

Information for Couples

About Fertility Care



September 2016

Saskatchewan Fertility Care Pathway



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What is Fertility?

Fertility is usually defined as a couple's ability to produce children by sexual activity. Both men and women can have problems that make it difficult for them to reproduce naturally. This booklet is intended to help you understand some barriers to fertility, and possible solutions.

At any time 10 to 15 per cent of couples trying to have a child find that they have trouble getting pregnant. **Infertility is defined as a couple failing to achieve a successful pregnancy after 12 or more months of appropriate, timed, unprotected sex.**

When to seek care

A physician can give advice about natural fertility at any time, but he or she may not suggest fertility assessment until a couple has tried for 12 months to have a child.

Earlier evaluation and treatment is recommended when a single woman or same-sex couple wishes to start a family, or when there is a concern about fertility such as:

- A woman over 35 years old has had six months of unprotected, well-timed sex without getting pregnant, or
- A woman or man (or both) have known or suspected problems with their reproductive systems, like infrequent periods, history of pelvic infection or endometriosis, or known low sperm concentration, or
- A woman is able to get pregnant, but the pregnancy ends in miscarriage. Multiple miscarriages (2 or more) may be a sign of fertility problems.

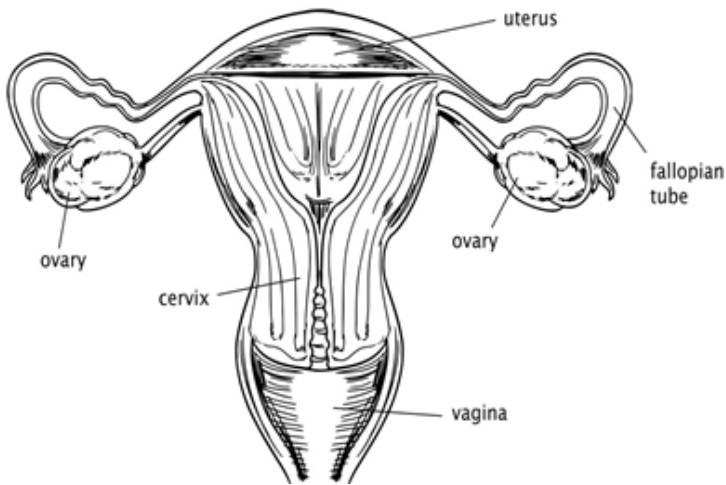
NOTE: Words that are underlined are included in the Glossary at the end of this booklet.

Understanding Reproduction

In order for a woman to get pregnant, two things are required:

- The woman's egg must be fertilized by a man's sperm; and
- The fertilized egg must implant in the uterus.

Female anatomy



A woman's reproductive organs perform these functions in a cycle of roughly 28 days:

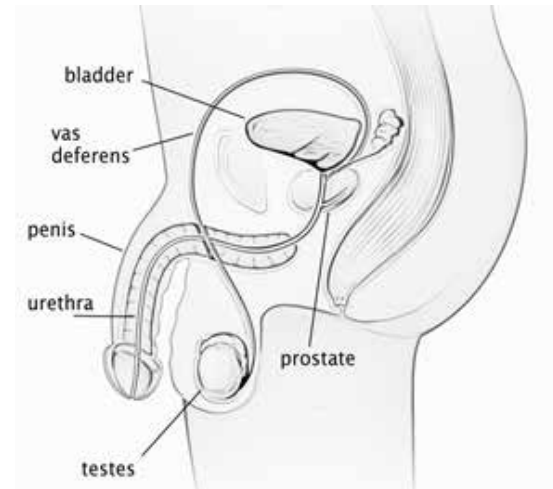
- Mature an **egg** inside one of the **ovaries**.
- Prepare the **uterus** for a fertilized egg.
- Release the egg into the **fallopian tube**, where fertilization may or may not take place.
- If no fertilized egg implants during the cycle, shed the **endometrium** and begin again.

The **ovaries** are small glands that produce eggs and the female sex hormones estrogen and progesterone.

The **uterus** is a hollow organ that leads down from the ovaries to the vagina. During pregnancy, a developing fetus grows inside the uterus.

The **fallopian tubes** reach from the uterus to the ovaries. The fallopian tubes pick up eggs released from the ovaries and transport them to the uterus. The inner lining of the uterus is the **endometrium**.

Male anatomy



The function of a man's reproductive organs is to:

- Produce **sperm** and testosterone.
- Produce enough **semen** to transport sperm.
- Ejaculate sperm outside the man's body.

Sperm are the male reproductive cells. Sperm is produced in the **testicles** (or testes) along with testosterone, the main male sex hormone.

Sperm is contained in semen, a fluid that comes out of the penis when the man reaches sexual climax with ejaculation.

Internally, the **seminal vesicle** and **prostate gland** produce most of the fluid that makes up semen. The **epididymis**, **vas deferens** and **urethra** are responsible for storing and transporting sperm from the testes to the penis.

Men can produce sperm at any time, but women only release an egg once a month. The sperm must get together with the egg at a specific time in the month for fertilization to occur. That is why understanding a woman's reproductive cycle, or menstrual cycle, is important for fertility.

The menstrual cycle lasts 28 days for most women. Variation (24-38 days) is normal. It is divided into phases as follows:

Follicular Phase

This phase begins on the first day of menstrual bleeding (day 1). In this phase, the body releases follicle-stimulating hormone (FSH) to stimulate the production of eggs in the ovaries. As soon as menstrual bleeding stops, the lining of the uterus starts growing again to prepare for a fertilized egg.

