IN VITRO FERTILISATION (IVF) & INTRA-CYTOPLASMIC SPERM INJECTION (ICSI)

INSIDE:

- The stages of IVF & ICSI
- What to expect from treatment
- Coping with stress

PART OF THE PATHWAYS TO PARENTHOOD BOOKLET SERIES

ABOUT THIS BOOKLET

This series of booklets has been developed and written with the support of leading fertility clinics across Australia, and AccessAustralia – a national organisation that provides numerous services for people having difficulty conceiving. We also acknowledge the many people who spoke openly about their own experiences with assisted conception in order to help others experiencing a similar journey. Merck Serono thanks the many individuals, couples and Australian healthcare professionals, including fertility specialists, specialist nurses and psychologists who shared their knowledge and expertise during the production of these booklets.

Important notice: The information provided in this booklet does not replace any of the information or advice provided by a medical practitioner and other members of your healthcare team. Your doctor will determine the best medications and course of action for you based on your requirements and conditions.

Prescription medicines have benefits and risks. Use all medications strictly as directed by your doctor and raise any questions or concerns with them before, during or after using prescribed medicines. If you experience side effects consult your doctor.

Full information regarding the medicines listed in this booklet, including how they are taken and side effects, is available from the Consumer Medicine Information (CMI) sheets. These can be found at the TGA website (www.tga.gov.au) for Australian residents and the Medsafe website (www.medsafe.govt.nz) for NZ residents.

Medication availability and funding criteria may differ between Australia and NZ.

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INTRODUCTION

Having trouble becoming pregnant comes as a surprise to most couples. Many people assume that pregnancy will follow immediately after birth control is discontinued. In reality, up to one in six couples worldwide have difficulty conceiving during the first 12 months of trying.[1]

These days, the treatment options available to help you become pregnant are relatively simple, effective and affordable, and the success rates are very promising. Some of these medical procedures are designed to increase the number of eggs and/or sperm, or bring them closer together, thus improving the likelihood of pregnancy. Collectively, these medical procedures are referred to as assisted reproductive technologies (ART) and include ***in vitro* fertilisation (IVF)** and **intra-cytoplasmic sperm injection (ICSI)**.

In this booklet, you will find detailed information on what is involved in IVF and ICSI, plus some methods on dealing with the stress and emotions you may feel as you are being treated. Most of the time you will be able to cope with the pressure of the situation, but there may be times when you need extra support, reassurance or some coping techniques to help you manage the challenges and your stress levels. It is important that you talk to your partner and other friends and family members about how you are feeling throughout the IVF process. Your healthcare team, including counsellors and the support organisations listed in the back of this booklet, will also be able to help with any concerns or questions you may have.

WHAT IS *IN VITRO* FERTILISATION (IVF)?

***In vitro* fertilisation (IVF)** literally means 'fertilisation in glass'. You may have also heard the term 'test tube babies' but these days the procedure involves placing an egg and sperm together in a plastic dish to fertilise, rather than in a test tube.

IVF refers to a technique of assisted reproduction where the egg and sperm are fertilised outside of the body to form an embryo. This embryo is then transferred to the uterus to hopefully implant and become a pregnancy.

The first IVF baby, Louise Brown, was born in 1978 in the United Kingdom. The first Australian-born IVF baby was born in 1980, and in 1983 for New Zealand. The technique was originally developed to treat infertility caused by blocked or damaged fallopian tubes but is now used to treat a wider variety of infertility problems.

HOW DOES INTRA-CYTOPLASMIC SPERM INJECTION (ICSI) DIFFER FROM IVF?

IVF and intra-cytoplasmic sperm injection (ICSI) are the two most popular assisted reproductive technologies used for successful fertilisation. The only difference between the two is the way the egg is fertilised. IVF allows the sperm to penetrate the egg of its own accord whereas ICSI directly inserts the sperm into the egg. This is done under a microscope by qualified technicians using very fine tools for micromanipulation. The technique is used when the sperm is unable to penetrate the egg wall. If the egg is fertilised, the embryo is inserted into the uterus in the same way as for IVF.

IVF allows the sperm to penetrate the egg of its own accord whereas ICSI directly inserts the sperm into the egg.

WHEN ARE IVF AND ICSI USED?

IVF was originally developed for women with blocked fallopian tubes or missing tubes and is still used to treat those conditions. It is also used when infertility cannot be explained and with the following ovulatory or structural causes:

- problems with ovulation
- endometriosis
- fibroids
- polycystic ovarian syndrome
- cervical problems.

ICSI is usually offered to couples who have had poor or no fertilisation during standard IVF but is mainly used to overcome male infertility. It was first used in 1992 and offers an alternative to donor sperm for those who have severe male infertility, which includes:

- poor sperm morphology (abnormally shaped sperm)
- poor sperm motility (slowly moving sperm)
- a low sperm count
- an obstruction that prevents sperm release (such as vasectomy)
- antisperm antibodies (antibodies produced by the man's body, which may inhibit sperm function).

IVF COUNSELLING

Seeing a counsellor should always be considered prior to IVF treatment and is a legal requirement in some states. Their role is not to assess your suitability for infertility treatment, but to help you deal with the stress and emotions involved in trying to achieve pregnancy. Most IVF clinics in Australia and New Zealand offer counselling by qualified counsellors.

