



August 2013

**MEDIA
PLANET**

FERTILITY & PREGNANCY

3
FACTS
ABOUT
INFERTILITY IN
CANADA



STARTING A FAMILY

Understanding your options when it comes to **infertility, maternal age and family planning**

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EDITOR'S
PICK



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MAXIMIZE YOUR CHANCES
Dr. Blake demystifies
peak fertility

FERTILITY & PREGNANCY
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Infertility affects thousands of Canadians each year, yet every experience remains unique. By arming themselves with facts about infertility causes and treatment options, couples can make the family planning decisions that are right for them.

The fight against infertility



Gloria Poirier
EXECUTIVE DIRECTOR,
INFERTILITY AWARENESS
ASSOCIATION OF CANADA

“Patients armed with knowledge about treatment options and what to expect when they visit a fertility clinic will feel more confident about starting their journey.”

If I were to ask ten Canadians what it meant to be infertile, I would likely receive ten different answers - and they could all be correct. A recognized disease by the World Health Organization, infertility is defined as ‘the failure to conceive following twelve months of unprotected intercourse. The reality is, however, that infertility is much more complex and goes beyond this definition. The one in six couples in Canada who have difficulty conceiving naturally would likely tell you that no two experiences with infertility are the same.

Addressing the knowledge gap

This feature focuses on clarifying several of the knowledge gaps surrounding infertility and pregnancy, including the causes and treatment options for infertility, the relationship between age and fertility, and the lifestyle changes needed to maintain a healthy pregnancy. You may be surprised to learn about some of the causes and contributing factors of infertility. For example, did you know that although infertility is often perceived as a predominantly female disorder, male-factor causes are prevalent in nearly half of all cases? Many Canadians lack this kind of basic, yet important knowledge about their reproductive health. Additional knowledge about lifestyle choices, donor sperm, alternative therapies, nutrition and dietary supplements to name a few are all part of the puzzle that together can have an impact on their ability to have a family.

Advanced maternal age

Today, women are having children later in life than they were 10 years ago. According to Statistics Canada, the average age for women to have their first child has risen from 25-29 to 30-34 since 1991, and the birth rate for women in the 40-44 range doubled between 1988 and 2008. Age is a contributing factor in infertility; fertility starts declining as early as age 28, while the risk for complicated pregnancy and birth rises considerably. Infertility can strike at any age. Many common diseases contribute to infertility, including endometriosis, diabetes, anorexia, obesity, and cancer - plus lifestyle choices such as smoking.

As the trend to delay childbearing continues, more Canadians will need to turn to assisted reproductive technologies in their efforts to start or grow their families. In Canada we have world-leading fertility experts across the country available to treat infertility, and fertility clinics are becoming ever more sophisticated in their techniques - intrauterine insemination (IUI) and in vitro fertilization (IVF) - as they continue to deliver a high standard of care. However, there are barriers: out-of-pocket cost of assisted reproductive technologies, geography, stigma and lack of information prevent many Canadians from conceiving.

Knowledge is power

At the Infertility Awareness Associ-

ation of Canada (IAAC), we believe that an important element of preventing a further rise in infertility is to ensure that younger Canadians are better educated about their reproductive health. Canadians also need to have a better understanding of what they can do to protect their fertility. If young men and women learn early on that they may be at risk of infertility, they can take steps to treat their condition. The one in six Canadian couples who are affected by infertility often suffer in silence. As the patient voice for Canadians with reproductive health issues, IAAC's national network of support groups - currently at 32 and growing - allows a safe forum for those affected by infertility to share information and connect with others. Patients armed with knowledge about treatment options and what to expect when they visit a fertility clinic will feel more confident about starting their journey.

On behalf of IAAC, I extend an invitation to all Canadians to reach out to their reproductive health professional for support and the latest reproductive health information needed to make informed choices.

GLORIA POIRIER

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KNOWING YOUR MEDICAL HISTORY IS IMPORTANT FOR A HEALTHY PREGNANCY

Infertility is insidious. You can't see it but its effects can have dramatic effects on a woman, a couple, a family and beyond.

Understanding infertility

As the organization for Canada's infertility doctors, the Canadian Fertility and Andrology Society (CFAS) is on the front lines of diagnosing then helping our patients deal with the effects of infertility.

Dr Matt Gysler, President of the CFAS, says almost all the people who are struggling with the inability to conceive have the same question.

“They want to know why. Each one of our members who meet patients - the reproductive endocrinologists, fertility nurses, specialized counselors - work with patients to get an answer to this question.

Different causes

The answer, of course, is often not straightforward. For a baby to be conceived the intricate and delicate process of ovulation and fertilization needs to be exactly right. Despite people's best efforts and fervent desires, this doesn't always happen.

For both men and women, infertility can result from a variety of med-



Dr. Matt Gysler
PRESIDENT, CANADIAN FERTILITY
AND ANDROLOGY SOCIETY

ical conditions or lifestyle choices.

CFAS recommends that a woman or a couple unable to conceive visit their family doctor for a referral to a specialist who will do a fertility evaluation.

“If a couple suspects they have fertility issues then we advise them to act quickly,” says the CFAS' Matt Gysler. “The sooner reproductive specialists meet with them to assess the situation the better their chances to conceive.”

READ MORE

COMMON CAUSES OF INFERTILITY

IN WOMEN

- **Age (women are less fertile as they get older)**
- **Sexually transmitted infections**
- **Thyroid disorders**
- **Damaged ovaries**
- **Blocked or damaged fallopian tubes**
- **Endometriosis (cells from the womb growing outside the womb)**
- **Ovulation disorders such as polycystic ovary syndrome**
- **Congenital diseases like cystic fibrosis**
- **Excessive exercise (leading to missed menstrual periods)**

IN MEN

- **Hormone disturbance**
- **Sexually transmitted infections**
- **Smoking**
- **Overheating of the testicles caused by tight clothing, exercise, hot water, excessive sitting (truck drivers)**
- **Abnormal sperm production or function due to problems such as undescended testicles, genetic defects or health problems such as diabetes or mumps**
- **Problems with the delivery of sperm due to premature ejaculation, cystic fibrosis or injury**
- **Cancer treatments such as radiation and chemotherapy**

CANADIAN FERTILITY AND
ANDROLOGY SOCIETY

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UNABLE TO CONCEIVE?

