



Possible health effects of IVF & ICSI



This factsheet explains the possible health effects of IVF (in vitro fertilisation) and ICSI (intracytoplasmic sperm injection).

Ask your doctor about the best options for you.

Possible emotional effects of IVF

Depression and anxiety

Women and men often have symptoms of depression and anxiety during IVF treatment. It is normal to feel sad, stressed or disappointed when:

- waiting to find out if the treatment has worked
- treatment doesn't work
- deciding what to do with frozen embryos
- deciding to stop treatment.

Feeling stressed and anxious does not affect the chance of having a baby with IVF.

Possible physical effects on women

IVF treatment is safe and medical complications are rare. Physical complications that need hospital treatment happen to about one in 100 women going through a stimulated IVF cycle (an IVF cycle which uses hormone medications to stimulate the ovaries).

Ovarian hyperstimulation syndrome (OHSS)

The fertility drugs given to stimulate egg production can cause OHSS – a potentially serious problem. In rare cases it can result in blood clots, kidney failure and death. IVF clinics monitor patients carefully to reduce the risk of OHSS.

To avoid OHSS your doctor may:

- cancel the cycle if too many follicles develop on your ovaries
- recommend freezing all embryos and transferring them when your ovaries return to normal.

In 2017, 177 women were hospitalised because of OHSS. This means it happened to one in 200 women going through a stimulated IVF cycle.

0.4%

Surgical complications

Surgical complications that need hospital treatment, such as bleeding and infection from egg collection, happen to one in 200 women going through a stimulated IVF cycle.

0.5%

The risk of serious complications from general anaesthesia and sedation is very rare. It happens in about one in 50,000 stimulated IVF cycles.

Getting help

The demands of IVF treatment are different for everyone.

If you need support, ask your IVF clinic about seeing a counsellor.

Long-term health risks

Research looking at fertility drugs has found no strong evidence they increase the risk of cancer. But because IVF treatment has only been used for about 40 years, it will take time to find out more about the longer-term risks.

Possible physical effects on men

Testicular biopsy

Some men need surgery to retrieve sperm from their testicles (testicular biopsy). This can be a needle biopsy under local anaesthesia or an open biopsy under general anaesthesia.

There are minor risks for testicular biopsy and the anaesthesia:

- bleeding or infection happens in less than 1% of open biopsies. Needle biopsy has a lower risk.

In rare cases, these are severe complications including:

- severe bleeding, or
- loss of a testicle.

Long-term health risks

Some men with very low sperm production have low testosterone (male hormone) levels. Sometimes a biopsy of the testicles can reduce testosterone production even more. If that happens, a man may need testosterone replacement medication.



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Pregnancy outcomes

There are many factors that increase the risk of pregnancy complications. These include parents being older (38 plus), obesity, and smoking.

IVF pregnancies

Research shows that women who have a baby with IVF are more likely to:

- experience bleeding during the pregnancy
- develop blood clots in early pregnancy
- develop high blood pressure and diabetes in later pregnancy
- deliver prematurely
- give birth by caesarean section.

Australian data for all pregnancies

(including IVF) shows that about:

- one in six will miscarry
- one baby in 14 will be premature
- one baby in 25 will have a birth anomaly
- one baby in 100 will die around the time of birth
- one baby in 400 will have cerebral palsy and be disabled
- at least one in 20 pregnant women will have pre-eclampsia.

Pregnancy-related risk

There are individual factors which can increase your risk of pregnancy complications.

Speak to your fertility specialist about your own circumstances.



Pre-eclampsia

Pre-eclampsia is the most serious medical complication of pregnancy, causing high blood pressure, protein in the urine and severe fluid retention.



Health outcomes for babies born after IVF and ICSI

Most babies born after IVF and ICSI are healthy and have no short or long-term problems. Single babies have better birth outcomes than twins or triplets.

Single babies

- The risk of a baby dying around the time of birth is slightly higher for IVF babies.
- The risk of bleeding during pregnancy, premature birth, and low birth weight is lower after frozen/thawed embryo transfer in an unstimulated cycle than in babies born after a fresh embryo transfer in a stimulated cycle.

- Australian research compared single IVF babies with all other single babies born in Australia in 2017 and found that:
 - they were more likely to be born early (before 37 weeks of pregnancy) and
 - more likely to have low birth weight (weigh less than 2.5kg).

Twins and more

Multiple births (having more than one baby) are more common after IVF than spontaneous conception. Multiple pregnancies have more risks for mothers and babies. The risks are even higher with triplets or quadruplet pregnancies. Multiple pregnancies have increased risks of:

- bleeding during pregnancy
- high blood pressure during pregnancy
- pre-eclampsia
- psychological distress in the mother
- a baby dying around the time of birth
- babies being born prematurely
- babies having cerebral palsy.

Single embryo transfer (SET)

SET is the only way to reduce the risk of multiple births. When several embryos are available after a stimulated cycle, one can be transferred and the rest frozen. The frozen embryos can be used later if needed.

Australia has a very high rate of SET and one of the lowest multiple birth rates for IVF in the world.

The risk of birth anomalies after IVF

There is a small increased risk of birth anomalies in babies born after IVF. About 6% of babies born from IVF have a birth anomaly, compared to about 4% of all other babies.

Most of the birth anomalies are minor. One very rare condition which is more common in children born from IVF is a growth disorder called Beckwith-Wiedemann Syndrome (BWS). BWS occurs in about one in 4,000 IVF babies compared to one in 14,000-35,000 other births.

Health and development

There is little difference in the growth, health, development and wellbeing of people born from IVF compared to other people.

Children born very prematurely have more learning difficulties and attention and behavioural problems. Some adults who were born prematurely have more problems with high blood pressure and reduced lung function.