THE STAGES OF IVF & ICSI

Starting IVF can be a very exciting time – it is another step closer to becoming parents. Naturally, you will feel hopeful about a successful outcome but you also need to prepare yourself for around two months of medications, numerous procedures and testing. Please also bear in mind that the success rate of modern fertility treatments is high, but for the majority of couples, multiple treatment cycles may be necessary.

The basic stages involved in the IVF procedure are detailed below. The whole process up to the embryo transfer stage will usually take six to eight weeks.

IVF & ICSI involve 6 stages:

Stage 1: Ovarian stimulation and monitoring
Stage 2: Egg (oocyte) retrieval [Egg Pick Up]
Stage 3: Fertilisation
Stage 4: Embryo development
Stage 5: Embryo transfer
Stage 6: Luteal phase support

How might you feel?

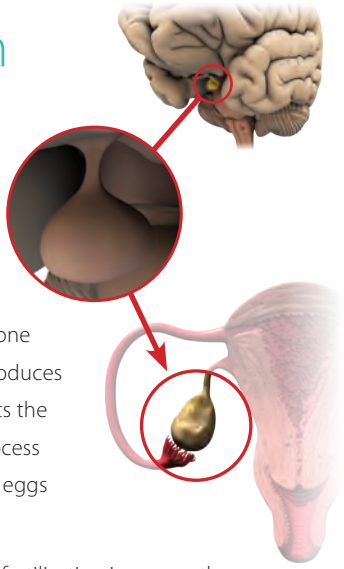
How stressful is IVF/ICSI?

IVF is not a single event but rather a series of stages that each need to be completed before tackling the next. This can make it a very tiring and time-consuming process.

Couples may go through a range of intense emotions. Moods can swing from hope to fear, from joy to disappointment. Your experience and how you cope will depend on a large number of individual factors including your own personality, your support network and the relationship you have with your partner, how you react to the fertility medications and the length and number of cycles of IVF you undergo.

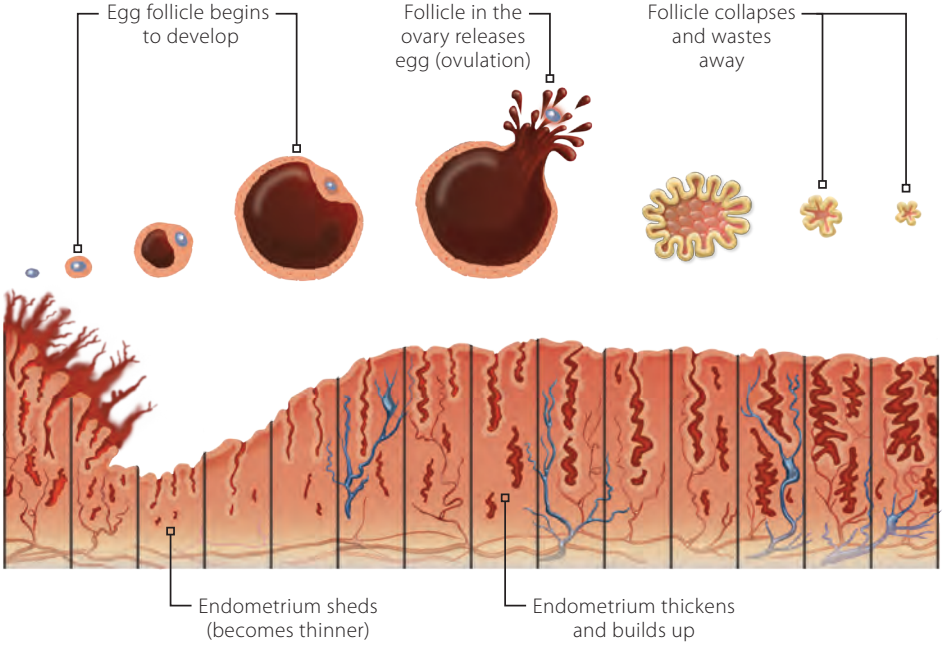
You must give yourself time to relax and recover from each cycle of treatment and it is recommended that you do not try to live your life just as you did before you started IVF. You need to accept the changes it brings to energy levels and you should try to cut back or prioritise your activities accordingly.

Stage 1: Ovarian stimulation and monitoring



At the beginning of your menstrual cycle, the hypothalamus (the part of the brain that controls many bodily functions) releases a hormone called gonadtrophin-releasing hormone (GnRH). GnRH in turn causes the pituitary gland to release a hormone called follicle stimulating hormone (FSH) to prepare one egg for release. When the egg is mature, the pituitary gland produces another hormone called luteinising hormone (LH). This prompts the follicle to release the one egg into the fallopian tube in the process known as **ovulation**. Follicles are the fluid-filled sacs in which eggs grow to maturity.

With IVF, having a greater number of mature eggs available for fertilisation increases the chances of pregnancy. Certain medications are used to prevent an early release of eggs, while other medications are used to stimulate the ovaries to develop more ovarian follicles.



By having several mature eggs available for attempted fertilisation and transfer – usually between five and 10 – it is hoped that at least one will result in pregnancy.

Taking fertility medications

Gonadotrophins: Gonadotrophins (also spelt as 'gonadotropins') act directly on the ovary, promoting follicular development. Gonadotrophins are available as a synthetic form of the naturally occurring hormone **follicle stimulating hormone (FSH)**. You may hear these medications commonly referred to as 'FSH' rather than gonadotrophin. You may also be given a mixture of FSH and luteinising hormone (LH); a non-synthetic hormone showing both FSH and LH activity.

