

New Lives

BY VERNE MAREE

What a miracle birth is! Those who are able to take it for granted are the lucky ones; for many others it's a struggle to become pregnant – or to stay pregnant. Still others have problems with giving birth. In many of these situations, advances in medical technology can be the wonderful boon that enables you to achieve the family you long for. In this special feature, we look at fertility issues – both male and female; early pregnancy loss, pregnancy tests, birthing choices and more.



Having a baby should be the most natural thing in the world, and it often is. Nevertheless, things can and sometimes do go badly wrong – we all know of such cases. That's why, right from the start, and ideally starting even before conception, you want to be assured of the best possible care and support throughout your pregnancy and the birth of your child.

Another thing to consider is where and how to give birth, including mode of delivery and access to pain relief. While this is a deeply personal decision that is yours alone to make, it will inevitably be influenced by your own views and circumstances, your doctor's professional opinion and advice, and of course where in the world you find yourself.

If all this sounds a bit daunting, here's some good news: Whether you're in need of help with fertility issues, or doctors to support you through the challenges of pregnancy and later to advise on and manage the birth of your baby, Singapore is a good place to be.

Firstly, you have a large pool of highly qualified and experienced doctors and specialists to choose from – both Singaporeans, many of whom have studied and worked abroad for a time, and others who themselves are expatriates, no doubt including professionals from your own country. Secondly, this first-world country boasts first-rate medical facilities to rival the best in the world.

So, to all the mothers of expat babies that will arrive in 2017, we sincerely wish you the "Happy Birthday" that you and your baby deserve.

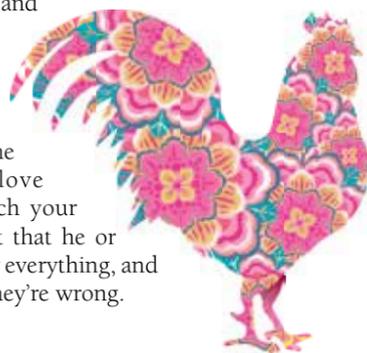
Having a baby in the Year of the Rooster?

According to the Chinese Zodiac, babies born in the Year of the Rooster are:

- quick-thinking, practical and resourceful
- averse to taking unnecessary risks, preferring to stick to what's tried and true
- keenly observant and detail-oriented
- focused students and fast learners
- tireless workers who are ambitious and tend to be perfectionists
- cut out to be great lawyers, brain surgeons and accountants

Parental advice:

Roosters adore the limelight and love to be right. Teach your rooster to accept that he or she doesn't know everything, and to admit when they're wrong.



#1 FERTILITY ISSUES - WHEN YOU NEED SOME HELP

Here's some advice from obstetrician, gynaecologist and accredited fertility and IVF specialist DR KELLY LOI.

Before coming to you for help, what can a couple do to improve their chances of conceiving?

First and foremost, they should be actively trying to conceive! I recommend regular sexual intercourse, at least two or three times a week. Secondly, it's essential to observe a healthy **diet and lifestyle**, exercising regularly and avoiding smoking, alcohol and other toxins – and this advice applies to both males and females.

Thirdly, apart from both partners taking **vitamin supplements**, women should be taking **folate** or **folic acid** (the synthetic form of folate) to prevent birth defects such as spina bifida in the baby. It's recommended to take folate or folic acid for at least three months prior to conception, and for at least the first three months of pregnancy.

For a couple having difficulty conceiving, what sorts of tests might you recommend?

For a woman, **basic gynaecological health screening** would include a Pap smear and an ultrasound scan of the pelvis; after that, it would depend on what the problem appears to be. If fertility is the concern, I would recommend:

- a **semen analysis** from the husband
- blood tests to determine the wife's **hormonal profile**, and also a test for any possible blockage of the fallopian tubes, also known as a **fallopian tube patency test**.

What sorts of treatments do you recommend to couples having problems with fertility?

This completely depends on what we've established as the cause of the problem. Here are just two recent examples from my own practice:

For one expat woman whom I diagnosed with **endometriosis**, I performed minimally invasive **laparoscopic surgery** to remove the large endometriotic cysts from her ovaries. After the surgery, I prescribed a period of **hormone treatment** to suppress the ovaries further. The couple then conceived naturally and have since delivered a healthy baby.

