

# THE BENEFITS OF ADULT STEM CELL RESEARCH

**Phyllis Kennedy**

Genetics Sub-committee Chairperson for Education and Health

**T**he Roman Catholic Church has approved the research and use of adult stem cells. Adult stem cell research does not raise the serious moral issue of destruction of human life that embryonic stem cell research does.

Adult stem cell research is already working and producing cures and treatments. The adult body has a small number of stem cells in many tissues and organs where they lay dormant until activated by illness or injury. Adult stem cells have been located in umbilical cords, placenta and amniotic fluid. They have also been located in many tissues of the human body including bone marrow, blood vessels, blood, muscle, liver, pancreas, cornea, retina, salivary gland, skin, heart, brain, cartilage, dental pulp, intestines and fat. These cells are “pluripotent,” that is, capable of forming into several different kinds of cells. The term “adult stem cells” is not the best term as these cells are found also in children. This, however, is the term most commonly used.

The clinical evidence of the benefits of using adult stem cells is mounting with the successful treatment of dozens of diseases. There is cautious optimism that these cells will offer treatment for many other diseases and injuries in the future. Stem cells from a newborn’s cord blood produce only blood cells. Cord blood transplants have been performed since 1988. These have reduced non-Hodgkin’s lymphoma and pancreatic and ovarian cancer in some patients. Now umbilical cord blood is being used to treat sickle-cell anemia, as it is more easily tolerated and less risky for the recipient and the donor than bone marrow. Stem cells from cord blood have also been used on an infant with Krabbe’s disease, an extremely rare disease that destroys the nervous system and causes death. Cord blood transplants have been shown to help children with Hurler syndrome, a disease that causes progressive deterioration of the central nervous system and death in childhood.

Researchers have shown that adult stem cells can help regenerate brain tissue and also form kidney cells. Adult stem cells from a patient’s healthy eye have been used to help repair a damaged one. Stem cells enable the eye to grow fresh, healthy tissue to a cornea scarred from a chemical burn. Cord tissue contains mesenchymal cells capable of generating bone and cartilage.

Lupus patients are being treated with stem cells from their

own bone marrow repairing damage that was previously thought permanent. Bone marrow transplants have been used to treat sickle-cell anemia and leukemia. Cardiac function increased greatly with cells from bone marrow injected into coronary arteries.

Eight cord blood banks have been set up across Canada to store samples of the stem-cell rich blood from newborns. One non-profit bank accepts donations of cord blood, which are used for transplantation of unrelated patients in treatment centres across Canada. Rome’s Gemelli Polyclinic runs a bank for umbilical cords, and any patient, from anywhere in the world, who is genetically compatible with one of the units of blood of the umbilical cords stored, can receive a unit of blood from the umbilical cord for transplant purposes. †

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## ST. FRANCIS OF ASSISI PARISH COUNCIL CFB PETAWAWA



Members at CFB Petawawa are proud to display their country-wide group project undertaken to commemorate the 40<sup>th</sup> anniversary of the Military Ordinariate Provincial Council. Over a period of eight months, councils from across Canada created 16 quilt blocks, each inspired by a CWL theme.

The finished quilt was debuted at the 2005 provincial convention and will travel annually across Canada to serve as a motivation to councils undertaking the task of hosting provincial conventions.