

COMPASS
FERTILITY
TREATMENTS

Your Companion Guide



COMPASS
Fertility

GUIDING
YOUR FERTILITY
JOURNEY

Introduction

The Compass Fertility Treatments Companion Guide is here to support you through your treatment at Compass Fertility.

This information is a guide only, as your Compass Fertility Specialist will recommend a treatment program to suit your individual requirements.

Your Fertility Nurse is a skilled professional who will provide support, encouragement, and education. She will liaise with your Fertility Specialist, make appointments for you, provide test results, and answer your questions. The Fertility Nurse at Compass ensures that you have a familiar point of contact through all stages of your treatment so that the IVF program is less stressful for you.

PRIOR TO TREATMENT

While Assisted Reproductive Technology (ART) offers important options for the treatment of fertility problems, the decision to use ART involves many factors, in addition to success rates. Going through repeated ART cycles requires substantial commitments of time, effort, money, and emotional energy. Therefore, you should carefully examine all related financial, psychological, and medical issues before beginning treatment. You may also wish to consider the counseling and support services available, and the rapport that staff have with their patients.

What is infertility?

Infertility is defined as having regular, unprotected sex usually for 12 months without conception (6–12 months depending on age). Many couples will start to ask questions after 6 months of trying to conceive. Infertility is shared equally between males and females and in about 15% of cases, the cause of infertility cannot be found despite testing. This is known as idiopathic (unexplained) infertility.

Causes

The causes of infertility are not always easily identified and in some cases are unknown. In general, a likely cause of infertility is more easily recognised when a couple have a more apparent reproductive problem, whereas transient and mild conditions can be the most difficult to diagnose and treat.

CAUSES OF MALE INFERTILITY

- Not enough sperm are produced in the testes.
- Sperm are of poor quality, having low numbers of moving sperm, abnormal shape, or failure to mature.
- The tubes that transport the sperm are damaged or blocked.
- The sperm appear to be normal, but are unable to fertilise the female's eggs.
- The sperm are associated with an immune system reaction known as antibodies.
- The sperm have chromosomal abnormalities.

CAUSES OF FEMALE INFERTILITY

- Eggs are not released from the ovaries (anovulation)
- Eggs fail to mature.
- Tubes are blocked and unable to carry eggs to the womb.
- The fertilized egg is unable to implant itself in the womb lining.
- The cervix prevents sperm entering the uterus to fertilise the egg.
- Endometriosis, when tissue like the lining of the womb grows outside the uterus.

What you can do to increase your fertility

WEIGHT

Numerous studies have demonstrated that women who are overweight are more likely to have ovulation problems that result in irregular or infrequent menstrual cycles and other reproductive problems. Women who are overweight are also at increased risk for miscarriage.

Women can increase their chances of getting pregnant by more than 30 times by decreasing their weight from a BMI of greater than 30 to less than 30. This approach is hugely advantageous to all women who are trying to conceive.

SMOKING

Smoking can be harmful to a woman's ovaries. Nicotine interferes with the ability of cells in the ovary to make oestrogen and increases genetic abnormalities in the eggs (oocytes). Smoking causes a reduced number of eggs, earlier onset of menopause, and the ovaries become more resistant to releasing healthy eggs. Many studies demonstrate that these effects cause a delay in the natural conception rate for couples and increases the risk of miscarriage.

In men that smoke heavily, there is an apparent increase in sperm motility and shape abnormalities. Although the harmful effects of cigarette smoking on male infertility are controversial, passive smoke inhalation by women who do not smoke may contribute to abnormalities of reproductive function.

STRESS

Studies have shown that stress not only affects our ability to conceive naturally, it also has a negative effect on the chances of success in couples undergoing IVF. In women, the effect of stress may result in hormonal changes and irregular menstruation. In men, it may be responsible for decreased sperm production.

There is a growing body of evidence to suggest that managing stress when trying to fall pregnant will help to improve your chances of falling pregnant both naturally and when undergoing IVF treatment. Compass Fertility offers counselling that may assist; speak to your Fertility Nurse Carer or Fertility Specialist for more information on this.

