MONASH IVF
QUARTERLY REVIEW

Fertility in focus

WINTER
2022

“Since the founding of Monash IVF, those accessing fertility treatments have kept rising – in recent times we have seen a significant increase in patients choosing to freeze their eggs, LGBTIQ+ community accessing donors and those becoming solo parents by choice.”

Prof Luk Rombauts
PhD FRANZCOG MD CREI
Medical Director Monash IVF Group
President-elect of the World Endometriosis Society.
President of the Fertility Society of Australia and New Zealand.

Celebrating 50 years of fertility treatment.

It’s an exciting year for us at Monash IVF as we celebrate 50 years - 50 years of fertility treatment. 50 years of science. 50 years dedicated to helping Australians complete their families.

Professor Carl Wood established the first clinical IVF program at Monash University in 1971, leading to what would soon become Monash IVF.

Since the founding of Monash IVF, those accessing fertility treatments have kept rising – in recent times we have seen a significant increase in patients choosing to freeze their eggs, LGBTIQ+ community accessing donors and those becoming solo parents by choice.

Our milestone year sees us reflect on how far we have come and look towards ways we can continually improve outcomes for our patients.

I am proud to say our success rates have continued to improve year on year and we have market-leading success rates across the country.

The Your IVF Success rates website has been developed to help patients understand the differences between fertility clinics and Monash IVF are supportive of this website and proud to have our results published.

There are areas where we would like to further lift our success rates, that is why our experienced scientific team are continually striving to improve our patient outcomes through a range of initiatives, including transition to blastocyst culture, installation of state-of-the-art laboratory equipment, as well as optimisation of laboratory quality control processes.

Another way we are working to improve is to ensure we provide an affirming experience for our patients within the LGBTIQ+ community. To do this we are providing all our staff and clinicians with access to Diversity & Inclusion Training across all aspects of services – specialist, nursing, science, ultrasound and genetics.

I would also like to extend this offer to you, our GP network, to attend a training session and help us all improve the care and understanding we provide to our LGBTIQ+ patients. There is more on this session within the newsletter, and I encourage you and your clinic staff to take part - we want to be a society that fully support all people experiencing fertility challenges.

Diversity and Inclusion Training

Monash IVF are committed to providing an affirming experience to all of our patients. As part of this commitment we are providing Diversity and Inclusion training to all our staff and specialists, and would like to extend this opportunity to our referral network.

This 90 minute session is conducted by Pride in Health & Wellbeing and qualifies for RACGP CPD points.

Date: Tuesday 20 September, 2022 at 6pm (AEST)

To register email seminars@monashivf.com

We are also proud that we have become an Employer of Choice for Gender Equality by the Workplace Gender Equality Agency. The WGEA describes citation holders as employers who “are taking deliberate, strategic action to drive positive change towards gender equality, which sets them apart from other companies.”

At Monash IVF Group we are proud that almost 92 per cent of our workforce is made up of women. This includes 100 per cent of our Sonographers, Nurses and Counsellors, 85 per cent of our science team and 68 per cent of our scientific leaders.

I encourage you all to reach out to myself or any of my fellow fertility specialists at Monash IVF, should you have a question when treating a patient.

We all look forward to continuing to help your patients achieve a family.

Dr Tristan Hardy
MBBS (Hons) MRMed PhD
FRANZCOG FRCPA
Medical Director Genetics,
Monash IVF Group

Monash IVF genetic carrier screening test.

Genetic carrier screening is now more accessible for your patients through Monash IVF Genetics.

RANZCOG guidelines recommend that genetic carrier screening is offered to all couples who are planning pregnancy or in the early stages of pregnancy[1].

While the availability and access to expanded carrier screening has been increasing over the years, the structures to support clinicians have not met the demand and need of patients and clinicians alike.

Monash IVF's genetics service has an online resource which allows patients to receive information on genetic screening, order and pay for the test and have telehealth appointments with our dedicated genetic counselling team, all from the comfort of their home.

The test is available to any interested patient/s and individuals. A patient does not need to be an IVF patient or undergoing fertility treatment to order the test.

This test compares favourably to other expanded carrier screening tests available within Australia, as it screens for 410 genetic conditions (including 50 X-linked) making it highly effective in identifying at-risk carrier couples. Using this test, we estimate that 1 in 20 reproductive couples will find that they have an increased chance of having a child with a single gene condition.

