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## The European Group on Ethics makes public its Opinion on the ethical aspects of umbilical cord blood banking

*The European Group on Ethics in Science and New Technologies (EGE), chaired by the Swedish Philosopher, Göran Hermerén, has adopted on March 16<sup>th</sup> 2004 its Opinion no. 19 on the ethical aspects of umbilical cord blood banking. The EGE is an independent, multidisciplinary and pluralist instance, composed of twelve members. Its role is to advise the Commission on how the ethical values of the European society can be taken into consideration in the scientific and technological development promoted by Community policies.*

Since 1988 umbilical cord blood cells are used for transplantation to treat patients with blood and immune disorders requiring a source of haematopoietic stem cells. Indeed umbilical cord blood is rich in haematopoietic stem cells which can repopulate the bone marrow of patients, providing a source of blood cells, and because of their immunological characteristic, stem cells from umbilical cord blood are less likely to induce rejection reaction when transplanted than stem cells from bone marrow.

Usually, cord blood is stored by public or non-profit banks which collect it from voluntary donors. Cord blood is therefore available for any patient in need, provided the HLA types of the donor and the recipient are compatible. The EGE is of the opinion that **“support for public cord blood banks for allogeneic transplantations should be increased and long term functioning should be assured”**. The development of networks and registries to make sure that any patient needing transplantation will find a suitable sample and will find rapidly a matching donor should also be encouraged and supported. The ethical implications of such cord blood banks are the same as for any tissue bank. In its previous opinion n° 11 on the ethical aspects of tissue banking, the Group underlined the values at stake: body integrity, respect of privacy and confidentiality of data, promotion of solidarity, fairness of access to healthcare and information and consent of the donors.

There are however commercial banks which offer to collect and store the cord blood of your child for a number of years against payment in case that one day your child needs it, or one of the family members.

However, the probability of needing an autologous transplantation has been estimated as approximately 1 in 20 000 during the first 20 years of life. Moreover, it has not yet been demonstrated that cells usable for transplantation can be stored for more than 15 years.

A lot of research is performed on stem cells, in particular research into differentiation of pluripotent stem cells into specific cell types which could be used for the treatment of chronic diseases such as Parkinson, diabetes, cancer or cardiac infarcts as well as research on regenerative medicine. However, no clear proof of the utility of stem cells has yet been shown and the possibility to use cord blood stem cells for regenerative medicine is currently purely hypothetical. Even if research would show the utility of cord blood cells in these cases, it is not evident that the use of patient's own cord blood would be preferable to the use of his/her own bone marrow or to well-matched allogeneic stem cells from donation. **It is therefore highly hypothetical that cord blood cells kept for autologous use will be of any value in the future.**

This is why the EGE is of the opinion that ***“the legitimacy of commercial cord blood banks for autologous use should be questioned as they sell a service which has presently no real use regarding therapeutic options”***. This raises therefore serious ethical concerns.

***“While some members of the Group consider that this activity should be banned, the majority considers that the activities of these banks should be discouraged but that a strict ban would represent an undue restriction on the freedom of enterprise and the freedom of choice of individuals/couples.”***

***“If commercial cord blood banks are allowed, appropriate information should be given to the consumers willing to use their services, including the fact that the likelihood that the sample may be used to treat one's child is currently negligible, that the future therapeutic possibilities are of a very hypothetical nature and that up until now there is no indication that the present research will lead to specific therapeutic application of one's own cord blood cells. Therefore, information has to be particularly explicit that the auto conservation has little value in the current state of scientific knowledge. This information should be made clear on all media, including Internet, and in any contracts linking commercial banks to their customers.”***

The EGE welcomes the adoption on 2<sup>nd</sup> March 2004 of the Directive of the European Parliament and of the Council on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells, which provides a legal framework, namely in terms of authorization, licensing, accreditation, inspections, controls, promotions and publicity and staff experience.

The Group also insists that ***“any kind of advertising made by commercial cord blood banks in the media, including on the Internet, must be adequately controlled by public authorities”***.

More information:

[http://europa.eu.int/comm/european\\_group\\_ethics](http://europa.eu.int/comm/european_group_ethics)