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## **Newborns May Have More Choices for Organ Transplants**

| An interview with Professor Lori West  
| Pediatric Heart Surgeon, University of Alberta

### **What are the challenges with organ transplantation?**

The current state of organ transplantation is limited effectively by 2 major factors: one is we'll almost certainly never have enough donor organs for all the patients in need. This is a major problem, globally, in end-stage organ failure. It's a particular problem in Canada because we are not yet keeping up of evolving trends in other countries around the world. And the second major problem that prevents us from offering transplantation most effectively is the long-term complications, and the long-term immune-reactivity that ultimately limits the lifespan of the transplant. In the context of the Canadian National Transplant Research Program, which is a coalition – a scientific coalition – of about 120 researchers across the country and we are organized in such a way to integrate effectively and create new synergies to address those two major problems. We are so much more effective if we can break down the silos of science and work with one goal in mind; one long-term goal in mind, and we're finding amazing work coming out of this new way in working together in transplantation.

### **What can we learn from children's immune systems?**

I work with children and children can now be diagnosed during fetal life as having a malformed heart for which the most effective therapy after they're born, is a heart transplant. So the very young immune system - instead of mounting an active immune response to antigens that it encounters, it's susceptible to what we call tolerance, and it turns off that immune response rather than turning on. Well this is precisely what we need in adults when we think about ways of minimizing immunosuppression. We need to selectively turn off immune responses rather than turn them on. So if we can now study the very young immune system, this will give us great insight into potential ways that we can do that in adults.