Importantly, we are determined to provide a premium test in both service and design that integrates with your patients' fertility journeys both within and outside of Monash IVF.

Thanks to our network of experienced fertility doctors, genetic counsellors, scientists, obstetricians, gynaecologists, sonographers, sonologists, donor and surrogacy experts and nursing teams, Monash IVF can offer patients holistic, integrated care from genetic testing to counselling, all the way through to fertility treatment options and prenatal diagnosis if required.

I encourage anyone who is interested and passionate about providing carrier screening for their patients to learn more about our service and feel free to reach out to me for more information and support for their patients.

The Monash IVF at-home genetic carrier screening test screens patients for up to 410 conditions.

How does the Monash IVF genetic carrier screening work?

Designed to be as simple as possible for patients, there are two ways for patients to access the test, depending on what stage of their fertility journey they are at:

- **Option 1**
  DIY test at home (non-pregnant patients)
- **Option 2**
  Blood collection at any Monash IVF or affiliated Ultrasound clinic

The process for patients:

The patient orders the screening test online via the Monash IVF website (monashivf.com)

They receive an email from the Monash IVF Genetic Counselling Team with the details of their test and a consent form.

If they are pregnant, the counselling team calls them to advise that a blood test is preferred, and emails them a pathology form. Otherwise, the at-home genetic carrier screening test is mailed to the patient.

When the kit arrives, they follow the instructions to provide a saliva sample via a cheek swab.

They mail their sample back using the reply-paid envelope provided or drop it off at an eligible clinic.

They receive their results and supporting information from the genetic counselling team (usually within 4-5 weeks). Low-risk couples will receive an email with their results. High-risk couples will be invited to book an online appointment to discuss their results in detail.

[1] RANZCOG Genomics Advisory Working Group & Women's Health Committee Statement on Genetic Carrier Screening, March 2019

WEBINAR: Genetics for Reproductive Care. Scan the QR Code to Watch

Presented by: Dr Tristan Hardy MBBS (Hons 1) MRMed PhD FRANZCOG FRCPA

- Dr Tristan Hardy is the Medical Director of Genetics for the Monash IVF Group.
- Dr Hardy is the only dual-qualified obstetrician/gynaecologist and genetic pathologist in Australia uniquely qualified to provide expert care in preconception, preimplantation and prenatal genetics. In addition to his clinical fellowships, Dr Hardy completed a PhD in preimplantation genetic testing, and continues to develop new approaches to preimplantation genetic testing (PGT) and regularly collaborates with world leaders in this field.
- Today, Dr Hardy leads our genetic laboratories and genetic counselling service across the Monash IVF Group and is involved in all areas of our reproductive genetic testing.

Fertility investigations present many opportunities to help you help your patients. Antenatal screens can allow you to identify any issues best addressed prior to pregnancy, such as the need for booster immunisations or treatment of infectious diseases. Specialised fertility investigations allow you to improve your fertility patients care by detecting who may need an early referral.

Dr Katrina Rowan
MBBS(Hons) MMed FRANZCOG CREI
Specialist in Reproductive Endocrinology and Infertility
Clinical Director, Monash IVF Sydney CBD

The importance of checking fertility health.

Furthermore, patients seeing fertility specialists can have a more streamlined experience if fertility investigations have been arranged prior to referral.

A carefully taken fertility history is one of the most important fertility health checks, issues that may arise on a fertility history that should trigger a referral include the following:

Assigned female at birth:

- trying to conceive for over 12 months, if patient is under 35 years of age
- trying to conceive for over 6 months, if patient is over 35 years of age
- irregular and/or painful menstruation
- painful intercourse
- history of pelvic inflammatory disease (PID), pelvic surgery, tubal damage or STI
- recurrent miscarriage (more than two)
- history of endometriosis
- polycystic ovary syndrome
- sterilisation reversal or history of sterilisation

Assigned male at birth:

- trying to conceive for over 12 months
- history of urogenital disease, infection, injury, surgery, or current symptoms of testicular swelling/pain
- varicocoele (an enlargement of the veins within the scrotum)
- erectile concerns
- abnormal genital exam
- previous abnormal sperm count
- previous chemo/radiotherapy
- previous vasectomy.