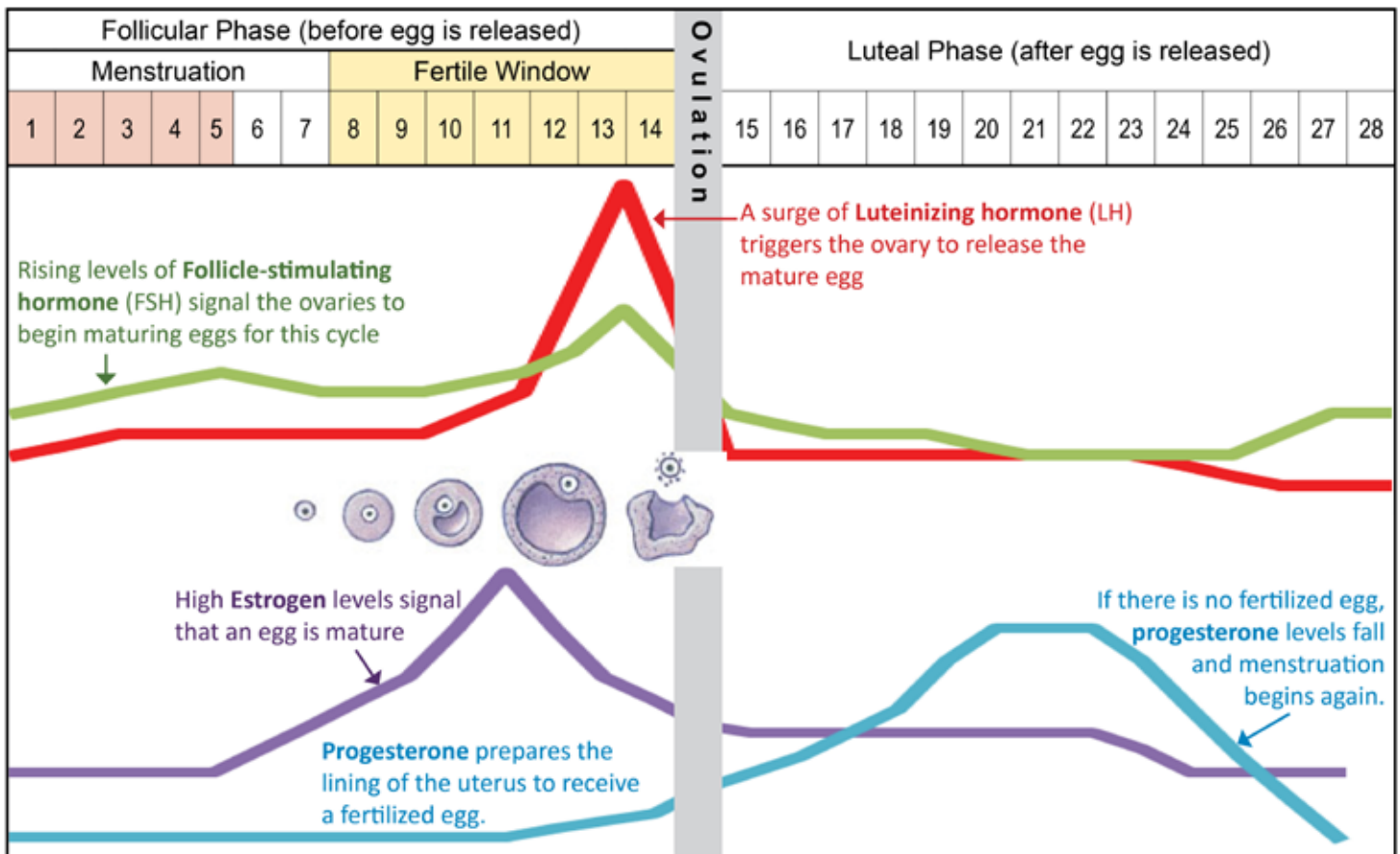
Ovulation

After about 14 days, a surge of luteinizing hormone (LH) causes an ovary to release an egg into the fallopian tube. This is called ovulation. Presence of LH in a woman's urine can indicate that ovulation is taking place.

Luteal Phase

In this phase the lining of the uterus thickens and fills with nutrients to nourish a potential embryo. If a fertilized egg implants, cells begin to form around the developing embryo. If the egg is not fertilized or if the fertilized egg does not implant, the lining of the uterus breaks down and menstruation starts.

Hormones in the Menstrual Cycle (28-day)



Optimizing Natural Fertility

Health care providers do not normally have concerns about natural fertility until a couple has gone 12 months without conceiving. There are a few things that affect natural fertility:

Sex

Intercourse every one or two days is associated with higher rates of conception. Couples trying to conceive may time intercourse for the woman's fertile period.

Fertile window

For a woman to get pregnant, intercourse needs to happen during her fertile period, which starts about five days before ovulation. Sexual intercourse a few days before ovulation ensures that sperm is ready and waiting in the woman's reproductive tract when the egg is released. This increases the chance of fertilization.

Weight

Efforts to achieve a normal weight can considerably improve natural fertility. Obesity or being underweight (for men and women) can reduce chances of conceiving naturally.

Maternal Age

A woman's best reproductive years are in her early to mid 20s. Fertility begins to decline slowly just before age 30 and more quickly after age 35. A healthy, fertile 28 year old woman has a 20% chance of getting pregnant each month that she tries. By age 40, a woman's chance is less than 5% per cycle. This decline is true for natural conception as well as conception using fertility treatment.

Lifestyle

Couples trying to conceive should care for their general health and nutrition. In particular:

- Stop smoking - There is substantial evidence that smoking reduces fertility in both women and men.
- Alcohol and caffeine consumption, even in moderate amounts, also has an adverse effect.
- A multivitamin that contains folic acid is recommended.
- Be proactive about sexual health and seek treatment for any sexually transmitted infections.

Timing intercourse

Timing intercourse means making sure to have sex during the woman's fertile period. To identify the fertile period:

