Consultation on Draft Guidelines for the Use of Preimplantation Genetic Diagnosis with Human Leukocyte Antigen Testing

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http://www.acart.health.govt.nz

Foreword

In 2007, the Advisory Committee on Assisted Reproductive Technology (ACART) consulted on a range of issues related to assisted reproduction. One of those issues was preimplantation genetic diagnosis (PGD).

ACART has since recommended to the Associate Minister of Health that the restriction on the use of PGD with Human Leukocyte Antigen (HLA) tissue typing for genetic conditions be removed, so that it may also be used for conditions that are not inherited, for example leukaemia. ACART also recommended that the possible use of the procedure be extended to benefit close relatives rather than restricted to genetic siblings. The Associate Minister has accepted these recommendations.

ACART's advice to the Associate Minister of Health is available on its website (www.acart.health.govt.nz).

In view of this, ACART is now consulting on draft guidelines for PGD with HLA tissue typing and welcomes your views. A submission form is enclosed to assist you in making your comments. The summary of submissions from ACART's consultation in 2007 is also attached for your information (Appendix A).

I look forward to receiving your submission.

Sylvia Rumball
Chair, Advisory Committee on Assisted Reproductive Technology

How to have your say

Your feedback is important to help ACART finalise the guidelines for PGD with HLA tissue typing. Please take this opportunity to have your say. You may make a submission on your own behalf or as a member of an organisation. A summary of submissions will be released at the same time as the guidelines are issued to ECART.

You can contribute your views by:

1. Emailing a completed submission form or your comments to acart@moh.govt.nz
2. Writing down your views on the submission form and posting it to:
   ACART Secretariat
   PO Box 5013
   Wellington

The **closing date for submissions is 5 September 2008**.

All submissions will be considered and ACART will revise the guidelines as necessary. Consultation must then take place with the Minister of Health before the guidelines are issued to ECART.

Additional copies of this consultation paper and submission form are available from the ACART website www.acart.health.govt.nz or from the ACART Secretariat (acart@moh.govt.nz or telephone (04) 496 2414).

Contents

Background

PGD is a procedure for genetically testing embryos for specific genetic conditions or chromosomal abnormalities prior to implanting the embryos into a woman's uterus.

PGD can also be used with HLA tissue typing to select an embryo that will result in a child whose tissue is compatible for donation to an existing individual suffering from a serious disease. In this situation, stem cells are harvested from the cord blood (or bone marrow) of the resulting child to treat the existing individual. It is envisaged that PGD will be employed in this way only rarely.

PGD with HLA tissue typing can only proceed in accordance with ACART's guidelines and with case-by-case approval from the Ethics Committee on Assisted Reproductive Technology (ECART). Following consultation, ACART will revise the draft guidelines and consult with the Minister of Health before issuing them to ECART.

In drafting these guidelines, In addition to the purposes and principles of the HART Act, ACART has taken account of submitters' comments that:

- the interests of the resulting child be protected
- the condition of the existing child be sufficiently serious to warrant the use of PGD with HLA tissue typing
- the procedure may be of benefit to close relatives other than siblings.

Safeguarding the interests of the resulting child

Several submitters were concerned about the potential for the ongoing use of the resulting child as a tissue and organ donor. ACART considers that New Zealand has an established legal and ethical framework which guards against children being used unacceptably as tissue and organ donors and, therefore, these concerns should not prevent the use of PGD with HLA tissue typing for a non-genetic condition. In addition, draft guideline 2(a)(iv) states that "medical and counselling reports satisfy ECART that the health and wellbeing of the resulting child is safeguarded". This will give ECART scope to collect the information it needs to consider and determine the outcome of any specific application.

Seriousness of the condition

ACART considers that the severity of the condition is an important factor in determining whether to use PGD with HLA tissue typing and considers that the clinical team and the parents are best placed to determine whether PGD with HLA tissue typing is the appropriate procedure. Draft guideline 2(a)(v) states that "the condition for which HLA tissue typing is undertaken is judged by the clinical team and prospective parent/s to be of sufficient severity to justify undertaking the procedure".

