant Society, the American Federation for Clinical Research, the American Association for the Study of Liver Diseases, the American Association of Immunologists, the European Society for Organ Transplantation, the Society of University Surgeons, the American Liver Foundation, the Society of Laparoendoscopic Surgeons, the International Society of Immunopharmacology and the Southern California Transplantation Society. He served on the Membership and Professional Standards Committee of the United Network of Organ Sharing (UNOS), the Board of Directors of the United Liver Association, the Board of Directors of TRIO (Transplant Recipient International Organization), the Board of Medical Advisors of the World Children Transplant Fund, and he was Chairman of the Organ Procurement and Distribution Committee of the National UNOS Board for two years.

BUSINESS:

In 1993, Dr. Leonard Makowka was one of two partners in Boulevard Health Club: a successful health and fitness club in Beverly Hills. He was a founding partner of After MidNite Entertainment, Inc. This syndicated radio company providing music content became renowned in the Country format and was purchased by Premiere Radio Networks in 1997, which shortly thereafter was purchased by Jacor / Clear Channel. Dr. Makowka was a significant shareholder in Metro Capital, Inc., a Canadian based company with significant real estate holdings in the Toronto area. Dr. Makowka was a Managing Director of Innovative Technology Partners LLC, a late stage technology venture fund. He was an advisor to Kingsport Capital Management. Dr. Makowka was a consultant to the University of Miami Medical School, and advised on negotiations to develop a satellite transplant program.

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Dr. Makowka is actively involved as an advisor to or member of the Board of Directors of several companies. He has been a Corporate Member of Blue Shield of California since 1995. He served from 1998 until June 2003, on the Board of Directors of Hollis Eden Pharmaceuticals (NASDAQ: HEPH), a biotech company with antiviral and immune modulatory treatment platforms, specializing in new therapies for HIV and Hepatitis, as well as other diseases. He is a member of the Board of Directors of Kinemed, Inc., a biotech company developing proprietary biokinetic assay measurement technologies. He is the Chairman of the Scientific Advisory Board of Desert Health Products, Inc., a nutraceutical company and sits on the Advisory Board of the California Association of Naturopathic Physicians. He is also on the Scientific Advisory Board for Unigen Pharmaceuticals. He is the Chief Scientific Advisor for Universal Detection Systems, a publically traded company developing environmental monitoring technologies for bio-terrorism. Dr. Makowka is on the Clinical Advisory Board of Hythiam (NASDAQ: HTM), a healthcare services management company formed for the purpose of researching, developing, licensing, and commercializing innovative technology to improve the treatment of alcoholism and drug addiction.

In 1999, Dr. Makowka founded Drive Thru Technology, a national provider of wireless and surveillance equipment for the restaurant and hospitality industries. In 2002, he co-founded and co-chairs Tractus Medical Inc., a company specializing in relocatable operating suites and ambulatory surgical care services. In 2003, Dr. Makowka joined the Founders' Committee for Canadian Studies at the University of California Los Angeles (UCLA). He is currently a Managing Director of ITF Global Partners, an international financial advisory, strategic and a capital investment company. Most recently, he became a consultant to a new division of the Robb Report, Robb Report Health & Medicine.

Dr. Makowka is a member of the Founder's Circle of the Frist 2000 Roundtable (Senator Bill Frist). He has affiliations with many philanthropic organizations, and held the position of Chairman of the Western Region of the Shaare Zedek Medical Center in Jerusalem from 1995 until 2002.

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