Know your options

As with any health issue that has a long-standing stigma attached to it, infertility is not spoken about as often and openly as it should be. People are, therefore, unaware of just how wide spread infertility issues are. The reality is that one in six couples will experience some sort of fertility issues when trying to start a family.

Getting to know you

“When a couple comes into a clinic we start off by taking information about their history that is guided towards the different components of what it takes to get pregnant,” explained Dr. Fay Weisberg, Fertility Specialist and Founder of First Step Fertility. “We talk about age, the menstrual cycle, whether they’re having sex at the right time, and whether or not there are any other gynecological issues from the past.”

As well as taking a full medical and family history, the fertility clinic will ask about all aspects of the couple’s lifestyle, and whether either partner is doing something that could be impairing conception. “Lifestyle is extremely important,” said Dr. Weisberg.

Testing and treatment

As well as being cultured to check for any infections, a man’s semen will be tested for sperm count, motility, and morphology. A woman may have a pelvic exam including a Pap smear and swabs for infection, an ultrasound to assess her pelvis, extensive testing of her hormones, and a test that assesses the latency of her Fallopian tubes. Blood testing for infectious diseases will be done on both partners. “Everyone’s body is different, so this

means that an appropriate treatment for one woman may not be appropriate for the next,” explained Dr. Ellen Greenblatt, Medical Director at the Mount Sinai Centre for Fertility and Reproductive Health.

Fertility drugs can be used at the start of a cycle, these can help make an egg if a woman doesn’t produce them naturally, or increase her number of eggs for improved fertility. During ovulation a woman may be encouraged to have sex at a certain time, or alternatively her eggs can be taken out, inseminated, and then put back in vitro, a process commonly known as IVF.

“The last point of intervention is in the second half of the cycle, after ovulation, where we can give progesterone. This is a hormone women make that helps support the lining of the uterus, and make it hormonally perfect so that implantation can happen,” explained Dr. Weisberg.

New technology, new methods

Historically, the chances of an egg surviving after going through a freezing and thawing process, and then leading to fertilization and pregnancy, were low. In recent years, egg freezing has been improved using vitrification, as Dr. Anthony P. Cheung, Founder and Medical Director of the Grace Fertility Centre, explained: “It’s a process of rapid cooling; it freezes eggs in such a way that allows for increased oocyte survival and increased pregnancy rates.”

During pre-implantation genetic diagnosis, cells from the embryo are removed and tested for known lethal genetic diseases. Embryos that are not affected can then be transferred safely

FACT
1
1 IN 6 COUPLES IN CANADA HAVE DIFFICULTY CONCEIVING NATURALLY



▲ **SEEKING PROFESSIONAL HELP**
Knowing your patient history is an important step in the path to pregnancy.

◀ **APPLYING NEW TECHNOLOGY**
Fertility clinics offer the expertise to analyze potential barriers and solutions to pregnancy
PHOTO: OLIVE FERTILITY CENTRE

into the uterus.

“Pre-implantation genetic screening - in contrast to diagnosis - for abnormal chromosome numbers (aneuploidy), a common cause of miscarriages, has been suggested to optimize pregnancy success,” said Dr. Cheung. “However, because embryo biopsy is required and false results remain a challenge, a more clinical experience and critical review is required before adopting this approach.”

Dr. Jason Hitkari, a Reproductive Endocrinologist at the Olive Fertility Clinic, explained that the chances of success with fertility treatment now, compared with 10 years ago, are vastly improved.

“There has also been a lot of research into how to improve a patient’s chances of getting pregnant through fertility treatment that has resulted in many changes to how the care is given,” he said. “Patients undergoing

fertility treatment, such as IVF, should have the support and communication they need through their experience to make it as positive as possible.”

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Pregnancy health: acupuncture as a safe and effective practice

- 1 Decreases side effects associated with IVF.
- 2 Patients self-report reduced bloating and discomfort during IVF treatment.
- 3 Improves blood flow to the uterus and reduces miscarriage rates.
- 4 A study on live birth rates after IVF showed that the acupuncture group had a take home baby rate of 41 percent as compared to the non-acupuncture group rate of 19.4 percent.
- 5 Increases sperm count and motility
- 6 Motility and count improved in 67.6 percent of men who received acupuncture. The results were even better, at 84.6 percent for men who had a combination of acupuncture and herbal medicine.
- 7 May improve IVF success rates.
- 8 An international study found that in clinics with lower success rates, acupuncture showed a significant increase in pregnancy rates.



READ MORE ✨

Prenatal nutrition tips

- 1 Aim for three meals a day with healthy snacks in between.
- 2 Take a multivitamin every day. Make sure it has 0.4 mg of folic acid and also contains iron. A health care provider can help you find the multivitamin that is right for you.
- 3 Pregnant women need fruits and vegetables every day. Brightly coloured vegetables and fruit contain more of the kinds of vitamins you and your baby need. You should eat at least one dark green and one orange vegetable each day.
- 4 You need to include grain products as part of your daily diet. Try to choose grain products that are lower in fat, sugar and salt, and look for the “whole grain” variety.
- 5 Milk and alternatives are important for your growing baby. Opt for the low-fat variety, which will give you the high quality protein, calcium and vitamin D you need but with less of the fat and calories. Have skim, 1 percent or 2 percent milk every day and go for a variety of yogurt and cheese. Drink fortified soy beverages if you do not drink milk.
- 6 Choose lean meats and meat alternatives—dried peas, beans, tofu and lentils—made with little or no added fat or salt.
- 7 Avoid foods which may be contaminated by bacteria, including raw fish, especially shellfish such as oysters and clams. Do not eat undercooked meat, poultry and seafood.

INCREASING YOUR CHANCES NATURALLY

Trying to get pregnant, whether naturally or with medical help, can be fraught with worry over whether you are doing everything you should to be at your healthiest and most fertile. Here are some fertility friendly guidelines to boost your baby making efforts.