These medications are taken by a self-administered injection under the skin (subcutaneous), usually via an easy to use pen-like device. The injections are given under the skin of the tummy or thigh. The length of treatment varies for each patient. Your doctor will advise the length of your treatment and your dose.

For further information about these medications, including side effects, please speak with your heathcare team or read the Consumer Medicine Information (CMI) available from the TGA website in Australia (www.tga.gov.au) or Medsafe website in NZ (medsafe.govt.nz).

What can help?

Getting used to injections

Some women find the thought of giving themselves a regular injection quite daunting but most people find it easy to do once they get used to it. Today's technology means that most of the injections are given just under the skin with a pen-like device – similar to those used regularly by people with diabetes.

You will probably be sent home with a DVD and clear step-by-step instructions on how to inject in the correct way. You might prefer that your partner does the injection for you or that you do it yourself. Either way, you might feel more comfortable if you both have a practise run in front of one of the nurses at your fertility clinic or gynaecologist's office.

Taking fertility medications (cont.)

Human chorionic gonadotrophin (hCG): Given by injection one to two days after the last dose of FSH, human chorionic gonadotrophin (hCG) causes the final maturation and release of an egg. You will probably do this injection yourself at home at a specified time.

Luteinising hormone (LH): This medication is similar to the luteinising hormone found naturally in humans. LH supplementation is recommended for the treatment of women who have been shown to produce very low levels of some of the hormones involved in the natural reproductive cycle. It is used together with a gonadotrophin to bring about the development of follicles.

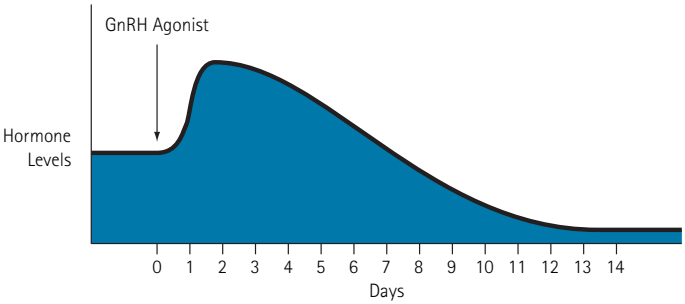
Gonadotrophin-releasing hormone (GnRH) agonists: Daily administration of a GnRH agonist (or GnRH analogue) will first stimulate the pituitary gland at the base of the brain to make extra FSH and LH, but then causes these hormones to drop right down. As a result, after around two weeks of daily administration, your normal menstrual cycle, hormones and ovulation are all shut down. This helps control premature ovulation (egg release) and can also relieve the pain of hormonally controlled conditions such as endometriosis and fibroids. When used in combination with injected gonadotrophins, it allows for more reliable timing of the egg collection and usually an increased number of eggs being available for IVF. It includes the medications nafarelin acetate and leuprorelin acetate. Nafarelin acetate is given by nasal spray morning and night and leuprorelin acetate is given by a daily subcutaneous (under the skin) injection.

GnRH antagonists: Another class of injectable medication, GnRH antagonists – cetrorelix acetate and ganirelix acetate – work by dropping the levels of FSH and LH without first causing an increase in these levels (as do the GnRH agonists). This means they can be given for a shorter period of time. As with GnRH agonists, using this medication allows the continued stimulation of follicle growth whilst minimising the risk of premature egg release prior to egg collection.

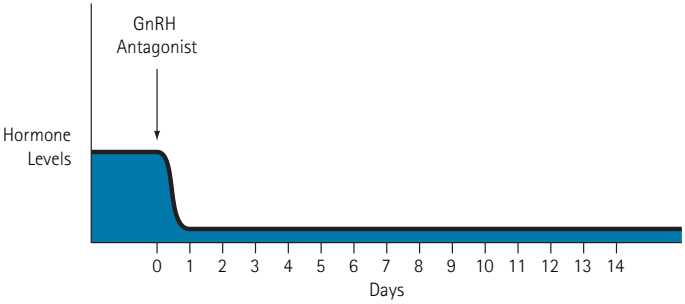
Protocols

A 'protocol' is a plan or schedule of how your IVF cycle will be done. It will usually include the medications you will be taking, instructions on how to take them, when you will need to have ultrasounds and blood tests and the procedures you need to follow throughout the cycle. There are a few standard protocols used and your doctor will choose the one that is right for you. The two most common ones are:

Long down regulation: During ovulation, the release of the egg is triggered by a sudden surge of the hormone LH at mid-cycle. During an IVF cycle, we do not want an LH surge to trigger an early release of these eggs. A **GnRH agonist** is used to temporarily turn off your own LH and FSH secretion in what is known as 'pituitary suppression' or 'down regulation'. It involves the use of a nasal spray containing nafarelin acetate or a daily injection of leuprorelin acetate for at least 10 days. FSH is then given and both drugs are continued until the timing of egg pick up is determined.



Antagonist treatment cycle: The length of **GnRH antagonist** administration is generally shorter than the GnRH agonist because it is usually given shortly after commencement of FSH injections, compared to GnRH agonist which has to start prior to FSH injections. With this protocol, a daily injection of either cetrorelix acetate or ganirelix acetate is used to suppress the LH surge, commencing five or six days after starting the FSH injections, or up to the day that sufficient follicles of adequate size are present (as measured by ultrasound). In both cases, daily injections of FSH and GnRH antagonists are continued until the timing of egg pick up is determined.