Who may potentially benefit from the procedure

ACART considers that the procedure may be of benefit to family members other than siblings, and that it could, with ethical approval, be used to benefit a close relative, who

would most likely be a sibling but who may, for example, be a cousin. ACART considers that, once it is medically determined that PGD with HLA tissue typing is appropriate, the key issues in determining whether it should be undertaken in a specific situation are ethical and that ECART is, therefore, in the best position to consider whether any individual proposal is acceptable. Guideline 2(b)(i) states that "ECART must take into account … whether the relationship between the parties safeguards the wellbeing of all parties and especially any resulting child". This is intended to give ECART the flexibility to consider and determine specific applications for PGD with HLA tissue typing based on the relationships between those involved.

Draft guidelines on PGD with HLA tissue typing

Preamble

The Human Assisted Reproductive Technology Order 2005 (the Order in Council) describes preimplantation genetic diagnosis (PGD) as a procedure for genetically testing embryos for specific genetic conditions or chromosomal abnormalities prior to embryo transfer, including any of the following undertaken for, or in connection with, that procedure:

(a) biopsy of embryos to remove one or more cells

(b) transportation of the cells to an approved laboratory

(c) analysis of the genetic or chromosomal constitution of cells obtained by biopsy

(d) selection of embryos for transfer on the basis of the results from analysis.

Many uses of PGD are provided for in the established procedure, set out in the Order in Council, and, therefore, able to proceed under the management of providers of fertility services. Providers of fertility services must practise in accordance with the Code of Practice for Assisted Reproductive Technology Units or, when it comes into effect, the Fertility Services Standard. The established procedure for PGD is set out in the Addendum: Established Procedure.

Any other proposal for the use of PGD is not an established procedure and must be submitted to ECART for approval.

Procedures that are not permitted under the Human Assisted Reproductive Technology Act include sex selection for social reasons and the implantation of a genetically modified embryo.

These guidelines expand New Zealand's policy on PGD with HLA tissue typing to allow its use to find a tissue match for a close relative, generally a sibling, with a non-genetic disease.

Guidelines

When considering applications for approval, ECART will be subject to the following guidelines.

1. When considering an application for PGD with HLA tissue typing, ECART must be guided by the principles of the Human Assisted Reproductive Technology Act 2004:

   All persons exercising powers or performing functions under this Act must be guided by each of the following principles that is relevant to the particular power or function:

   (a) the health and wellbeing of children born as a result of the performance of an assisted reproductive procedure or an established procedure should be an important consideration in all decisions about that procedure

   (b) the human health, safety, and dignity of present and future generations should be preserved and promoted

   (c) while all persons are affected by assisted reproductive procedures and established procedures, women, more than men, are directly and significantly affected by their application, and the health and wellbeing of women must be protected in the use of these procedures

   (d) no assisted reproductive procedure should be performed on an individual and no human reproductive research should be conducted on an individual unless the individual has made an informed choice and given informed consent

   (e) donor offspring should be made aware of their genetic origins and be able to access information about those origins

   (f) the needs, values, and beliefs of Māori should be considered and treated with respect

   (g) the different ethical, spiritual, and cultural perspectives in society should be considered and treated with respect.

2. When considering an application for PGD with HLA tissue typing:

   (a) ECART must determine that:

      (i) genetic counselling has been received by the parties

      (ii) medical advice has been received by the parties

      (iii) each party has received counselling in accordance with the Code of Practice for Assisted Reproductive Technology Units or, when it comes into effect, the current Fertility Services Standard

      (iv) medical and counselling reports satisfy ECART that the health and well-being of the resulting child is safeguarded

      (v) the condition for which HLA tissue typing is undertaken is judged by the clinical team and prospective parents to be of sufficient severity to justify undertaking the procedure.

(b) ECART must take into account all relevant factors, including:

(i) whether the relationship between the parties safeguards the wellbeing of all parties and especially any resulting child

(ii) whether counselling has:

- included implications counselling for all parties, including the possibility that treatment will not be successful
- been culturally appropriate
- provided for whānau/extended family involvement.