Nutrition

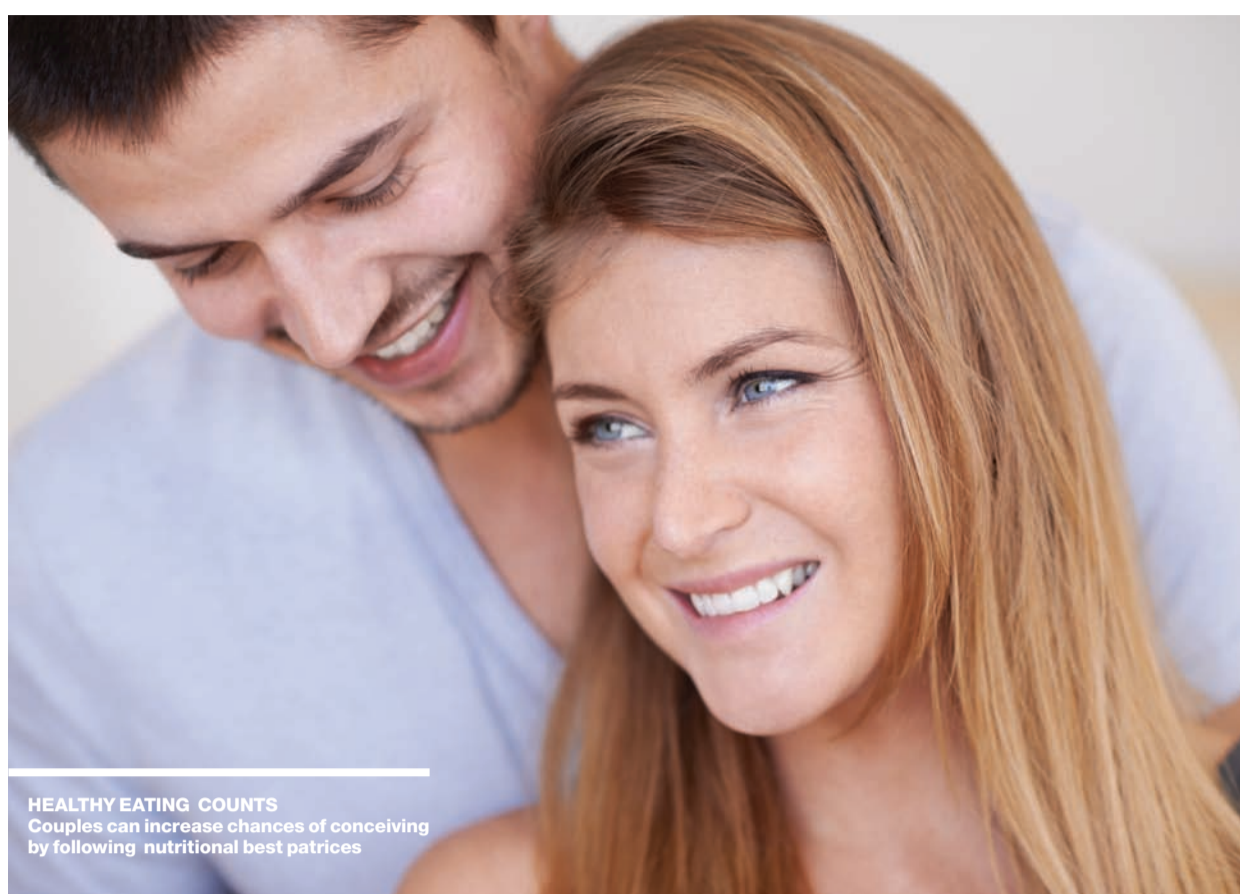
Research on the best kind of diet to eat for fertility can be summarized as:

- Eat more vegetable protein (beans, nuts, seeds).
- Eat less animal protein, but have one daily serving of high fat dairy (low fat dairy may cause ovulation problems).
- Eat an abundance of vegetables (50 percent of lunch and dinner) and fruits (50 percent of breakfast and snacks). Avoid processed foods and junk foods.

Supplements

The supplements that fertility experts recommend, especially for women and men who are in their 30s and 40s:

- Co-enzyme Q10—A powerful antioxidant that improves egg and sperm quality. Get the ubiquinol type for its ease of absorption.
- Vitamin D—During the summer, 15 minutes of sun exposure before putting on sunscreen; during the winter months take a supplement.
- Omega 3 Fatty Acids—Purified fish oil or flaxseed oil for vegans and vegetarians.
- B Vitamins, in particular B6 and B12. B12 supplementation is necessary if you are vegan.
- Folic Acid—Mostly found in leafy green vegetables.
- Myo-inositol—A B vitamin that has been shown to improve IVF pregnancy rates.
- Melatonin—In women over 35, research shows this helps to increase



HEALTHY EATING COUNTS
Couples can increase chances of conceiving by following nutritional best practices

conception rates with IVF.

- Vitamin C, Zinc, Selenium—For both males and females, thought to have a positive effect on sperm and egg quality.

Acupuncture

Studies show that acupuncture combined with IVF results in higher pregnancy rates. It's also great if you're trying to conceive naturally.

Look for acupuncturists and naturopathic doctors who have a large portion of their website dedicated to fertility care, as it is best to choose a practitioner who is experienced with fertility treatment and keeps up with the latest research.

Love making

A regular sex life is important to any relationship, but when you're trying to get pregnant, it's vital that you

know the signs to look for:

After your period, look for cervical mucous, especially the egg white quality type of mucous. This could indicate that you are a day or two away from releasing an egg.

Take note of your libido; are you more interested in love making? This is also a positive sign that you are nearing ovulation.

Do you feel a twinge or sharp pain midway through your cycle? The discomfort you're feeling could be the moment of ovulation. Take advantage and make love within the next few hours.

You can also follow the calendar method. Most luteal phases (the period between ovulation and menses) are 10 to 16 days in length. If, for example, your cycle averages 30 days, then you could be ovulating between days 14 to 20 of your cycle. Make love

on days 12, 14, 16, 18, and 20 of your cycle to have the best chance of conceiving naturally.

For those of you who do not produce much cervical mucous, a sperm friendly lubricant can help. It protects sperm from the normally acidic vaginal environment, allowing sperm to get to the fallopian tubes where fertilization takes place.