BE AWARE OF OVARIAN HYPERSTIMULATION SYNDROME

Ovarian hyperstimulation syndrome (OHSS) is a potentially life-threatening medical condition which may occur when your ovaries have been overly stimulated by various fertility medications. The ovaries may increase in size and produce large amounts of fluid. It is characterised by pain and bloating in your abdomen and if severe can cause problems with breathing or urination. Contact a member of your healthcare team immediately if you believe you have any of these symptoms.

Monitoring ovulation

Throughout this first stage, your response to FSH will be carefully monitored for ovarian hyperstimulation syndrome (OHSS) – see above – and to gain a clearer picture of what is happening to the follicles so the right timing and dose can be determined.

Ultrasound: Your clinic (doctor, nurse or sonographer) will often use one or more ultrasound scans to obtain an actual image of the ovaries and to regularly monitor follicle growth in the ovary beginning on or before day eight of the cycle. As follicles mature, they grow larger. Through ultrasound, your doctor can observe the effects of treatment on follicle growth and size, and decide when to give hCG to assist with egg release.

Ultrasound may be performed abdominally or, more commonly, vaginally, using a slender probe a little thicker than a tampon. The sound waves cannot be felt and the procedure is minimally invasive and usually painless.

Blood tests: Testing the blood every few days for oestrogen levels can monitor the response to treatment with FSH. Developing follicles secrete increasing amounts of the oestrogen hormone, in particular oestradiol (E_2) – one of the main types of oestrogen. Together with ultrasound, this can help determine the best timing for giving the hCG injection to stimulate ovulation.

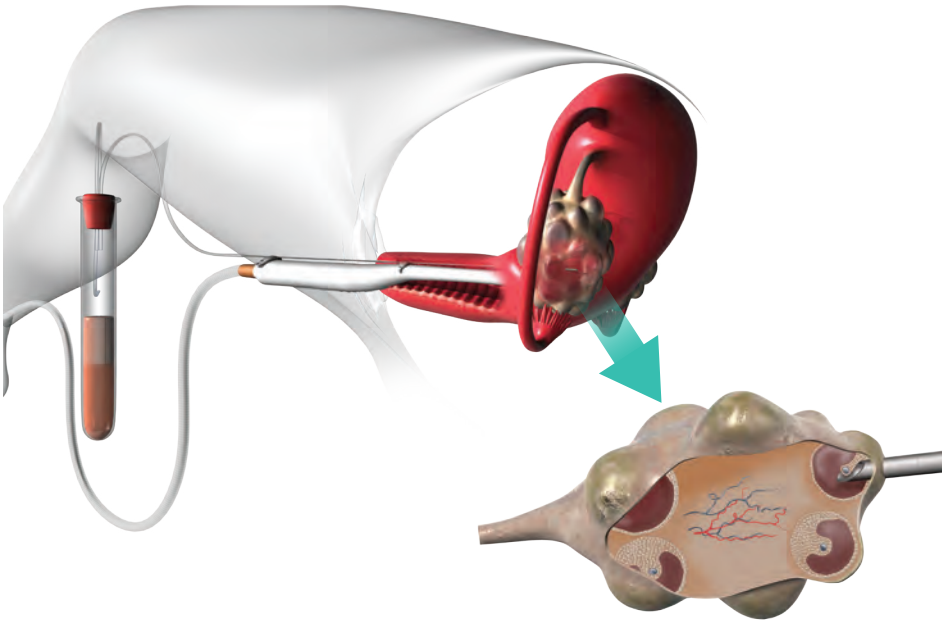
Stage 2: Egg (oocyte) retrieval

Egg retrieval, also known as 'egg pick up', is arranged just prior to expected ovulation. Egg retrieval is usually performed 36 to 48 hours after the administration of the ovulation inducing drugs hCG or LH. Your doctor will try to retrieve as many mature eggs as possible, although all the eggs (oocytes) may not be used in the current IVF cycle.

Egg retrieval is performed under mild sedation, local anaesthesia or, in some cases, general anaesthesia, most commonly by ultrasound guided fine needle (aspiration). The mature follicles are identified using ultrasound, and then a needle is passed through the vaginal wall into the follicle and the fluid withdrawn from the mature follicle with gentle suction.

The fluid is immediately examined under a microscope to see if an egg has been retrieved. The process is repeated for each mature follicle in both ovaries. All retrieved eggs are removed from the follicular fluid and placed in an incubator.

Sometimes laparoscopy is used where a doctor uses a tube with a tiny camera on the end of it to guide it to the ovarian follicles. An aspiration system then uses light suction to retrieve the egg from the follicle. Laparoscopy, which requires general anaesthesia, is usually only used when the ovaries are inaccessible via the transvaginal approach (e.g. when large fibroids are present).



NUMBER OF EGGS IN THE FOLLICLES

Not every follicle contains an egg, or some may contain mature eggs which may not be capable of being fertilised. So don't be surprised if the number of eggs retrieved is less than the number of follicles you've been watching develop on ultrasound. The average number of eggs retrieved is between eight and nine and the retrieval process lasts approximately 20–30 minutes.

How might you feel?

Does egg pick up hurt?

After the procedure, some women feel a little tender in their abdomen – a hot water bottle may help. You may also feel tired because of the anaesthetic. You will be monitored for a couple of hours before being allowed to go home. You may notice some light vaginal spotting that is red or brown in colour. It is recommended that someone drives you home from the clinic and you may need to take the following day off work because of minor pain or fatigue.