For another expat couple, the main problem was **polycystic ovary syndrome**, a condition where ovulation fails to occur regularly. Initially, I prescribed **fertility drug treatment** as the first line of treatment. When oral drug treatment failed, they embarked on IVF, and I'm happy to say that they have since delivered three healthy babies – with more frozen embryos in store for future pregnancies!



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What's new in fertility treatment?

Women who've been diagnosed with cancer are now able to consider **fertility preservation**. Freezing a part of the ovaries or freezing eggs and embryos *before* undergoing cancer therapy thereby is a way of allowing cancer survivors to seek fertility treatment later on, after they have recovered from their illness.



“As long as there is some sperm left, there is a chance of conception”

– Dr Fong Yang

#2 MALE FERTILITY - WHEN THE PROBLEM LIES WITH HIM

You probably know already that male infertility is at the root of around half of all infertility cases. Yet male factor infertility is often overlooked, or relegated to last, says obstetrician and gynaecologist DR FONG YANG, who treats both male and female infertility.

Why is male factor infertility so often overlooked?

In many cases, it's simply because the male partners need time to come to terms with the fact that they may be the cause of infertility. The majority of fertility clinicians would ask for a simple semen test early in the treatment process, which would pick up most male issues and allow them to be addressed quickly. That can save a lot of time and money, and avoid a lot of heartache.

What are the main causes of male infertility?

It can be due to any of a myriad of reasons, including:

- **hereditary conditions**, such as microdeletion of certain genes on the Y chromosome which are passed from father to son
- **birth abnormalities**, such as undescended testes – even if corrected, this may still lead to low sperm count
- **childhood infections** like mumps
- **trauma** to the testes, for example during football or a cycling accident
- **lifestyle factors** like smoking or the frequent use of hot tubs or saunas.

How treatable is male infertility?

The bottom line is that as long as there is some sperm left, there is a chance of conception; otherwise couples may have to consider using donor sperm. IVF-ICSI (intra-cytoplasmic sperm injection) has been the breakthrough solution in many cases, even for men with very low sperm-counts, or where spermatids (immature sperm) have to be surgically retrieved from the testes. There is some research into the identification of healthy sperm to be selected for ICSI, but the data isn't conclusive yet.

Can you give us an example of a successful treatment?

I had a patient, still in his 30s, who had problems with conception. Subsequent investigations showed he had no sperm at all in his ejaculate, and that this was caused by a defect in the pituitary gland (located in the brain), which would normally produce the hormones necessary for the testes to manufacture sperm.

By putting him on a course of hormonal injections, we managed to get him to produce a few sperm, which were then used in an IVF-ICSI procedure to get his wife pregnant. She went on to deliver a healthy baby girl a year later.

#3 EARLY LOSS - WHAT CAN BE DONE

We all know someone who has lost a baby through miscarriage; perhaps it has even happened to you. Early pregnancy loss can be very difficult, even traumatic, and all the more so if it happens multiple times.

A close relative of mine suffered no less than *four* miscarriages in early pregnancy, before low progesterone was identified as the cause and she managed to carry her second baby to term. Dr Fong has a special interest in this area.

“As an IVF clinician,” he says, “it’s very frustrating to see a woman lose the pregnancy that we have tried so hard to achieve. I regard the management of early pregnancy loss – as well as recurrent pregnancy loss – as a natural extension of fertility treatment.”

Main causes

Around 70 percent of miscarriages are thought to be linked to genetic abnormalities in the embryo; another 10 percent to a problem with the uterus. Briefly, early pregnancy loss can be attributed to any of the following:

- problems with the embryo
- issues with the uterus
- lack of hormones, due to defects in production from the ovaries
- genetic defects or developmental problems in the early foetus or embryo
- maternal causes, like auto-antibodies that attack the foetus, or maternal health issues like thyroid disorders or other diseases.

