



**CONSELHO NACIONAL DE ÉTICA PARA AS CIÊNCIAS DA VIDA**  
**NATIONAL COUNCIL OF ETHICS FOR THE LIFE SCIENCES**  
Presidency of the Council of Ministers

**47/CNECV/05**

**OPINION N° 47 OF THE NATIONAL COUNCIL OF ETHICS  
FOR THE LIFE SCIENCES**

**STEM CELL RESEARCH**

(November, 2005)



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The present Opinion Statement from the National Ethics Council for Life Sciences on “Stem cell research” was elaborated taking into consideration the legislative initiatives on the matter presented some time ago in Parliament. This Opinion Report also responds to the need for an autonomous reflection on ethical issues related to stem cell research pointed out in Opinion Statement 44/CNECV/04 on “Medically Assisted Procreation”.

The lack of legislation in both areas makes evident the need for norms applicable on these matters, as well as the need for Portuguese society to come into contact with and to reflect on these issues.

By elaborating the present opinion statement, the CNECV aims at fulfilling this double purpose: reflecting on ethical issues brought on by scientific progress in the area of stem cell research and promoting legislative debate in this area.

**Considering that:**

- a) Stem cell (SC) research is a new and very promising area in biomedicine which has been building up great anticipation in the scientific community in particular and in society general, and upon which a great amount of diversified values and interests are projected;
- b) Scientific knowledge on the possibility of using therapies based on SC is still very limited and originates mainly from studies carried out on animal models;
- c) The research being done on SC uses cells obtained from various structures and tissues: internal cell mass from embryos, products of spontaneous abortion resulting from the voluntary interruption of pregnancy, germinal cell tumours (teratocarcinomas), somatic cloning products, umbilical cord blood and adult tissues;
- d) The origin of SC seems to influence the quality of its biological properties and therefore their future application in treating diseases, especially degenerative type pathologies and those resulting from irreversible tissue and organ part destruction;



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- e) The perspectives of applying SC from embryos or from other equally pluripotential origins in therapy are considered promising due to their differentiation versatility and to their longevity;
- f) Stem cells are found in very reduced numbers in adult tissue. They are also difficult to recognise and to individualize, which makes the difficult to obtain;
- g) Stem cells collected from adult tissues usually have a limited capability to produce cells and tissue different from the one they originate from, although some recent studies admit that such difficulties may be overcome in the future;
- h) Present-day scientific knowledge has not been able to come to sure conclusions in relation to the biological capabilities of the various SC types, and so research has focused on the various origins of SC;
- i) SC research brings on ethical issues in relation to the origin of the cell which can be a complex matter when these cells are obtained from embryos in premature stages of development;
- j) Obtaining SC for research purposes from cryo-preserved embryos has been praised as an alternative to their destruction;
- k) There is a need to continue making comparative studies of the various stem cell types and their uses with the utmost scientific rigour and impartiality;
- l) In this context, all ethical considerations are focused on the group of values and principles specifically related to: the respect for the embryo and its ontological statute, the social importance of finding new therapies, the freedom of research and the progress of scientific knowledge



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The CNECV, attentive to the above mentioned, shares the opinion that:

1. Scientific knowledge on mechanisms that regulate the development of live beings and that modulate cell differentiation considers stem cells to be a promising area of research for both the treatment of certain human diseases and the understanding of the mechanisms they originate from, giving them thus individual ethical value.
2. Being able to cure diseases through the use of stem cells or products derived from them should be considered premature at present because: is still at in a precocious phase, results are frequently contradictory and concrete clinical applications are very restricted.
3. Most scientific research is in high hopes that stem cell origin will be able to determine the cell's biological properties in order to benefit from the value of stem cell use in treating certain pathologies for which curative therapies are still unknown today.
4. The different perspectives on the ontological statute of the embryo make it difficult to achieve a consensus concerning the use of embryonic stem cells to produce cell lines, and therefore recommend a continuous ethical debate.
5. Stem cell research obtained from adult tissue dos not cause the same complex ethical problems as does the research carried out on stem cells obtained from embryo manipulation. This last solution should therefore be encouraged.
6. The process of collecting stem cells from adult tissue for research and therapeutic purposes should guarantee respect for the integrity of the human body. This process implies the donor's consent for both obtainment and application.



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7. Stem cells obtained from spontaneous or legally induced abortion can be the source of relevant scientific information for the health of a third party and therefore. Continued use of this research method is recommended.

8. The use of products obtained from spontaneous or legally induced abortion in research and therapy implies the consent of the progenitor or progenitors. In the case of induced abortion, consent should be petitioned by the research team.

9. Inducing abortions for the specific purpose of obtaining stem cells should not be permitted.

10. The research that uses cells from umbilical cord blood or germinal tumour derivatives does not bring on specific ethical issues susceptible of causing restrictions on said research. The process of obtaining this type of stem cell for the above mentioned reason implies informed consent and should guarantee that these products will not be sold.

11. The production of human embryos through fecundation solely for scientific research purposes, namely for the attainment of stem cells, is ethically unacceptable. This action instrumentalizes human life.

12. The destruction of cryo-preserved embryos with the specific purpose of obtaining stem cells for research is an instrumentalization of human life and an action against human dignity.

The process of collecting embryonic stem cells which, in itself, does cause the destruction of the embryo, does not bring about ethical issues. The potential benefit for humanity resulting from the scientific research carried out justifies the use of stem cells obtained from embryos defrosted from cryo-preservation for reasons foreign to the obtainment of the stem cells.

13. The ethical objections in relation to the obtainment of embryonic stem cells through processes which cause their destruction justify giving priority to other technological procedures which make the obtainment of embryonic stem cells or similar cells possible: collecting blastomeres in embryos,



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blastocyst biopsy, creating cell systems that simulate embryos and the undifferentiation of somatic cells

14. Aware of the value and the respect that an embryo deserves, research on embryonic stem cells can only be carried out with valid informed consent and with a favourable opinion statement from an independent multidisciplinary public entity

15. This entity should pronounce its opinion on ethical and scientific issues, as well as other sensitive aspects such as derived cell line licensing and their circulation among research groups.

16. Donating stem cells for research purposes, regardless of their origin, should always be an anonymous and confidential process.

17. The production of cells and other biological material should not be authorized for sales purposes. Stem cell investigation purposes are sometimes merely a front.

18. Stem cell research originating in somatic nuclear transfer brings about specific technical, ethical and legal issues which should be touched upon in the opinion statement being produced on the problematical issues of cloning.

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