COMPASS FERTILITY RECOMMENDS THAT ALL WOMEN PLANNING A PREGNANCY

- Increase their dietary intake of folic acid, particularly in the month of treatment and during the first three months of pregnancy.
- Take a single tablet of multivitamin including 0.8 mg of folic acid (such as Elevit) daily for at least three months before conception and continue through pregnancy. Folates are essential as coenzymes as well as being crucial to all cell division.
- Assess their diet, exercise, smoking, weight, stress levels, lifestyle, medications, and other environmental factors that may be inhibiting their ability to fall pregnant.

Fertility treatments – need to know

TREATMENT CYCLES

For all our treatments we refer to the first day of a woman's period as Day 1.

As a general rule

1. Full heavy period prior to lunch - Day 1.
Any bleeding after lunch Day 1 next day.
2. Ignore spotting, and take the onset of your normal heavy flow as the day your period starts.

NUMBER OF EMBRYOS TRANSFERRED

A maximum of two embryos may be transferred to the uterus, but the choice of how many you wish to have transferred must be made by you and your partner in consultation with your Fertility Specialist. Together you will discuss the alternatives and sign a Procedure Consent Form at the beginning of the cycle stating the maximum number of embryos to be transferred. Your final decision can be made at the time of embryo transfer based on the information provided by the Fertility Specialist and Scientist. If you choose to alter the number of embryos for transfer, the Procedure Consent Form will need to be adjusted prior to your transfer procedure.

EMBRYO FREEZING

If more embryos develop normally than required for fresh transfer, you may choose to have these frozen. If you do not wish to have embryo freezing, your choices are:

- a) Restricted egg collection of no more than two eggs, which are then inseminated, with any resulting embryos transferred.
- b) All eggs collected, but only a few inseminated, with the remainder donated to research or discarded.

In the Australian Capital Territory, Compass Fertility complies with the NHMRC Ethical Guidelines on the use of Assisted Reproductive Technology in Clinical Practice and Research (June 2007- www.nhmrc.gov.au).

This states that persons conceived using ART procedures are entitled to know their genetic origins. Clinics must not use donated gametes (sperm or eggs) in reproductive procedures unless the donor has consented to release identifying information about himself or herself to the persons conceived using his or her gametes.

ADMINISTRATING OF MEDICATIONS FOR IVF TREATMENT

An IVF treatment cycle involves a sequence of steps that also includes the administration of medications.

We ask patients to take responsibility for the administration of any medications during their treatment cycle, including the nasal spray and injections. Some patients will be prepared to give themselves the injections while others ask their partner, another family member or a friend to do it for them.

During your pre-treatment interview, a Fertility Nurse Carer will show you how to use the intranasal spray, prepare and administer the injections. You will be informed as to when the nasal spray and injections should be given.

SUPPRESSION OF OWN HORMONES *ORGALUTRAN

Before we stimulate your ovaries it is usually necessary to suppress your own hormonal cycle. Some types of cycles do not require this suppression. Your Fertility Specialist will decide which is appropriate for your treatment.

STIMULATION OF FOLLICLE GROWTH

To maximize the pregnancy rate using IVF, we aim to transfer one or two embryos into the uterus. To do this, it is necessary to stimulate the growth of several follicles for each treatment cycle. The follicle is the fluid-filled sac in which the egg develops. The follicle is 18-25 millimetres (one inch) in diameter at the time of ovulation. The egg or ovum itself is less than the size of a pinhead (one tenth of a millimeter).

Follicle growth is controlled by a synthetic hormone, FSH (Follicle Stimulating Hormone). FSH mimics what is naturally produced by the human pituitary gland. The daily FSH injections should stimulate three or more follicles to grow and mature.

Approximately ten to 14 days of FSH injections are required to stimulate follicle growth and the development of eggs within these follicles. Orgalutran is used in conjunction with the FSH injections and prevents premature ovulation (release of the egg).



MONITORING OF FOLLICLE GROWTH

The growing follicles produce a hormone called oestrogen. For this reason, blood may be taken from your arm during your FSH injections.

One or two ultrasound scans will be performed to find out how many follicles are developing, what size they are and in what ovary they are growing. The scan is done vaginally, where the scan probe is inserted into the vagina.

CANCELLED CYCLES

If you over or under responding to IVF drugs or there are unexpected findings during the monitoring of your cycle, the cycles may need to be cancelled.