Addendum: Established Procedure

The Order in Council provides that the use of PGD for purposes of the prevention and treatment of a genetic disorder of disease is an established procedure where it involves:

(a) diagnosis of familial single-gene disorders where:

(i) the disorder has been identified in the family and whānau, and

(ii) there is a 25 percent or greater risk of an affected pregnancy, and

(iii) there is evidence that the future individual may be seriously impaired as a result of the disorder; or

(b) sex determination where:

(i) a familial sex-linked disorder has been identified in the family or whānau, and

(ii) there is a 25 percent or greater risk of an affected pregnancy, and

(iii) no specific test for the particular mutation that causes the disorder is available, and

(iv) there is evidence that the future individual may be seriously impaired as a result of the disorder; or

(c) diagnosis of familial chromosomal disorders where:

(i) the disorder has been identified in the family and whānau, and

(ii) there is a 25 percent or greater risk of an affected pregnancy, and

(iii) there is evidence that the future individual may be seriously impaired as a result of the disorder; or

(d) diagnosis of non-familial chromosomal disorders (aneuploidy testing) where:

(i) the woman is of advanced reproductive age; or

(ii) the woman has had recurrent implantation failure or recurrent miscarriage.

Appendix A: Summary of submissions on preimplantation genetic diagnosis

Introduction

On 6 July 2007 the Advisory Committee on Assisted Reproductive Technology (ACART) released a discussion document, *Advice on Aspects of Assisted Reproductive Technology: A consultation paper on policy issues*.

The document included draft guidelines on surrogacy arrangements involving providers of fertility services, donation of gametes between certain family members, embryo donation and preimplantation genetic diagnosis (PGD), as well as proposed parameters for advice on related issues, including use of donated eggs with donated sperm, embryo splitting, import and export of donated gametes and embryos and informed consent.

The discussion document was mailed to 272 individuals and groups that had previously registered an interest with ACART, including government agencies, regional Te Puni Kōkiri offices, researchers, academics, providers of fertility services, fertility consumer groups, ethics committees, bioethics organisations and religious groups, and was emailed to other government agencies and organisations.

The consultation process was advertised in all major metropolitan newspapers on Wednesday 15 August and Saturday 18 August, and in the *Sunday Star-Times* on 26 August. A press release was sent out to 60 news outlets, including all radio and television stations.

ACART held consultation meetings with provider staff and representatives from Fertility New Zealand throughout August 2007.

A hui was held on 13 August and a public oral submissions hearing was held on 5 September, both in Wellington.

Submissions closed on 7 September 2007. ACART received 48 submissions, including four oral submissions.

This document summarises the submissions received on PGD. A summary of submissions on surrogacy arrangements involving providers of fertility services and donation of eggs or sperm between certain family members was released in March 2008. Summaries of submissions on embryo donation and related issues will be made available at a later date.

Should certain uses of PGD remain subject to guidelines?

It was noted during consultation that guidelines were necessary only for PGD with HLA tissue typing because PGD on its own was covered by the established procedure.

Submissions indicated strong support for certain uses (that is, those not part of the established procedure) of PGD remaining an assisted reproductive procedure[1] (ARP) and, thus, subject to guidelines.

The majority of submitters wanted a more rigorous and prescriptive framework around PGD than that proposed by ACART in its consultation document.

Submitters expressed considerably more disquiet about PGD than about other reproductive procedures, for example, one submitter expressed concern that PGD has great potential for use in ways that are not acceptable to New Zealand society, for example, sex selection, and advocated for strong regulatory oversight.

Policy extension to allow testing of embryos for tissue typing for a non-genetic condition

Those opposed to the extension of New Zealand policy to allow tissue typing for a non-genetic condition cited the following reasons:

- commodification of the embryo and resulting child
- adverse impact on family dynamics
- adverse psychosocial impacts on the resulting child
- inability of the embryo/child to give informed consent
- inability of parents to give informed consent given the stress associated with having a gravely ill child.

One submitter stated that there was “deep discomfort” in the community about “this type of reproductive relationship” and that it was “widely unacceptable”. Another submitter considered that such an extension would push us further along the continuum that makes it easier to see children as commodities.

Two submitters opposed to the extension considered that ACART should, for now, monitor developments overseas for the psychosocial impacts on the resulting child, as well as for any emerging safety concerns about PGD.

Many of those who responded, but were neither supportive nor opposed, cited similar misgivings.

One submitter considered that concerns that the resulting child is an ‘object’ could be explored in counselling.

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[1] An assisted reproductive procedure is defined by the Human Assisted Reproductive Technology (HART) Act 2004 as a procedure performed for the purpose of assisting human reproduction that involved the creation of an in vitro human embryo; or the storage, manipulation, or use of an in vitro human gamete or an in vitro human embryo; or the use of cells derived from an in vitro human embryo; or the implantation into a human being of human gametes or human embryos; but does not include an established procedure pursuant to section 6 of the HART Act.