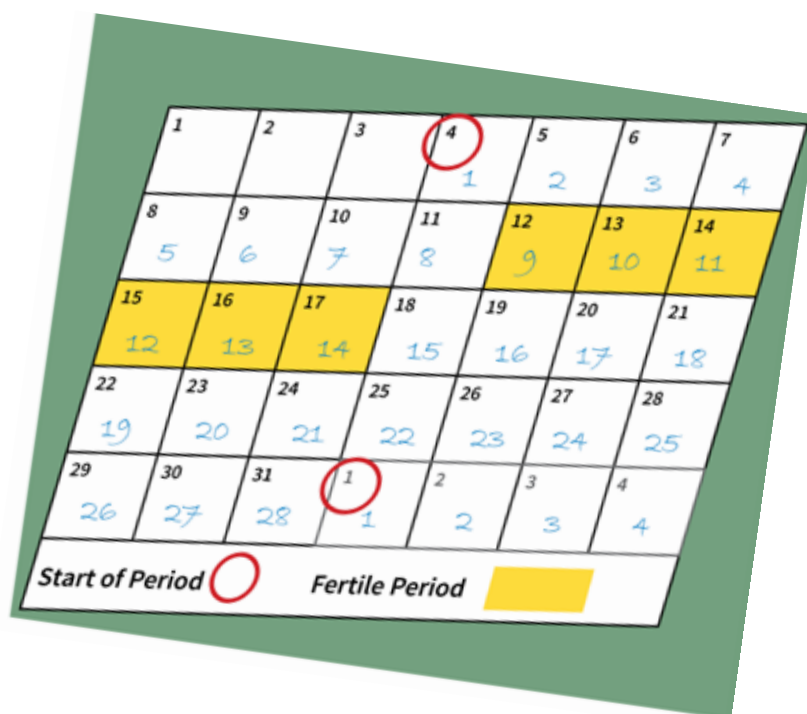
1. Mark the dates of your menstrual cycle on a calendar. If possible, keep track of these dates for a few months – you can use a calendar or smartphone app for this purpose. This can tell you how long your menstrual cycles are and whether they are regular or not.
2. Count the days in your menstrual cycle, starting with the first day of menstruation as Day 1. A common menstrual cycle lasts 28 days, but some variation is normal.
3. Count 14 days before your *next* menstrual cycle will begin. This is when ovulation may take place. For example, if you normally have a 30 day cycle, estimate that ovulation will take place on day 16.
4. Once you can roughly predict the date of ovulation, time intercourse during the six days leading up to ovulation (for example, day 10 to day 16).

It is not necessary to identify the exact time of ovulation. There is no need to have intercourse at a specific time, or very frequently during this period – but at least 2 or 3 times.

When a woman's cycle is irregular or difficult to predict, one reliable way to identify ovulation is with over-the-counter urine tests that detect changes in reproductive hormones (LH). These are called ovulation predictor kits. They can be purchased from a pharmacy.

When the following complications are present, it may be appropriate to initiate assessment before 12 months. Inform your doctor if you know or suspect:

- Sexually transmitted infection, or other pelvic infection. This can cause scar tissue that blocks fallopian tubes.
- Endometriosis – characterized by heavy, painful menstrual periods – is a common cause of damaged fallopian tubes.
- Polycystic Ovarian Syndrome (PCOS) – characterized by missing or irregular menstrual periods, or other signs of hormone imbalance such as excessive acne or facial hair – may require intervention to normalize ovulation.
- Unusual exposure to drugs (such as chemotherapy) or chemicals (such as industrial chemicals).
- Abnormalities of the male or female reproductive organs.



Fertility Evaluation

If you meet the definition of infertility (page 1) or you have other reasons to suspect a problem, you may want to seek a fertility evaluation.

This will help to narrow down the cause of your problems and provide useful information about your options. An evaluation is for “fact finding” and does not commit you to any treatment.

To get a fertility evaluation you need to talk to your family doctor or nurse practitioner. He/she can begin the process by taking a medical history and physical exam, and ordering some tests. Your initial discussions will help your doctor to know whether to refer you to a gynecologist or urologist, or directly to a fertility specialist.

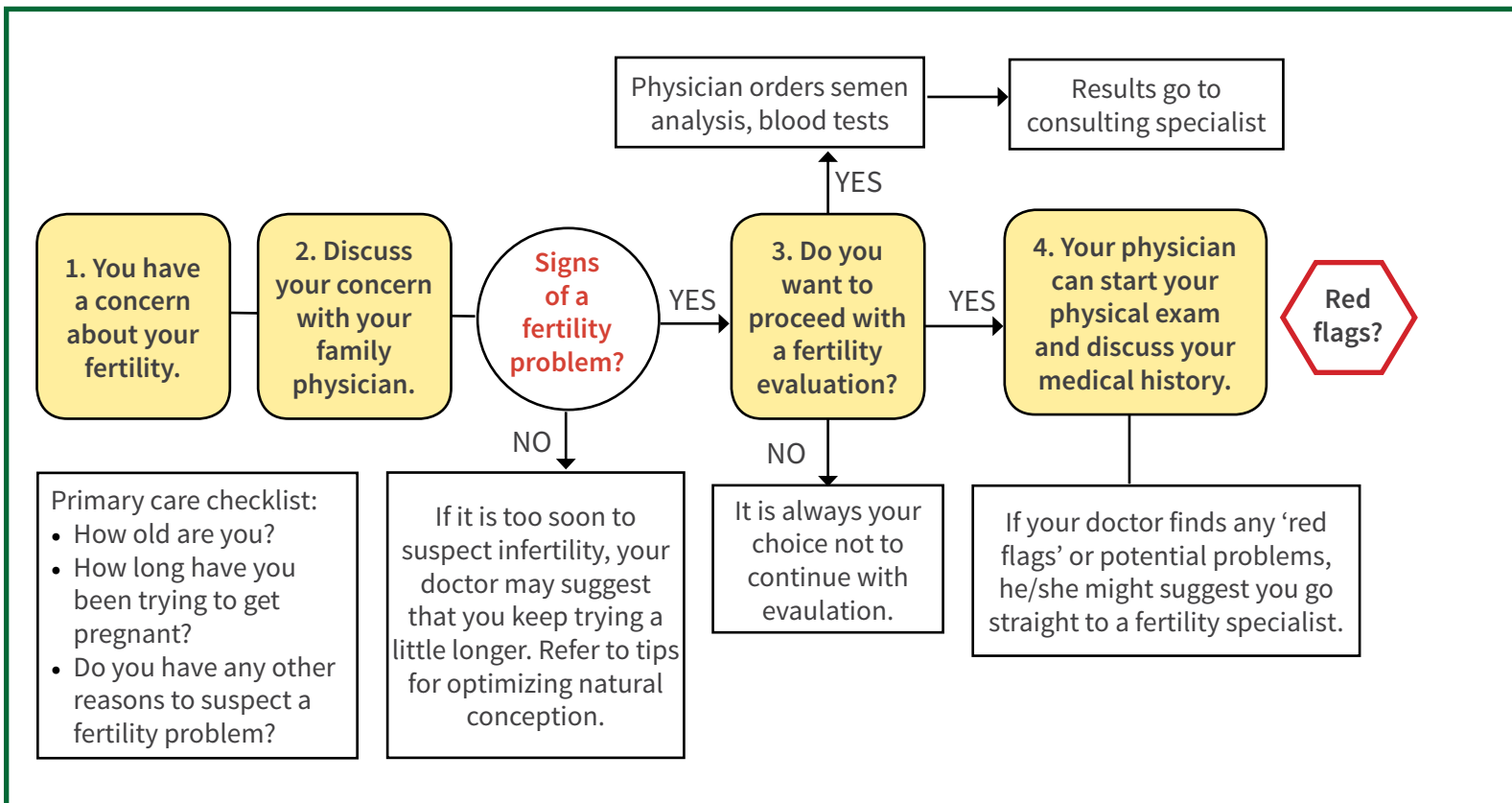
Doctors may approach an assessment with urgency or not, depending on the woman’s age, how long the couple has been trying to conceive, the couple’s preferences, and other unique features.