If your doctor is concerned about a possible risk of hyperstimulation, he/she may decide to either:

- Cancel the cycle in which egg collection will not take place - or
- Collect the eggs and freeze resulting embryos. The frozen embryos will then be transferred in a frozen cycle that will be arranged by your IVF doctor.

OVULATION TIMING

Timing of the egg collection is based on the oestrogen levels in your blood and/or scan findings. You now stop using all your current cycle medications. At this point, a single injection of hCG (eg: Ondrel) is given to initiate the final maturation of the ovarian follicles and facilitate egg collection. We will schedule the egg collection 36 hours later.

EGG COLLECTION

Egg collection is completed at Barton Private Hospital. You are given an admission time that is 30 minutes before the actual procedure time. On admission, patients are interviewed by a nurse and anaesthetist and remain dressed until they are ready to go into Theatre for their procedure. Once changed into a gown, an anaesthetist will escort you to Theatre. Following the procedure you will be transferred to the Recovery Room and then to a reclining chair where you remain until you are ready to go home (approximately 3 hours). Before heading home, you usually come back to Compass Fertility for a post pick-up interview/ chat to make sure everything is ok. You CANNOT drive yourself home – please ensure that you have organised transport home. On the night of your egg collection you will start a short course of daily progesterone (Crinone vaginal gel or Progesterone pessaries) to prepare the lining of the uterus for the implantation of an embryo, occasionally your doctor may prescribe booster injections of hCG (eg: Ondrel).

ANAESTHESIA

Undergoing egg collection involves a light anaesthetic that requires you to fast for six hours prior to the procedure. The anaesthetics used allow you to recover quickly so you are awake soon after the procedure is completed.

TRANS-VAGINAL OOCYTE (EGG) RETRIEVAL/COLLECTION

Once you are asleep, a vaginal probe, similar to the one used for ultrasound scanning, is inserted into the vagina to collect the eggs. On this occasion it is equipped with a needle guide. Using the ultrasound scan, the follicles are lined up in the needle track and the needle is then pushed through the wall of the vagina, into the ovary and into the follicle to remove its contents.

COLLECTION AND PREPARATION OF SPERM

Close to the time of egg collection, your partner (or known donor) will be asked to produce a semen specimen that is prepared and washed to select the most motile sperm. Occasionally, a second sample will be requested to increase the number of sperm available. Please ensure 3–5 days of abstinence from sexual activity prior to the sperm collection date, unless advised by your doctor. Do not abstain for longer than 5 days.

SPERM FREEZING

The Andrology department at Compass Fertility also have the capacity to freeze your sperm. It could be used as back-up if you have difficulty producing on the day of your partner's egg collection. Due to the rigorous nature of the freezing procedure, there is a reduction in sperm quality after freezing, so two or three samples may be required to compensate. In some cases we will be unable to successfully freeze your sperm. If freezing is required it should be done at least three weeks before your partner's egg collection date. Fees apply for sperm storage (billed every 6 months). Unfortunately not all semen freezes well and this procedure is not suitable for everyone.

INSEMINATION OF EGGS (IVF)

The washed sperm are added to the eggs and placed in a special incubator. About 16-18 hours after adding the sperm, the eggs are re-examined to assess whether fertilisation has occurred. If it has, there will be two clear areas within the egg, which are the collection of genes from each parent before they have joined together. This stage is called "pro-nuclei development". These results will be available from your Fertility Nurse Carer the day after egg collection.



POST TRANSFER

Normal activities, including protected sexual intercourse may be resumed after embryo transfer. Activities not recommended for pregnant women (like squash, tennis or aerobics or anything that can leave you gasping for breath) should probably be stopped, although there is no firm data about this. You should keep up the regular exercise that you are used to, providing it is not too strenuous. Try to avoid excessive rises in body temperature.

You will be required to use a Progesterone supplement (either pessaries or gel as prescribed by your Fertility Specialist) until the result of your pregnancy blood test are known. Progesterone is a hormone that supports the lining of the uterus in preparation for a possible pregnancy. DO NOT stop the progesterone medication unless instructed by an Compass Fertility Doctor or Fertility Nurse Carer.

