

## Embryo Transfer Policy

### Standard embryo transfer policy

To reduce the risk of multiple pregnancies and subsequent multiple births, MFS adheres to the Human Fertilisation and Embryology Authority code on embryo transfers. This was implemented in 2001 to achieve a balance between reducing multiple births and maximising a woman's chance of having a healthy baby. The Code makes a distinction based on age and states that in a single treatment cycle, a maximum of:

- two embryos may be transferred to a woman of less than 40 years of age, **with no exceptions**
- three embryos may be transferred to a woman aged 40 and over if she is using her own eggs

In IVF or ICSI with a two embryo transfer, the chance of twins is currently 25%.

### Elective single embryo transfer policy (eSET)

In addition, MFS also adheres to the elective single embryo transfer (eSET) policy implemented by all fertility clinics in the West Midlands in January 2009. Its aim is to reduce the number of IVF multiple births to 10% by 2012, because of the risks to babies and mothers.

Following guidance issued by the British Fertility Society (BFS) and the Association of Clinical Embryologists (ACE), the following clinics have implemented the same eSET policy:

- Midland Fertility Services, Aldridge
- Assisted Conception Unit, Birmingham Women's Hospital
- The BMI Priory Hospital, Birmingham
- Centre for Reproductive Medicine, Burton
- Centre for Reproductive Medicine, University Hospital, Coventry
- St Jude's Hospital, Wolverhampton
- Shropshire and Mid-Wales Fertility Centre, Shrewsbury

### What is the eSET policy?

The policy means that some women having IVF or ICSI treatment will be offered only a single embryo transfer rather than the legal maximum of two.

The eSET policy will be discussed in detail by the MFS nurse or doctor with each woman who fits the following criteria:

- she is less than 37 years old
- she is undergoing her first IVF/ICSI treatment
- AND she has at least one top grade embryo (assessed on the day of embryo transfer by an MFS embryologists)
- OR she has a history of multiple pregnancy (independent of her age)
- OR there are special risks to her by having a multiple pregnancy

Other factors may be taken into account and the risks will be discussed with each patient.

### **Why has MFS implemented the eSET policy?**

The risks present in any pregnancy are higher in a multiple pregnancy which can have serious, even fatal consequences for both the mother and the babies. Multiple birth is still the single biggest risk to the health and welfare of babies born after IVF/ICSI (see 'What are the risks?' below).

Research from other countries that use single embryo transfer more widely than the UK, such as Sweden, shows that success rates per egg collection do not fall when single embryo transfer is used, particularly when a future frozen embryo transfer may be available from the same treatment cycle.

### **Who will have a single embryo transfer?**

MFS will offer only a single embryo transfer if clinical and/or scientific staff consider a patient to be at high risk of having a multiple pregnancy, based on her medical history and the quality of her embryos.

A single embryo or single blastocyst transfer reduces the risks of multiple pregnancy with minimal effect on the chance of a successful outcome.

### **What are the risks of multiple pregnancy and birth?**

#### **Main risks to mothers**

In addition to the risk of miscarriage, the risks to a mother from multiple pregnancy and multiple birth range from mild to potentially life-threatening.

#### **Risks during pregnancy**

- miscarriage: the risk of both early and late miscarriage is higher for mothers of twins and triplets than for mothers of singleton pregnancies
- high blood pressure: 20% of mothers carrying twins suffer from high blood pressure, compared to only 1-5% of mothers of singletons
- pre-eclampsia affects 30% of twin pregnancies compared to 2-10% of singleton pregnancies. This carries potentially serious risks for both mothers and their babies
- diabetes in pregnancy: the likelihood of a woman who is pregnant with twins developing gestational diabetes is 12% compared to only 4% for a mother with a singleton pregnancy. Although the risks to the mother are fairly mild, gestational diabetes can increase the risk of death to the unborn child or newborn baby

#### **Risks during or after birth**

Childbirth in the UK is very safe. However, during birth, mothers of twins are more likely to need intervention, more likely to experience serious problems and more likely to die than mothers of singletons.

- Caesarean section is very common among twin births because complications are more likely with twins - eg, one or both babies are in a breech position
- the risks of a range of other problems such as haemorrhage, diabetes in pregnancy and anaemia are also higher in twin births

- multiple births also carry the risk that, after the baby is born, the new mother will be at greater risk of stress and depression

Even the less serious problems may result in the mother spending longer periods in hospital than would normally be necessary. She may have to spend the last weeks of her pregnancy in hospital, and the birth may have to be induced early.

### **Risks to the baby**

The health risks for twins and triplets are greatly increased compared to those for singletons, mostly because multiples tend to be born prematurely and underweight.

### **Premature birth: the facts**

Many twins and triplets are born prematurely:

- singleton babies are usually carried for about 40 weeks and tend to have normal birth weights
- at least half of twins are born before 37 weeks and with low birth weights, increasing their risk of serious health problems and death. Many are born before 35 weeks, when they often need neonatal care. Their birth weight is around 800-1000g (1.8-2.2lbs) less than singletons.
- over 90% of triplets are born before 37 weeks and many are born so early that they have a greater risk of long-lasting, serious health problems or may die soon after birth

### **What are the problems of premature births?**

Prematurity can cause many problems and may even result in the death of the baby. Problems caused by prematurity range from those that, although serious, affect only the early stages of the child's life, to those that have a devastating and lifelong impact.

### **Early stage problems**

- 40-60% of IVF twins need to be transferred to the intensive care unit when they are born. Only 20% of IVF singleton babies need the same level of specialised care
- 8% of twins need help with their breathing and 6% suffer from respiratory distress syndrome compared with 1.5% and 0.8% respectively for singletons
- the overall risk of death during birth or the first year of life is higher for twins than for singletons
- the risk of death around the time of birth is three to six times higher for twins and nine times higher for triplets

### **Longer term problems**

Problems that may affect twins and multiples after the early stages of life include:

- a small percentage of twins have severe health problems that will affect their entire lives (for example cerebral palsy, which affects between four and six times as many twins compared to singleton babies)
- prematurity and low birth weight carry the risks of lower IQ and is linked with Attention Deficit Hyperactivity Disorder (ADHD) and long-lasting behavioural difficulties

- problems with language development are more common with twins. Twice as many twins need speech therapy compared to singletons
- according to a Japanese study, in 7.4% of twin pregnancies, at least one child had a disability, such as cerebral palsy, impaired sight, or congenital heart disease

**What are the chances of a twin pregnancy if two embryos can be transferred because of the quality of the embryos or the age of the woman?**

As long as two embryos are replaced there is still a chance of a multiple pregnancy and subsequent multiple birth, whatever the embryo grade replaced. If a patient wants to avoid twins she should consent to a single embryo transfer only.

**What if a patient feels she would still prefer to have two embryos transferred?**

MFS, like all other clinics in the West Midlands, has implemented the eSET policy to minimise the risk and maximise the safety of all patients and their potential children. Patients with concerns about the policy are welcome to talk to any MFS doctor, nurse or scientist for further clarification. Alternatively, for more information on the UK-wide single embryo transfer initiative visit: [www.oneatatime.org.uk](http://www.oneatatime.org.uk)

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