



NATCO, THE ORGANIZATION FOR TRANSPLANT PROFESSIONALS POSITION STATEMENT

STEM CELL RESEARCH

STATEMENT OF THE PROBLEM:

NATCO recognizes the continuing shortfall of human donor organs for transplantation. Experimental biotechnology techniques using stem cells (including human embryonic stem cells) are pointing the way toward the potential for organ and tissue repair and regeneration.

The technique of somatic cell nuclear transfer (where the nucleus of one cell is removed and replaced with the nucleus of a specialized cell) has the potential to produce large numbers of cells that can differentiate into many different cell types. These could include but are not limited to: hepatocytes, pancreatic islet cells, cardiomyocytes or basic stem cells. These techniques would potentially make it possible to program an individual's mature cells into specific cells. As a result, the individual could potentially experience therapeutic benefits without the risk of immune rejection. The potential for treating disease or offering alternatives to organ transplant for damaged organs in the area of regenerative medicine is immense but at this time the technologies are experimental.^(1,2,3)

POLICY:

NATCO supports the pursuit of research in the areas of organ and tissue repair and regeneration as long as this research follows ethical guidelines⁽⁴⁾:

- The research protocol must be approved by a research ethics committee.
- The technology must not be promoted as a cure for any ailment, symptom, or disease, rather it is an experimental technology.
- The patient (or surrogate) must give informed consent to participate.
- No researcher or clinician shall be forced to participate in the use of embryonic stem cells if it conflicts with their personal moral values.
- There should be long-term follow up of patients receiving interventions using experimental stem cell technologies. Adverse events should be reported to the appropriate regulatory agencies in a timely manner.

NATCO supports legislation that would allow the use of human somatic cell nuclear transfer technology to produce cells and tissues for research and therapeutic use (after successful clinical trials).

NATCO opposes reproductive human cloning. NATCO supports legislation that bans reproductive human cloning that would entail implantation of cloned cells into a human uterus.

NATCO recognizes there is much controversy with regard to the personhood status of an embryo. To this end, NATCO takes no formal position in this regard.

REFERENCES:

1. Wei HJ et al. Bioengineered cardiac patch constructed from multilayered mesenchymal stem cells for myocardial repair. *Biomaterials*. 2008 Jun 4. [Epub ahead of print].
2. Houlihan DD, Newsome PN. Critical Review of Clinical Trials of Bone Marrow Stem Cells in Liver Disease. *Gastroenterology*. 2008 May 15. [Epub ahead of print].
3. Perin L et al. Stem cell and regenerative science applications in the development of bioengineering of renal tissue. *Pediatr Res*. 2008 May;63(5):467-71.
4. National Institutes of Health. Stem Cell Information. Available on-line at <http://stemcells.nih.gov/policy/guidelines.asp>.

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