WAITING TIME

People report this as the most difficult time in the treatment cycle. Whilst there are few limitations on your physical activities, many people will find it difficult to keep their minds off their recent treatment cycle. Bear in mind that this period of hope has associated anxieties. If you have any difficulties coping at this time, do not hesitate to contact one of the counsellors or a Fertility Nurse Carer. Our staff are available for moral support – we understand it is a difficult time for you.

PREGNANCY TEST RESULTS

A pregnancy blood test is performed approximately 14 days after egg collection. These results will be available on the same day and given to you over the telephone by one of the Fertility Nurse Carers – usually your own. It is important that this test is performed even if you experience bleeding suggestive of a period.

EMBRYO TRANSFER (ET)

Embryos may be transferred to the uterus at different stages of development, either on day 3 or 5-6 days after egg collection. A fine plastic tube containing the embryo/s and a small amount of media is passed from the vagina, through the cervix (neck of the womb) up into the cavity of the uterus (womb). Similar to a Pap smear, it is a relatively painless procedure and an anaesthetic is rarely needed.

EMBRYO FREEZING

This procedure can be performed if:

- Viable embryos (ones that have reached the required cell stage) are available in excess of those used for the fresh embryo transfer
- Vaginal bleeding makes transfer of the fresh embryo/s undesirable
- A medical condition, such as ovarian hyperstimulation, contraindicates the transfer of fresh embryos



Male fertility treatment – need to know

MICROINJECTION (ICSI)

Patients with more severe forms of male factor infertility are advised to consider microinjection. This technique involves the injection of a single sperm into the centre of the egg (Intracytoplasmic Sperm Injection – ICSI). Fertilisation rates following microinjection average 50-70% of eggs, although this value can vary between individuals.

Suitable patients include those with:

- Too few sperm for micro-drop insemination (standard IVF)
- Men with immobile or abnormally shaped sperm
- Men with high levels of sperm antibodies which block fertilization using standard IVF
- Couples with previous poor fertilization using standard IVF
- Men with obstruction to sperm outflow in whom only epididymal or testicular sperm can be obtained.

TESTICULAR BIOPSY

Sperm can be obtained directly from the testis using testicular biopsy. The most common reason for this procedure to be undertaken is the obstruction to the sperm transport system. As a result, no sperm are present in the ejaculate; however, large numbers of sperm

may still be produced in the testis. This situation can be congenital or can follow scarring and blocking of the fine tubules that lead from the testis as a result of infection or after vasectomy.

In some patients a fine needle biopsy is performed. Local anaesthetic is placed above the testis and as a result, the skin and the testis itself become numb. A fine needle is then placed through the skin into the testis and a small piece of tissue (perhaps the size of half a grain of rice) is removed, or sperm may be removed directly from the epididymis. The embryologist then examines the fine tubes contained in the biopsy sample and removes sperm for the microinjection procedure. The fine needle biopsy takes about fifteen minutes. Occasionally leftover sperm can be frozen and used for subsequent microinjection cycles. Alternatively the biopsy can be performed again. The results of the microinjection procedure using testicular sperm in such cases are good (approximately 25% clinical pregnancy rate per cycle).

Another indication for testicular biopsy is in men with severely damaged testis in whom few sperm are produced and none are available in the ejaculate. In this setting a larger biopsy of the testis is performed under a general anaesthetic and in 50% of cases, adequate sperm numbers can be obtained by carefully processing the biopsy to find the small 'islands' of sperm production that persist, despite damage everywhere else in the testis. In cases where no sperm are found, couples must consider whether to discard the eggs or use donor sperm.

Possible risks of infertility treatment

The Treatment Cycle Handbook briefly reviews some of these matters. Couples should be aware that it does not cover all risks. Your Fertility Specialist will discuss the possible risks of infection and bleeding as they relate to you and your partner during the Informed Consent Process.

Anyone taking medication for any reason should be aware of the possible side effects and should report adverse effects to those managing their treatment. The medications used for ART are known to create some minor side effects in women, but there is no evidence of increased risk to a baby born as a result of a properly managed treatment. The operations and anaesthetics used in ART carry similar risks as for any gynaecological operation. These include a risk of bleeding and infection of approximately 1 in 1,000. For gynaecological operations, the usual risks of serious complication or death are approximately 1 in 5,000.

Ovarian Hyperstimulation Syndrome (OHSS):

Woman contemplating ovarian stimulation should be aware that the procedure carries risks that are comparable with the risks of elective surgery.

