



Subject:	COMMITTEE ADVICE ON EMBRYO SPLITTING	
Date:	MAY 2008	File Ref: AD20-86-10
Attention:	HON STEVE CHADWICK, ASSOCIATE MINISTER OF HEALTH	

Advice

Purpose

1. To provide you with information, advice and recommendations regarding embryo splitting, pursuant to section 38(b) of the Human Assisted Reproductive Technology (HART) Act 2004.

Executive Summary

2. ACART's advice is:
 - embryo splitting is not clinically relevant;
 - at present, no action needs to be taken as embryo splitting cannot proceed in the absence of guidelines; and
 - ACART will review this position and provide further advice to you if, in future, embryo splitting should become clinically relevant.

Background

3. As the name suggests, embryo splitting is the splitting of an *in vitro* embryo, at an early stage of development. The embryos generated would be genetically identical.

Potential benefits

4. It has been argued that embryo splitting could greatly increase the chances of conception and having a child for an infertile woman or couple, or for a woman or couple whose future reproductive capacity is likely to be diminished. It could also reduce the number of procedures necessary for egg retrieval.
5. Others argue that embryo splitting is unlikely to be successful in humans due to the different developmental pattern of human embryos compared to animal embryos which have been successfully split. Some also consider that, even if it were achievable, the result may be a trade-off between quantity and quality, which would not lead to improved birth rates.

Scientific, ethical and legal status

6. Several different methods of embryo splitting have been used successfully in rodents and domestic species to produce pairs and sets of identical offspring. However, efforts to create monozygotic (identical) twins in rhesus monkeys using these methods have not met with similar success, though singleton offspring have resulted. No evidence was found of attempts to split human embryos, but there is speculation, as mentioned above, that it would probably not be very effective, even though monozygotic twins and higher multiples occur naturally at a low incidence.

7. Specific ethical concerns primarily relate to the potential to 'separate' the embryos – in time, across families, or in purpose (for example, to use one for research, or as a potential source of stem cells for the resulting child) – and the psychosocial impact this could have on the resulting twin/s.
8. A more general ethical concern is expressed by those who consider embryo splitting to be a form of cloning. Here, the major concern is that cloning is an affront to human dignity. It is argued that clones are a means to an end and, as such, would be treated with less dignity than other humans. It should be noted that there is disagreement in the literature as to whether embryo splitting is a form of cloning, given that it replicates the process that occurs in nature with the formation of identical twins.
9. Internationally, embryo splitting is not a significant concern. Two countries – the United Kingdom and Australia – explicitly prohibit embryo splitting, viewing it as a form of cloning. A significant number of other countries have general prohibitions against cloning, but no specific prohibition against embryo splitting.
10. In New Zealand embryo splitting is explicitly excluded from the prohibition on cloning for reproductive purposes, however, it cannot, at present, proceed. It could only do so if ACART developed guidelines to allow it (or if it were to be declared an established procedure by Order in Council).

Consultation

11. ACART consulted publicly on embryo splitting from July to September 2007. A summary of submissions is attached as Appendix A.
12. In this consultation, providers of fertility services confirmed ACART's understanding that embryo splitting has no clinical relevance. Approximately half the submitters (including providers) agreed that, as embryo splitting is not clinically relevant, no action is needed given that it cannot proceed in the absence of guidelines.
13. A few submitters considered that embryo splitting should be prohibited as they considered it to be a form of cloning. A number of others said that it should not be left in 'limbo' and that ACART should state a position. Others considered they needed more information to comment.

Conclusion

14. ACART's advice to you is that embryo splitting is not clinically relevant and that, at present, no action needs to be taken as it cannot proceed in the absence of guidelines.
15. If, in future, embryo splitting should become clinically relevant, ACART will review this position and provide further advice to you.

Communications

16. ACART intends to publish the summary of submissions (Appendix A). In addition, it seeks your approval to publish this report to you.

Recommendations

ACART recommends that you:

- | | | |
|----|---|----------|
| a) | Note: embryo splitting has no clinical relevance. | Yes / No |
| b) | Agree: no further work is undertaken at present. | Yes / No |
| c) | Note: ACART will publicly release the summary of submissions attached as appendix A. | Yes / No |
| d) | Agree: ACART may publicly release this report to you. | Yes / No |



Sylvia Rumball
Chairperson
Advisory Committee on Assisted Reproductive Technology

MINISTER'S SIGNATURE:

DATE:

Appendix A: Summary of Submissions

Do you agree that embryo splitting requires no specific recommendation to the Minister of Health (which will mean that it is unable to proceed, although it will not be prohibited)?

Responses from submitters who did not state whether they agreed or disagreed were divided between those strongly opposed to embryo splitting, those who supported embryo splitting, and those who needed further information.

Agree that embryo splitting requires no specific recommendation to the Minister

Providers of fertility services agreed with the approach proposed by ACART, in one case noting that embryo splitting may decrease the viability of an embryo, and therefore is unlikely to be contemplated in the near future.

One submitter considered that it is reasonable to defer advice until it is necessary, and another considered that it is premature to be consulting on this issue. A number of other submitters considered that any decision-making should be deferred until providers sought to use the procedure, with one noting that this would ensure that the procedure would be available later if it becomes an important alternative.

Disagree that embryo splitting requires no specific recommendation to the Minister

Several submitters were uncomfortable with this procedure being left “in limbo”, commenting that it would be better to be prepared by developing guidelines, or at least a preliminary policy.

A number of submitters who were opposed to embryo splitting stated that, even if it is unable to proceed, embryo splitting should be specifically prohibited. One found it difficult to understand how it would not be able to proceed unless it was prohibited, and another considered that it should be prohibited or it could take place covertly. Others submitted that it should be prohibited because splitting may harm the embryos and increase the risk of congenital malformation. Two submitters considered that it was already prohibited by the HART Act as it is a form of cloning.

Other comments from submitters opposed to embryo splitting included:

- The split embryo has the potential to be donated to a different family, and could create a situation of identical twins that would be unnaturally separated from each other.
- An embryo could be frozen and implanted later, creating an unnatural separation in time of identical twins or triplets.
- No procedure is justified if it exposes the subject's life or physical and psychological integrity to disproportionate risks.

List of submitters

Individuals

Brian Gerard Quin
Carolyn Hutton
David Fisk
Eric Blyth
Helen Davies
Hilary Stace
Hugh Moran
Jeanne Snelling
Joan Sullivan
John France
Karen Raaymakers
Lynette and Ian Mason
Maria Jones
Patricia A Hammond
Paul Clarke
Paul Elwell-Sutton
Phillipa Malpas
Robert Ludbrook
Susan Fraser
Dianne Yates MP

An additional four submitters requested that their personal details be kept confidential, and one submitter did not provide any personal details.

Organisations

Abortion Law Reform Association of New Zealand
Auckland Women's Health Council
Bioethics Council
Canterbury District Health Board
CCS Disability Action
Ethics Committee on Assisted Reproductive Technology
Families Commission
Federation of Women's Health Councils
Fertility Associates
Fertility New Zealand Canterbury
Fertility New Zealand Auckland
Health and Disability Commissioner
Health Law Committee, New Zealand Law Society
Humanist Society of New Zealand Inc
Ministry of Social Development
Right to Life New Zealand
The Fertility Centre
The Interchurch Bioethics Council
The Nathaniel Centre – the New Zealand Catholic Bioethics Centre
Voice for Life Wellington
Voice for Life
Women's Health Action Trust