



## Oklahoma Center for Adult Stem Cell Research

### Cord Blood Stem Cells

Umbilical cord blood that would normally be discarded at delivery contains stem cells that can be used to restore blood cells in patients at increase risk for infections and people who are recovering from cancer treatments. In fact, over 6,000 cord blood transplants have been performed, and this treatment is routine for Dr. Jennifer Holter and her colleagues at OU Medical Center. However, there is still much confusion surrounding this subject. For example, claims of cures for diseases other than those involving blood are not proven, and much more work is needed to learn if that will be the case. In addition, parents struggle with decisions about saving their baby's cord blood for later use.

In 1989, Dr. Hal Broxmeyer froze umbilical cord blood and then used it to cure a patient with a dangerous form of anemia. He described that exciting experience and subsequent discoveries during a recent trip to Oklahoma. The good news is that stem cells survive for long periods when kept in liquid nitrogen freezers and many organizations now make collection and storing of cord blood possible. However, parents should understand that the child from whom the cord blood was taken is unlikely to use it. Advertising by companies that specialize in cord blood freezing is often misleading.

There are two different kinds of cord blood banks, public and private. Parents may elect to donate their baby's cord blood to a public bank because there is no cost and the blood can be used when needed for research or treatments. Oklahoma currently does not have such a bank, but [LifebankUSA](http://www.lifebankusa.com) accepts mail-in donations and there may be other options in the future. For additional information from the American Academy of Pediatrics about the advantages of public banks, see: <http://www.aap.org/advocacy/releases/jan07cordbloodfaq.htm> Remember that cord blood is taken from the placenta and cord that would normally be thrown away. Cord blood collection should cause no risk to the baby. No one will contact you later to tell you that the cord blood was used or to ask for another donation. You should ask if your doctor charges anything for this procedure.

Private companies charge parents an initial fee and then yearly for handling and permanent storage of cord blood. Samples frozen in this way are available only to the family that purchased this option and it could make sense if there is a history of inherited diseases. It is also true that chances of successful transplantation increase when cord blood is obtained from a relative. Companies also say that this may provide parents with "peace of mind" and a kind of "biological insurance" if anything goes wrong in future years and a transplant is needed.

You should be aware that cord blood stem cells have only been found to make blood and are not an accepted treatment for diabetes or brain injury. If cord blood is from a baby that goes on to have leukemia or immunodeficiency, the physician may use a cord blood from someone else for transplantation. When parents read advertisements from companies, they might not notice words such as "may" or "potentially" and could conclude that their frozen samples already can be used to treat hundreds of conditions. Research involving stem cells is moving rapidly, and new uses for cord blood cells might be developed in the future. As with all areas of medical research, success is not guaranteed and discoveries are difficult to predict. Cord blood is a useful source of adult stem cells, but it is important to remember that there are others. As explained elsewhere on this website, stem cells produced in the laboratory from normal tissues also show great promise.