

Multiple births from fertility treatment in the UK: A Consensus statement

May 2011

This statement is an update to the consensus statement published on 3 April 2007

Participants

Association of Clinical Embryologists
Bliss
British Fertility Society
British Infertility Counselling Association
Donor Conception Network
Endometriosis UK
Fertility Friends
Human Fertilisation and Embryology Authority
Infertility Network UK
Miscarriage Association
Multiple Births Foundation
National Gamete Donation Trust
National Perinatal Epidemiology Unit
Royal College of Nursing
Royal College of Obstetricians and Gynaecologists
Royal College of Paediatrics and Child Health
Surrogacy UK

Key consensus views

- Multiple births is the single biggest risk to the health and welfare of children born following fertility treatment.
- Multiple births following fertility treatment present significant health risks to mothers.
- These risks are avoidable with the judicious use of elective single embryo transfer (eSET) and frozen embryo replacement in appropriate patients.
- Lowering the multiple birth rate in stages over a number of years will improve the health outcomes for mothers and children without compromising overall live birth rates.
- Carrying out double embryo transfer in women at high risk of a multiple birth is poor clinical practice.
- Funding provision is a key element in the success of this initiative; though patients should expect the same clinical treatment whether they are NHS or privately funded.
- Most UK fertility centres are already showing significant progress in reducing multiple births.

This group recommends that the Minister of Public Health gives consideration to the issues raised in this document

1. Introduction

- 1.1. There is irrefutable evidence that multiple birth is the single biggest risk to the health and welfare of children born after IVF. The 2006 report of the *Expert Group on Multiple Births after IVF*¹ concluded that fertility treatment resulted in unacceptable levels of multiple births. Replacing one embryo at a time reduces the risk of multiple births and improves the obstetric outcome for both mother and baby².
- 1.2. In 2007, in response to the Expert Group report, the HFEA made a policy decision to drive down the number of multiple births following licensed treatments in the UK over a period of three to four years to reach an overall target of no more than 10%. Directives were issued requiring all licensed centres offering fertility treatments to have a written multiple birth minimisation strategy in place by January 2009, and setting an annual maximum target of multiple births that reduces each year, from 24% in 2009 to 15% in 2011.
- 1.3. To facilitate this change in practice, a multi-disciplinary stakeholder group was established in 2007, consisting of representatives of relevant organisations involved in all aspects of fertility management, including obstetric and paediatric outcome. The group has worked to promote elective single embryo transfer (eSET) by developing tools to improve clinical practice, material to inform patients and health care professionals, both written and web-based, and finally working through the Department of Health and Commissioners to remove potential barriers to implementing an eSET policy by improving NHS funding.
- 1.4. Since the introduction of multiple birth targets, there has been a change in attitude in the United Kingdom with an increase in the rates of eSET and a small but downward trend in the number of multiple births. However, the eSET

¹ http://www.hfea.gov.uk/docs/MBSET_report.pdf

² Källén B, Finnström O, Lindam A, Nilsson E, Nygren KG, and Otterblad Olausson P. Trends in delivery and neonatal outcome after in vitro fertilization in Sweden: data for 25 years. *Hum Reprod.* 2010 Apr;25(4):1026-34. Epub 2010 Feb 5

rate is still much lower than many countries in Europe³. One major reason for the smaller than expected fall in the multiple birth rate has been the increased reliance on blastocyst transfer and, in women where two blastocysts are replaced, a much higher multiple pregnancy rate.

- 1.5. Although practitioners have successfully managed the complex influences on clinical and laboratory practice to maintain success rates since the introduction of eSET, there are significant challenges ahead if the goal of a 10% multiple birth rate is to be reached. Funding remains a key element to implementation of an eSET policy, with couples reluctant to choose eSET when funding is limited or a full cycle of treatment is not offered (IVF and subsequent frozen cycles). Despite strong Government support there remains a disappointing number of Primary Care Trusts offering the full recommendations published in the 2004 NICE guideline of three full cycles of IVF, and there remains an unacceptable post code lottery for IVF funding across the United Kingdom.

2. General principles

- 2.1. The goal of all fertility treatment should be to provide comprehensive support to maximise the opportunity for a live birth of a healthy singleton child, born at full term. This is the safest outcome for both the mother and child.
- 2.2. Reducing death and disability in children conceived following infertility treatment is of concern to commissioners, providers and recipients of care.
- 2.3. Overall, eSET has success rates comparable to double embryo transfers if cumulative pregnancy rates are calculated (from fresh and subsequent frozen transfers).

³ De Mouzon J, Goossens V, Bhattacharya S, Castilla JA, Ferraretti AP, Korsak V, Kupka M, Nygren KG, Nyboe Andersen A; European IVF-monitoring (EIM) Consortium, for the European Society of Human Reproduction and Embryology (ESHRE). Assisted reproductive technology in Europe, 2006: results generated from European registers by ESHRE. *Hum Reprod.* 2010 Aug;25(8):1851-62. Epub 2010 Jun 22.

- 2.4. eSET results in a much higher chance of a singleton term delivery.
- 2.5. Providers of IVF should endeavour to identify those good prognosis women at significant risk of multiple pregnancies, and offer eSET as a matter of routine. High rates of multiple pregnancies derived from IVF treatment in individual centres are no longer acceptable clinical practice.

