



**CANADIAN FERTILITY AND ANDROLOGY SOCIETY  
SOCIÉTÉ CANADIENNE DE FERTILITÉ ET D'ANDROLOGIE**

**Position Statement on the Reduction of Multiple Pregnancy Risk Associated with IVF/ICSI  
2012**

**Reduction of Multiple Pregnancy Risk Associated with IVF/ICSI IVF Medical Directors of  
Canada**

*Introduction*

For many couples undergoing IVF/ICSI, a multiple pregnancy (twins) is the preferred and often requested outcome. This, unfortunately, is a very different goal than that of the fertility specialists who provide their treatment and who aim to achieve a healthy singleton pregnancy and live birth. Multiple pregnancies are considered by many physicians and health care providers to be a complication of IVF/ICSI.

In 2006, Canada had the highest rate of multiple pregnancy (along with the USA) associated with IVF treatment among 21 countries surveyed. This, by the majority in the field, is a non-enviable position since multiple pregnancies are associated with numerous adverse events and outcomes for parents, mothers and babies. The medical literature is replete with data in these areas.

In Nov. 2009, at a multiple births roundtable meeting, the IVF Medical Directors of all 28 clinics in Canada voted unanimously to work towards the following goals:

1. reducing the multiple pregnancy rate associated with IVF to 25% by 2012 and to 15% by 2015,
2. performing elective single embryo transfer (eSET) in 50% or more of cycles in “good prognosis patients” by 2012,
3. virtually eliminating treatment – related higher order multiple pregnancies by 2015,
4. developing and implementing country-wide educational tools for patients,
5. developing and implementing training workshops and innovative practice updates among Canadian ART professionals,
6. redefining AHR success as a “healthy singleton live birth.



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These goals were felt to be realistic and achievable. This unanimous agreement was reaffirmed at the subsequent annual Medical Directors meeting held in conjunction with the CFAS 2010 Annual Meeting.

Promotion of eSET and a reduction in the overall number of embryos transferred were considered to be the two obvious areas for immediate attention. It has been shown that eSET employed in a fresh embryo transfer cycle combined with replacement of another single embryo in a cryopreserved embryo transfer cycle (when the fresh eSET fails) can result in a significant decrease in the multiple pregnancy rate without, or at most, minimally affecting the clinical pregnancy rate. In Sweden, the reduction in the multiple pregnancy rate was achieved through mandated eSET with the multiple pregnancy rate dropping from 22.6% to 6.2%. In 2009 eSET cycles were uncommon (1.9% of fresh embryo transfers) in Canada.

According to the 2010 CARTR report the number of eSET transfers in IVF cycles rose to 12.1% and the multiple pregnancy rate has dropped to 24.2%. However, this does not reflect a true national perspective since at least half of this reduction is due to the high uptake of eSET in Quebec where almost half of the cycles are associated with eSET. Lack of government funding of IVF has been cited frequently as the major impediment to patient acceptance of eSET. Patients often state that they wish to maximize the success of a single IVF cycle whereas others will state that they can only afford to pay for one cycle of treatment. By having a twin pregnancy they can complete their desired family with one treatment, one pregnancy, one cost and two babies. Others actually believe that twins are glamorous and that their children will grow up having a playmate and best friend from the outset.

In jurisdictions where IVF is funded, liberal use of eSET in addition to minimization of the number of embryos replaced in non-eSET cycles has either been legislated (for specific patient groups) or promoted by the medical providers. Countries such as Sweden, Belgium and the UK are examples of how funding has been used to minimize the number of embryos replaced with a resultant decrease in multiple pregnancies. Conversely, the IVF program at the University of Iowa has demonstrated that a successful eSET program can also be established in a non-funded



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environment. Justification for such “risk reduction programs” in IVF in Canada has been demonstrated in a recent publication which concludes that “A mandatory policy of single embryo transfer would be of substantial benefit to the health of Canadian babies while still benefiting infertile couples”.

The Quebec experience is an ideal example of the impact that funding can have on the establishment of a successful eSET program and concomitant reduction in the multiple pregnancy rate. Funding of 3 IVF cycles became a reality in Quebec in August 2010. Although the regulations related to funding provide some flexibility in the number of embryos replaced, the physicians have gone beyond and self-imposed even more restrictive rules with respect to the number of embryos replaced. By the end of 2010 the number of SET cycles increased from 1.6 % to 48.6% and the multiple pregnancy rate in contrast dropped precipitously from 27.2% to 5.2 %.

It is also widely accepted that in order to have a successful eSET program, a clinic must also have a successful embryo cryopreservation program. However, whether eSET is performed on day 3 or day 5 often depends on the choice of the physicians and, in some cases, the ability of the laboratory to culture embryos to the blastocyst stage.