



INFERTILITY

CAUSES, EXPLORATIONS
AND TREATMENT OPTIONS



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Desire to Conceive

Assessment and care of the couple

Understanding, exploring and supporting infertility in a medical, progressive and personalized way

The desire to have a child is a deeply intimate project, which can sometimes become a source of questioning and worry when it is not realized immediately.

This document proposes a clear, structured and reassuring approach to:

- Understanding the main causes of infertility
- explain the steps of the medical check-up
- Present the appropriate care options for each couple



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In the majority of cases, an identifiable cause can be sought and effective management is possible.

Contents

CONTENTS

- Introduction – Understanding the desire to conceive..... p. 2
- Definition of infertility..... p. 4
- Causes of infertility..... p. 5
- Distribution of causes (couple)..... p. 6
- Male factors..... p. 7
- Female factors..... p. 8

Diagnostic work-up of infertility

- General approach to the assessment..... p. 9
- Gynaecological ultrasound..... p. 12
- Ovarian reserve (AMH/AFC).....p. 13
- Hormonal assessment..... p. 14
- STIs (sexually transmitted infections).....p. 15
- Hemoglobin Electrophoresis..... p. 16
- Exploring the Tubes..... p. 17
- Gynecological and breast screening..... p. 18
- Preconception immunity..... p. 19
- Semen analysis..... p. 20

Infertility Treatments

- Principles of care..... p. 22
- Monofollicular stimulation..... p. 23
- Intrauterine insemination (IUI).....p. 24
- IVF / ICSI – principles..... p. 25
- IVF Indications..... p. 26
- IVF success rate..... p. 27
- Lifestyle and fertility..... p. 28
- Therapeutic pathway..... p. 29
- Support..... p. 30
- Conclusion..... p. 31

Scientific sources

- International Recommendations in Reproductive Medicine..... p. 32



Definition of Infertility

Infertility is when a pregnancy does not occur after a period of regular, unprotected intercourse:

- after 12 months in a couple with no known factor
- after 6 months when the woman is 35 years of age or older

The evaluation always concerns the couple as a whole



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The time factor is an important element in the management strategy.



Causes of infertility

The causes of infertility are multiple and can concern the woman, the man or both partners. Their identification makes it possible to guide the assessment and the management.

Infertility: distribution of causes

A multifactorial origin most often involving the couple

Infertility is a frequent and complex situation, which in most cases involves one or more causes in both partners. The evaluation must therefore always be global and focused on the couple.

- male factor alone: ~30%
- female factor alone: ~30%
- Mixed factor: ~30%
- Unexplained: ~10%



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Infertility affects the couple in the majority of cases and requires systematic evaluation of both partners.



Male factors

Causes of male fertility disorders

Male fertility disorders can affect sexual function, ejaculation, or sperm quality.

Main causes:

- infections or inflammatory sequelae
- Varicocele / anatomical causes
- Hormonal factors
- toxic factors (tobacco, alcohol, heat, medication)
- Genetic factors
- Stress and functional disorders (erection, ejaculation)



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The male factor is **involved in about 60% of infertility cases** (isolated or associated).

Female factors

Indirect and multi-factor valuation

Female factors account for about 30% of the causes of infertility and are often complex.

Main causes:

- Hormonal disorders of ovulation (PCOS, functional ovarian failure)
- tubal involvement (obstruction, infectious sequelae, endometriosis)
- Uterine factors (fibroids, polyps, cavity abnormalities, adenomyosis)
- Decreased ovarian reserve/oocyte quality



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In women, fertility depends on ovulation, the fallopian tubes and the uterus, assessed by a clinical, hormonal and ultrasound approach.

Infertility Management

Gradual and structured approach

The management of infertility follows a gradual approach, adapted to each couple.

- Identify the main possible causes
- Confirm through targeted examinations
- Propose an appropriate treatment
- Climbing if necessary (IUI → IVF)



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La prise en charge se fait étape par étape, en fonction des résultats du bilan.



Diagnostic work-up of infertility

The causes of infertility are multiple and involve the woman, the man or both partners. Their identification is essential to guide the diagnostic work-up.

Basic Fertility Evaluation

The basic fertility evaluation includes:

- Gynecological ultrasound
- Hormonal assessment
- Semen analysis
- Exploration of the fallopian tubes
- Infection screening (STI)
- assessment of preconception immune status (rubella, chickenpox, hepatitis B depending on the context)
- Gynaecological prevention: cervical smear and breast assessment according to age and risk factors



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The basic fertility evaluation concerns both partners.



Gynaecological ultrasound

Initial assessment of the female reproductive system

This is an essential first-line examination, allowing a global evaluation of the pelvic anatomy and to guide the rest of the assessment.

