

## a perfect mismatch

Over the years, many newborns that needed heart transplants died because of the critical shortage of donor hearts and because the hearts that were being offered were the wrong blood type. But Dr. Lori West, a cardiologist and transplant immunologist at The Hospital for Sick Children, reasoned that because the immune systems of infants aren't yet fully developed, and lack the antibodies that cause hyper-acute rejection, it would be safe for a baby to receive a heart from a donor with a different blood type.

This forward thinking and ground-breaking research was a ray of hope for Rita and Harry Schroeder from Winnipeg. In 1995, while Rita was pregnant, an ultrasound showed that her baby's heart had a malformation and was diagnosed with hypoplastic left heart syndrome. Their baby was put on the heart transplant list while Rita was still pregnant and in January of 1996 they gave birth to a baby boy named Caleb.

It was clear that Caleb's best chance for survival was a heart transplant. He was also a candidate for the Norwood procedure, a series of three open-heart surgeries that gradually improves life-threatening congenital heart disease. Rita and Harry believed that a transplant was Caleb's best option. Three weeks later, a heart became available; it was the right size, but the wrong blood type, an AB heart for Caleb's type O body.

Dr. West had seen too many babies die while waiting for the "perfect" heart. Her extensive research had proven that you could fool the immune system of a newborn mouse. With facts and science behind her, Lori approached the Research Ethics Board at Sick Kids and asked to apply this theory. She believed that this could be done and she knew that Caleb was running out of time.

"It was an enormous leap of faith and where was the faith, it was in the science," said Dr. Lori West, Medical Director of the Heart Transplant Program at Sick Kids. "I can only say this isn't magic, it's not voodoo. These are facts. There are scientific facts there."

Caleb received his type AB heart and the transplant was a complete success. He was the first of over 20 newborns at Sick Kids to receive an ABO-incompatible heart transplant, a procedure that has been dubbed the 'Toronto Protocol.' It is now common practice to offer mismatched hearts to families and is giving newborns in Canada and around the globe a new lease on life.

Caleb has just turned nine years old. He plays soccer, enjoys the third grade and is ready to checkmate any of his opponents at a game of chess. Although he remains on immunosuppressive drugs, he is doing extremely well and is a normal, healthy little boy.



*Caleb Schroeder*

THANKS TO OUR DONORS

Anonymous (11)