Dr. Judith Fiore, ND, is a Toronto area Naturopathic Doctor and a leading expert on natural fertility. She writes for Creating Families magazine, and will be publishing her first book on natural fertility in 2014.

DR. JUDITH FIORE
editorial@mediaplanet.com

Maximizing peak fertility



Dr. Jennifer Blake
CEO, SOCIETY OF OBSTETRICIANS AND GYNAECOLOGISTS OF CANADA

There are countless misconceptions surrounding pregnancy. Dr. Jennifer Blake, CEO of the Society of Obstetricians and Gynaecologists of Canada helps dispel many of these myths while educating on the importance of understanding peak fertility.

Q: For someone who has never heard of peak fertility, how would you explain it?

A: An egg is released once a month for women, approximately in the middle of the menstrual cycle, while sperm has the ability to live in the body for a few days. Therefore, the best opportunity for fertility is when the egg has been released and the sperm are still active.

Q: How important is it for women to know their menstrual cycle?

A: Certainly by knowing your cycle you can decrease the length of time it would otherwise take to fall pregnant.

Q: What are some of the common misconceptions surrounding fertility and the menstrual cycle?

A: One of the common misconceptions is that when you're trying to get pregnant you need to be having intercourse all the time. That is probably the number one misconception. The response to this is that if you have intercourse every other day that is quite adequate if this occurs during the women's peak fertility. The window of opportunity lasts for a few days. Some couples feel more confident if they are having intercourse daily, but you don't need to. In fact, if you have intercourse too often you can actually deplete the sperm count and the sperm quality.

“Certainly by knowing your cycle you can decrease the length of time it would otherwise take to fall pregnant.”

Q: There is a common reference to “Day 14”—is this when women are the most fertile?

A: Every women is a little bit different. It's approximately 14 days before you get your next period, which means that if the cycle is slightly different in length, it is difficult to judge. We do not know when we are getting our next period; we know when we got our last period. Ovulation detection kits are helpful for women whose cycle may not be regular.

Q: What types of tools or resources are available for couples that want to monitor peak fertility?

A: Certainly you can use the symptothermal method - some women track temperature and cervical mucus, but this does not work well if you have shift work or get up at different times

of day. If you are using a basal body temperature method, it is very important that you use a basal body temperature thermometer, as these are properly calibrated. Again, the problem with these is that they tell you after the fact. You get an understanding of your cycle but it may not be helpful in the moment. There are also ovulation detection methods, and a literature that shows that they are helpful. These are costly however.

Q: How does basal body temperature monitoring detect fertility?

A: This is when you keep track of your temperature every morning before you get out of bed and it shows a rise in the second half of the cycle after you have ovulated—the temperature goes up.

Q: Does diet and nutrition play a role in maximizing your fertility?

A: Certainly. You really want to get yourself into good condition when contemplating a pregnancy. We know so much now about the importance of the woman's health during pregnancy, so this is a good time to start caring for yourself and really pay attention to what you eat. Eating regular meals and not skipping meals is important, as well as sticking to the Food Guide. Get your fruits, vegetables, and leafy greens. Build up your calcium. Many women decide to reduce calories by cutting out milk; if you've made that choice you have to understand where you are getting your calcium from, because you will need calcium. Make sure that your hemoglobin is good, so if you are a vegetarian you need to be thinking carefully about where you are getting your iron, so you are not going into pregnancy anemic. If you are overweight, you want to get yourself into an ideal weight range if you can, but you don't want to be starving yourself or skipping meals to get there. Certainly you'll want to be increasing your level of fitness as you go along to protect

yourself from back troubles during pregnancy. It's a great thing to look ahead to when you want to get pregnant and make the decision to take care of yourself now.

Q: What about weight gain? How should pregnant women approach this?

A: You will still need to gain weight in pregnancy for the baby, but the problem is that you don't want to over gain weight because that will contribute to your problems afterwards losing the weight. You want to avoid this cycle. There are so many different tricks that we know that can help us in this regard—portion control, eating meals slowly, and slowing the whole process down so that we can eat what we need as opposed to what is being offered to us.

Q: What are your top 3 tips for couples trying to conceive?

A: First, this is a wonderful time. It is the beginning of an adventure and should be approached this way. That said, there always is some degree of uncertainty. The couple is going into this as a team and they must be able to support each other through those uncertain times. Having good communication and being on the same page is really going to be a huge support when you're going through this. It is a good time for both individuals to learn more about their own health. It is important for mom to pay attention to her diet and fitness, and stopping smoking and cutting out alcohol if trying to get pregnant. Prenatal supplements, particularly folic acid, should be started before trying to get pregnant. These can be started in the three or four months before pregnancy. This is also a good time for dad to be focusing on his health—alcohol, tobacco, and cannabis are bad for sperm quality and should be limited.

FOR WOMEN, FERTILITY STARTS DECLINING AS EARLY AS AGE 28



MATERNAL AGE IS RISING
It is important for women to understand how their fertility changes as they age

Understanding fertility as you age



Dr. Marjorie Dixon
FERTILITY SPECIALIST & CO-FOUNDER,
FIRST STEPS FERTILITY

Canada has seen a societal shift towards advanced maternal age. Statistics Canada reports that in 2011, women between the ages of 35 and 39 had 15% more babies, than those aged 20-24.

“The average age of women we see here are 36-37,” says Dr. Michael Virro, from the Markham Fertility Centre in Toronto. “Patients are generally trying to secure career and education before having children,” he adds.

As women age, fertility naturally decreases and the potential for complications increases, which presents a need for women to understand the effects of their age on fertility as well as the options available for having children after 30.

Age and fertility

While it might be a good idea to secure job and finances before having children, Dr. Marjorie Dixon, from First Steps Fertility says that waiting pre-

sents a challenge in egg quality: the higher your age, the worse is the egg quality. “Women are born with a certain number of eggs that depletes as you age,” comments Dixon.

The situation is a little different for men because where women are using the same eggs that are produced from birth, men produce sperm every 90 days, so the challenge is in fertilizing the egg before it gets too old.

Misconceptions about fertility in older women

There is a misconception that infertility is mostly a female problem but men also experience challenges as they age, like poor sperm quality, low sperm count or erectile dysfunction.

