



Companies harvest stem cells from baby teeth and freeze them for later use **Neapolitan»**

SAVING BABY TEETH COULD SAVE LIVES

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Dr. Patricia Pavlos happened upon a medical service she had never heard of that could save her children's lives if they ever become gravely ill.

Two years ago, the Naples resident and dentist was visiting her father in Austin, Texas, when she spotted a pamphlet for a business that operates a bank for stem cells found inside the pulp of baby teeth. The company, BioEDEN, is headquartered in Austin.

"I was like, what the heck," Pavlos, 45, said, pointing out she knew nothing about it despite her profession and all the continuing education classes she must take. "I picked up the phone and called. I did my homework and realized this is so legitimate and such a good thing. We know about the pulp tissue in baby teeth but we were never told there are stem cells in the pulp."

Pavlos decided to save stem cells from her two children. She signed up for BioEDEN's initial processing fee of \$595 for the collection kit, which involves a tooth storage container, gel packs and instructions for sending the package to the laboratory in Austin.

It can be tricky collecting the tooth as soon as it has fallen out, placing it immediately in milk and sending it by overnight mail to the laboratory, she said.

"It has to come up with perfect timing," Pavlos said.

The program is not for decaying baby teeth that get pulled; rather it's targeted for baby teeth that are coming loose and falling out naturally, she said.

A parent has 12 chances to get it right because

the six upper and six lower front teeth contain the stem cells that can multiply rapidly.

The tooth must be received at the laboratory within 24 to 48 hours of falling out, so the stem cells can be isolated and evaluated for viability. A report is sent back to the parent if the stem cells are viable.

From there, the company says the stem cells are divided into two groups for cryopreservation and banked at two locations. The annual storage fee is \$95.

The stem cells will remain a 100 percent match for the donor and a 75 percent chance of a match for siblings, parents and even grandparents.

"There's more potential use in the future of stem cells from baby teeth than in umbilical cord stem cells," said Juan Carlos Rodriguez, president of BioEDEN in Florida and the Dominican Republic.

BioEDEN says there are four types of stem cells in baby teeth. One group has the ability to develop into a wide range of reparative cells, and the second group has the ability to generate cartilage for treating arthritis and joint injuries.

The third type of stem cells found in baby teeth

can generate bone, and the fourth type can repair damaged cardiac tissue after a heart attack, according to BioEDEN.

Medical reports about preserving stem cells from baby teeth for future health conditions have been around for several years. The American Dental Association says the verdict is still out on potential uses of stem cells from baby teeth. The ADA hasn't taken an official position on the issue yet, said Lydia Hall, spokeswoman for the Chicago-based organization.

The position of the American Academy of Pediatric Dentistry's Council on Clinical Affairs is these stem cells are readily accessible but must be secured and stored properly to maintain the potential to proliferate. The academy, which adopted a position on baby teeth stem cells in 2008, said it is an evolving science, in which parents are increasingly interested.

"The American Academy of Pediatric Dentistry recognizes the emerging field of regenerative medicine and encourages dentists to follow future evidence-based literature in order to

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BioEDEN
Tooth Cell Bank



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educate parents about the collection, storage, viability and use of dental stem cells with respect to autologous regenerative therapies," according to the academy's position.

Rodriguez said one reason for marketing in Florida is that the Hispanic/Latino community has confidence in the benefits of preserving stem cells, whether from the umbilical cord or baby teeth.

"We are promoting directly to patients and also are trying to teach the dentists in Florida so they are (informed) and can educate their patients," he said.

Another company, Store-A-Tooth, was launched in 2008 when dental schools began looking seriously at the potential of stem cells, said Howard Greenman, chief executive officer of Provia Laboratories, which offers the stem cell bank with laboratories in Lexington, Mass., and Indianapolis.

He contacted officials at the National Institutes of Health and researchers in the Massachusetts area.

"As soon as we felt the research was headed in the right direction, that's when we decided to launch the service," Greenman said.

Unlike BioEDEN, Store-A-Tooth recommends a child's loose tooth be pulled by a dentist instead of waiting for it to fall out, he said.

"When a tooth falls out naturally, it is questionable how much stem cells are available," Greenman said. That's because the tooth may

not have had an active blood supply when it was dangling loose and it requires good testing, he said.

Store-A-Tooth nevertheless will accept baby teeth that fall out naturally but the fee is \$350 more because of extra steps needed to make sure there are adequate stem cells for freezing. If a dentist in Store-A-Tooth's network pulls the loose tooth, the fee is \$579 for the pre-labeled kit and pre-paid shipping, he said. The annual stem-cell banking fee is \$120 a year and there is a discount for prepayment for 20 years.

Katie Wegener, 40, of Englewood, Colo., heard about Store-A-Tooth a few months ago just as her daughter's last baby tooth was loose. Her daughter, Hailie, now 8, was diagnosed with cancer when she was 4 years old and lost one kidney.

"My fear is something happening to her one and only kidney," she said, adding she has heard there is some scientific thinking that stem cells eventually may be able to grow new organs. "It could end up helping some day. I felt it was a good investment."

She had heard of stem-cell banks from umbilical cord blood but at the time she didn't consider it when her daughter was born. Now she's been telling her friends about the baby tooth option for stem cells.

"None of them knew about it before I told them," she said.



Pavlos, the Naples dentist,

got a baby tooth from her 10-year-old daughter, Jessica, to the laboratory in time.

For her 7-year-old son, Nicholas, she got it right on the second try.

"Most parents are grossed out about teeth," Pavlos said, adding that in some instances, children lose a tooth at school or elsewhere.

Dianne Cohen, 42, missed the chance to save umbilical cord stem cells when her daughter, Aliyah, was born six years ago.

"It always kind of bothered me," said Cohen, a registered nurse in Miami.

She started searching the Internet and got sent to a link that sent her to the home page of BioEDEN.

She called for more information.

"I was sold," Cohen said. "It was like a second chance. I am one of those people who believe in technology and I know it's not perfect but if it's frozen, what do you have to lose?"

She's also pleased the baby tooth can be sent to the laboratory, the stem cells taken out and the intact tooth can be returned to the family and child for keeping.

When a baby tooth from her daughter got loose, it was lost before Cohen could order the kit.

She was prepared for the next one, ordering the kit and sticking it in a closet.

BioEDEN offers dentists the opportunity to receive \$100 for each patient they send to the company.

The same offer stands for day-care centers and schools.

Pavlos has talked to patients about the program and three parents have signed up so far.

She isn't interested in the money from the company and would return it to the parents.

"It is so on the cutting edge, and it is not as big an expense as the umbilical cord (program) and they are far better cells," she said.

Cohen, the Miami nurse, said she's told some friends about it and she was surprised her pediatric dentist wasn't aware there is a banking system for baby tooth stem cells.

"For the price, I don't think you can go wrong," she said. "For the price, it's peace of mind."

"I'm just thinking down the road."

For more information, contact BioEDEN at www.bioeden.com or call at 1-888-315-3843. For more information about Store-A-Tooth, call 1-877-867-5753 or visit the Web site, www.store-a-tooth.com.

Connect with health-care reporter Liz Freeman at www.naplesnews.com/staff/Liz_Freeman