All women undergoing ovarian stimulation, such as during an IVF treatment cycle, experience enlargement of their ovaries and a complex change in their hormone balance. The condition is often marked by weight gain, as excess fluid is retained. For this reason it is important to note your weight at the beginning of each IVF cycle.

For up to 5% of stimulated women, this can be quite unpleasant with abdominal bloating and pelvic discomfort, however, for <1% of stimulated women, the abdominal pain and fluid retention is so severe that admission to hospital is necessary. Symptoms may include marked abdominal swelling, nausea, vomiting and diarrhoea, lower abdominal pain and shortness of breath. Please contact your Fertility Nurse at Compass Fertility if you have these symptoms. Hyperstimulation varies in severity and rarely requires treatment in hospital, but you must contact Compass Fertility if you notice any of the above symptoms so we can monitor you closely.

“Ovarian Hyperstimulation Syndrome” (OHSS), usually presents a few days after embryo transfer; symptoms being provoked by the hCG injection (Pregnyl or Onokel).

Severe symptoms require:

- Bed rest
- Correcting the fluid imbalances with an intravenous drip.
- Relieving pain and nausea for which injections of analgesia and anti-emetic are often necessary;
- Injections of Clexane to counter the tendency of the blood to clot abnormally.

Fortunately this condition is self-limiting. It usually resolves after several days, with a natural excretion of the abnormal accumulation of fluid, however it may persist for weeks, especially if a pregnancy has been achieved. Once the condition has resolved the pregnancy can be expected to proceed normally.

On rare occasions very serious complications have been associated with OHSS:

- Abnormal blood clotting has caused strokes.
- Blood clots have migrated to the lungs, a complication that can be fatal.
- Enlarged ovaries can twist or bruise, requiring surgery.
- Weeping of fluid into the abdomen may be accompanied by a similar collection of fluid about the lungs and heart, interfering with their proper function.
- Liver or kidneys may stop working effectively.

There have been individual case reports of blood clotting and stroke complications from severe OHSS and four deaths have been reported in world medical literature.

ATTENTION; If you think you may be experiencing symptoms of OHSS, please contact your Fertility Nurse Carer immediately.

BIRTH DEFECTS

It is important to remember that any medical or surgical treatment has risks, adverse effects and side effects. Couples should be aware that one baby in 20 born in Australia will have a birth defect. There is no clear evidence that infertility medicines, if properly used, increase this risk.

MULTIPLE PREGNANCY

Management of IVF in Australia is characterised by a very conservative approach to embryo transfer, in order to reduce the likelihood of multiple births. Unlike some countries, where transfer of more than six embryos is routine, in Australia, generally only one or two embryos are transferred in each attempt.

To reduce the risk of multiple pregnancies we have to **limit the number of embryos transferred**. In deciding how many embryos are to be transferred, we need to consider the number of previous pregnancies, the woman's age, the duration of infertility, the reason for the fertility problem, the number of previous attempts, the number of fertilized embryos, the cleavage stage, and the quality of embryos replaced. The policy at Compass Fertility is to transfer no more than two good quality embryos. It is important to note that even triplets may result from a two-embryo transfer if one embryo splits into two. Excess embryos that are of good quality can be frozen, stored, and used in a subsequent cycle, if necessary.

Dealing with problems after hours

At Compass Fertility we provide an on-call Fertility Nurse. The on-call nurse is available to answer any question or concerns you may have regarding your treatment, injections/medications or unusual symptoms you may be experiencing, that need to be addressed and cannot wait until business hours the next day. The on-call nurse is there to support you, please do not hesitate to call should you be worried or anxious, have accidentally dropped an ampoule of medication (on the bathroom floor) or are experiencing symptoms of OHSS (refer to Possible Risks of Infertility Treatment section for symptoms).

The on-call nurse can be contacted by calling: **04 06 379 781**

Please note: if you are very unwell, bleeding or in pain, attend your nearest emergency.

Coping with the anxiety of waiting for a pregnancy test

INTRODUCTION

Fertility treatments are known to be a time of anxiety and worry and, for many, the 2-week wait before taking a pregnancy test can feel like a lifetime.