NIKKI AND STEVE'S JOURNAL

"I can't believe it took us five years to try IVF. It was the most exciting time of our lives. The drugs were not so much fun. I got some pretty major headaches, felt bloated and was very worn out. I don't recall being over emotional at that time, but Steve might tell a different story on that one. But to tell the truth, none of it really mattered. It was like the best science lesson we have ever had. Suddenly we knew more about how a baby is made than we realised was involved.

We were watching my follicles grow in number and size at ultrasounds every second day… The whole thing was like a dream come true. That's not to say that there was no pain or discomfort involved. It's certainly not all that glamorous lying there with your legs in the air having an internal ultrasound and a doctor retrieving your eggs. But none of that mattered to me all that much because I was focused on our end result.

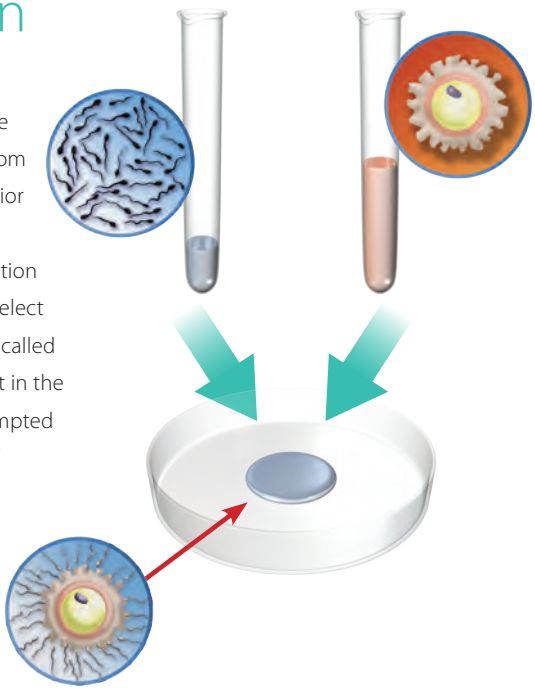
Watching as they retrieved my eggs was incredible. They said I may have trouble remembering because of the drugs, but we didn't stop talking about it and somehow I retained the best bits. Then the best part of all was seeing our little Billy, as a five-day old blastocyst, before they popped him into my uterus. You don't get that if you conceive naturally!

I am grateful that I got over all my reservations about IVF. Parts of it are obviously unpleasant, but no more unpleasant than the monthly let down we had for five years before we did IVF. It doesn't always work, but it did for us, and it was worth it."

*Nikki and Steve, Australia**

*This personal statement is the opinion of real individuals. Individual experiences will vary from person to person.

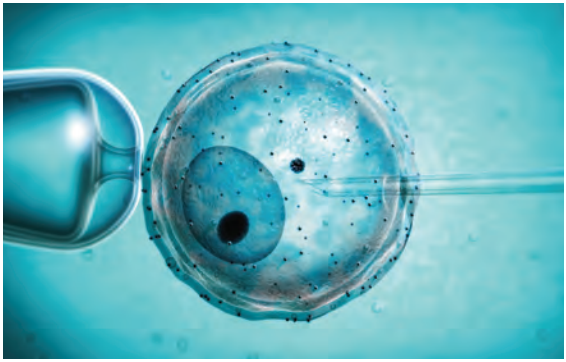
Stage 3: Fertilisation



About two hours before egg pick up, a semen sample is collected from the male partner. Two to three days' abstinence from intercourse/masturbation is preferred prior to the sample collection day. The sperm sample is usually produced by masturbation at the clinic. The sperm is processed to select the strongest, most active sperm. This is called 'sperm washing'. If sperm are not present in the ejaculate, sperm collection may be attempted surgically (see 'surgical sperm extraction' information next page).

If undergoing **IVF**, the sperm are then placed with the eggs in an incubator set to the same temperature as a woman's body. The next day, the eggs are examined under a microscope to determine whether fertilisation has occurred and you will be phoned about how many of your eggs have been fertilised. The resulting embryos will be either transferred to the uterus two to five days later, or frozen for later transfer.

If undergoing **ICSI**, the eggs are prepared for injection and their maturity confirmed. In what is a delicate laboratory procedure, a single sperm is placed directly into the cytoplasm (the centre) of the egg – hence the name intra-cytoplasmic sperm injection. Fertilisation can then be identified in a similar fashion to IVF after about 20 to 24 hours.



IS ICSI MORE SUCCESSFUL THAN IVF?

Studies suggest that the success rate of fertilisation for ICSI and IVF are similar.[2]

Surgical sperm extraction

When a man does not have any sperm in his ejaculated semen because of blockage, failed sterilisation reversal, or other reasons, sperm can be surgically extracted from the epididymis or testicular tissue, where they are stored. Fertilisation is then attempted by placing the sperm and the egg together either by IVF or ICSI.

Using donor sperm and eggs

Donor sperm

Donor sperm is used when the male partner does not produce sperm, when the sperm are of very poor quality or if there is a high risk of passing on genetic diseases. Donor sperm are used less frequently these days because of the improvement in sperm extraction techniques.

The semen selected for a couple closely matches, as much as possible, the male partner's characteristics, e.g. eye and hair colour, height and build.

There are many factors to consider, such as whether to tell friends or family about using donor sperm and whether the child should know about their origins as they grow up. **AccessAustralia** and the **Donor Conception Support Group** have many resources on the issues relating to donor insemination (see contact details at the back of this booklet).