3. Regulation

- 3.1. The HFEA has played a key role in reducing the multiple birth rate by introducing realistic and achievable targets. The policy targets were set at 24% in 2009/10, 20% in 2010/11 and 15% in 2011/12.
- 3.2. All providers of IVF have a written multiple birth minimisation strategy which clearly identifies patients suitable for eSET.
- 3.3. It is essential that all IVF providers audit the effectiveness of their strategy to ensure continued compliance with multiple birth targets.
- 3.4. The HFEA should consistently enforce the policy across all centres and monitor compliance.
- 3.5. The HFEA should report clinic data as cumulative live birth rates per initiated cycle to encourage good clinical practice.

4. Provision of information

- 4.1. Providers of IVF should ensure consistent, accurate information is given to patients by all staff throughout a patient's treatment course.
- 4.2. The key messages to inform patients include:

- eSET in good prognosis patients will maximise the chance of delivering a healthy baby born at term,
- eSET is not appropriate for all patients, and
- success rates can be maintained by taking into account subsequent frozen cycles and calculating the cumulative pregnancy rate.

4.3. Responsible education initiatives are required to appraise patients, commissioners, GPs, and the wider public about potential adverse outcomes of twin pregnancies.

4.4. The media should ensure that reporting of issues surrounding multiple births is accurate, informed and avoids sensationalism.

5. Clinical practice

5.1. All centres should modify their eSET policy to reflect the audit of their clinical practice as well as changing regulatory requirements.

5.2. Each patient should be treated as an individual. Patients most likely to become pregnant, and therefore also most at risk of a multiple pregnancy, should have eSET. eSET is not appropriate for all patients. Important prognostic indicators include female age and available embryo quality.

5.3. Single blastocyst transfer is an effective strategy for eSET but replacing two blastocysts is associated with a higher risk of multiple births.

5.4. A key to a successful eSET programme is the cumulative rate from fresh and frozen cycles. An effective validated cryopreservation and thawing/warming strategy is essential to maintain success rates and decrease multiple birth rates.

- 5.5. The multiple birth minimisation strategy should be extended to cover all aspects of fertility treatment (eg, ovulation induction and intra uterine insemination).

6. Commissioning and funding of treatment

- 6.1. The NHS should commission services from providers who are committed to and consistently compliant with the HFEA multiple birth rate targets.
- 6.2. Commissioners should not set blanket compulsory eSET policies, which do not allow individualisation of treatment to ensure best outcome.
- 6.3. National commissioning would allow consistency and fairness in line with NICE guidelines, and avoid the current postcode lottery.
- 6.4. The definition of a single full treatment cycle is the replacement of a fresh embryo and subsequent replacement of all the frozen embryos derived from that cycle.
- 6.5. Implementing the full three cycles recommended by the NICE Guideline on Fertility (2004)⁴ will play a fundamental part in IVF centres meeting future multiple birth rate targets. Provision of three full cycles with appropriate use of eSET will reduce multiple births from fertility treatment.
- 6.6. Health economic analysis has shown that eSET is more cost effective than double embryo transfer by reducing the multiple birth rate from IVF, saving significant costs to the health service by reducing maternal and neonatal hospital admissions (The Netherlands⁵).

⁴ <http://www.nice.org.uk/nicemedia/live/10936/29269/29269.pdf>

⁵ Lukassen H, Schönbeck Y, Adang E, Braat D, Zielhuis G, and Kremer J. Cost analysis of singleton versus twin pregnancies after in vitro fertilization. *Fertil Steril*. 2004 May;81(5):1240-6.

- 6.7. Pricing policies should be developed to include the cost of frozen/thaw cycles into a treatment package, making eSET more attractive to both commissioners and patients.

7. Support for neonatal and child health services

- 7.1. Neonatal care facilities in the UK should be organised and equipped to provide the best care possible for all children, including those derived from multiple birth.
- 7.2. Neonatal health care services are under considerable strain in the UK, with units across the country failing to meet minimum standards on staffing levels⁶. Reducing the multiple birth rate to 10% or less following IVF will have a significant positive impact on neonatal care services, reducing the gap between current provision and the agreed standard of care that babies should receive. It will also enable more resources to be available for the provision of increasingly complex and expensive care, essential for some babies, whether conceived naturally or after fertility treatment.

8. Follow-up studies

- 8.1. The HFEA should analyse and publish national data to monitor the balance between overall multiple birth rates and the overall live birth rates.
- 8.2. Paediatric follow-up studies should be encouraged with greater cooperation between fertility specialists and paediatricians.

9. Conclusion

- 9.1. The aim of all fertility treatment should be the birth of a healthy singleton child, as there is extensive evidence that this minimises the health risks to both mother and child.

⁶ British Association of Perinatal Medicine, Service standards for hospitals providing neonatal care (3rd edition), August 2010

- 9.2. There is irrefutable evidence to show a link between the practice of transferring multiple embryos and a significantly greater risk of health complications to both mother and child. Multiple births can also cause distress for the parents and family and has an unsustainable immediate and long-term financial cost for society.
- 9.3. The national IVF treatment data shows that modifying embryo transfer practice through careful patient and embryo selection can significantly reduce these risks.
- 9.4. Ongoing and standardised funding is essential to enable providers and patients to comply with multiple birth rate targets and to improve neonatal and maternal outcomes.