Physical exam

A physical exam for infertility includes weight, body mass index (BMI), blood pressure and pulse. For women the exam may include the thyroid and breasts, as well as abdominal and pelvic exams. For men it may include a genital exam for assessment of the penis and testicles.

For couples

Once a couple decides to proceed with fertility exams, both partners should be present and participating. Fertility assessment includes tests for both men and women. Just because one partner has had children before does not rule out a new cause for infertility.



Medical history

When you start a fertility evaluation, you need to be prepared to openly discuss your sex life and other personal matters.

You will also discuss prior surgeries, current medications, sexually transmitted infections, social habits like tobacco and alcohol use or the use of other recreational drugs, and family history of medical or genetic diseases.

Your doctor needs to know if either partner has had children (or pregnancies) before, or has ever been evaluated for infertility before. For women who have been pregnant before, history includes how long it took to get pregnant and the outcome for each past pregnancy.

A fertility history for couples begins with:

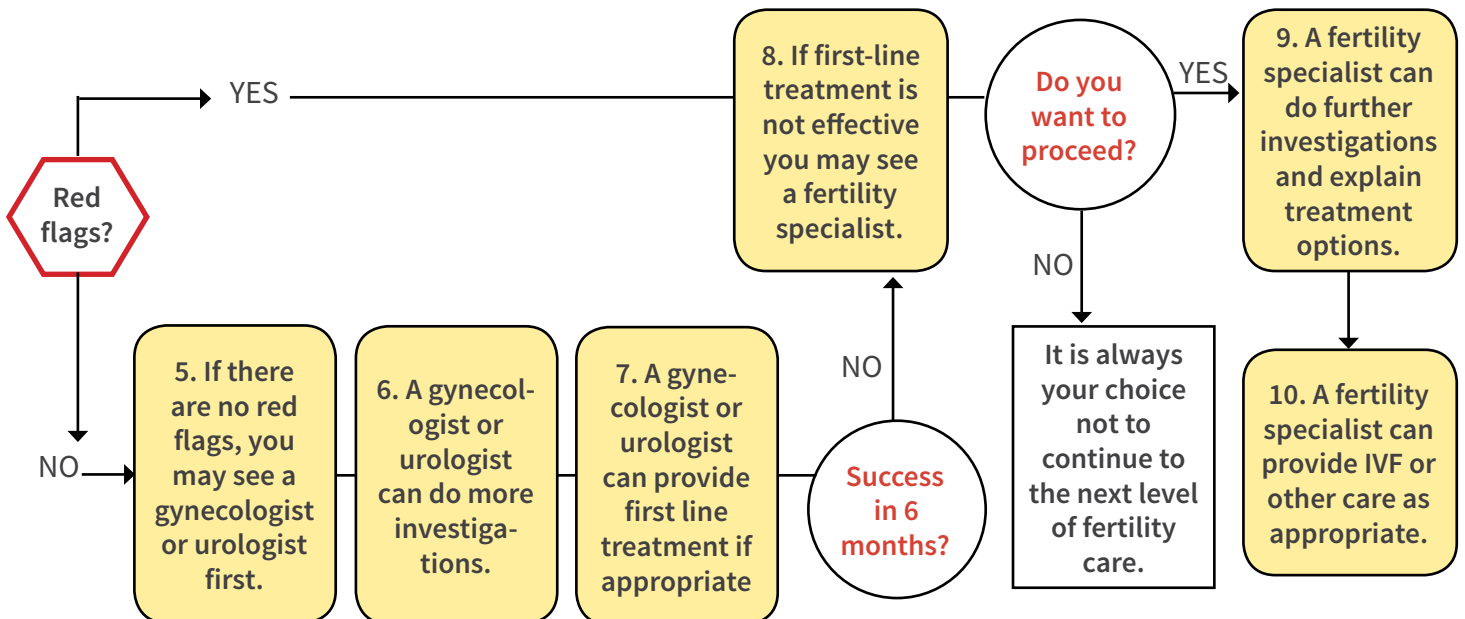
- How long have you been trying to get pregnant
- When and how often do you normally have sexual intercourse

A fertility history for women includes:

- Pattern of menstrual cycles
- Pain with menstrual periods or intercourse
- Use of contraception
- Any prior pelvic surgery involving the cervix, uterus, ovaries, fallopian tubes or appendix
- Symptoms of medical conditions that can affect fertility

A fertility history for men includes:

- Assessment of sexual function including the ability to achieve erection and ejaculation
- Any history of problems with the testes, including infections, trauma, twisting (torsion), undescended testes or surgeries of the testes or groin
- Exposure to conditions or toxins that are known to impact male fertility, such as smoking, excessive heat and chemo radiation therapy



Preparing for fertility testing

Before starting your evaluation, collect as much information as you can about the exact dates of menstrual cycles and estimated ovulation times. Provide this to your care providers. This helps determine when and if ovulation is taking place. It also helps with the scheduling of hormone tests that must take place at specific times in the menstrual cycle.