The role of progesterone

As Dr Kelly Loi explains, progesterone is essential for supporting and maintaining a pregnancy: “It is normally produced by the ovaries, but during the early weeks of pregnancy, the placenta takes over this important job.”

With so many possible causes of miscarriage, she confirms that low progesterone is not one of the first things that would be tested for; it’s more likely to be checked in a woman who has had a history of miscarriages. “Then, if progesterone is indeed found to be low, medication with progesterone may prevent a miscarriage.”

Dr Fong agrees, saying that a lack of progesterone as a cause of recurrent miscarriage has been known for many years in the IVF fraternity. “However,” he says, “it is only in the last year or two that we have evidence from research to support the use of progestogens in early pregnancy.

“Now, it is clear that some women who have suffered early pregnancy loss will benefit from regular use of progestogens during the first 12 weeks of pregnancy, and its use is becoming more mainstream.”



“The regular use of progestogens during the first 12 weeks of pregnancy is becoming more mainstream”

– Dr Fong Yang

Another case

As an example of the intricacy of fertility issues, Dr Fong is treating a French woman in her 30s, who, after losing two pregnancies, was diagnosed with a blood-clotting disorder known as *Protein S deficiency*. “It affects the blood supply to the foetus, causing the foetal heart to stop, usually around six to eight weeks,” he explains.

Dr Fong describes how he tracked her conception from around five weeks of pregnancy, started her on injections to prevent the blood from clotting inappropriately, and closely monitored her during the first trimester.

“She is now in her 28th week of pregnancy and the baby is developing normally,” he says, with evident satisfaction.



#4 PREGNANCY - A TESTING TIME

Congratulations! You have just confirmed your pregnancy – but now what? What essential prenatal screening tests do you need during pregnancy? When are they performed, and why? DR MARIA TANG answers some of your very important questions.

It is advisable to start seeing your obstetrician from about seven to eight weeks into your pregnancy, says Dr Tang – from around seven weeks, the baby’s heartbeat can be detected on a trans-abdominal or trans-vaginal ultrasound scan.

At **every prenatal visit**, she will measure your weight and height, take your blood pressure and do a urine analysis. This is to screen for high blood pressure (pre-eclampsia), infections and gestational diabetes. “It’s important to diagnose and treat any pregnancy conditions that may affect the development of the foetus,” she explains, adding that prenatal tests are also performed to detect any health or genetic problems in the growing foetus.

Nowadays, prenatal screening tests can provide a lot of interesting and useful information. While many of the tests described below are done routinely – such as a first trimester dating scan to confirm when the delivery date is, screening for

Down syndrome with the first trimester nuchal translucency scan, and the 20-week foetal anomaly scan – others are at your own discretion.

“If you’re unsure about the need for certain tests or screenings, do ask your family doctor or obstetrician,” advises Dr Tang. “He or she will help you to make a more informed decision.”

Routine prenatal blood tests

These include:

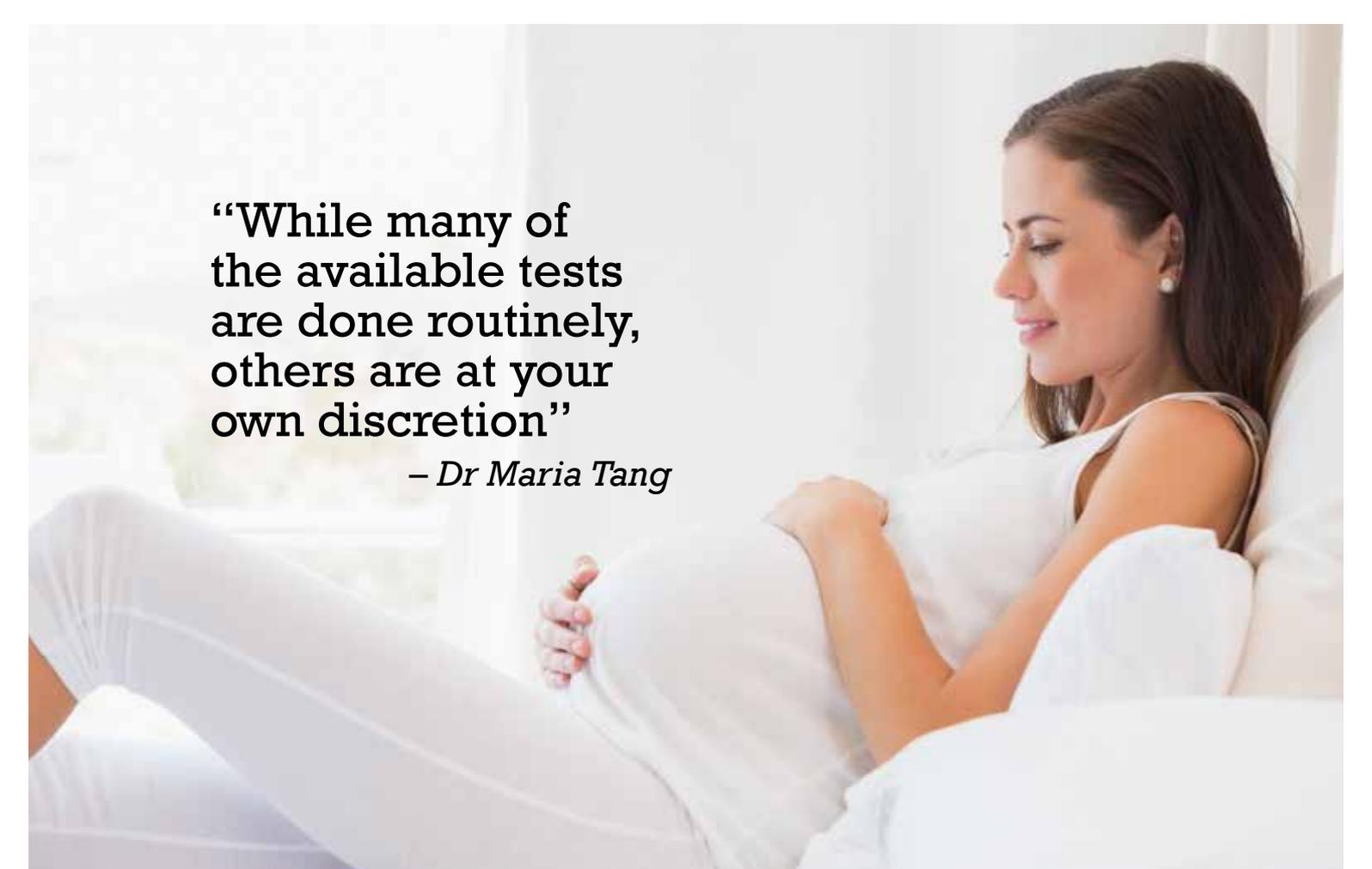
- **Maternal full blood count** for anaemia, and other inheritable conditions like sickle cell disease, thalassaemia, and other haemoglobin disorders.
- **Maternal blood group and Rhesus D status** to screen for haemolytic disease in the newborn. If cases of Rhesus incompatibility (where the mother is Rh-negative and the baby is Rh-positive), the mother is usually then offered routine antenatal anti-D prophylaxis.
- Screening for infectious diseases like **hepatitis, HIV and syphilis**, so that postnatal treatment can be offered where necessary.
- Screening for **rubella** (German measles) immunity.

Specific birth defect tests

Prenatal screening for specific birth defects can only establish your risk, or the probability that a particular condition exists. If a test proves positive, diagnostic tests like **amniocentesis** and **chorionic villus sampling** can provide a more definitive answer.

In the first trimester, you can expect to undergo:

- **Down syndrome screening**, involving an ultrasound scan for foetal nuchal translucency (NT) to examine the fluid-filled



“While many of the available tests are done routinely, others are at your own discretion”

– Dr Maria Tang

space behind the foetal neck, plus a nasal bone assessment, combined with a maternal blood test for hormonal and biochemical markers.

- **maternal foetal DNA bloods test**, a highly sensitive screening for foetal genetic conditions such as Down, Edward and Patau syndromes.