- uterus (fibroids, polyps, abnormalities)
- Ovaries (appearance, follicular reserve)
- endometrium (thickness, structure)

It allows you to direct additional examinations directly if necessary.



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Essential basic examination in any infertility assessment.



Ovarian reserve

Follicular Capacity Assessment

- AFC (Antral Follicular Count on Ultrasound)
- AMH (blood test)

A low AMH reflects a decrease in ovarian reserve, without being a direct indicator of current fertility.



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Ovarian reserve is a quantitative indicator of follicular stock, not immediate ability to conceive.



Hormonal assessment

Ovulation and Hormonal Balance Assessment

The hormonal assessment explores several essential axes:

- **FSH, LH, estradiol** (ovarian function)
 - **TSH**: thyroid balance, essential for regular cycles and conception
 - **Prolactin**: elevation can inhibit or disrupt ovulation
- In addition, depending on the clinical context, other hormones can be analyzed:

- **Testosterone**: assesses a possible excess of male hormones (hyperandrogenism), often involved in PCOS
- **DHEAS**: hormone of adrenal origin, useful for distinguishing ovarian or adrenal origin from an excess of androgens



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The hormonal assessment should ideally be carried out at the beginning of the cycle (D2–D5) to be correctly interpreted.

Sexually transmitted infections (STIs)

Preventing infectious risks for the couple and pregnancy

Screening for sexually transmitted infections helps ensure a safe pregnancy.

- Chlamydia & gonococcus: often silent infections that can affect the fallopian tubes and fertility
- HIV: systematic screening as part of the parental project
- Hepatitis B & C (and Syphilis): assessment of the risk of mother-to-child transmission and adaptation of management



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In the event of a positive result, treatment and appropriate follow-up are immediately offered to protect fertility and pregnancy.

Hemoglobin Electrophoresis

Screening for genetic blood diseases

This test looks for abnormalities in hemoglobin.

- Sickle cell disease (very common in sub-Saharan Africa)
- Other transmissible haemoglobinopathies

Many carriers are asymptomatic and unaware of their status. When both partners are carriers, the risk of transmission to the child is 25% per pregnancy.



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A common and often silent disease. In the case of double carrier: 1 in 4 pregnancies may be affected.



Exploring the Tubes

Checking the passage between the ovary and the uterus

The tubes allow the egg and sperm to meet and are essential for a natural pregnancy.

Two examinations are possible:

- HyFoSy: ultrasound with contrast, without X-rays, usually very well tolerated
- HSG: X-ray with iodinated contrast agent

These examinations make it possible to assess tubal patency and to guide the therapeutic strategy.



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The patency of the tubes is essential for a natural pregnancy.



Gynecological & breast screening

Screening and preconception health

Gynecological prevention

The pregnancy plan is also an opportunity to check certain preventive examinations that are important for the woman's health.

- **Pap smear / HPV test**

Cervical cancer screening is used to look for precancerous lesions or HPV infection.

- **Breast Examination**

A clinical examination of the breasts is systematically performed.

After the age of 40, a mammogram may be recommended depending on age, risk factors and the last check-up.



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Good gynecological health is essential to promote a pregnancy in the best possible conditions.

Preconception immunity

Pre-pregnancy immunity check

Some infections can be prevented with vaccination before pregnancy.

The assessment may include the search for immunity against:

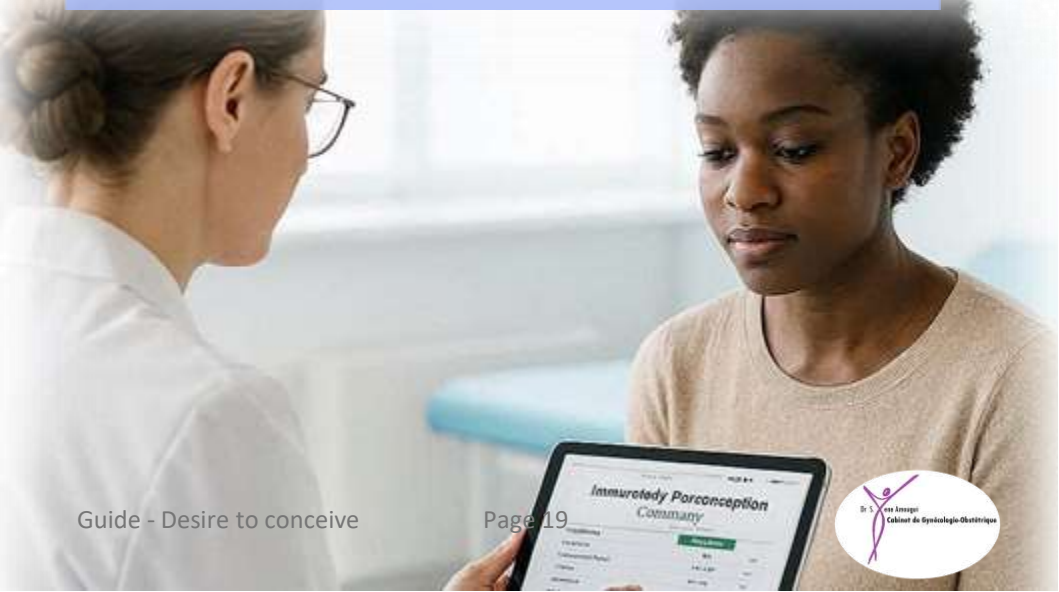
- Rubella
- Chickenpox
- Hepatitis B depending on the context