We recommend patients have the following investigations prior to seeing a fertility specialist. At an initial appointment with one of our fertility specialists, we will usually arrange the following if not already done.

Fertility checks for those assigned female at birth:

- Endocrinology - PRL, TSH +/- day 1-3 FSH, LH, E2. Day 21 progesterone
- AMH (anti-mullerian hormone) blood test to measure ovarian reserve (approx. $85 out-of-pocket)
- Routine antenatal serology including blood group, FBC, rubella and varicella titre, STI screening : HIV, Hep B, Hep C, syphilis, chlamydia, gonorrhoea
- Pelvic ultrasound (in early follicular stage of cycle). We recommend an ultrasound service specialising in women's health such as Sydney Ultrasound for Women, Monash Ultrasound for Women or Swell Ultrasound. For more complex cases, your patient may require a HyCoSy or Sonohysterogram, (out-of-pocket cost)
- An up to date cervical screening test
- Offer of screening for recessive genetic disorders

Fertility checks for those assigned male at birth:

- STI screening for HIV, Hep C, Hep B, syphilis, chlamydia, gonorrhoea
- Semen analysis including sperm antibodies (approx. $92 out-of-pocket)
- Monash IVF perform semen analyses in house. For more information on semen analysis please contact: info@monashivf.com. In the case of abnormal semen results, such as poor sperm count, low motility and poor morphology, some men will need to have 2 semen analyses completed.
- Male reproductive hormonal tests are generally only performed if there are concerns on the semen analysis
- Offer of screening for recessive genetic disorders

Patients with infertility may be eligible for a NSW Government $500 rebate for fertility testing. The rebate allows for assistance with out-of-pocket costs for a Fertility health check for patients meeting the eligibility criteria. Our Specialists can confirm their eligibility at their initial appointment. For more information visit: www.health.nsw.gov.au

Dr Michael Costello
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FRANZCOG CREI
Specialist in Reproductive
Endocrinology and Infertility
Medical Director of Monash IVF, NSW

Clinical Features and Diagnosis of Polycystic Ovary Syndrome (PCOS) for Women's Health

POLYCYSTIC ovary syndrome (PCOS) is a common endocrine disorder associated with insulin resistance and hyperandrogenism.

The condition leads to an increased lifetime risk of gestational diabetes, type 2 diabetes and endometrial cancer.

Associated reproductive disorders, such as irregular or dysfunctional menstrual bleeding and subfertility, are common, along with androgenic symptoms of acne and hirsutism.

There are associated psychological features, such as depression and anxiety, which are often under-diagnosed.

Weight gain is common and obesity affects up to two-thirds of women with the condition.

Dr Michael Costello, Medical Director of Monash IVF NSW was one of the key figures involved in the first evidence-based international guidance on PCOS, published in June 2018.

These guidelines aim to provide up to date, evidence-based recommendations for screening, diagnosis and treatment of PCOS including both fertility and non-fertility related features. The full guidelines can be found here: bit.ly/2IP03NX

Previous research mostly centred around isolated features of PCOS. This initiative represents the first time a full set of guidelines has been developed and published encompassing all aspects of the condition.

There has also been increased focus on areas previously poorly recognised, such as associated mental health aspects.

Table 1 summarises the clinical features of the condition.

Diagnosis of PCOS

The new guideline endorses the consensus-based Rotterdam diagnostic criteria for adult women.

This requires two of the following features be present, and exclusion of related disorders:

- oligo- or anovulation
- clinical and/or biochemical hyperandrogenism
- polycystic ovaries on ultrasound.

Where both oligo- or anovulation and hyperandrogenism are present, ultrasound examination of the ovaries is not necessary for diagnosis of PCOS in adult women, however, ultrasound will identify the complete PCOS phenotype.

In adolescents (less than eight years post-menarche), both oligo-anovulation and hyperandrogenism are required. Ultrasound is not recommended for diagnosis in adolescents due to the high prevalence of physiological multi-cystic ovaries in this life stage.

If only irregular cycles or hyperandrogenism is present in adolescents, ultrasound is not indicated. Such patients should be considered at risk of PCOS and re-assessed later, at or before full reproductive maturity (eight years-post menarche).