Donor oocytes

Egg donation is one treatment option for those who wish to have a child but who are unable to use their own oocytes (eggs). The eggs may be sourced from an anonymous donor or donated by a close friend or relative. The donor undergoes ovarian stimulation to help the recipient. A comprehensive medical and counselling process is undertaken prior to the initiation of such treatment cycles.

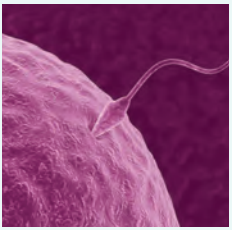
Stage 4: Embryo development

'Embryo culture' is the term used to describe the process immediately following egg pick up. It is during the culture process that your eggs and your partner's sperm will be combined in order to produce a fertilised egg (known as a zygote). Your doctor will discuss how long they will watch embryo development in the laboratory and how each embryo will be 'graded', e.g. from 'A' to 'F' depending on their quality. It is common for transfer to be done between day two (2–4 cell stage) and day five (blastocyst stage – around 100 cells) of development. This allows assessment of embryo cleavage (the way an embryo divides) and ensures the embryo is still developing so that only embryos capable of resulting in a pregnancy are transferred.

Some fertility specialists prefer doing blastocyst transfers because it is easier to choose a healthy embryo for transfer at this stage. The latest statistics from the Australian Institute of Health and Welfare show that there is an increasing trend towards blastocyst transfer over the traditional '3-day transfer'.[3] In 2012, blastocyst embryo transfers accounted for 59.8% of embryo transfer cycles – significantly higher than the percentage of cycles transferring blastocysts in 2007 (33.7%).[3]

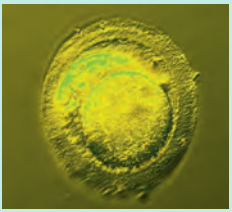
Stages of development

Zygote: A single sperm penetrates the mother's egg cell, and the resulting cell is called a zygote. The zygote contains all of the genetic information (DNA) necessary to become a child. Half of the genetic information comes from the mother's egg and half from the father's sperm. The zygote spends the next few days travelling down the fallopian tube and divides to form a ball of cells. The term **cleavage** is used to describe this cell division.



Morula: When the zygote reaches 16 or more cells, it is called a morula. The morula is no larger than the zygote, but keeps producing smaller and smaller cells through cleavage.

Blastocyst: The morula continues to divide, creating an inner group of cells with an outer shell. This stage is called a blastocyst and consists of approximately 100 cells (taking around four to five days to develop). The inner group of cells will become the embryo, while the outer group of cells will become the membranes that nourish and protect it.



Embryo: The blastocyst reaches the uterus around day five, and implants into the uterine wall on about day six. The cells of the embryo now multiply and begin to take on specific functions resulting in the various cell types that make up a human being (e.g. blood cells, kidney cells and nerve cells).

CRYOPRESERVATION

Although your doctor will try to fertilise all available eggs, usually only one, or occasionally two, embryos will be transferred immediately. If there are any remaining embryos, they can be frozen through a process known as cryopreservation. Frozen embryos are stored and most will remain unchanged for a long period of time. The majority of embryos will survive the process of freezing and thawing.[4] An advantage of cryopreservation is that these frozen embryos can be used in future IVF/ART cycles without having to repeat the first few steps of ovarian stimulation, egg recovery and fertilisation.

Assisted hatching

Prior to implanting in the uterus, the embryo must emerge from its covering in a process called hatching. In some women, the membrane seems to harden, interfering with the hatching process.

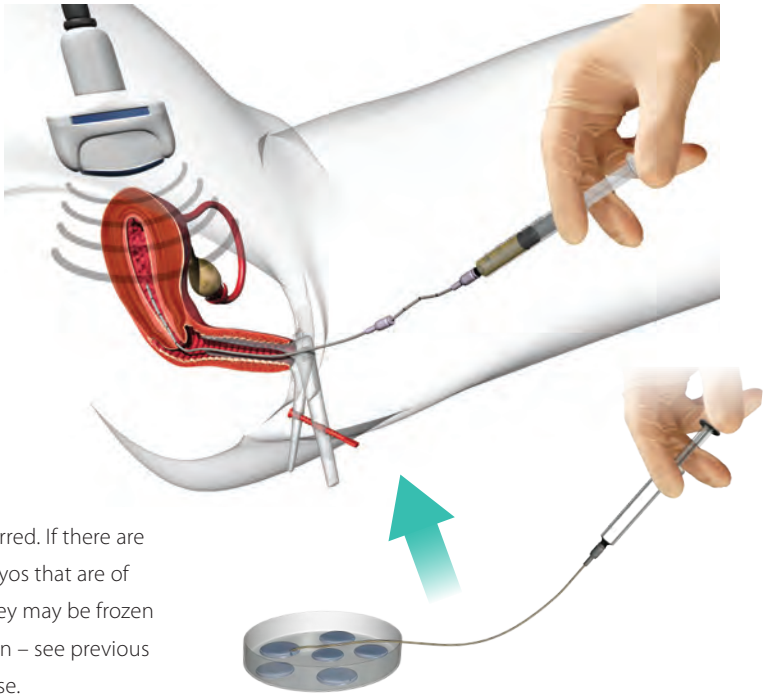
In such cases, thinning the embryo membrane with a dilute acidic solution or laser prior to embryo transfer may assist hatching. This procedure is performed on embryos in the laboratory when needed. Older women or those who have not achieved pregnancy after several IVF cycles are often helped by this treatment. Assisted hatching may also be done in some cases following cryopreservation and embryo thawing.