People also tend to believe that age is the biggest factor in being able to have children later on in life, however, studies show that 77% of women can still get pregnant by age 35 and 53% by age 40.

Judith Daniluk, professor of counselling psychology at the University of British Columbia, also points the finger at Hollywood when it comes to getting pregnant later in life. Daniluk commented in another report saying that: “the celebrity culture reinforces the idea that anyone can have a baby at any age,” which is not entirely true.

Assisted reproductive options

For those who prefer to have children after 35, Dr. Virro shares a number of options including: In Vitro Fertilization (IVF), Intrauterine Insemination (IUI), sperm freezing or using a sperm donor and egg freezing or using an egg donor less than age 30.

Dr. Dixon also suggests using a gestational carrier or surrogate who may be in better shape to carry a baby to term. Adoption is also popular among men and women who are ready to raise children.

Preparing for pregnancy after 30

If there are men and women who know that they will have children after 35, having the best health and diet are not the biggest factors, but Dr. Dixon agrees that it does help to maintain a healthy lifestyle: don't smoke or drink too much alcohol, get enough exercise and use supplements like Vitamin D, Coenzyme Q10 and Omega which are all good for the ovaries.

“The best way to prepare, is to be informed about the limitations of your reproductive life span so you can make decisions accordingly,” adds Dr. Dixon.

SANDRA GABRIEL
editorial@mediaplanet.com

Waiting longer to have children can lead to more difficult labour for women aged 30 and up, but there are a variety of options available to those who are having children later in life.

WEIGHING THE OPTIONS: COSTS AND COVERAGE

Cost is an important consideration for any couple that wants to have assisted reproductive treatment to help them conceive. Although government funding is offered in some provinces in others it is not, making it all the more important for a couple to understand their chances of having a healthy baby before they make any decisions.

Funding policy

“Quebec is the only province that offers full funding for all aspects of fertility treatment, this includes drugs, artificial insemination and all aspects of in vitro fertilization (IVF),”

explained Dr. Art Leader, Chair of the Canadian Foundation for Women's Health and a Founder of the Ottawa Fertility Centre.

In Ontario, IVF treatment was delisted in 1993 and is now only covered if the woman has bilaterally blocked fallopian tubes. Insemination of donor sperm is covered, but the purchase and preparation of the sperm, which can be costly, and any fertility medication, are not.

“Manitoba has a tax credit of forty per cent for IVF, and News Brunswick has said that they'll introduce the same funding but they haven't yet, due to financial constraints,” said Dr. Leader. “It's a paradox that tubal surgery is covered in every province, yet that's the least effective type of treatment.”



Heather Brooks, R.N.
PRESIDENT,
OUTREACH HEALTH SERVICES

Calculating the costs

The cost of assisted reproductive procedures and medications means that the vast majority of Canadians need some kind of financial assistance before treatment can begin.

“You're looking at about \$8,000 for the IVF treatment, and then an average of \$3,000 - \$4,000 for medication—that's if the couple doesn't have an insurance plan that covers those drugs,” explained Dr. Leader. “Donor sperm costs about \$1000 a month and artificial insemination, with a partner's sperm, ranges from \$500 - \$850 a month.”

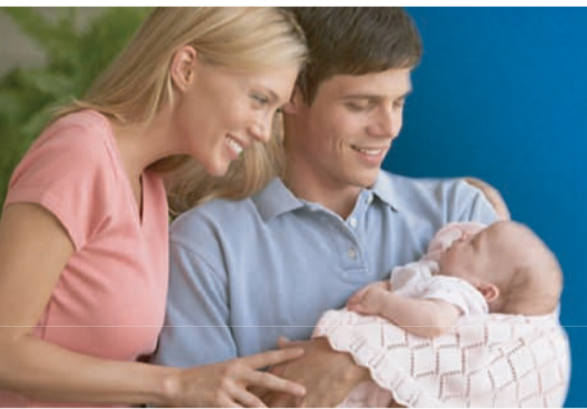
President of Outreach Health Services, Heather Brooks, has witnessed firsthand the impact that the financial implications of fertility treatment can have on a couple who don't have a

substantial disposable income.

“You have the young couple who got married two years ago and they're trying to have a family, they've just bought their first house, and then they find out that they're infertile and that the treatment could possibly cost them as much as \$10,000 - \$15,000,” said Brooks.

“That has a huge impact on your self worth, your relationship, your financial status. I know couples that have put a second mortgage on their homes to pay for treatments, that's how desperately people want to have a child.”

JOE ROSENGARTEN
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Markham Fertility has expanded!

Medical Director, Dr. Michael Virro announces his partner Dr. Meivys Garcia is accepting new patients.



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IT TAKES TWO TO TANGO!

Details about male infertility

Almost half of all infertility cases are the result of male factor infertility, and yet many men are still reluctant to seek treatment, or support.

“Male fertility can be incorrectly tied to virility, so men are often hesitant to address it,” says Dr. Timothy Rowe, associate professor in the REI division at the University of British Columbia. “It’s important for men to realize that it’s not about you. It’s about the sperm. Don’t delay. Go see your doctor and get it checked. These days there is more understanding and a growing awareness that there’s a lot more that can be done.”

In fact, 99 percent of male factor infertility cases can be treated. Male fac-

tor tests are also relatively simple and inexpensive when compared to the array of tests that women face if female factor is the root of the difficulty conceiving.

Treating male fertility

Male-factor infertility causes include medical conditions such as: varicocele - swelling of veins in the testicle; infection - including sexually transmitted diseases; and retrograde ejaculation - when semen is redirected to the bladder. Other causes include genetic predisposition, cancer treatment, obesity and injury to the testicles.

Risk factors

Lifestyle factors can come into play

for male factor infertility. Temperature can be an issue, so hot tubs should be avoided if you’re trying to conceive. Smoking lowers a man’s fertility by as much as 30 percent. Long distance trucking can be a risk factor for some; too much time spent in close proximity to a laptop or a warm engine can raise the temperature of the testicles and impact sperm.

Alternatives and funding

“The standard of care is IVF (in vitro fertilization) and if there is male factor you add ICSI (intra-cytoplasmic sperm injection),” explains Dr. Rowe. “The problem is the treatment options are determined by what you can afford.”

