



# Fact Sheet

From ReproductiveFacts.org



The Patient Education Website of the American Society for Reproductive Medicine

## Elective Single Embryo Transfer (eSET)

### **What is elective single embryo transfer or eSET?**

After the removal and fertilization of eggs with the use of in vitro fertilization (IVF), some women with multiple embryos (fertilized eggs) may decide to have a single embryo transferred to the womb even when multiple embryos are available (elective single embryo transfer-eSET). The embryo is either at the cleavage stage (usually 2-3 days after fertilization) or at the blastocyst stage (usually 5-6 days after fertilization).

### **Why only a single embryo?**

The primary goal of eSET is to reduce the multiple pregnancy rate associated with IVF. Transferring more than one embryo increases the likelihood of a multiple pregnancy (twins, triplets, etc.). Approximately 30% of IVF pregnancies result in twin pregnancy, and another 3% to 4% result in a triplet or a higher order (four or more implanted embryos) pregnancy in the United States.

Early in pregnancy, the number of fetuses noted on ultrasound can be decreased in order to increase the chances of having a baby or babies delivered as close to full term as possible. The procedure is called multifetal pregnancy reduction (MPR). However, MPR may not be an acceptable alternative for many couples. Even if a couple decides to undergo MPR, there are still some risks, including the possibility of losing the entire pregnancy.

The main reason that MPR should be considered is that multiple pregnancy leads to an increased risk of complications for both the fetus and the mother. It often leads to premature delivery and its accompanying problems, such as cerebral palsy, long-term lung and gastrointestinal problems, and even neonatal death.

### **Am I a good candidate for eSET?**

Only women with the best prognosis for a pregnancy should be considered for eSET. Though many factors may contribute to a successful outcome, eSET is usually directed toward someone who meets the following criteria:

- woman's age less than 35 years
- first assisted reproductive technology (ART) cycle
- previous ART success
- relatively large number of high-quality embryos generated
- having embryos available for cryopreservation

### **Who chooses the embryo to be transferred?**

To transfer the highest quality embryo, the laboratory grades each embryo based on a detailed assessment of its appearance, including the number and size of the cells, their rate of development, their clarity, and the presence or absence of cell fragments. Different grading systems are used and they may differ from clinic to clinic, and also may differ depending on whether the embryo is in the cleavage or the blastocyst stage. Some programs are investigating whether embryo biopsy to determine if an embryo is genetically normal identifies better embryos for transfer before transfer. In the future, laboratory tests of embryo metabolism may identify the best embryo. The effectiveness of these investigational studies to have a positive impact on pregnancy rates remains uncertain.

### **How successful is eSET?**

In women who are considered good candidates, eSET has demonstrated excellent pregnancy rates. However, there is a small decrease in overall pregnancy rates after eSET because women who do not meet the more appropriate criteria are being offered this procedure. Despite this, many believe the long-term benefits of the use of eSET to achieve a singleton pregnancy are much better for the health of both the mother and baby.

Whether to use eSET is a decision each couple should make after consultation with their reproductive health professionals. The couple should discuss their concerns with the doctor and the embryology staff and then ask for clinic-specific success rates with eSET to assist in their final decision making.

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