Rani Advani  
TORONTO, ONTARIO

Alexander and Margot Aird  
TORONTO, ONTARIO

David and Mary Allan  
TORONTO, ONTARIO

Jamie and Patsy Anderson  
TORONTO, ONTARIO

Ralph Aquino and Family  
CONCORD, ONTARIO

Robert G. and Mary Pat Armstrong  
TORONTO, ONTARIO

Girts and Diane Atrens  
MILTON, ONTARIO

Audrey S. Hellyer Charitable Foundation  
MISSISSAUGA, ONTARIO

Frank and Margaret Auld  
ETOBICOKE, ONTARIO

Dora E. Avery  
MISSISSAUGA, ONTARIO

Thomas and Patricia Bain  
MISSISSAUGA, ONTARIO

Jack Michael Baker  
MISSISSAUGA, ONTARIO

Karen and Bill Barnett  
NORTH YORK, ONTARIO

Douglas and Susan Bassett  
TORONTO, ONTARIO

Dennis and Julia Bausch  
OAKVILLE, ONTARIO

Allan and Beth Beattie  
TORONTO, ONTARIO

Ben and Hilda Katz Charitable Foundation  
TORONTO, ONTARIO

Isaac Benitah  
TORONTO, ONTARIO

Jalynn Bennett  
TORONTO, ONTARIO

Beqaj Family  
TORONTO, ONTARIO

Bernard & Joy Laski Family Trust  
LEVACK, ONTARIO

Black Family Foundation  
TORONTO, ONTARIO

Christopher and Heidi Blair  
MARKHAM, ONTARIO

David and Molly Bloom  
THORNHILL, ONTARIO

Corrine Bloom and Darren Enkin  
TORONTO, ONTARIO

The Branscombe Family Foundation  
NIAGARA FALLS, ONTARIO

Jamie and Leah Bras  
TORONTO, ONTARIO

Lisa Reikman and Rick Bryan  
TORONTO, ONTARIO

Donald and Audrey Campbell  
COLLINGWOOD, ONTARIO

Brent Norton and Julie Carmichael-Norton  
TORONTO, ONTARIO

John and Kathleen Carrick  
GOODWOOD, ONTARIO

Danny Chu  
TORONTO, ONTARIO

Peter and Catherine Clark  
TORONTO, ONTARIO

Andrew Clarke and Betsy Britnell  
TORONTO, ONTARIO

The Cleghorn Family  
TORONTO, ONTARIO

Shane Climie and Brenda Andrews  
TORONTO, ONTARIO

Barry and Sue Cooper  
TORONTO, ONTARIO

Estelle Craig  
TORONTO, ONTARIO

Edward and Barbara Crawford  
NORTH YORK, ONTARIO

Mary R. Crowe  
TORONTO, ONTARIO

David and Stacey Cynamon  
TORONTO, ONTARIO

Eli David  
CAYMAN ISLANDS, BWI

The De Gasperis Family  
CONCORD, ONTARIO

Walter Di Battista  
WOODBIDGE, ONTARIO

James Doak  
TORONTO, ONTARIO

Irwin and Jean Doane  
NIAGARA FALLS, ONTARIO

Samuel and Claire Duboc  
TORONTO, ONTARIO

Andrew and Janet Durnford  
TORONTO, ONTARIO

Elderwood Foundation  
TORONTO, ONTARIO

Roger and Nadia Elgner  
WOODBIDGE, ONTARIO

Clare and Paul Estlick  
ETOBICOKE, ONTARIO

Gay and John Evans  
TORONTO, ONTARIO

The Filicetti Family  
NORTH YORK, ONTARIO

The Willie and Mildred Fleischer  
Foundation  
TORONTO, ONTARIO

Julia and Robert Foster  
TORONTO, ONTARIO

John Francis and Susan Caskey  
TORONTO, ONTARIO

David and Judy Galloway  
TORONTO, ONTARIO

David Geneen  
TORONTO, ONTARIO

Normand Gervais and  
Christine Bonelli-Gervais  
WELLAND, ONTARIO

The Ira Gluskin and Maxine Granovsky-  
Gluskin Charitable Foundation  
TORONTO, ONTARIO