Diagnostic tests

Tests for the most common causes of infertility are done first. It may be possible to diagnose the cause of fertility problems right away. Not all couples need to undergo all tests.

FOR MEN - initial tests include:

Semen analysis - Provides information about the number, movement and shape of the sperm. For this test, men provide a semen sample, collected in a clinic setting or at home and dropped off within an hour.

Blood test for hormones - Hormones control sperm production. Blood tests for hormone levels are used to evaluate male fertility issues.

FOR WOMEN - initial tests include:

Blood test for hormones - A regular menstrual cycle is a good sign that ovulation is happening. A blood test for follicle-stimulating hormone (FSH) is used to assess ovarian reserve (quantity and quality of eggs). Testing for other hormones like thyroid stimulating hormone (TSH) and prolactin helps to identify disorders that may interfere with fertility.

Urine testing - To check for sexually transmitted infections that can affect fertility.

Follow-up tests

If initial tests don't identify a cause, a gynecologist may recommend more invasive tests to evaluate a woman's uterus and fallopian tubes.

Hysterosalpingogram (HSG) - An x-ray of the uterus and fallopian tubes to see if there is blockage or some other problem within the uterine cavity. If abnormalities might be present, a gynecologist can perform a hysterosonogram or hysteroscopy.

Ultrasound and sono-hysterogram - A pelvic ultrasound is typically done with an ultrasound probe within the vagina to visualize the ovaries and uterus. A sono-hysterogram, like the HSG, is a test used to identify abnormalities within the uterine cavity and the fallopian tubes.

Hysteroscopy - A slightly more invasive test, where a hysteroscope is inserted through the cervix into the uterus. A physician can see any abnormalities, growths, or scarring in the uterus through the hysteroscope.

Laparoscopy - A day surgery that requires admission to the hospital and general anesthetic. A surgeon makes a small incision and inserts a laparoscope into the abdomen, which provides a view of the uterus, fallopian tubes, and ovaries. Sometimes this procedure is used not just for diagnosis, but also for treatment. It may be possible for scar tissue or other adhesions that are blocking fallopian tubes to be removed at the same time.

Fertility evaluation up to this point is paid for by your provincial health coverage.

Causes of Infertility

About one third of the time infertility is caused by female factors, one third of the time by male factors, and one third of the time by both, or by factors that are unexplained. In about 15 per cent of couples, doctors cannot be sure about the cause of infertility.

Female factor

Age-related infertility – A woman’s fertility declines as she ages because both the quality and the quantity of her eggs gradually decline.

Unlike a man, who continues to produce sperm throughout his life, a woman is born with all the egg-containing follicles in her ovaries that she will ever have. Only about 300 will be ovulated during her reproductive years, which naturally come to an end about five years before menopause. The gradual decrease in number of follicles remaining is called “loss of ovarian reserve.” The more eggs a woman has left, the better her chance of getting pregnant. Low ovarian reserve can make it difficult to get pregnant – even with treatment.

Egg quality decreases as the number of remaining eggs decreases. Also, as a woman gets older, more of her eggs may have genetic abnormalities such as too many chromosomes. If one of these eggs is fertilized, the embryo also will have an extra chromosome. Down Syndrome is an example of a condition that results when the embryo has an extra chromosome. Most embryos with this kind of abnormality do not result in pregnancy at all, or result in miscarriage. This is one of the reasons for the lower chance of pregnancy and higher chance of miscarriage in older women.

Tubal factor infertility – The fallopian tubes are very important to the reproductive process. If eggs or sperm are blocked from the fallopian

tube, then fertilization can’t occur. The most common cause of blockage or damage is scar tissue.

Abnormal ovulation – Ovulation is the monthly release of an egg by the ovary. Some women do not ovulate at all, or ovulate infrequently, resulting in irregular periods and infertility.

Male factor

Impaired sperm production – Most male infertility is due to problems with sperm number or quality.

- Decreased number of sperm – Up to 20% of men have a low sperm count, defined as fewer than 15 million sperm per millilitre of semen.
- Decreased sperm motility – At least 40% of sperm need to be progressively mobile (swimming forward) in order to reach the egg
- Abnormal sperm – sperm can sometimes be an abnormal shape, making it harder for them to move and fertilize an egg
- Absence of sperm in the semen due to
 - » a hormonal problem: the testes are not getting the hormone signal to make sperm
 - » one of the tiny tubes in the reproductive tract is blocked, which this stops sperm getting from the testes into the semen
 - » the testicle is unable to make sperm

Ejaculation disorders – Some men experience problems that can make it difficult for them to ejaculate sperm outside the body.

Age – Age-related sperm quality generally does not become a problem before a man is in his 60s.

Dealing with a Diagnosis of Infertility

You are not alone in feeling a wide range of emotions if you are facing an infertility diagnosis or treatment. Common reactions include grief, anger, hopelessness, frustration, and loss of self-esteem.

Many people experiencing infertility say that they feel their lives are taken over. Research has shown that infertility is comparable to major illness, loss of a loved one, job loss, or divorce in terms of the impact it can have on our lives – emotionally, physically, financially, and in our relationships.

Many people will experience different emotions at different points in the process, and it's not uncommon for partners to feel differently. Practicing empathy and acceptance with yourself and your partner can be helpful in coping with the emotional side of this process.

While undergoing diagnosis or treatment for infertility, it is important to find support or outlets in ways that feel right to you.

In-person or online support groups – This can be a very valuable resource because you can find people who understand what you are going through.

Private counseling – Many private health benefit plans offer some coverage for counseling. Ask around in your community to find a counselor who is familiar with infertility and the many issues involved.

Self-care – Finding moments of enjoyment can help give you the strength and stamina to continue on what can be a long process of testing and treatment. Whether it's making time for creative outlets, your favourite sports, or quality time with your loved ones, taking care of yourself or letting others care for you is essential.

DECISION: Do I want treatment for infertility?

Being an empowered fertility patient means knowing all your options. Choosing not to have fertility treatment is one of the options. You may go through a number of treatments and then decide the “next level” of treatment is something you don't want. Or you may choose not to try medical treatment at all.