Preimplantation genetic diagnosis

Preimplantation genetic diagnosis (PGD) is a technique that can be used during IVF to test embryos for a variety of genetic disorders. Testing is done in the laboratory before the embryo is transferred to the uterus. This decreases the risk of having a child with a serious inherited disorder. Screening can detect a range of disorders, including Down's syndrome, cystic fibrosis, haemophilia A, Tay-Sachs disease and Turner syndrome.

Stage 5: Embryo transfer

Embryo transfer is not a complicated procedure – rather like a pap smear – and can be performed without anaesthesia. Two to five days following egg pick up, the embryo is placed in a catheter (a soft tube) and transferred to the uterus via the vaginal opening. The number of embryos transferred depends on a woman's age, cause of infertility, pregnancy history and other factors. Generally one, or occasionally two, embryos will be transferred to the uterus. It is important to note that the risk of multiple pregnancy increases with the number of good quality embryos transferred. If there are additional embryos that are of good quality, they may be frozen (cryopreservation – see previous page) for later use.



MULTIPLE PREGNANCIES

For those having trouble becoming pregnant, being pregnant with twins may seem the ideal way to have an instant family. However, fertility doctors agree that the risks involved, such as miscarriages and low birth weight, far outweigh any perceived advantages. Because of this, in Australia and New Zealand, most clinics will not transfer more than two embryos. Over the last five years there has been a reduction in the rate of multiple birth deliveries, as single embryo transfers (SET) have increased from 63.7% in 2007 to 76.3% in 2012.[3]

Stage 6: Luteal phase support

The luteal phase is the two week period between the embryo transfer and the pregnancy test. It is usually recommended that you take it easy for a couple of days after the transfer. After 48 hours, you can resume your normal activities – these will not affect implantation.

The corpus luteum (the follicle after the egg is released) does not produce the hormones oestradiol and progesterone to prepare the uterus for embryo implantation as it would in a natural cycle. This is due to the treatment prior to egg collection and the collection process itself. In order to ensure there is adequate progesterone present, you will be prescribed progesterone as a vaginal gel or in the form of pessaries to help keep the endometrium (the lining of the uterus) in optimal condition for implantation.

After approximately 16 days, you will return to the clinic or your doctor for a blood test to determine whether a pregnancy has occurred.

How might you feel?

The emotional impact of hormone medication and *in vitro* fertilisation (IVF)

Some of us find that starting treatment is a positive experience because you have something on which to focus – something is finally happening for you. However, others may fear the physical implications or feel very disappointed that they have to face intervention.

In addition to dealing with feelings of uncertainty and trepidation, as well as hope, you will be dealing with the impact of hormonal changes on your body. Responses to the medications used to stimulate the ovaries during IVF vary enormously. Some women have no symptoms, while others feel emotional and much more prone to tears, anxiety and irritability. Others feel uncomfortable with bloating, headaches, tiredness and other symptoms. While you cannot help the way you feel, with the help of a counsellor, you may be able to find a way to better manage your feelings and reactions during these times.

Initially, women may fear the actual process, but waiting for results is often the most difficult part of treatment. Days seem to pass very slowly and it can be a time of acute vulnerability and sensitivity. You may argue with or avoid your partner, and it can be difficult to concentrate on ordinary life (see the next page for more advice on how to get through the 'two week wait').

What can help?

Surviving the two week wait

After your embryo transfer, it takes around two weeks for pregnancy test results to be accurate. This 'two week wait' – the time before your expected period – is understandably a time of high anxiety, worry and frustration for women trying to conceive. Here are some 'survival' tips to help you get through this time:

- Try not to obsess about pregnancy symptoms – feeling pregnant does not always mean that you are. Some of the medications can have side effects that resemble symptoms of pregnancy.
- Keep busy – this may mean working more or planning meaningful or fun distractions.
- Allow yourself only 15 to 30 minutes a day to think about pregnancy, write down your thoughts, search information online or discuss it with your partner or supportive friends/ family members.
- Avoid pregnancy tests – the chance of getting a positive result before your period is late is very slim. The hCG injection given to mature and release the eggs and as a booster can also give a false positive urine test.

SUCCESS RATES

According to figures from the University of New South Wales, there were 70,082 assisted reproductive technology (ART) treatment cycles undertaken in Australia and New Zealand in 2012.[3]

Of these cycles, 17.9% resulted in a live delivery (the birth of at least one liveborn baby).[3] In total, 13,312 liveborn babies were born following ART treatment undertaken in 2012.[3]

Success rates are significantly influenced by a number of factors including:

- woman's age
- cause of infertility
- response to medications and treatment
- sperm quality
- number of embryos transferred
- transfer and use of cryopreserved (frozen) embryos.

TRYING AGAIN

There are a lot of reasons why your pregnancy results may come back negative. Sometimes the embryos do not implant or they start to implant and then stop. In other cases, they could have been damaged during the process of growth or the actual transfer. Having multiple cycles of IVF is common and is often necessary to give yourself a good chance of success.

When you feel ready, you will need to return to your doctor to review your past treatment and discuss your future options.

Considering these questions may help you decide whether to continue, take a break or stop treatment altogether:

- Do I have a real chance of falling pregnant?
- Is another treatment cycle asking too much of my body?
- Am I too distressed?
- Can our relationship support more treatment?
- Can we afford further treatment cycles?
- Have I considered my other options, e.g. adoption, fostering, living without children?