Jordan and Lisa Gnat Family  
TORONTO, ONTARIO

Mira M. Godard  
TORONTO, ONTARIO

Godfrey Family Foundation  
TORONTO, ONTARIO

Robert and Linda Goldberger  
WILLOWDALE, ONTARIO

Kevin and Karen Goranson  
OSHAWA, ONTARIO

Ruth and Douglas Grant  
TORONTO, ONTARIO

David Green, Daphne Wagner,  
Lita and Michael  
TORONTO, ONTARIO

Stephen and Lisa Green  
TORONTO, ONTARIO

Helen Gross, Lindy and Sheldon Goodman  
TORONTO, ONTARIO

Peter and Barbara Halsall  
TORONTO, ONTARIO

Harbinger Foundation  
TORONTO, ONTARIO

The Helene Sebba Charitable Trust  
BEDFORD, UK

The Roy C. Hill Charitable Foundation  
TORONTO, ONTARIO

William and Susanne Holland  
NORTH YORK, ONTARIO

Paul and Angela Holtham  
MISSISSAUGA, ONTARIO

Bill Hudson, Jr.  
HATTIESBURG, MISSISSIPPI

The K.M. Hunter Charitable Foundation  
TORONTO, ONTARIO

Judy and Paul Hurrell  
SCARBOROUGH, ONTARIO

Christopher and Leslie Invidiata  
OAKVILLE, ONTARIO

Arnold and Lynn Irwin  
TORONTO, ONTARIO

Jennifer Ivey Bannock  
TORONTO, ONTARIO

Suzanne Ivey Cook  
TORONTO, ONTARIO

Richard and Beryl Ivey  
LONDON, ONTARIO

Richard W. Ivey  
TORONTO, ONTARIO

The Norman and Margaret Jewison  
Charitable Foundation  
TORONTO, ONTARIO

Ian & Rebecca Joseph  
TORONTO, ONTARIO

Sylvia V. Kanitsch and Drew Atkins  
TORONTO, ONTARIO

Scott and Nancy Keyworth  
TORONTO, ONTARIO

Ian Kidson & Carole McNabb  
TORONTO, ONTARIO

Kiessling/Isaak Family Foundation  
TORONTO, ONTARIO

The Henry White Kinnear Foundation  
TORONTO, ONTARIO

J. Hans and Maria Kluge  
TORONTO, ONTARIO

Wayne A. Kozun and Sara-Jane White  
TORONTO, ONTARIO

David and Roanne Kroft  
TORONTO, ONTARIO

Arthur and Sonia Labatt  
TORONTO, ONTARIO

Doug Lamon  
BURLINGTON, ONTARIO

Heather and Fraser Latta  
DON MILLS, ONTARIO

Lee K. and Margaret Lau  
NORTH YORK, ONTARIO

Diep Van Le  
BRANTFORD, ONTARIO

Ann Leese and Irwin Rotenberg  
TORONTO, ONTARIO

Stephan\* and Sophie Lewar\*  
DON MILLS, ONTARIO

Sheldon Libfeld  
MARKHAM, ONTARIO

Jolie Lin and Ian Crosbie  
TORONTO, ONTARIO

Barry and Minky Lipson  
TORONTO, ONTARIO

Robert Liu  
RICHMOND HILL, ONTARIO

Tom Long and Leslie Pace  
TORONTO, ONTARIO

Lynda and Reay Mackay  
TORONTO, ONTARIO

John and Gail MacNaughton  
TORONTO, ONTARIO

Allen and Christine Magee  
OAKVILLE, ONTARIO

Estelle M. Mahood  
SCARBOROUGH, ONTARIO

Alice & Murray Maitland Foundation  
TORONTO, ONTARIO

Dean and Sandy Manjuris  
TORONTO, ONTARIO

Nick and Bella Manos  
NEWMARKET, ONTARIO

Jill Denham and Stephen Marshall  
TORONTO, ONTARIO

Roger and Nancy Martin  
TORONTO, ONTARIO

Irving and Esther Matlow  
TORONTO, ONTARIO

Joe Mayer  
PALGRAVE, ONTARIO

Daniel McCarthy and Colleen Moorehead  
TORONTO, ONTARIO

George McCloy  
HAMILTON, ONTARIO

Doug McGregor  
TORONTO, ONTARIO

McMillan Family Foundation  
OAKVILLE, ONTARIO

John and Esther McNeil  
TORONTO, ONTARIO

The Catherine and Maxwell  
Meighen Foundation  
TORONTO, ONTARIO

Anthony and Valerie Melman  
TORONTO, ONTARIO

Pat and Michelle Meneley  
TORONTO, ONTARIO

Michael Albert Garron Foundation  