Ultrasound criteria for polycystic ovarian morphology have refined with advancing newer technology.

Serum AMH levels should not be used as an alternative either for the detection of polycystic ovaries on ultrasound (polycystic ovarian morphology, or PCOM) or to diagnose PCOS.

Diagnostic assessment

The first step is to establish whether both irregular cycles and clinical hyperandrogenism exist together. If both do exist, other causes of irregular cycles and hyperandrogenism must be excluded to make the diagnosis of PCOS.

This includes hypothyroidism, hyperprolactinaemia, congenital adrenal hyperplasia, Cushing syndrome, adrenal and ovarian tumours.

IRREGULAR MENSES

Irregular cycles occurring within one year after menarche are considered to be 'normal'. Between one and three years post-menarche, irregular cycles are those less than 21 days or more than 45 days apart.

If three or more years have passed since menarche, then irregular cycles are those less than 21 days or more than 35 days apart, or fewer than eight cycles per year.

For women who are at least one year post-menarche, the occurrence of a cycle lasting more than 90 days also fits the definition.

HYPERANDROGENISM

Clinical hyperandrogenism (hirsutism, acne or alopecia) is assessed by history or examination. Standardised visual scales are preferred when assessing hirsutism (namely, the modified Ferriman Gallwey score [mFG] with a level 4–6 indicating hirsutism) and alopecia (using the Ludwig visual score), although any reported unwanted excess hair growth and/or alopecia should be considered important.

There are no universally accepted visual assessments for evaluating acne.

If irregular cycles are present but clinical hyperandrogenism is not, then test for biochemical hyperandrogenism. If present, then exclude other causes (of irregular cycles or hyperandrogenism) to make the diagnosis of PCOS.

Testing for biochemical hyperandrogenism should include total testosterone and either calculated free testosterone, free androgen index or calculated bioavailable testosterone.

Consider evaluating androstenedione and dehydroepiandrosterone sulfate (DHEAS) if the former androgens are not elevated.

If only irregular cycles or hyperandrogenism (clinical or biochemical) exist, then further assessment depends on whether the patient is an adult or adolescent (within eight years of menarche).

POLYCYSTIC OVARIAN MORPHOLOGY

If the patient is an adult, organise an ultrasound to assess for PCOM.

If polycystic ovaries are present on ultrasound, then other causes (of irregular cycles or hyperandrogenism) must be excluded to make the diagnosis of PCOS.

In an adolescent, ultrasound is not indicated, and the patient is to be considered "at risk of PCOS" and further re-assessment is indicated at a later date.

References:
[1]Human Reproduction 2013; 28:777-84.
[2]Human Reproduction 2004; 19:41-47.
[3]BMC Medicine 2010; 8:41.

Online resources:
International Evidence-based Guideline for the Assessment and Management of Polycystic Ovary Syndrome. Monash University, Melbourne Australia 2018. See: bit.ly/2IP03NX

Journal of Clinical Endocrinology and Metabolism 2019; online. PCOSQ. See: bit.ly/31f883r

Table 1. Clinical features of PCOS:

Category	Features
Clinical hyperandrogenism	• Hirsutism • Acne • Alopecia
Reproductive	• Irregular cycles • Infertility • Endometrial • hyperplasia/cancer
Psychological	• Poor self-esteem • Anxiety • Depression
Metabolic	• Cardiovascular disease risk factors • Dyslipidaemia • Gestational diabetes • Impaired glucose tolerance • Type 2 diabetes
Lifestyle	• Obesity • Obstructive sleep Apnoea

Source: Adapted from international, evidence based guidelines (see online resources)

WEBINAR: Polycystic Ovary Syndrome (PCOS). Scan the QR code to watch.

This webinar discusses PCOS and its impact on adolescents, contraception and fertility.

Speakers include:

- Dr Michael Costello – Medical Director, Monash IVF NSW. Specialist in Reproductive Endocrinology and Infertility, Gynaecologist, consulting in Randwick, Sydney CBD, NSW.
- Dr Tania Widmer – Fertility Specialist, Obstetrician and Gynaecologist, consulting in Southport, QLD.
- Dr Virochana Kaul – Fertility Specialist, Obstetrician and Gynaecologist, consulting in Boronia, Bundoora, Mitcham, VIC.

