Denise Smith Amos Of The Post-Dispatch

Somewhere, a new mother gave the gift of life twice. That anonymous woman had a baby in a hospital and then donated blood from her baby's umbilical cord to a special blood bank, where it was frozen. Later it was infused into another child, giving her a second chance at life.

That child is 19-month-old Forest Roesslein, a little girl who until January had little hope of surviving early childhood. Forest has severe combined immunodeficiency disease, better known as SCID, or the Boy in the Bubble disease.

She was born without T cells, white blood cells that bolster the immune system. Through much of her young life, Forest suffered from painful, debilitating illness, making her so sick that she forgot how to talk and how to eat on her own, says her mother, Dawn-Giometti.

A bone-marrow transplant was not an option. Forest has no brothers or sisters, so chances for a match were close to nil.

Instead, doctors at Cardinal Glennon Children's Hospital tried a relatively new procedure still in the research phase. They transplanted stem cells harvested from donated umbilical cord blood into her body.

Stem cells are the tiny precursors of platelets and red and white blood cells. (Platelets control bleeding, red blood cells transport oxygen to organs and tissue, and white blood cells fight infection.)

Umbilical cord blood represents the next great hope for thousands like Forest who cannot get bone-marrow transplants, said Dr. Donna Wall, director of Cardinal Glennon's bone-marrow transplant program and director of St. Louis' first cord-blood bank. Worldwide, more than 3 million people have registered as willing to donate bone marrow. But so many variables have to be matched that only 15 to 20 percent of people who need transplants get them. The odds are stacked higher against African-Americans, American Indians, the Amish, Hispanic-Americans and other ethnic minorities. They bear many more inherited variables from their diverse ances-

Cord blood must match only some variables, and it

tries, and they have smaller donor pools to draw

from, Wall said.

is so young and unformed that it adapts better than bone marrow to new environments. Forest's stem cells, for instance, came from a black family; Forest is of Portuguese, Irish, German and American Indiandescent.

Since 1990, more than 180 cord-blood transplants have been completed, all at only a few U.S. hospitals. Cardinal Glennon so far has transplanted cord blood in four children.

That may change, however, as more obstetricians collect cord blood and more new mothers volunteer to donate it, Wall said.

Cardinal Glennon has 300 samples of cord blood stored, but Wall hopes that will grow to 10,000 in five years. Most obstetricians in the St. Louis area are being trained to collect cord blood, but many new mothers need to be informed of the option.

U.S. researchers hope their cord-blood banks will help supply a global, nonprofit registry, much like the bone-marrow registries. But for-profit entities are endangering that effort, Wall said.

In recent years, several companies have been offering to harvest umbilical cord blood for expectant parents and reserve it in their children's names, rather than donating it for worldwide use.

These companies play on parents' fears by pointing out that cancer is the No. 1 disease killing children today. They do not disclose that it is rare in families with no history of cancer. In addition, some companies charge thousands of dollars in processing, storage and annual fees, yet most do not screen the blood for blood-borne illness or protein type to assure appropriate family matches, Wall said.

If more people hoard umbilical cord blood on the slim chance that their child may need it, then fewer donations of cord blood will be available for children like Forest, she said.

For Forest, the stem cells already have begun their work, her mother says. The child went home three weeks ago and is renewing her acquaintance with food and toys.

"It's so nice having her back," Giometti said. "It's like having a baby all over again. . . . The woman who donated, she'll probably never know. . . . I don't know how you thank someone for saving my daughter's life."