Two submitters pointed out that concerns about psychosocial impacts on the child and family were speculative and it could similarly be speculated that such outcomes would be positive.

Many of those supportive of an extension to the policy also cited concerns that the interests of the resulting child somehow be protected.

A few submitters suggested that the resulting child (or both children) should have an independent advocate. One submitter proposed that guidelines be developed covering the use of tissue from the resulting child until they reach maturity. Another considered that New Zealand needs a formal policy on repeat donation involving minors.

A number of submitters were concerned that use of cord blood only should be allowed, while other submitters stated that living donation is covered by health law, child law and informed consent, not by ACART.

Several submitters considered that, while this procedure was contentious, parents would love and care for the resulting child, and that this was not an easy option for parents to take. One submitter considered that it would not be 'instrumentalising'[2] in such a circumstance.

Another submitter expressed concern about a possible future where parents with sick children, who had exhausted alternatives, felt pressured to undergo this procedure to cure the existing child.

These concerns were seen by some as issues to be explored in counselling and considered by the Ethics Committee on Assisted Reproductive Technology (ECART) in its determination of applications.

A few submitters – both supportive of and opposed to the procedure – said there was no difference between the use of PGD with HLA tissue typing for a genetic disorder compared with a non-genetic disorder, for example, the psychosocial concerns apply to both. ACART should, thus, be consistent in its policy advice.

Two submitters suggested that ACART should await the outcome of the Bioethics Council dialogue[3] before making a decision on this policy.

One submitter considered that, if the procedure is not permitted in New Zealand, parents will travel abroad for the treatment and it would be better to provide for domestic regulation and oversight of the procedure.

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2 Using someone as a means to an end, rather than an end in themselves.

3 The Bioethics Council has conducted a public dialogue on pre-birth testing which includes preimplantation genetic diagnosis.

Proposed Guidelines

Those opposed to the guidelines were concerned that every embryo is an actual, and not just a potential, human being, and it was inappropriate to select embryos on this basis. A few submitters saw PGD as an instrument to facilitate abortion, to which they were opposed.

Selection of an embryo with a genetic condition

Several submitters commented on the prohibition in the proposed guidelines on the selection of an embryo with a genetic disease. It was apparent that there was uncertainty as to whether the guideline "PGD is not used for the purpose of selecting an embryo with a genetic disease" also meant that such an embryo may not be selected for implantation when there is no alternative for the patient/s.

Some submitters considered that parents should have the autonomy to make such a choice, while two submitters opposed the prohibition; one stating that if a couple was willing to raise a child with disabilities then this must be allowed, the other stating that it may be a couple's only chance to have a child, in which case it was a decision for the parents to make.

Two submitters supported the prohibition, although it is unclear how they interpreted the guideline.

Severity of condition

Some submitters raised concerns around the definition of a genetic disease – does it include carrier status, or a predisposition to a disease? Who decides what is serious enough?

Several submitters considered the draft guidelines too vague, expressing particular concern at the word "benefit". Alternative suggestions included:

- demonstrate other sources of tissue and treatment have been explored but HLA tissue typing is the optimal procedure
- require that the condition is serious and no other treatment is reasonably available, or there is a realistic chance that treatment will be successful
- apply only for life-threatening situations.

Some submitters considered that PGD should be used only to treat a condition in a particular embryo; another considered that adult stem cell developments were sufficient to treat disease.

One submitter considered that the proposed guidelines were seriously lacking because they failed to limit the situations in which PGD may be used. This submitter stated that the use of PGD should be limited to situations where there is a high risk of serious abnormality and that it be prohibited for non-medical reasons. They considered that the guidelines should include requirements that:

- PGD be used only where there is a high risk of serious abnormality
- PGD may not be carried out for social reasons (including sex selection)
- PGD may not be carried out to alter the genetic constitution of an embryo.

Several other submitters expressed similar concerns, particularly that PGD must not be used for non-medical or social purposes.

Attitude towards disability

A few submitters considered that the language used by ACART is biased towards the medical model of disability, with the use of words like “disease” or “disorder” rather than “condition”, implying value judgements against those with disabilities.

One submitter considered that ACART should require that advice is provided to those undertaking PGD from people experienced in understanding disability knowledge and values. This would better prepare potential parents to decide whether to implant a certain embryo or not.

