An Opinion article in this issue discusses the pros and cons of surgery for endometriosis-related infertility. Attitudes regarding this frequently occurring condition have thus far been largely based on clinical opinion as opposed to facts. Searching for the best available evidence for the benefit of conservative surgery for endometriosis-related infertility, it is concluded that the increase of overall chance of pregnancy is lower than thought previously (10–25%). Several aspects are carefully examined: the effect of surgery on peritoneal lesions, the resection of endometriomas, the excision of rectovaginal endometriosis and surgery before, after or as an alternative to IVF. As a pragmatic approach, it is suggested that complete and detailed information on risks and benefits of different therapeutic approaches is provided to the patients to allow unbiased choices (p. 254).

In a prospective cohort study of 1828 singleton pregnancies before 12 weeks of gestation, maternal characteristics, crown rump length (CRL) and mean gestational diameter (MGD) were recorded and using complex mathematical modeling, factors influencing the rate of change in CRL and MGD were determined. Ethnicity and maternal age influenced rate of increase of CRL: higher in black than white women and higher with advancing maternal age. MGD was larger with advancing age. As CRL is used to determine the age of the pregnancy, and this is the standard for further growth assessment, it seems indicated that individual growth charts taking into account maternal factors should be used since maternal factors, such as ethnicity and maternal age, influence first trimester growth characteristics (p. 284).

Culture conditions for IVF have been debated since the early days of in vitro culture of human embryos. Regarding the O2 concentration, there are two schools of thought: reduced O2 (5%) or atmospheric O2 (21%). The latter condition is sometimes considered as harmful for cleaving embryos because of the generation of free oxygen radicals. In a prospective randomized trial of 230 first IVF or ICSI procedures, embryos were randomly assigned to reduced or atmospheric O2 conditions. Primary end-points were ‘live birth implantation rate’ and ‘live birth rate’. Reduced O2 resulted in a significant increase of live births when compared with atmospheric O2 conditions. According to the authors, the effort and cost of lowered O2 atmosphere is justified (p. 300).

Couples planning to undergo ART procedures need to be fully informed whether they are at increased risk for birth defects. Data from a population-based, multicenter, case–control study of birth defects was used. Over a 6 year and 3 months period, mothers with fetuses or live born infants with (case infants) or without (control infants) major birth defects were included and mothers with or without ART were compared. Among singleton births, ART was associated with septal heart defect, cleft lip with or without cleft palate, oesophageal atresia and anorectal atresia. Among multiple births, ART was not associated with any of the birth defects studied (p. 360).

Twin deliveries are common after all forms of assisted conception. To address the mental well-being of ART and spontaneously conceiving parents of twins and singletons, a prospective longitudinal questionnaire was used in ART and control parents of twins and singletons during pregnancy and at 2 months and 1 year of age. Being a parent of twins, but not ART, has a negative impact on the mental health of mothers and fathers during the transition to parenthood (p. 367).

The risk of preterm birth after maternal exposure to severe life events was studied in a cohort of mothers of singleton births (1.35 million births) in Denmark. Severe life events were considered when death or serious illness in close relatives occurred 6 months before conception or in the first or second trimesters of pregnancy. Risk of preterm birth was increased when severe life events occurred in the 6 months before conception in close relatives and in older children of the family (p. 429).

Embryo biopsy is an invasive procedure prior to preimplantation genetic diagnosis, and therefore it is necessary to study all aspects of its effect on the children born after embryo biopsy. To answer the question whether embryo biopsy has any negative effect on postnatal growth, three cohorts of 70 singleton children were studied at birth and at 2 years of age: PGD/PGS, ICSI and natural conception. Similar post-natal linear growth was observed in the three groups. After embryo biopsy, there were no more congenital malformations or surgery in the first 2 years when compared with ICSI and spontaneously conceived singletons. The absence of any detrimental effect of embryo biopsy needs to be confirmed in a larger group of children (p. 470).