Preimplantation genetic screening (PGS) is currently one of the most controversial issues in Assisted Reproductive Technology (ART). The question to be answered is whether an infertile couple has a significantly better chance of having a child when transfer is done using embryo(s) that have been screened for aneuploidy in comparison to those that have not. In this issue, as part of the Debate series ‘What next for preimplantation genetic screening?’, an Australian group report their experience with blastocyst biopsy and testing for aneuploidy using five-colour FISH. Their randomized controlled trial was terminated early when no advantage of PGS could be shown. In the opinion of the authors advance in PGS may require molecular tools where all chromosomes are tested (p. 1476).

Three-dimensional ultrasound scans of IVF/ICSI early pregnancies were obtained using a commercial virtual reality system. Embryonic staging and crown-rump length were compared to the classical Carnegie Collection embryology data. This Virtual Embryoscopy may be a new non-invasive tool for early pregnancy evaluation (p. 1479).

Choosing the embryo(s) with the highest potential for implantation and further development until delivery remains an enormous challenge. This becomes even more critical when elective single embryo transfer is carried out. Feil and colleagues describe a scoring system for Day 4 embryos and its clinical application. In comparison with Day 5 embryo transfers no difference in implantation rates were observed (p. 1505).

Eight monozygotic twins discordant for ovarian failure underwent ovarian tissue (mostly frozen and later thawed) transplantation. All transplanted patients had ovulatory menstrual cycles. A favorable outcome (delivery or ongoing pregnancy) occurred in five transplanted patients (p. 1531).

A register-based cohort study in Denmark on the use and results of prenatal invasive diagnostic testing indicate that uptake of testing (16.3% of 8531 pregnancies) was lower among IVF-ICSI pregnancies than in the general population. Karyotype anomalies after ART were higher especially among the ICSI-treated group (p. 1545).

An elevation in uric acid concentration has emerged as a risk factor for cardiovascular diseases. In PCOS patients matched with non-hyperandrogenic obese patients, BMI was the main determinant of serum uric acid. In PCOS the amelioration of androgen excess by contraceptive pill decreased uric acid levels, which remained unchanged when metformin was used (p. 1594).

ART success rates in older patients are very low. Two articles from Australia report on ART success rates in relation to women’s age. The age-specific success rates for first autologous fresh treatment on 36 412 cycles during 2002–2005 indicated a decline in success rate with advancing age. At age 30, each additional year in age was associated with a 13% reduction in the chance of a live delivery. For women aged 35 and above, the live delivery rate would have been 15% higher if their treatment had occurred one year earlier. Women aged 35 years or more should be encouraged to seek fertility assessment as early as possible (p. 1633).

In the period 2002–2004 a retrospective population-based study of 2339 fresh autologous ART cycles in women aged 45 or more indicated 1.9% clinical pregnancy rate (n = 21). Most of these pregnancies did not go to term and only six singleton children were born. In contrast fresh donor recipients in this age category had a 19.1% live birth rate. This information needs to be fully considered in the counseling of patients prior to treatment (p. 1639).