

Extracts from Pertinent Current Literature

The Effect on Human Sex Ratio at Birth by Assisted Reproductive Technology (Art) Procedures – An Assessment of Babies Born Following Single Embryo Transfers

Dean J, Chapman M, Sullivan E. Australia and New Zealand, BJOG 2010;117:1628–1634.

The sex ratio at birth, also known as the secondary sex ratio (SSR), can be defined as the proportion of males in all live births. Variation in SSR within most human populations is common, with the SSR deviating from the equality ratio of males to females (50% males) in the population. Assisted reproductive technology (ART) to treat infertility has developed rapidly since the first *in vitro* fertilisation (IVF) baby was born in 1978. The SSR among babies born after ART treatment varies as in any other population. However, whether the variation in SSR among ART babies is a result of natural causes (i.e. environmental or biological causes) or of the effect of ART is debatable. Concerns about whether ART might alter SSR have led researchers to study SSR in ART babies.

In 1989, the SSR of babies born following *in vitro* fertilisation and embryo transfer (IVF-ET) was significantly higher than normal (64.1% males). In 2000, it was observed that a significantly higher proportion of female births (61.7%) is lower SSR following the transfer of embryos fertilised by intracytoplasmic sperm injection (ICSI). Other researchers have also observed a trend of a higher SSR in babies born after IVF, and lower SSR after ICSI, although the findings were nonsignificant between the observed SSR and the general population. [The reduction in SSR after ICSI has often been attributed](#)

[to male infertility, because ICSI is predominantly used to treat male infertility.](#)

Both advances in the development of embryo culture media and evidence of higher pregnancy rates by blastocyst transfer (BT), have provided fertility clinics with the opportunity to offer BT to patients for treatment. Another researcher showed [that the transfer of fast growth embryos resulted in more male births than female births.](#) Other studies that have found skewed SSR in favour of males after BT have attributed the excess of male births to the selection for transfer of fast growth male embryos. The suggestion is that, because there is sex-related differentiation in embryo development, and male embryos show on an average more blastomeres at the time of transfer, more male embryos may be selected for transfer. Other researchers, however, have not found a significant association between higher SSR and BT.

[The limitations of SSR studies](#) in ART babies is the small sample size, the lack of association could also be related to the use of different analytical techniques, yet another common limitation is the inclusion of multiple births. In the SSR calculation, monozygotic multiples can add additional weight to a particular sex, which may distort the relationship between specific ART procedures and SSR.

The aims of this study were to address a number of these limitations using ART population data from Australia and New Zealand, and to investigate whether ART procedures alter the SSR of ART babies.

It was concluded that the crude sex ratio at birth was 51.3%. **Individual ART procedures had a significant effect on the sex ratio at birth.** More males were born following IVF SET (53.0%) than ICSI SET (50.0%), and following blastocyst single embryo transfer (set) (54.1%) than cleavage-stage SET (49.9%). For a specific ART regimen, IVF blastocyst SET produced

more males (56.1%) and ICSI cleavage-stage SET produced fewer males (48.7%).

Thus the change in the sex ratio at birth of SET babies is associated with the ART regimen. The mechanism of these effects remains unclear. Fertility clinics and patients should be aware of the bias in the sex ratio at birth when using ART procedures.

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Continuous Versus Interrupted Sutures for Repair of Episiotomy or Second Degree Perineal Tears: A Randomized Controlled Trial

P Valenzuela, MS Saiz Puente, JL Valero, R Ortega, R Guijarro BJOG2009;116- 3:436-441.

This article compares the two different techniques of repair: the **interrupted technique** (with continuous locking sutures in the vagina, interrupted sutures in the perineal muscles and interrupted transcutaneous sutures) **with continuous suture technique** (with continuous non locking suture in vagina, perineum and subcutaneous tissue).

The study was carried out on 445 parturients and the results showed that continuous suture technique was more acceptable to the patients as it required less time to perform the procedure; use of suture material was less; and moreover it produced less pain in the

short and long term permitting the resumption of intercourse sooner and with less pain. In case of delayed wound healing the procedure required less need to remove the sutures and was associated with a lower frequency of re-suturing.

Thus, this study has shown preference for continuous suture technique of episiotomy repair which is quicker to perform and consumes less suture material without risk of increased complications.

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Prediction of Selective Fetal Growth Restriction and twin-to-twin Transfusion Syndrome in Monochorionic twins.

Memmo A, Dias T, Mahsud-Dornan S, Papageorghiou A, Bhide A, Thilaganathan B. BJOG 2012;119:417–21.

This retrospective cohort study was done in Tertiary-care Fetal Medicine Unit, London. Objective was to study the correlation of discrepancy between crown–rump length (CRL) and nuchal translucency (NT) in monochorionic twins at 11–14 weeks of gestation and subsequent development of twin-to-twin transfusion syndrome (TTTS) and selective fetal growth restriction (sFGR).

Inter-twin discrepancy was calculated as a percentage of the larger CRL and smaller NT and compared among those developing TTTS, those with sFGR and those with normal outcome. A total of 242 monochorionic twin pregnancies with known outcome were studied (102 TTTS, 36 sFGR and 104 controls). The median CRL discrepancy in the sFGR group (11.9%) was signifi-

cantly higher ($P < 0.001$) than in the TTTS group (3.8%) and control group (3.5%). Median inter-twin NT discrepancies were not significantly different ($P = 0.869$) between sFGR and both TTTS and control groups (15.6%, 16.7% and 14.8%, respectively). **This study concludes that first-trimester CRL discrepancy in monochorionic twins is a good marker for subsequent development of sFGR rather than TTTS.** Inter-twin NT discrepancy does not appear to be significantly different in these two groups from those with normal outcome.

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Please explore the current (2009-2012) obstetric/gynaecology or other pertinent literature, of interest or importance, either published or electronic and send its **Extracts in your own words** (200-300); with it complete reference i.e the Author(s) name(s), Title of the article, Journal or other source, year of publication, pages and the website, if applicable; for publication in JSOGP at jsogp.articles@gmail.com. Your name (along with your designation and the institution you work in), should be sent, as a **Contributor**. You may refer to this "topic", in the already published issues of JSOGP. your contribution will be appreciated and it will help in inculcating the Educative Search of literature.