IVF can cost as much as \$10,000. Quebec is the only province that funds IVF, which is tied to a single embryo transfer policy to reduce multiple births. Many couples do not have \$10,000 to spend on treatment, so other less effective fertility treatments are then prescribed when a couple cannot afford to do IVF. Couples without access to IVF often spend longer trying to conceive and have a lengthier journey through the health care system.

One Vancouver man resorted to crowdsourcing to get the money necessary for one round of IVF. Nick Beaulieu was diagnosed with a low sperm count due to a tumor on his pituitary gland. Beaulieu has been speaking out about the lack of

awareness around male factor infertility.

“Don’t feel embarrassed,” he says. “You’re not alone, and it’s not your fault. You can find a solution.”

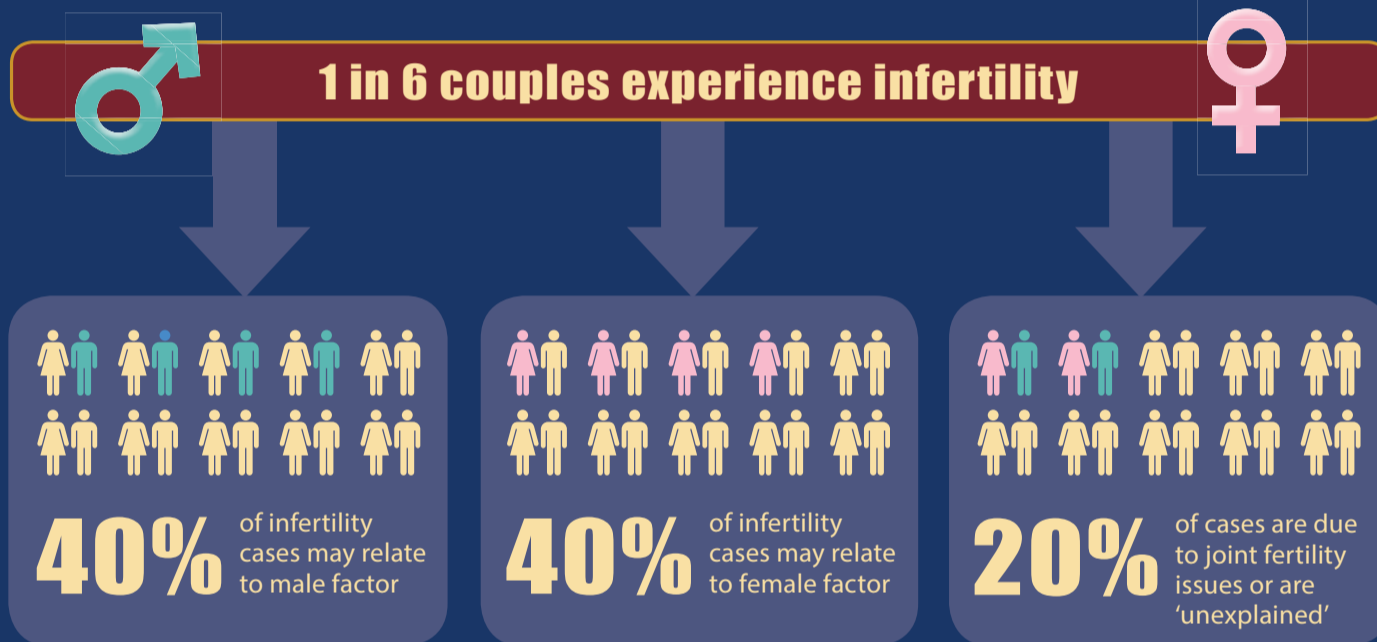
Dr. Rowe explains that the following requirements must be in place for a man to be fertile: Sperm must be produced, and carried into the semen. Sperm quantity must be adequate. Shape and motility—the ability to move—must be normal.

He notes that it’s important for partners to approach infertility as a topic in a non-confrontational manner.

PAULA SCHUCK

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MALE FERTILITY FACTS



Male Fertility: Myth vs. Facts



Red meat

Although some meats contain hormones that may affect fertility, eating red meat in moderation is healthy.



More is better

Daily intercourse does **not** increase chance of conception. Intercourse every other day around the time of ovulation should allow for optimal sperm counts.



Age

Sperm count and quality declines with age.

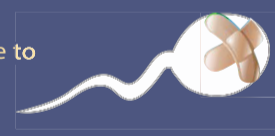
Laptops, jacuzzis and aggressive bike riding

These produce excessive heat to the testicles, which can affect fertility.



Injury

Trauma to the testicles can result in permanent damage to sperm production.



Cancer treatment

Cancer treatments impact male fertility. Freezing sperm is an option that men should consider before cancer treatment.



Did you know...

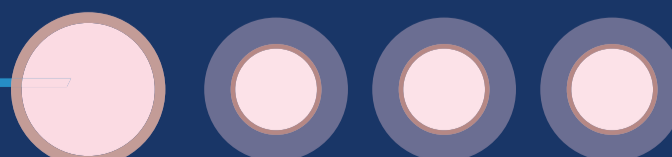
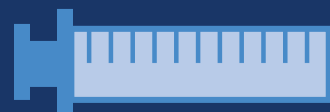
Healthy males produce approximately 70-150 million sperm per day.

Semen contains only 10% sperm - the rest is enzymes, protein, vitamin C, sodium and fructose sugar.

Sperm have a life cycle of approximately 3 months.

Sperm can live inside a woman's body for 3-6 days.

Treatment for Male Factor Infertility



In Vitro Fertilization

along with

Intracytoplasmic Sperm Injection (ICSI) is the safest, most effective treatment for male infertility

There are many complications that can arise before, during and after pregnancy. **Infertility options can be used in cases of emergency but also in times of need.**

OVERCOMING ADVERSITY THROUGH TREATMENT OPTIONS

At 26 years old, Metro Vancouver nurse Misty Busch was hoping and dreaming of building a family with her husband Kevin when a life-threatening tubal pregnancy sent the couple reeling. The experience changed the course of their lives, in more ways than one. Their parenthood dreams were dashed and Misty's health was in jeopardy. Both of her Fallopian Tubes were damaged and she was infertile. Consultations followed, and experts recommended in vitro fertilization (IVF)—a process that involves implanting a fertilized egg directly into the uterus—as the only viable option for having their own children.