As part of your treatment cycle at Compass Fertility, you are entitled to a complimentary counselling session, where you can discuss your expectations, fears and anxieties. Strategies and coping mechanisms can be put into place, or you may just want to talk openly and freely about the whole treatment process.

TIPS FOR MANAGING ANXIETY:

- **Identify your triggers:** List the things that set off your anxieties. What are the things leading up to or that occur around this time that actually makes you anxious?
- **Consider what you need:** Think back to other times when you have felt anxious, depressed, stressed etc, and think about what it is that you needed during that time. What works for you and what definitely doesn't?
- **Communicate with your partner:** Talk through what each of you need and help the other be aware of the signs that you need help.

→ **Prepare a plan of action:** Work out what you and your partner can do to help and support the other. You may also wish to broaden your support network to include sharing with your family and friends and enabling them to be more aware of how they can help and support you.

→ **Distraction techniques:** A good way to keep anxiety contained is to keep busy. Some people find it helpful to engage in some of the following activities:

Low impact exercise
Relaxation therapy
Hypnosis
Meditation
Massage
Aromatherapy
Listening to music
Counselling

→ **Arrange activities to look forward to:** during this highly stressful time a lot of people put their lives on hold, waiting until the pregnancy result before making plans to do one thing or another. It can be helpful to have positive activities planned ahead of time to coincide with difficult periods. Firstly, this gives you something pleasant to look forward to, and secondly, if it is planned in advance, you might be more likely to follow through with it. Examples of positive activities can include massages, movies, visiting friends, going away for the weekend or night with your partner to a lovely location, dinner with friends at your favourite restaurant, etc.





Important information

This information will help you with your treatment cycle.

PLEASE READ CAREFULLY

Please be punctual and have your labels ready for blood tests and ultrasound. You should have something to eat, or at least drink, before your blood test, preferably water, juice or milk, NOT coffee or tea. Please do not wear clothing with tight sleeves as this makes it difficult to take blood and can cause delays.

Consents: It is a legal requirement that all consents are completed and returned as soon as possible. Please note your treatment may be delayed if we do not have your completed consents.

Medical Waste: Dispose of used needles and empty glass ampoules in the sharps container provided. When the container is full – secure the lid and return to Compass Fertility for disposal or local pharmacy.

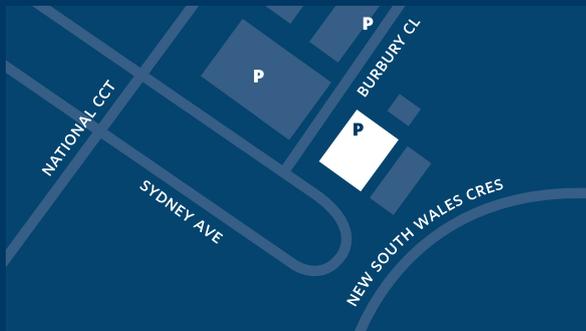
Nurse Contact: Nurses are available between 8.30am and 3.30pm Monday to Friday during office hours. Should you call and a nurse is unavailable to talk at that present time, please tell the Receptionist your name, IVF number and contact number and briefly what you wish to discuss. Your call will be returned as soon as possible once the nurse is free. If your call is urgent, please let the Receptionist know and you will be dealt with immediately.

Ultrasound: Appointments are scheduled every 15 minutes. Please be on time and have your labeled request form ready. If you are late you may have to wait for the next available appointment.

Other: Your IVF treatment cycle, from the first day of injections to the pregnancy test, is covered by a “GLOBAL FEE”. Any IVF related injections/blood drawing performed by a nurse/doctor, other than Compass Fertility is not covered by Medicare.

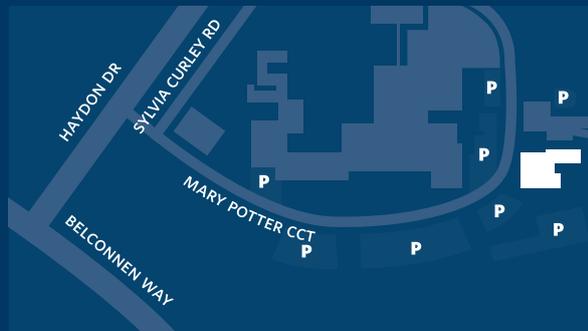
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