

## Canada's genetic heterogeneity an asset in cord blood banking

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When Kathleen O'Grady was pregnant with her first child, her Montréal, Quebec, physician was very keen for her to donate her umbilical cord blood to Héma Québec's public cord blood bank.

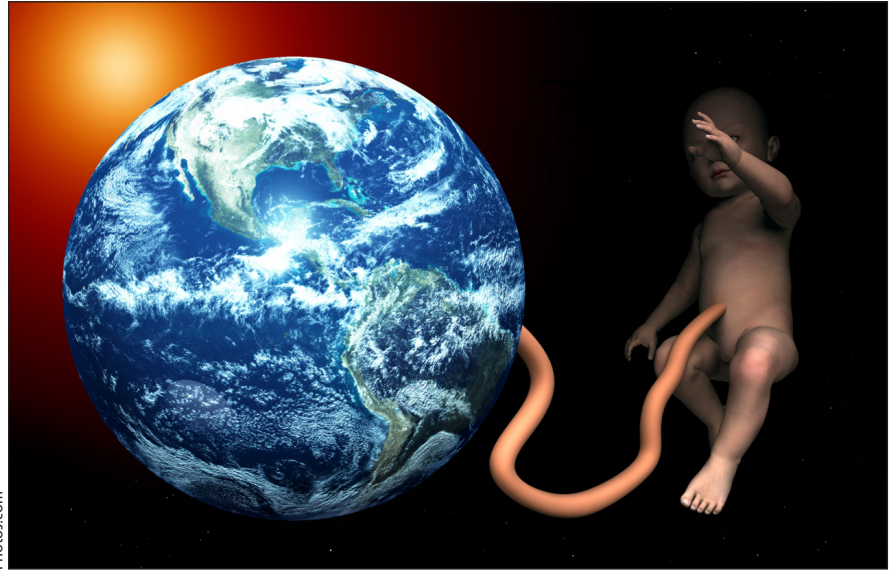
The reason? O'Grady and her husband form a mixed-race couple — she is of Irish-French heritage while her husband is an Ismaili-Indian from East Africa. Worldwide there is a need for ethnic and racial diversity of banked cord blood for use in “regrowing” the blood of people, especially children, who have undergone chemotherapy or suffer from some genetic diseases.

In an effort to ensure “equitable access to transplantation,” the proposed national public cord blood bank would — as the Héma Québec bank is already doing — focus on collecting umbilical cord blood that reflects the population's genetic heterogeneity. Also targeted would be First Nations and people from other distinct ethnic clusterings, who are seriously underrepresented in bone marrow donor registries.

Canada has moved slowly toward creating a public cord blood bank, but “I think that gives us an opportunity to set up a thoughtful cord bank ... to look at what donor types are missing and to contribute in a world-leading way,” says Dr. Clayton Smith, director of British Columbia's clinical leukemia and bone marrow transplant program and a stem cell researcher with the Terry Fox Laboratory in Vancouver, BC.

O'Grady, an Ottawa, Ontario, consultant, says her family doctor suggested donating her cord blood during the first trimester. “She wanted to make sure we filled out the forms. Héma Québec phoned to verify the information ... and someone from there even came after the birth to take more information.”

In contrast, when O'Grady gave birth to her second child in an Ottawa



International blood agencies search registries worldwide to find matches for patients needing transplants.

hospital, cord blood banking was never mentioned. And when she made a few efforts on her own to find out about donating publicly a second time, she couldn't find any information. Hence her umbilical cord blood from that birth — so precious in Quebec — was discarded, like the overwhelming majority of all cord blood in Canada.

While physicians have for many years called for a national publicly funded cord blood bank in Canada, it is private commercial banks that have flourished. There are about a dozen operating in Canada and the vast majority of stored cord blood is stored privately. These banks charge more than \$2000 to bank and store umbilical cord blood for the exclusive use of a donor's family.

“We don't view the private banks as competition,” says Sue Smith, executive director of OneMatch, the division of Canadian Blood Services that searches for stem cell transplants from unrelated donors.

Indeed, private banks don't appear to view a public bank as competition — according to Smith, private bank operators

support the idea of a national public bank.

But private cord blood banking is controversial. “Few pediatric transplant surgeons endorse private cord blood banking in the absence of an identified recipient, even for mixed-ethnicity children for whom finding a suitably matched unrelated donor may be difficult” (*Pediatrics* 2009;123:1011-17)

In a policy statement, Canada's stem cell network takes the position that there isn't enough evidence to recommend private banking “in the absence of a defined medical risk (e.g. a sibling or other family member with a genetic or malignant condition that could potentially benefit from UCB [umbilical cord blood] transplant).”

And in its 2006 policy statement on the utility of private cord blood banking, the World Marrow Donor Association recommended that national governments not provide promotional support or funding for private banks “in the absence of a medical indication.” — Ann Silversides, *CMAJ*

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