Setting priorities

Misty and Kevin had been saving money for a down payment on a home, which can be particularly daunting in a city where property prices are high. The price tag for IVF was also high: \$10,000. In B.C. there is no funding for IVF. Quebec is currently the only province that funds IVF for those cases where it is the medically recommended treatment option.

Misty and Kevin had a huge financial hurdle to overcome.

“We had the rest of our lives to buy a home,” Misty recalls. “We did not have the rest of our lives to have children. So we decided to go for it.”

They used the down payment for a house to pay for one fresh round of IVF. Added to the financial sacrifice was the physical and emotional toll of medical appointments, missed work, egg retrieval and the procedure itself. The first cycle was not successful and the couple was heartbroken. “Going in I was so naïve. I was young, and I had several factors working in my favor. I thought everything would work perfectly on the first try.”

Alternatives and funding

Misty did not give up. They scrimped and saved, and used the remainder of their savings for a second cycle. But this time, because it was all or nothing, and because they had drained their bank accounts, they opted to transfer two embryos to increase their chances of conception. In between cycles, they also spent money on treatments like acupuncture, hoping it would help. Misty estimates the total cost for treatment tallied well over \$20,000.

“I chose multiple embryos the second time, not because I wanted the complications associated with twins, but because I desperately wanted a baby.”

Overcoming obstacles

The second IVF cycle was successful; Misty was pregnant with twins. Just 12 weeks into the pregnancy however, she had developed gestational diabetes, was hemorrhaging and had pre-term labor, so was placed on bed rest. Her job was no longer doable because of the amount of time a nurse is on her feet and the amount of heavy lifting involved. She remained in bed from September to January, only allowed to get up to go to the bathroom, watching seasons go by as she waited and hoped for the babies to develop long enough to give them the best possible health outcome. It was a long four-and-a-half months.

Bed rest successfully slowed the pre-term labor. The inclined position meant the weight of twins was no longer placing pressure on her cervix. At 33 weeks, a baby boy and girl were born. They both went straight into the Neonatal Intensive Care Unit. One twin was in the NICU for three-and-a-half weeks, and the other stayed there for five-and-a-half weeks.



IVF TREATMENTS ALLOWED Misty Busch to conceive after a life-threatening tubal pregnancy
PHOTO: MISTY BUSCH

“We are blessed to finally be parents, but that journey has been tough, both physically and emotionally. It's also been a tremendous financial burden.”

Helping others

Through her infertility journey, Misty began helping others facing similar challenges. The nurse in her has recognized an opportunity to give care and support to the one in six couples who struggle with infertility. “Some people don't find their call-

ing in their entire lifetime. I found mine twice: Once as a mother, and once as a fertility advocate. I feel very blessed. If your son or daughter were struggling with infertility wouldn't you want them to have access to the treatment they needed?”

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Healthy body, healthy mind, healthy pregnancy



SOURCE: INFERTILITY AWARENESS ASSOCIATION OF CANADA



1 in 6 Canadian couples struggle with infertility



Dr. Gideon Koren
DIRECTOR, MOTHERISK,
HOSPITAL FOR SICK CHILDREN

Ensuring that aspiring parents are adhering to basic health guidelines is essential in achieving their family planning goals. Dr. Gideon Koren offers his recommendations for a healthy pregnancy.

Question: Why is folic acid important for a healthy pregnancy?

Answer: Folic acid prevents malformations in the baby, such as spina bifida and other conditions. Use of sufficient folic acid also appears in some studies to decrease the risk of pre-eclampsia and prematurity.

Q: What vitamins or nutrients are most important during this time?

A: Women need all essential vitamins as per Health Canada guidelines. Because Canada is a northern country many women do not produce sufficient vitamin D, as this requires sunlight. Vitamin D is critical for fetal growth.

Discuss the role of sleep and stress management for maintaining health during pregnancy.

Sufficient sleep is critical, as most women feel tired and many suffer from morning sickness. Stress in pregnancy may adversely affect the unborn, so management of stress is key. Many women with depression

and/or other mental conditions suffer from anxiety and stress. It is important for them to be seen by appropriate health professionals who will decide their need for medications.

Question: What types of exercise would you recommend for pregnant women?

A: Most women can continue their regular exercise routine unless they have medical problem, which should be discussed with their physicians. Moderation is the key word. Women who participate in extreme or professional sport should discuss their continuations with their physicians.

Question: What food or substances should be avoided during pregnancy?

A: There is no specific food contraindicated in pregnancy. However, many women tend to eat and gain weight more than the Health Canada's guidelines. Food rich in protein and iron, vegetables rich in folic acid, milk products rich in calcium - are key.

Women should avoid any alcohol and limit caffeinated beverages to 150 mg caffeine a day.

Question: In your opinion, why are there misconceptions surrounding health and pregnancy?

A: Pregnancy is a typical time of increased anxiety. Many women are afraid of harming the baby, however, very often these perceptions are unwarranted, and could lead women, for example, to not take medications they must take.

Question: What resources are available for women looking to learn more about health and pregnancy?

A: Health Canada Guide for Healthy Eating; Motherisk line; Motherisk's new book How to Survive Morning Sickness Successfully.

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DON'T MISS



Lifestyle tips for a healthy pregnancy

➔ See your physician and learn what tests should be done and when.

➔ If you have a chronic medical condition, try to get it under control before you start pregnancy.

➔ There is no safe amount or safe time to drink alcohol during pregnancy - if you drink alcohol while you are pregnant, you are at risk of giving birth to a baby with Fetal Alcohol Spectrum Disorder (FASD).

➔ Regular physical activity during pregnancy can help build your stamina for labour and delivery. Before starting a new exercise program, you should talk to your doctor.

➔ Avoid smoking. The more you smoke, the higher the risk that your baby will have complications during the perinatal period (just before, during and just after birth). This is true for babies exposed to second-hand smoke too.

➔ Taking care of your teeth and gums is very important when you are pregnant. Hormonal changes during pregnancy can increase your risk of developing periodontal (gum and bone) disease. Poor oral health may also affect the health of your developing baby.

