

- **Assisted reproductive technology is not a silver bullet**

In 2010, there were 61,774 assisted reproductive technology (ART) treatment cycles performed in Australia and New Zealand. Of these, 23.9% resulted in a clinical pregnancy and 18.1% in a live delivery (the birth of at least one liveborn baby). There were 12,056 liveborn babies following ART treatments in 2010. **AIHW, Macaldowie A, Wang YA, Chambers GM & Sullivan EA 2012. Assisted reproductive technology in Australia and New Zealand 2010. Assisted reproduction technology series. Cat. no. PER 55. Canberra: AIHW. <http://www.aihw.gov.au/publication-detail/?id=10737423259>**

- **Assisted reproductive technology is associated with higher rates of birth defects, preterm birth and other adverse perinatal outcomes.**

There has been a decrease in the prevalence of birth defects over time in children born as a result of assisted reproductive technology in Western Australia from 1994 to 2002; however, the prevalence of major birth defects in assisted reproductive technology singletons remains increased (8.7%) compared with non-assisted reproductive technology singletons (5.4%). **Hansen M, Kurinczuk JJ, de Klerk N, Burton P, Bower C. (2012) Assisted reproductive technology and major birth defects in Western Australia. *Obstet Gynecol.* 120(4):852-63.**

Another paper, authored by academics from the UK and Australia, analysed 82 studies involving ART infants between 1995 to 2012, and concluded that ART infants are 32% more likely to have birth defects than children conceived naturally. The figure jumps to 42% when considering only major birth defects, and 36% when considering only singletons. **Hansen, M. et al. (2012) Assisted reproductive technology and birth defects: a systematic review and meta-analysis. *Human Reproduction Update*, 19 (4), 330–353.**

Even after matching or controlling for maternal age and other factors, compared to spontaneously conceived singletons, IVF singletons have increased risks of preterm birth (RR 1.84, 95% CI 1.54, 2.21) and low birth weight (<2500 g, RR 1.60, 95% CI 1.29, 1.98) and other adverse perinatal outcomes. **McDonald SD, Han Z, Mulla S, Murphy KE, Beyene J, Ohlsson A; Knowledge Synthesis Group. (2009) Preterm birth and low birth weight among in vitro fertilization singletons: a systematic review and meta-analyses. *Eur J Obstet Gynecol Reprod Biol.* 146(2):138-48.**

- **Not enough is known about the long term complications of ART for women.**

The precise relationship between ART and breast, ovarian and endometrial cancers, particularly breast, is still largely unknown and debatable (Grade C evidence). The majority of studies relate to the use of ovulation induction agents and not to the gonadotropins used for assisted conception and evidence is compromised by the possible confounding effect of other factors such as the cause of infertility, age and familial predisposition. **Metwally, M. & Ledger, W (2011) Long-term complications of assisted reproductive technologies. *Human Fertility*, 14(2): 77–87.**

- **Poor fertility awareness may be a contributing cause of difficulties with conception.**

A recent Australian study (cross-sectional questionnaire-based survey) found although most women seeking assistance at assisted reproductive technology clinics attempt timed intercourse within the fertile window of the menstrual cycle, few accurately identify this window, suggesting that poor fertility-awareness may be a contributing cause of infertility.

The study was conducted over 6 months, from 2007–2008, and involved 204 women on admission to two assisted reproductive technology clinics in a major city in Australia. 68% of women believed they had timed intercourse mainly within the fertile window of the menstrual cycle in their attempts at conception, but only 12.7% could accurately identify this window.

Ninety-four per cent of the women believed that a woman should receive fertility-awareness education when she first reports trouble conceiving to her doctor. **Hampton, K. D., Mazza, D. and Newton, J. M. (2012), Fertility-awareness knowledge, attitudes, and practices of women seeking fertility assistance. Journal of Advanced Nursing. doi: 10.1111/j.1365-2648.2012.06095.x**

- **There are effective, safe and ethical alternatives to assisted reproductive technology**

Natural procreative technology (NaProTechnology, NPT) is a systematic medical approach for optimizing physiologic conditions for natural conception. It is based on the Creighton Model FertilityCare System, which helps a woman identify her fertile phase and the likely day of ovulation through daily observations of vaginal discharge of cervical fluid. Pre- and post-ovulatory hormone levels (and sometimes ultrasound) are used to diagnose hormonal deficiencies or ovulatory defects.

A study which evaluated outcomes in 1239 couples treated for infertility with NPT in an Irish general practice, found live birth rates comparable to cohort studies of more invasive treatments, including ART. **Stanford, J.B. et al. (2008) Outcomes from treatment of infertility with Natural Procreative Technology in an Irish general practice. J Am Board Fam Med, 21(5), 375-384.**

Comparable cumulative live birth and conception proportions were achieved in a suburban Canadian primary care practice in which the physician had a part-time practice in NPT.

Tham, E., Schliep, K., Stanford, J. (2012) Natural procreative technology for infertility and recurrent miscarriage. Outcomes in a Canadian family practice. Canadian Family Physician, 58:e2 67-74.

Further studies are warranted to compare NPT directly to other forms of infertility treatment.