Dr Joseph Jabbour
MBBS FRANZCOG
Specialist Obstetrician, Gynaecologist
and Fertility Specialist

Endo-metriosis and fertility.

Endometriosis is a disease that will affect 10% of women at some point in their life.

The cause of endometriosis is still not fully known although awareness for the disease is greater than ever. Genetics is known to play a part with studies showing that specific genes inherited from parents, will increase the chance of a patient having the disease by eightfold.

As symptoms of endometriosis can be many and varied, lengthy delays in diagnosis are common - often averaging around eight years but sometimes up to 10 years.

About a third of women with endometriosis discover they have the disease because they have not been able to fall pregnant (approximately 40% of infertile couples will have the disease) or because endometriosis is found during an operation for another reason.

What exactly is endometriosis?

Endometriosis is when tissue similar to the normal uterine lining is found growing and invading areas where it should not. Endometriosis most often affects the reproductive organs however it is frequently found in the bowel and bladder and has also been found in muscle, joints, the lungs and the brain.

Currently the only way to accurately diagnose endometriosis is through tissue sampling collected via laparoscopic surgery. Specialist ultrasound services such as Sydney Ultrasound for Women and Monash Ultrasound for Women can also detect deep infiltrating endometriosis on the bowel, bladder and uteroscaral ligaments. It is therefore recommended that such an ultrasound is performed to plan for the most appropriate surgery if this is indicated.

Treating endometriosis is challenging as what may work for some patients may not be as affective for others. If your patients are considering surgical treatment for their endometriosis it is important to ensure their surgeon is an experienced endometriosis practitioner.

Common myths surrounding endometriosis.

- Endometriosis does not occur in teenage girls. Yes it does! Teenage girls can suffer severe symptoms of endometriosis.
- Endometriosis will be cured by pregnancy. Pregnancy only suppresses the symptoms; it will not cure the disease. Symptoms usually reoccur 12 months after giving birth.
- Patients will be cured after a single treatment. Surgery is certainly effective but even with optimal treatment, endometriosis can reoccur in 50% of cases.
- Patients with endometriosis will require a hysterectomy. While Endometriosis does grow outside of the uterus, only in very rare cases will the uterus need removing.

How does endometriosis affect fertility?

Endometriosis can influence fertility in several ways: distorted anatomy of the pelvis, adhesions, soarred fallopian tubes, inflammation of the pelvic structures, altered immune system functioning, changes in the hormonal environment of the eggs and impair the implantation of a pregnancy. Unfortunately, some women with endometriosis can have recurring ovarian cysts. If cysts are removed over and over, this can cause a loss of eggs from the ovaries and can make it harder to fall pregnant.

While endometriosis can, and often does, prevent pregnancy, by treating the endometriosis itself, patients find that their infertility symptoms can improve.

Common symptoms of endometriosis.

Pain	• Pain immediately before and during a period • Pain during or after sex • Abdominal, back and/or pelvic pain • Pain on going to the toilet, passing urine, opening bowels • Ovulation pain, including pain in the thigh or leg (this can also happen normally in some women)
Bleeding	• Heavy bleeding, with or without clots • Irregular bleeding, with or without a regular cycle • Bleeding longer than normal • Bleeding before a period is due
Bladder and bowel problems	• Bleeding from the bladder or bowel • Change in pattern of bowel habit, such as constipation, diarrhoea • The need to urinate more frequently or some other change from the normal habit
Bloating	• Increase abdominal bloating, with or without pain at the time of the period
Tiredness	• Tiredness or lack of energy, especially around the time of the period
Mood changes	• Anxiety and depression due to ongoing pain
Reduced quality of life	• Taking days off work, study or school because of an inability to function normally
Vagina	• Pelvic floor muscle spasm or tightening occurs because of fear of pain previously experienced with intercourse or tampon use

Missed our webinar on endometriosis? Scan the QR code to watch.

Speakers include:

- Dr Namrata Bajra
  Obstetrician, Gynaecologist and Fertility Specialist, QLD
- Dr Jinny Foo
  Obstetrician, Gynaecologist and Fertility Specialist
  Clinical Director of Monash IVF in Penrith, NSW
- Professor Beverley Vollenhoven
  Gynaecologist and Fertility Specialist, VIC

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