➔ Guard your mental health. If certain people or situations cause you stress, avoid them as much as possible. Don't take on added responsibilities at work or in your community.

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DON'T MISS



FAQ's about midwives

Question: Is midwifery care safe?

Answer: Midwifery care is safe. Midwives are university-educated experts in normal pregnancy, birth and newborn care, and like all health care professionals, engage in ongoing learning and training. Midwives are regulated by the province. Midwifery care is evidence-based and well-researched. Studies show that both home birth and hospital birth with a midwife are safe, where midwives are integrated into the health care system.

Q: Do I have to have my baby at home?

A: You can plan a home birth or a hospital birth with a midwife. The majority of births with a midwife in Canada happen in a hospital. About 25 percent of women plan a home birth. In some places, such as Quebec, women can have their babies in a birth centre with midwives.

Q: Do I have to pay for midwifery care?

A: No. In all places in Canada where midwifery is regulated, government pays for midwifery care.

Q: How do I find a midwife?

A: Find your provincial association of midwives online and search by your location. You do not need a referral from your family doctor. Call to make an appointment. It is a good idea to call as soon as you know you are pregnant so you can start receiving prenatal care right away, but some midwives will have room to accept clients at later stages in their pregnancies as well. Call at any time during your pregnancy.

Q: What is the difference between a doula and a midwife?

A: A birth doula is a trained labour support person who provides emotional and physical support to a labouring woman and her partner. While she is not a medical professional, she can offer a wide range of comfort measures. You would find and pay your doula yourself. Doula services are not covered by the Ministry of Health in any province. You can have both a doula and a midwife attend your labour and birth.

Q: Can I have a midwife and a doctor?

A: No. Women can have either a midwife or a doctor for pregnancy, birth and newborn care. Midwives, obstetricians and family physicians are all considered primary caregivers. A primary caregiver takes responsibility for your care.

Q: What are the main reasons for choosing a midwife?

■ Midwives provide continuity of care, meaning women receive care from one or a small group of midwives and are very likely to know the person who attends their birth. Midwives are on call for their clients by pager 24 hours a day, seven days a week.

■ Midwives work in a model of informed choice, meaning they put the woman at the centre of her own care and give her research-based information with which to make decisions about her health care. Appointments with a midwife are generally 30 to 60 minutes in length.

■ Midwives are the only health care professionals specifically trained in home birth.

■ Midwives provide care from the time a woman knows she is pregnant until six weeks after her baby is born. Midwives provide care to both mother and baby after the birth, including several appointments at the woman's home in the

Midwives are experts in normal birth, no matter the woman's age.



Nishta Saxena sits with her midwife Andrea Luciuk, who holds baby Eadha
PHOTO: MARINA DEMPSTER, ASSOCIATION OF ONTARIO MIDWIVES

MIDWIVES OFFER A CONTINUUM OF CARE

Nishta Saxena had heard of midwives before she was pregnant, but remembers inundating her friends with questions as soon as she found out she was expecting.

At 36, Saxena wanted care from a midwife because she knew she would be treated as normal. She says she didn't want to have her pregnancy categorized as high-risk based only on her age.

"I thought they would treat pregnancy more as a life experience rather than a medical procedure," says Saxena, a Registered Dietitian.

"At every appointment, I could spend sometimes 40 minutes conversing. My midwife would take the time to answer any question I had," she says. "I could sit there and get into the nitty-gritty details, not just the physical side but also emotional changes and impending life-alterations that will occur in the process of having a baby. It's a holistic approach to care."

Canadian midwives

There are over 1,000 midwives providing care across Canada. The only provinces and territories without regulated midwifery care are New Brun-

swick, Newfoundland and Labrador, Prince Edward Island, and the Yukon. In some provinces, regulated midwifery care is relatively new, and is not available in all regions.

Last year, midwives attended the births of more than 30,000 Canadian babies. Midwives provide care from early pregnancy through labour and birth, and provide care to both mother and baby for six weeks after the baby is born.

Lisa M. Weston is a midwife in Scarborough and the president of the Association of Ontario Midwives. She says women over 35 have a higher risk of having gestational diabetes and having high blood pressure.

Guidelines and consultations

"As with all women in midwifery care, those things are monitored," she says. "There are lots of guidelines for women having their babies later in life and midwives are well-versed in the research. With the appropriate consultations when needed, almost any woman can receive care from a midwife."

Exceptions would be women with high-order multiples (more than twins), or women with chronic health conditions such as heart disease or diabetes.

Weston says she also has clients

who have undergone fertility treatments.

"The issue causing the infertility challenge may be completely unrelated to having a healthy pregnancy," she says. "Midwives can help women increase their confidence in their body's ability to give birth. Clients find the one-on-one support and information very valuable."

Midwives see pregnancy and birth as a healthy time in a woman's life and midwifery care increases the chance of a woman having a normal birth. Midwifery clients have fewer c-sections and other interventions such as inductions, epidurals and episiotomies.

Trained and educated

Midwives are experts in normal pregnancy and birth, and trained to recognize normal situations that fall outside of normal.

They work alongside other health care professionals such as nurses and physicians, and will consult with doctors when necessary. In some cases, a client's care will be transferred to a physician.

In Canada, midwives attend university for four years to study normal pregnancy, labour and newborn care, as well as emergency skills. They are experts in providing safe, research-

based care for pregnant women and new babies. Midwives trained outside of Canada qualify here through a one-year university program.

Pregnant women have appointments with their midwives on about the same schedule as they would with a physician except the appointments last longer, allowing for in-depth conversations and relationship-building. Research shows high quality prenatal care leads to high quality outcomes for mothers and babies. Midwives provide clinical exams and information at each visit and can order tests and ultrasounds as needed. Clients can page their midwife at any time, 24 hours a day, seven days a week.

Saxena is now mother to Cardin, two-and-a-half, and his sister Eadha, 10 weeks. She says she's happy to share her experience with other families.

"I'm approaching 40 now so that's a lot of experience with health care," she says. "And of any time I've gone through the system, from dealing with an injury to just regular health issues, midwifery is the best medical care I've ever received."