

Private umbilical cord banking not cost-effective, research shows

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Private cord blood banking is not cost-effective because it costs an additional \$1,374,246 per life-year gained, according to a new analysis by UCSF researchers. The research team also concluded that private cord blood banking is cost-effective only for families with a child with a very high likelihood of needing a stem cell transplant.

The researchers used a technique called decision analysis that tracks hypothetical groups of people and allows comparison of expected costs and health benefits of two alternative strategies (in this case, private cord blood banking versus no cord blood banking). Results of the study appear in the October 2009 issue of the journal "[Obstetrics & Gynecology](#)."

Cord blood is collected from the umbilical cord shortly after a baby's birth and has the potential to treat a variety of medical conditions ranging from leukemia to metabolic disorders to cerebral palsy. Public cord blood banks store cord blood at no cost and make the blood available to anyone needing treatment, or for research purposes.

Private cord banks charge a fee to store a baby's cord blood for his/her own possible future use or for a family member's possible future use.

"While there are plausible medical advantages of umbilical cord blood stem cells, many of these benefits are primarily theoretical at this point," said Aaron Caughey, MD, PhD, co-author of the paper, a UCSF associate professor of obstetrics, gynecology and reproductive sciences,

and director of the UCSF Center for Clinical and Policy Perinatal Research. "Expectant parents need to understand the true likelihood of their family benefitting from private cord blood banking in order to make an informed decision about this expensive process."

Private umbilical cord blood banking companies in the United States market directly to consumers, at times describing cord blood as a "biologic insurance" for their unborn child, the researchers note. However, a survey of private cord blood banks by the American Society for Blood and Marrow Transplantation found that of the approximately 460,000 cord blood units banked, only 99 were confirmed as being shipped for use in treatment.

The decision-analytic model used by the research team included four baseline assumptions: a cost of \$3,620, the lowest price quoted from major blood banking company web sites, for umbilical cord blood banking and storage for 20 years; a .04 percent chance of requiring an autologous (self) or stem cell transplant; a .07 percent chance of a sibling requiring an allogenic (from another person) stem cell transplant; and a 50 percent reduction in risk of graft-versus-host disease if a sibling receives a transplant of banked umbilical cord blood cells.

The UCSF team concluded that if the cost of umbilical cord blood banking is less than \$262 or the likelihood of a child needing a [stem cell transplant](#) is greater than one out of 110, then private umbilical cord blood banking becomes cost-effective.

The American Academy of Pediatrics (AAP) encourages cord blood donation when the cord blood is stored in a bank for public use and discourages storing cord blood as "biological insurance" because there currently are no scientific data to support autologous transplantation. The AAP does encourage private cord blood banking when there is knowledge of a full sibling in the family with a medical condition

(malignant or genetic) who potentially could benefit from cord blood transplantation.

"The discrepancy between the benefits of private cord blood banking perceived by families and the lack of benefit seen in this analysis, and in the opinions of professional societies, has important implications for how doctors counsel patients," said Anjali Kaimal, MD, MAS, lead author of the study and a recent graduate of the UCSF Maternal-Fetal Medicine fellowship which is directed by Caughey. Kaimal's work on the study was done while at UCSF; she currently is a physician at Massachusetts General Hospital.

Source: University of California - San Francisco

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