- ❖ What is your reason for making this decision?
- ❖ When do you need to make a decision?
- ❖ Where are you in your decision process?
 - I have not yet thought about the options
 - I am close to making a choice.
 - I am thinking about the options
 - I have already made a choice
- ❖ Overall, how much does being childless affect your quality of life?
 - not at all
 - slightly
 - moderately
 - a great deal
- ❖ What is your preferred option right now?
 - Seek assessment: ask my primary care provider to start this process immediately
 - No action at this time: I accept whatever happens.
 - Not sure: I still need to discuss this with my partner, care providers and other trusted sources. I will set a time limit for this decision, understanding that age is a factor in fertility treatment.

Sexual contact – Dealing with infertility can take a toll on a couple's sex life for many reasons. Try to remember that sex has many benefits aside from reproduction – as a source of pleasure, intimacy, connection, excitement, and as a way of expressing caring and love.

Fertility Treatments

These first-line treatments for fertility are sometimes offered by gynecologists, as well as by fertility specialists.

Ovulation induction

If your fertility exam has shown that you have problems with ovulation, there are medications that can temporarily enhance ovulation and increase a woman's chance for pregnancy.

These medications include pills such as clomiphene citrate and letrozole, or injections.

Ovulation induction treatment may be attempted up to 3-6 cycles. These medications range in cost per cycle from \$50 to \$1,000-2,000.

Intra-uterine insemination (IUI)

IUI is an office procedure (done by a gynecologist or fertility specialist) in which sperm is prepared and placed directly into a woman's uterus to increase the chance of pregnancy. Usually IUI is combined with "superovulation" (see below).

The IUI procedure must be carefully timed to ovulation. Ovulation may be detected by ultrasound or urine tests, or it may be triggered by an injection of hormones. On average, IUI costs \$300-400 in addition to the cost of medications. This treatment can be attempted up to 3-4 times.

Superovulation

Gonadotropins are injectable medications taken daily to increase egg production by the ovaries. An IUI treatment cycle in which gonadotropins are used is also called "superovulation."

Because each woman reacts differently to these medications, close monitoring is required during superovulation. This includes vaginal ultrasounds and blood tests every 1-2 days.

The cost of superovulation ranges from \$1,000-\$2,000 for medications and \$300-\$400 for the IUI procedure.

Donor insemination

Donor insemination (DI) is the process of placing frozen/thawed sperm from a donor into a woman's uterus at the time of ovulation. DI is an option for couples with male factor infertility, or for women who are single or in a same-sex relationship. Most donor sperm is supplied by sperm banks in Ontario. The cost of DI includes the cost to purchase sperm (about \$500-\$700/unit) and the cost of the sperm preparation for insemination (about \$300-\$400).

Alternative or complementary therapies

There is no scientific evidence that alternative therapies help couples to get pregnant or maintain pregnancy.

However, many patients report that they feel better when using one or more of these therapies alone or in addition to their medical treatments.

If alternative therapies help you feel healthier and more balanced, they generally can't hurt. When choosing an alternative therapy, remember:

- Consult your doctor and share all information on alternative therapies with your medical team.
- These therapies can be expensive, and may or may not be covered by private health insurance.
- You may want to ask around to find a practitioner who is knowledgeable about the issues involved in fertility.

Alternative/complementary therapies for infertility include:

- Acupuncture and Traditional Chinese Medicine (TCM)
- Mind/body techniques like relaxation and visualization
- Naturopathic medicine
- Yoga
- Hypnosis

If first-line treatments were not successful or appropriate for you, you may choose to see a fertility specialist. The next level of treatment available is usually in vitro fertilization.

In vitro fertilization (IVF)

IVF treatment starts with injections of medications to stimulate ovulation in the female partner.

The basic steps in an IVF treatment cycle are:

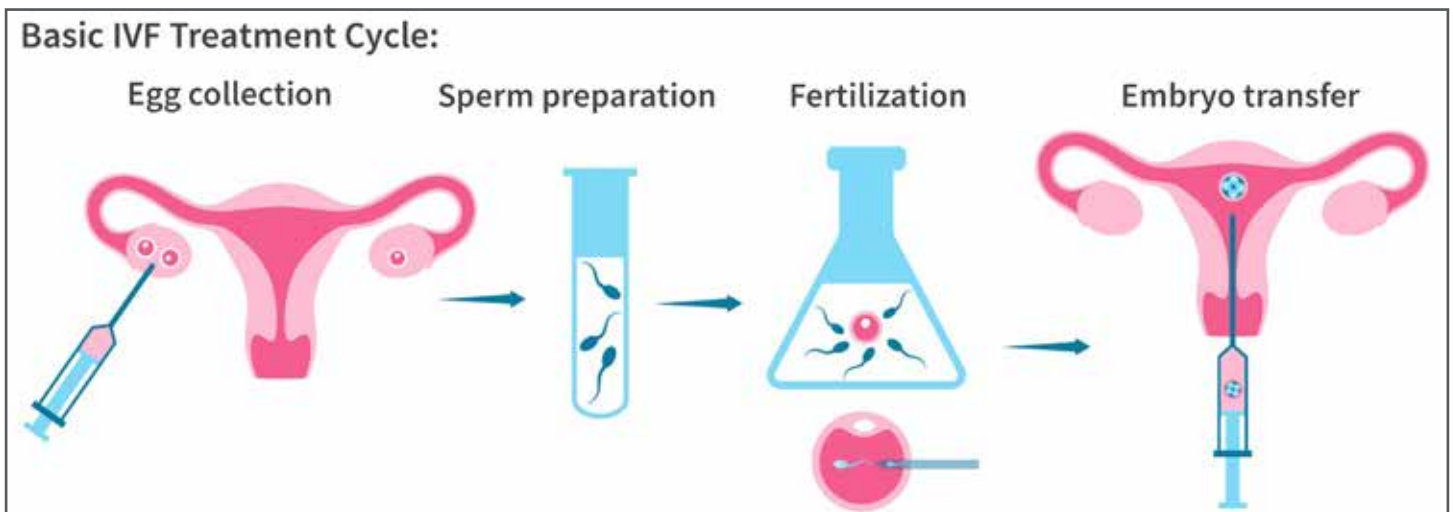
1. **Egg collection:** Eggs are taken directly from a woman's ovary.
2. **Fertilization:** A woman's eggs and a man's sperm are combined outside the body in a laboratory dish. If the egg fertilizes and begins cell division, the fertilized egg is called an embryo.
3. **Embryo culture:** The embryo (fertilized egg) is allowed to grow for a while in a culture dish. Initially the embryo consists of only one cell. Three days after being fertilized, most embryos have 6-8 cells.
4. **Embryo transfer:** The embryo is transferred directly to the woman's uterus. Hopefully it will implant and continue growing. Embryos can be transferred to the woman's uterus on day 3 or they may be cultured until day 5.

