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Updated policy reaffirms value of public over private cord blood banks

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An updated AAP policy statement on cord blood banking can help pediatricians, obstetricians and other health care personnel guide parents in making a more informed choice of where they place their infant's or child's cord blood cells if they choose to store them.

The policy statement *Cord Blood Banking for Potential Future Transplantation,* from the Sections on Hematology/Oncology and Allergy and Immunology,is available at https://doi.org/10.1542/peds.2017-2695 and will be published in the November issue of *Pediatrics*. The information is intended to educate society on the need for cord blood stem cell transplantation and methods of obtaining cord blood stem cells for transplantation.

Placental (i.e., cord) stem cells have become definitive therapy for many disorders, including lymphocyte malignancies, hemoglobinopathies, immune deficiencies and metabolic abnormalities. Cord blood cells are given intravenously, and normal donor stem cells replace the defective stem cells within a few months, and the child is rescued from a life-threatening disease. Placental cells are provided in abundance in a newborn, and the extra blood in the placenta is a rich source of stem cells.

Among reasons for the revision of the policy was the discovery of new uses of cord blood and new methods of treatment. Also, newborn screening tests have identified a higher incidence of certain diseases, such as serious immune disorders, that previously were thought to be much rarer.

Public vs. private banks

Over the years, public and private cord blood storage banks have been established.

Virtually all professional societies in North America, Europe and Australia favor the public cord blood banking system. The Academy agrees.

The differences between the two systems of cord blood banking are important to understand, especially for prospective parents.

Public cord blood banks are nonprofit institutions that serve the needs of the general public. The purpose of private cord blood banking is to rescue the infant or a family member from serious diseases.

Public banks do not charge parents for storage and maintenance of their infant's cord blood, while storage and maintenance for cord blood in private banks is approximately $2,000, plus $100-$175 in annual fees.

External accreditation agencies ensure as far as possible that cord blood stem cells are prepared in strict adherence to policy guidelines. Held up to peer-review, public cord blood banking has better quality control of its product compared to private cord blood banking.

The private cord blood banking industry emphasizes the biological insurance of cord blood stored in its banks for potential use later in the child's life. There is little evidence supporting this purpose. Private cord blood banks may supply cord blood for families with known disorders such as hemoglobin and metabolic diseases. There's a mistaken belief that an infant's stem cells stored in a private cord blood bank can be used if the child develops leukemia later in life. Scientific evidence, however, shows that an infant's stem cells already contain pre-malignant leukemic cells, and treatments have resulted in reappearance of leukemia.

The chances that an infant's cord blood cells will be used for transplantation are 30 times greater in the public cord blood banking system as compared with private cord blood banking.

When selecting where to store an infant's cord blood, parents need to know that 1) private cord blood banks are expensive, 2) they are not subject to strict regulatory oversight and quality control, and 3) cord blood stored in private banks is underutilized. In contrast, cord blood donated to public banks is utilized more and is heavily regulated.

Recommendations

- Public cord blood banking is the preferred method of collecting, processing and utilizing cord blood cells for transplantation of infants and children with fatal diseases, such as malignancies, blood disorders, immune deficiencies and metabolic disorders.
- The concepts of autologous and allogeneic use of cord blood units need to be explained to parents.
- No scientific data support the claim that autologous cord blood is a tissue source proven to be of value for regenerative medical purposes.
- Medical staffs should obtain permission for maintaining demographic medical information, and potential risks of breaches of confidentiality should be disclosed to parents.
- Efforts should be made to recruit ethnic minorities for cord blood donations.
- The Academy advocates for regulatory agencies to provide oversight of the cord blood program. All banking programs should comply with the Foundation for the Accreditation of Cellular Therapy or equivalent standards.
- Physicians and other medical personnel who refer prospective parents to private cord blood banking systems — and receive fees for the service — should disclose this information to parents and file annual disclosures and potential conflict of interest statements to an institutional review committee that possesses oversight authority.

Dr. Shearer, a lead author of the policy, is a member of the AAP Section on Allergy and Immunology.

Resource

- Information on public cord blood banking is available from the Parent's Guide to Cord Blood Foundation