AccessAustralia has a number of excellent resources on the subject of stopping treatment. See their website at www.access.org.au

STOPPING TREATMENT

Stopping treatment is also a time of mixed emotions. Most know when it is time to stop and seek relief from the constant procedures and disappointments. It is important to realise that it will still take time to accept that you won't have children from this treatment, and that sadness and anger is normal. It may also be just as hard to realise that you may never know why it didn't work.

With the mixed emotions of relief and sadness there is also the realisation that the time of being in limbo has stopped, and that it is now possible to take back control.

Some things that you may talk about at this time are:

- planning other ways to have children, including adoption or fostering
- re-training for a different career
- getting fit after all the fertility treatments
- taking a well deserved rest or holiday.

SUPPORT ORGANISATIONS

AUSTRALIA

AccessAustralia

www.access.org.au

Ph: 1800 888 896; Email: info@access.org.au

AccessAustralia is a national organisation, which provides numerous services and resources for people having difficulty conceiving. Its services include:

- fact sheets, newsletters and personal stories
- putting you in contact by phone or email with others sharing a similar infertility experience
- a register of infertility self-help groups
- listing of infertility clinics accredited by the Reproductive Technology Accreditation Committee (RTAC)
- listing of professional infertility counsellors across Australia
- lobbying governments for equal access to affordable, quality assisted conception treatment.

Donor Conception Support Group

http://www.dcsg.org.au

Email: dcsupport@hotmail.com

The Donor Conception Support Group of Australia is a self funding organisation run by volunteers. Its members include those who are considering or using donor sperm, egg or embryo, those who already have children conceived on donor programmes, adult donor offspring and donors. It offers a newsletter, information nights, a library of books and articles and telephone support.

Endometriosis Care Centre of Australia

www.ecca.com.au

Formed by a group of health specialists, this organisation provides patient information and a state by state 'find a specialist' search engine on its website.

Endometriosis Australia

admin@endoaustralia.org

www.endometriosisaustralia.org/#!links/c1bfb provides information on state contacts.

Endometriosis Australia endeavours to increase recognition of endometriosis, provide endometriosis education programs, and help fund endometriosis research. They strive to build strong relationships with existing endometriosis support networks throughout the country.

SANDS

SANDS is a self-help support group comprised of parents who have experienced the death of a baby through miscarriage, stillbirth, or shortly after birth. It provides 24-hour telephone support, information resources, monthly support meetings, name-giving certificates and other support.

Vic

www.sandsvic.org.au

Ph: (03) 9899 0218 (support) or (03) 9899 0217 (admin); Email: info@sandsvic.org.au

Qld

www.sandsqld.com

Ph: 1300 072 637 (support) or (07) 3254 3422;

Email: admin@sandsqld.com

SA

www.sandssa.org

Ph: 0417 681 642;

Email: support@sandssa.org (quick response) or info@sandssa.org (general query)

NEW ZEALAND

FertilityNZ

www.fertilitynz.org.nz
Ph: 0800 333 306;
Email: support@fertilitynz.org.nz

FertilityNZ is New Zealand's national network for those seeking support, information and news on fertility problems. It provides various services including:

- regional support and contact groups
- general advice and contact service
- comprehensive information brochures
- a forum for confidential feedback on any issues or concerns
- a chatroom where you can seek on-line support from people in similar situations.

Endometriosis New Zealand

www.nzendo.co.nz/
Ph: 0800 733 277 (free phone support line);
Email: info@nzendo.org.nz

Endometriosis New Zealand promotes awareness of endometriosis, provides information, education and raises funds to support endometriosis related initiatives. It includes disease information specifically designed for teenagers, a support group network, regular seminars and workshops and a free phone support line.

SANDS New Zealand

www.sands.org.nz
Ph: 0800 726 374;
Email: contact@sands.org.nz.

The website www.fertility.com has a wealth of information tailored to three different stages of a couple's journey. In addition to personal stories and frequently asked questions, it offers a number of practical 'tools' to assist you, including an ovulation calculator, a questionnaire and advice on your most appropriate coping method.

References

1 Assisted Conception Taskforce (ACT) *Trying to have a baby. Your step-by-step guide to assisted conception*. Available online: http://www.assistedconception.net/resources/ACT_Ratgeber.pdf downloaded 11/4/14

2 Centers for Disease Control and Prevention, American Society for Reproductive Medicine, Society for Assisted Reproductive Technology. 2011 Assisted Reproductive Technology National Summary Report. Atlanta (GA): US Dept of Health and Human Services; 2013.

3 Macaldowie A, Wang YA, Chambers GM & Sullivan EA 2013. Assisted reproductive technology in Australia and New Zealand 2012. Sydney: National Perinatal Epidemiology and Statistics Unit, the University of New South Wales.

4 Valojerdi MR et al. 2009. Vitrification versus slow freezing gives excellent survival, post warming embryo morphology and pregnancy outcomes for human cleaved embryos. J Assist Reprod Genet; 26:347-354.

Looking for more information?

Other booklets in the *Pathways to Parenthood* series are available at merckserono.fertilityportal.com.au:

- Your step by step guide to treating infertility
- Overcoming male infertility
- Female infertility & assisted reproductive technology (ART)
- Endometriosis
- Polycystic ovary syndrome (PCOS)
- Ovulation induction (OI)
- Intrauterine insemination (IUI)
- Managing the stress of infertility

Pictured a pair of Seagulls