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## Controversy brews over storing of cord blood

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By Terri Coles

TORONTO (Reuters) -- Public or private? That's the controversial question being asked about a potentially life-saving practice in which cord blood -- the blood collected from a newborn's placenta and umbilical cord -- is stored for future use.

Because cord blood is rich in hematopoietic stem cells, it is one of three possible sources of blood-forming cells used in transplants, along with bone marrow and circulating blood. One of the advantages of cord blood, which is frozen and stored in either a public or private bank, is that there is evidence that the donor/recipient match doesn't have to be as exact as it does for bone marrow and circulating blood.

But the collection of cord blood after birth hasn't been standardized, and some physicians oppose its storage for private use. The American Academy of Pediatrics recently discouraged the use of private cord blood banks, except when a relative has a current need for a transplant, because it is unclear that banked cord blood benefits the individual it was collected from.

Instead, the AAP encourages parents to donate to public cord blood banks, which make the blood available to patients with diseases such as leukemia, neuroblastoma, lymphoma, sickle cell anemia and thalassemia, as well as immune deficiencies and genetic diseases. So far, the appeal has fallen short: Public cord blood banks have received between 60,000 to 70,000 units of cord blood and have used about 6,000 for transplants, the AAP said. Private banks store an estimated 400,000 units, but only 35 to 40 have been transplanted.

The availability of public units is important because 10,000 people a year are diagnosed with diseases that can be treated with cell transplants, and while 30 percent of those people will have a related donor available, 70 percent will not, said Kathy Welte, the director of the United States' National Marrow Donor Program's Center for Cord Blood.

The Center for Cord Blood is connected with related organizations around the world, Welte said, and their resources are available to patients in other countries. Canada, for example, lacks a national public cord blood bank. Many of the transplants done there use cord blood units from the United States and Europe, though they have come from as far afield as Taiwan and Australia, said Dr. John Doyle, director of the blood and marrow transplant program at the Hospital for Sick Children in Toronto.

If families choose to store their infant's cord blood at a private or family bank, where it will be kept -- for a fee -- it will only be available for that child, a sibling or another family member.

Privately banking cord blood is most often recommended when there is someone in the family who already needs a donation, Doyle said -- for example, a sibling. It also appeals to families who have a history of metabolic disorders, or who feel that their ethnic background is unusual enough that the donor pool would be impossibly small if they were to become ill. (Ethnicity is

one of the determinants for an HLA match, which is important for a successful transplantation.)

Dr. Clifford Librach, the founder of CReATe Cord Blood Bank in Toronto, Canada, says public banking options are limited in Canada -- only the provinces of Alberta and Quebec have public cord blood banks -- and CReATe gives parents the chance to store a biological resource that would otherwise be wasted. "It's either throw it in the garbage or bank for your family," Librach said.

Though they do deal with some families with a specific need -- CReATe will bank for free for a child in immediate need of a cord blood transplant -- they mostly deal with families who are banking because they want the blood available just in case. "There's a possibility that anyone could use this at any time in their life," Librach said. "What you really are doing is banking for your own family. It's like having insurance for your family."

Some experts say that both banking options offer benefits. "I think there's plenty of room for both private and public cord blood banking," said Doyle. "I don't think there needs to be one or the other, I think that both can coexist." But he warns that families should do their homework and make sure the bank they deal with has been accredited.

The CReATe clinic will be inspected for accreditation with the American Association of Blood Banks in the coming month, Librach said. CReATe has also been inspected by Health Canada and found to comply with their mandatory regulations, he said.

Today, cord blood transplants are used to treat metabolic and malignant disorders like sickle cell anemia and leukemia, but the uses of cord blood could expand in the future. "That potential can be huge," Doyle said. It's possible that stem cells could be used to develop other types of human tissue, such as muscle tissue that could be used to repair damaged hearts. They are also being examined in the treatment of spinal cord injuries. One study found that cord blood transplants were life-saving for infants with Krabbe's disease, an inherited degenerative disorder.

But those uses remain potential uses, and there isn't sufficient research to say for certain that any of them will happen, Doyle said.

But as North American populations become more diverse, publicly-banked cord blood will become more important, Doyle said. "We are going to be increasingly faced with unique HLA types," he said, and those types will be harder to match with the available donor pool.

What do you think? Send us your comments: [HealthMatters@reuters.com](mailto:HealthMatters@reuters.com)

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