Second trimester tests at 15 to 20 weeks include:

- **alpha-fetoprotein (AFP) screening** for several substances or markers related to open neural tube defects like spina bifida, or to Down syndrome and other chromosomal abnormalities.
- **a foetal anomaly screening scan**, which can detect up to 90 percent of the major abnormalities.

Third trimester tests

At 36 weeks, a vaginal swab is done to check for **Group B streptococcus (GBS) infection**. “GBS is found in about 25 percent of all women,” explains Dr Tang, “and it can cause life-threatening problems to both the mother and the newborn.” To prevent these complications, intravenous antibiotics are given to the mother at the onset of labour.

From 24 to 32 weeks, **pregnancy growth scans** check to see that the baby is growing well. The placental location and volume of amniotic fluid are evaluated, while Doppler ultrasound scans assess the blood flow in the umbilical cord.

Parents-to-be have different levels of need for information, says Dr Tang – some want to know everything they can, others prefer not to. That said, she does recommend **regular follow-ups** with your obstetrician. “Regular assessment of your own health, together with the growth and position of the baby, will enable the doctor to advise you on the timing and mode of delivery.”

#5 SAFE DELIVERY – YOUR CHOICE, YOUR BIRTH RIGHT

Could you opt to give birth at home instead of in hospital? Is it even allowed? Home birthing is rare, says obstetrics and gynaecology specialist DR YEOH SWEE CHOO. But the choice of location is yours, as it is with many other aspects of childbirth, from mode of delivery to pain control.

We’ve come a long way since the turn of the 19th century when, in the US for example, ten percent of all babies died either during birth or within the first year. In 2016, the estimated US infant mortality rate was 5.8 per 1,000 births; in France it was 3.3; and in Singapore it was 2.4!

“Many factors have played a part in these vastly improved outcomes for pregnancy and delivery,” says Dr Yeoh. “These include: the education of women, improved socio-economic conditions, access to hospitals and advances in the science and practice of obstetrics.”

Where?

If access to hospitals has decreased the risk to both mothers and their babies, why would anyone choose to give birth at home? And how common is it?

Only around 0.25 percent of births here in Singapore take place at home, explains Dr Yeoh, compared with around 2.3 percent in the UK in 2013, for example. That's because it is perceived as a riskier option. "Universally, the aim of birth is safety, for the mother, and for her baby."

In the past, giving birth in the familiar surroundings of home was the norm. When that practice gave way to birthing in the safer and more sterile, but sterner and less intimate hospital environment, women found that decision-making was often taken out of their hands by professionals.

Not surprisingly, says Dr Yeoh, this sparked a backlash: "That's why obstetrics practice today emphasises its art, and not just its science. In general, delivery suites have become warmer, more welcoming and inclusive, so that birth partners may also participate." That sounds like good news all round.

How?

"Most healthy young women expect vaginal births," says Dr Yeoh, "and to be able to deliver their baby without assistance. Happily, this is possible for the large majority; after all, pregnancy and delivery are normal biological processes."

However, not all deliveries end in normal vaginal births, and many women will require some form of assistance. Some women may need assistance at vaginal delivery with either forceps or ventouse (vacuum). Other women may require a Caesarean section.

Landmark case

The UK case of Montgomery vs NHS Lanarkshire in 2015 changed medico-legal benchmarks, says Dr Yeoh. Mrs Montgomery's baby suffered brain damage due to shoulder dystocia and consequent delay in delivery. (Shoulder dystocia occurs when, after delivery of the head, the baby's shoulder gets stuck behind the mother's pubic bone.)

Being a small woman with diabetes and a large baby, the patient was worried about being able to deliver naturally. However, the obstetrician did not discuss the possibility of shoulder dystocia with her, or its potential complications. Had she done so, Mrs Montgomery would have chosen delivery by Caesarean section.

The court ruled in Mrs Montgomery's favour, saying that any treatment (in this case, method of birth) should be made on a shared basis by both patient and doctor. The doctor's role is to ensure that the patient clearly understands her condition, its severity, and the treatment options, so that she can make an informed choice. *■*



“Universally, the aim of birth is safety – for the mother, and for her baby”

– Dr Yeoh Swee Choo

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