

## **LAWSON HEALTH RESEARCH INSTITUTE**

### **What are Some of Our Major Achievements?**

Many of the firsts delivered to patients at London Health Science Centre (LHSC) and St. Joseph's Health Care London (St. Joseph's) were made possible by the research endeavors of Lawson investigators.

1948 - First artificial kidney machine in Canada developed at LHSC

1951 - First "cobalt bomb" in the world used to deliver radiation therapy to cancer patients at LHSC

1958 - World first surgical treatment on cerebral aneurysms at LHSC

1979 – St. Joseph's used glucocorticoids (steroids) as initiator of term labour-stimulant to help bring on labour

1980 - Initial studies using real time ultrasound and detailing biological factors affecting human fetal behavioural activity and breathing movements at St. Joseph's

1981- Extraction and purification of natural surfactant from a cow's lung fluid to help the development of natural surfactant to aid babies with breathing difficulties at St. Joseph's

1981 - World first heart operation to correct life threatening right ventricular dysplasia at LHSC

1981 - First Canadian bone mineral density measurement for osteoporosis at St. Joseph's

1982 - First Canadian human magnetic resonance images (MRI) at St. Joseph's

1982 - First use of natural surfactant drug as replacement therapy for babies with immature lungs at St. Joseph's

1984 - Initial studies showing increased cerebral metabolic rate during the fetal low-voltage/REM state at St. Joseph's

1987 - First in Canada to show that nuclear magnetic imaging would be able to discern abnormalities in tissue at St. Joseph's

1987 - World first pacemaker cardioverter defibrillator is implanted at LHSC

1988 - World first successful liver/small bowel transplant is performed at LHSC

1989 - First development of Canadian Enhancement MRI at St. Joseph's

1989 - First cardiac stent insertion in Canada is performed at LHSC

1990 - First measure of neurotransmitter concentration in schizophrenics by Magnetic Resonance Spectroscopy (MRS) at St. Joseph's

1991 - First clinical trials of potassium channel blocking drug in spinal cord injured patients shown to restore neurological function in individuals at St. Joseph's

1993 - First use of holmium laser for fragmentation of renal calculi at St. Joseph's, now used worldwide as standard of care in hundreds of centers. One of the first to use the same laser for treating tumours in the urinary tract and prostate enlargement.

1993 - First living-related paediatric liver transplant in Canada at LHSC

1994 - World first 3D ultrasound-guided cryosurgery at LHSC

1995 - First 1.9T dedicated hand and wrist MRI images at St. Joseph's

1996 - World first device that monitors heart beat during fainting spells at LHSC

1997 - World first in plasma exchange treatment, credited with saving the life of a man with food poisoning at LHSC

1999 - World first closed chest robotic-assisted beating heart coronary artery bypass graft at LHSC

1999 - First 3T MRI for neonatal imaging at St. Joseph's

1999 - Initial studies of sagittal vein blood flow and cerebral protein synthesis and demonstrating rapid protein turnover during brain development, and the relationship to behavioural state activity at St. Joseph's

2000 - Initial studies of cerebral blood flow and metabolism in relation to electrocortical activity with severe cord occlusion in the near term ovine fetus and demonstrating the protective capacity of the brain for such insults at St. Joseph's

2000 - St. Joseph's Urology was the first site in the world to implant an antibiotic coated penile implant called Inhibizone

2000 - First development of CT Perfusion Imaging at St. Joseph's

2000 - First adult-to-adult living donor partial liver transplant in Canada at LHSC

2001 - World-first robotic-assisted and mentored surgery using videoconferencing technology at LHSC

2001 - St. Joseph's is one of five sites in the world piloting the Diabetes Electronic Management Systems

2001 - Launch of CSTAR (Canadian Surgical Technologies & Advanced Robotics) at LHSC

2002 - St. Joseph's has one of the busiest lithotripters in the world

2002 - First Canadian Research and Development Centre for Probiotics at St. Joseph's

2002 - First Positron Emission Tomography and Computed Tomography (PET/CT) Scanner in Canada at St. Joseph's

2003 - First treatment of pain with extremely low frequency magnetic field using specific pulsed magnetic fields at St. Joseph's

2003 – St. Joseph's is the first to study the role of sleep and hormonal changes in the etiology and treatment of postpartum psychosis, which is the most serious psychiatric disorder to follow childbirth

2003 - Opening of the CSTAR facilities, the national centre for developing and testing the next generation of minimally invasive surgical technologies and techniques including robotics at LHSC

2003 - Opening of the Victoria Research Laboratories – first collaboration of its kind in Canada bringing together researchers from cancer, child health and vascular biology at LHSC

2004 Selective Laser Trabeculoplasty (SLT) redefines treatment of Glaucoma at St. Joseph's

2004 – North-American first-renal artery aneurysm repair with the da Vinci® surgical robotic system at LHSC

2004 - North American first-robotic cardiac bypass surgery combined with Angioplasty at LHSC

2004 - Development of small multi-channel recording & stimulating device aiding in the advancement of Deep Brain Stimulation at LHSC

2004 – Canadian first-robotic radical prostatectomy with da Vinci® surgical robotic system at LHSC

2004 – Launch of SNAC (Staged Nutrition and Activity Counselling study) to prevent hypertension, diabetes and cardiovascular disease at St. Joseph's

2004 - Probiotics researchers at St. Joseph's launch a probiotic product in Malaysia and Hong Kong

2005 – World first-robotic assisted left atrial appendage ligation to reduce chance of clot formation and stroke in high risk patients with Atrial Fibrillation at LHSC

2005 – Launch of largest and most diverse Hemochromatosis and Iron Screening Study to guide future screening and intervention at LHSC

2005 - Launch of the Ontario Cardiac Rehabilitation Registry at St. Joseph's

2005 - New research Chair, first-of its kind in Canada, dedicated to helping Canada's aging population at St. Joseph's

2005 - Canadian first - minimally invasive robotically assisted double bypass surgery at LHSC

2005 - Performed a robot-assisted partial cystectomy using the daVinci robot, believed to be a world's first at LHSC

2006 – Opening of Aging, Rehabilitation and Geriatric Care Research Centre at Parkwood Hospital, first centre of its kind in Canada at St. Joseph's

2007 – Canadian first - totally endoscopic closed-chest robotic coronary artery bypass surgery on a patient's beating heart at LHSC

2007 – Canadian first - a robotic assisted common bile duct exploration using the da Vinci robot at LHSC

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