Counselling

Another submitter stated that medical advice and genetic counselling should be independent of the clinic, considering that some counselling is perceived as being more about selling the technology than facilitating truly informed decisions.

One submitter suggested that counselling provisions should be included in the guidelines because they are more specific than the Code of Health and Disability Services Consumers Rights and place responsibility for ensuring the provision of adequate information and genetic and psychosocial counselling on the provider.

Informed consent

One submitter considered that the information provided to ensure informed consent should be included in the guidelines.

One submitter suggested that informed consent guidelines should ensure that parents understand that treatment may not always be successful.

Rights of the child

Some submitters considered that the resulting child should have a legal advocate to consider their humanity and needs and rights. One submitter stated that the advocate should be familiar with the social model of disability and have a commitment to inclusion and diversity as reflected in the New Zealand Disability Strategy.

Several submitters suggested that the guidelines should include the proviso that the potential child will not be unduly harmed or disadvantaged.

Tikanga Māori and the use of PGD

One submitter considered that the full potential of the Tikanga was not reflected by ACART and that the guidelines should explicitly acknowledge relevant Tikanga to fully reflect the reality for people who need to make decisions around PGD, and who espouse these Tikanga principles.

Requirement that the procedure be used only to benefit a genetic sibling

One submitter suggested that restricting the treatment to full siblings was Eurocentric and that Māori would wish to see it extended to include cousins; another submitter stated that it wouldn't make genetic sense to expand the policy beyond siblings.

International benchmarking

Several submitters suggested that the guidelines should be consistent with the criteria in the United Kingdom as set by the Human Fertilisation and Embryology Authority.

Other issues

Sex selection

Two submitters stated that they were opposed to selection on the grounds of sex to address a familial disorder, seeing this as likely to lead to a more liberal policy on sex selection. Another submitter recommended a review of the prohibition on sex selection, considering that the public would be comfortable with this for the purposes of family balancing.

Low penetrance and late onset conditions

There were questions over whether lower penetrance diseases can be tested for, and whether it would be acceptable to use PGD to select against an embryo with genes that increase the risk of early onset breast cancer without going to ECART. One submitter proposed that consideration of the established procedure is necessary and, in particular, public dialogue is essential with respect to what might be seen as a wider range of uses of PGD than originally anticipated or intended.

Safety of PGD

A number of submitters raised concerns that recent research had found that PGD adversely affects the embryo, and considered that ACART should be monitoring this research and not extending the use of PGD in the meantime. Several submitters suggested the need for long-term follow up of children born following PGD. A couple of submitters considered that, because of these concerns, PGD should be used only on an embryo that would itself benefit from the procedure.

Public engagement

One submitter considered that further public engagement is needed about PGD, which involves complex decisions involving cultural, ethical and spiritual dimensions. Two submitters suggested that the Bioethics Council's dialogue on pre-birth testing would provide important information to assist ACART's decision-making.

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

Submission form

Please provide your contact details below.

Name:	
If this submission is made on behalf of an organisation, please name that organisation here:	
Please provide a brief description of the organisation if applicable:	
Address/email:	
Interest in this topic (for example, user of fertility services, health professional, member of the public):	

Please note that all correspondence may be requested by any member of the public under the Official Information Act 1982 (the Act). If there is any part of your correspondence that you consider should be properly withheld under the legislation of the Act, please make this clear in your submission, noting the reasons why you would like the information to be withheld.

If information from your submission is requested under the Act, the Ministry of Health (the Ministry) will release your submission to the person who requested it. However, if you are an individual, rather than an organisation, the Ministry will remove your personal details from the submission if you check the following box.

☐ I **do not** give permission for my personal details to be released to persons under the Official Information Act 1982.

All submissions will be acknowledged by ACART, and a summary of submissions will be sent to those who request a copy. The summary will include the names of all those who made a submission. In the case of individuals who withhold permission to release personal details, the name of the organisation will be given if supplied.

Do you wish to receive a copy of the summary of submissions.

☐ Yes

☐ No

Questions on the draft guidelines

Question 1:

Have the key issues been identified and adequately addressed in the guidelines?

Question 2:

Are there any points made by submitters that could be better reflected in the finalised guidelines?

Question 3:

Do you have any other comments for improving or clarifying the guidelines?