Single embryo transfer

When eggs and sperm are combined in a laboratory dish, more than one egg may be fertilized. Even if many embryos are available, couples are encouraged to have only one transferred at a time. The goal is to reduce the chance of a multiple pregnancy, which can be risky for both mother and babies. Embryos that are not used right away can be frozen for future attempts at pregnancy.

IVF is used to treat infertility caused by damaged or absent fallopian tubes, abnormal ovulation, unexplained infertility, inadequate sperm number or function, and age-related infertility.

Cost for IVF ranges from \$6,000 per cycle, plus cost of medications and freezing of embryos if desired. IVF is offered at specialty clinics in several locations in Canada, including Saskatoon. Treatment involves multiple visits to the clinic, so travel should be factored into costs.



If regular IVF is not successful or appropriate, other types of assisted reproduction can be considered.

IVF with sperm injection

In this procedure a single sperm is injected directly into an egg to attempt fertilization. It is most commonly used with male factor infertility or when regular IVF has failed.

IVF with egg donation

A woman can get pregnant with IVF using donated eggs to create an embryo, rather than her own eggs. In this option, the woman will give birth to a baby who is not biologically related to her. This is an option for women with ovarian failure, usually as a result of advanced maternal age (over 43 years). It is also an option when first line treatments or regular IVF has failed. The “ideal egg donor” is a woman under age 35 with proven fertility (she has had a pregnancy or child before).

IVF with gestational carrier

A gestational carrier is a woman who agrees to be get pregnant (through IVF) and give birth to a baby on behalf of someone else. In this option, a couple can create an embryo through IVF using their own eggs and sperm, and then transfer the embryo to another woman. The embryo is biologically related to both of the intended parents, but not to the birth mother. This option is indicated for women without a functional uterus.

Fertility law

In Canada, it is illegal to hire someone to be a gestational carrier or egg donor. However, it is legal if someone volunteers to play this role without any payment. It is common for both sides to get legal advice before entering this kind of agreement.

IVF with Testicular Sperm Extraction (TESE) Or Percutaneous Epididymal Sperm Aspiration (PESA)

When there is no sperm in a man’s semen, these procedures attempt to remove living sperm from other parts of the male reproductive tract. The sperm collected can only be used in conjunction with IVF, since it is not fully mature and able to fertilize an egg naturally. This is an option for men who have had a vasectomy, or who have other problems preventing sperm from reaching the semen.

Reversing sterilization

For patients who have undergone voluntary sterilization (vasectomy or tubal ligation), it may be possible for surgeons to reverse the procedures. After the reversal, couples can try to get pregnant through intercourse. For this type of procedure fertility assessment is not required – a specialist should be consulted without delay.

TUBAL REANASTAMOSIS: the fallopian tubes are reconnected. The success of the reversal depends on the woman’s age, the type of tubal ligation performed, and whether or not there are other fertility issues present.

VASECTOMY REVERSAL: the vas deferens are reconnected. This surgery is less successful the longer it has been since the vasectomy was performed.

Costs Associated with Fertility Treatment

Whatever fertility treatment you choose, there will be some out-of-pocket costs. Most expenses can be used as a medical deduction on your income tax, so keep track of receipts.

Treatment

You will have to pay the physician or clinic for some fertility treatments. Before you request a treatment, make sure to ask what the costs are, and what payment options are available. Full payment may be required in advance.

Medical services

In Saskatchewan, public insurance covers your care associated with medical assessment. At some points in your care this may include lab tests, visits to doctors, and ultrasound. However, you may be billed for such services if they are for the purposes of treatment.

Medications

Fertility medications are not covered by public insurance. If you have private insurance, talk to the insurer to find out what is covered. Not all insurers cover fertility medications, or there may be a cap or annual maximum. If your prescriptions are not covered, ask your insurance provider about flex options.

Travel/Time off

You may want to ask your doctor how much time off work will be required once treatment starts, how often travel or time away from home is required, and if there are options for treatment closer to home.

Support

Private insurance plans may cover counseling, massage or some complementary therapies such as acupuncture.

MAKING PEACE

Going through fertility treatment takes both optimism and realism. Keep your hopes up! But be aware that even with all medical technology available, about one third of couples getting fertility treatment will never have a biological child.

If pregnancy does not happen for you, you will need to make peace with that as best you can.

Adoption

Some couples consider other family-building options such as adoption. The Adoption Support Centre of Saskatchewan (ASCS) can provide more information about domestic and international adoption.

Fostering

The Saskatchewan Association of Foster Families can provide more information to couples considering this option. Foster care is intended to be a short term arrangement; children are expected to return to their birth families. But foster parents can still be a significant influence in a child's life.

Living without children

On-line and in-person support groups can assist you with this transition. You can survive, and thrive, with a new plan for your life.

Selecting a Treatment

Once your assessment is complete, a doctor will explain your diagnosis and describe the types of treatment that are appropriate for your condition. You may have several possible options for treatment, or your options may be very limited. This depends on your unique situation. But in all cases the decision about treatment is made by you.

When preparing to make a decision, it is a good idea to gather information about the pros and cons of the available options. You can use the information in this booklet, and also get information from other trusted sources. Make a list of any questions you want to ask when you meet a fertility specialist.