TORONTO, ONTARIO

Tom Milroy  
TORONTO, ONTARIO

Carol Mitchell and Richard Venn  
TORONTO, ONTARIO

The Jeffrey Modell Foundation  
NEW YORK, NEW YORK

Mary Mogford and Thomas Campbell  
NEWCASTLE, ONTARIO

Kevin and Lissa Muir  
TORONTO, ONTARIO

The Muzzo Family  
CONCORD, ONTARIO

Queenie and Sol Nayman  
NORTH YORK, ONTARIO

Robert and Joanne Nelson,  
and Johanna Verhoeven  
KEENE, ONTARIO

Mark and Heather Newsome  
TORONTO, ONTARIO

Gordon and Janet Nixon  
TORONTO, ONTARIO

Earle and Janice O'Born  
TORONTO, ONTARIO

Michael and Anne O'Mahoney  
TORONTO, ONTARIO

Howard and Michelle Oram  
GEORGETOWN, ONTARIO

John and Chris O'Sullivan  
TORONTO, ONTARIO

Thomas Pillisch  
TOTTENHAM, ONTARIO

Bill and Deborah Niven  
SCARBOROUGH, ONTARIO

The Pitblado Foundation  
TORONTO, ONTARIO

Sandra and Jim Pitblado  
TORONTO, ONTARIO

Gail Suzanne Potts  
THORNHILL, ONTARIO

Robbie and Laura Pryde  
TORONTO, ONTARIO

Mark and Dawn Ram  
TORONTO, ONTARIO

Tom Reid  
TORONTO, ONTARIO

Larry Repar and Maureen McCaffrey  
MISSISSAUGA, ONTARIO

Cyril Richards  
SCARBOROUGH, ONTARIO

Bruce and Sylvia Richmond  
TORONTO, ONTARIO

Alfredo and Moira Romano  
KLEINBURG, ONTARIO

Norine and Allan Rose  
TORONTO, ONTARIO

Janis Rotman  
CALGARY, ALBERTA

Greg Rudka and Sharon Westman  
TORONTO, ONTARIO

Kim Samuel-Johnson  
MISSISSAUGA, ONTARIO

William Sauder  
VANCOUVER, BRITISH COLUMBIA

Charles and Mina Schwarz  
TORONTO, ONTARIO

Ronald and Joanne Schwarz  
NORTH YORK, ONTARIO

Marilyn and Wes Scott  
TORONTO, ONTARIO

Clara C. Scott  
GEORGETOWN, ONTARIO

Gil and Linda Scott  
UNIONVILLE, ONTARIO

David and Wendy Share  
TORONTO, ONTARIO

Liza Mauer and Andrew Sheiner  
TORONTO, ONTARIO

Laura Siegal\*  
MARKDALE, ONTARIO

Marita Simbul-Lezon  
RICHMOND HILL, ONTARIO

Bruce and Tracy Simpson  
TORONTO, ONTARIO

Anne Smillie and Richard Fenn  
BRECHIN, ONTARIO

Jordan and Sandi Soll  
TORONTO, ONTARIO

Helen Stark  
ST. CATHARINES, ONTARIO

Judy Stein-Korte  
TORONTO, ONTARIO

Krzysztof Stojkowski  
TORONTO, ONTARIO

Mary and George Stratis  
TORONTO, ONTARIO

Trudy Grant and Kevin Sullivan  
TORONTO, ONTARIO

Kevin and Sandra Sullivan  
TORONTO, ONTARIO

John and Shannon Sullivan  
TORONTO, ONTARIO

Wesley Sun  
LINDSAY, ONTARIO

William and Janna Tatham  
TORONTO, ONTARIO

Kathleen P. Taylor  
TORONTO, ONTARIO

Richard and Heather Thomson  
TORONTO, ONTARIO

Barbara Ellen Todd  
WOLFVILLE, NOVA SCOTIA

Paul Vaarski  
TORONTO, ONTARIO

Jim and Cathy Varrin  
LIVELY, ONTARIO

Margaret Venus  
TORONTO, ONTARIO

The Waks Family  
TORONTO, ONTARIO

Jeremy and Susan Walker  
TORONTO, ONTARIO

Larry and Marla Wasser  
TORONTO, ONTARIO

The Weber Foundation  
MIDLAND, ONTARIO

The Jack Weinbaum Family Foundation  
TORONTO, ONTARIO

Joseph and Averil Wiley  
OAKVILLE, ONTARIO

William Rosenberg Family Foundation  
BOCA RATON, FLORIDA

Estee and Henry Wolfond  
TORONTO, ONTARIO

Don and Sally Wright  
TORONTO, ONTARIO

Linda Young and Robert Harding  
TORONTO, ONTARIO

Janet and Adam Zimmerman  
TORONTO, ONTARIO