Pros and Cons of Treatment

Treatment	Appropriate for	Pros	Cons
Ovulation induction with clomiphene or letrozole	<ul style="list-style-type: none"> Ovulatory disorders such as polycystic ovary syndrome (PCOS) Unexplained infertility 	<ul style="list-style-type: none"> low cost minimally invasive effective in ovulation disorders 	<ul style="list-style-type: none"> less effective in unexplained infertility higher likelihood of multiple pregnancy
Intrauterine insemination (IUI)	<ul style="list-style-type: none"> Unexplained infertility Mild male factor infertility Mild endometriosis 	<ul style="list-style-type: none"> higher likelihood of pregnancy than medication alone less expensive and less invasive than IVF 	<ul style="list-style-type: none"> less effective treatment than IVF for most conditions more invasive than medication alone higher likelihood of multiple pregnancy may require travel due to distance and access to specialists
Donor insemination	<ul style="list-style-type: none"> Previous vasectomy Male factor infertility Same sex couples Single women 	<ul style="list-style-type: none"> lower cost than advanced treatment such as IVF safe effective 	<ul style="list-style-type: none"> some couples have moral, religious or ethical concerns
Superovulation / Intrauterine insemination (IUI)	<ul style="list-style-type: none"> Ovulatory disorders Unexplained infertility 	<ul style="list-style-type: none"> can be effective if oral medications did not result in ovulation or pregnancy higher chance of pregnancy than oral medications 	<ul style="list-style-type: none"> more costly than oral medication requires self-administered injections requires frequent blood test and ultrasound monitoring higher risk of multiple pregnancy (including high order multiples)

Treatment	Appropriate for	Pros	Cons
In vitro fertilization (IVF)	<ul style="list-style-type: none"> Tubal disease Male factor Unexplained Endometriosis Ovulatory disorders Age-related 	<ul style="list-style-type: none"> most effective treatment for many patients higher likelihood of pregnancy than previous treatments considered the state of the art medical treatment option to lower risk of multiple pregnancy through single embryo transfer 	<ul style="list-style-type: none"> costly invasive higher risk of complications some people have ethical or religious objections less available due to distance and access to specialists if more than one embryo transferred, risk of multiple pregnancy is high

Your personal feelings are just as important as the medical facts. Take time to discuss and think about what matters most to you in this situation, and make it part of your decision-making process.

How do you feel about this statement... '0' means it is not important to you. '5' means it is very important to you.	Do Not Agree			Agree		
	0	1	2	3	4	5
Having a child is very important to me	0	1	2	3	4	5
Having a biological child is very important to me	0	1	2	3	4	5
I am concerned about the cost of fertility treatment	0	1	2	3	4	5
I can handle the stress of treatment	0	1	2	3	4	5
I do not want to go through treatment that might not be successful	0	1	2	3	4	5
I want to avoid invasive treatment	0	1	2	3	4	5
I have ethical concerns about medical intervention in conception	0	1	2	3	4	5
Other:	0	1	2	3	4	5

Questions to ask my doctor:

Glossary

Biological child – a child who developed from the parent’s sperm/egg and is therefore genetically related to the parent

Cervix – The lower end, or neck, of the uterus, which opens into the vagina

Cryopreservation – A special freezing technique used to preserve embryos or sperm for future use in a fertility treatment

Donor egg – An egg donated by a woman; either known or anonymous.

Donor sperm – Sperm donated by another man; either known or anonymous.

Embryo – The fertilized egg after it has begun the process of cell division

Embryo transfer – Placement of embryos into a woman’s uterus through the cervix after IVF

Endometriosis – A condition in which tissue resembling the lining of the uterus is found elsewhere in the pelvic cavity

Endometrium – The tissue lining the uterus, in which a fertilized egg implants at conception

Epididymis – A structure that covers part of each testis and stores mature sperm cells

Fallopian tubes – Tubes on either side of the uterus in the lower abdomen, extending to an ovary on each side

Fertilization – The penetration of the egg by the sperm and the resulting fusion of genetic material that develops into an embryo

Follicle – A structure within the ovary containing the egg

Infertility – A disease of a couple that impairs the ability to reproduce within 1 year with frequent unprotected sexual intercourse.

In vitro fertilization (IVF) – A form of assisted reproduction in which an egg and sperm are combined in a laboratory dish, and the resulting embryo is transferred into the fallopian tube

Intracytoplasmic sperm injection (ICSI) – A technique in which a single sperm cell is injected with a microsurgical needle directly into the cytoplasm of an egg to facilitate fertilization

Intrauterine insemination (IUI) – A technique in which sperm are introduced directly the cervix or uterus to produce pregnancy, with or without ovarian stimulation to produce multiple eggs

Laparoscopy – A surgical procedure in which a fiberoptic instrument (a laparoscope) is inserted into the pelvic area through a small incision in the abdomen

Miscarriage – loss of an embryo or fetus before twenty weeks of pregnancy.

Male factor infertility – Deficiencies in sperm quality, function or motility (ability to move) that make it difficult for a sperm to fertilize an egg under normal conditions

Motility – In a semen analysis, the degree to which sperm cells are able to move forward

Ovaries – Two small organs on either side of a woman’s lower pelvis that produce ova, or eggs, and hormones

Ovarian stimulation – The use of drugs to stimulate the ovaries to develop follicles and eggs

Ovulation induction – A procedure in which medication is used to stimulate a woman’s ovaries to produce multiple follicles and eggs

Penis – The male reproductive organ, through which semen exits during ejaculation

Prostate gland – A gland just below a man’s bladder that secretes fluid to help sperm pass through the urethra

Seminal vesicle – A small gland just behind the bladder in the male that stores sperm prior to ejaculation

Sexually transmitted infection (STI) – An infection spread by sexual contact. A sexually transmitted infection such as Chlamydia, if left untreated in a woman, may cause pelvic inflammatory disease (PID), pelvic adhesions, and tubal blockage

Sperm cells – The male sex cells (spermatozoa), which are produced in the testes

Sperm count – An assessment of the number of sperm present in each milliliter of semen

Testes – Two small organs at the base of the penis that produce sperm

Uterus – The hollow, muscular organ in a woman’s lower abdomen, in which a developing fetus grows during pregnancy

Urethra – In both sexes, a narrow, tube-like structure through which urine passes from the bladder to the outside of the body. In males, it is also a passageway for sperm

Vas deferens – The long, narrow tube through which sperm pass on their way from the testes to the seminal vesicles