In the absence of immunity, vaccination may be offered before the beginning of pregnancy.



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Good immunity before pregnancy reduces some of the risk of complications for both mother and child.



The Semen Analysis

Male fertility analysis

The seminogram evaluates the essential parameters of male fertility:

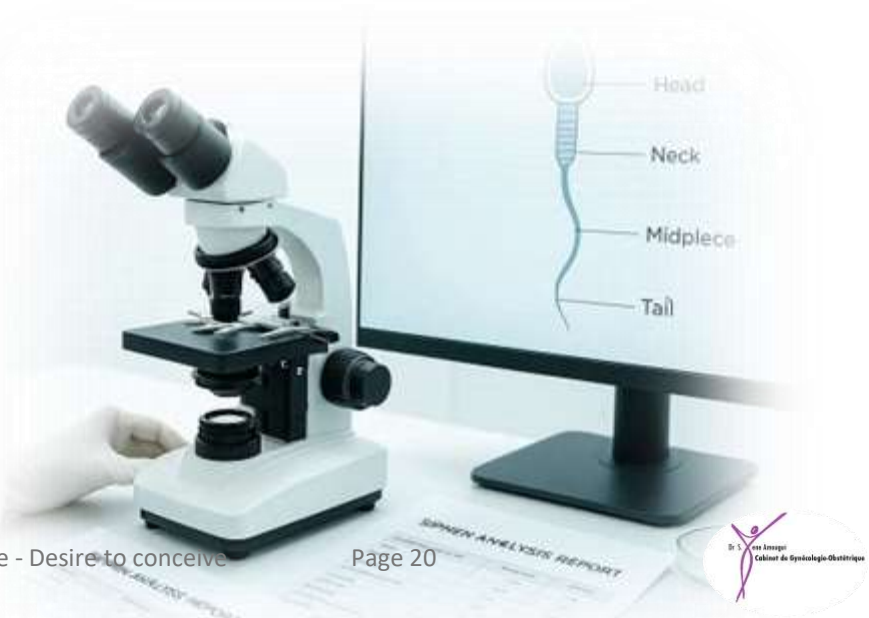
- Sperm concentration
- Mobility
- Morphology

The male factor is involved in about 30% of isolated infertility cases and in about 30% of cases associated with a female factor.



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The male factor is frequent and systematically sought in the couple's fertility assessment.



Infertility treatment

A progressive path, adapted to each couple to optimize the chances of pregnancy



Infertility management

A personalized treatment according to the cause, age and the couple's plan

After the diagnostic assessment has been carried out, an individualised treatment plan is drawn up.

It depends on several factors: the cause identified, age, treatments already tried as well as the couple's expectations and parental project.

The objective is to offer progressive, effective care adapted to each situation.



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Each couple benefits from a personalized treatment pathway, adapted to their medical situation and their life project.



Monofollicular stimulation

Optimizing ovulation

Monofollicular ovarian stimulation helps promote quality ovulation with the help of light hormone therapy.

Regular ultrasound monitoring makes it possible to adapt the stimulation, optimize the timing of ovulation and reduce the risk of multiple pregnancies.

When the follicle is mature, an ovulation induction injection can be performed in order to precisely synchronize the timing of ovulation.



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Supervised monofollicular stimulation makes the treatment safer and optimizes the chances of pregnancy.



Insemination (IUI)

Facilitating the meeting of gametes

Intrauterine insemination consists of depositing prepared spermatozoa directly into the uterus at the time of ovulation.

The sperm is processed in the laboratory in order to select the most motile spermatozoa.

It is indicated in cases of mild infertility, moderate sperm disorders, ejaculation disorders or unexplained infertility.



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Pregnancy rate per cycle: about 8 to 20% depending on the situation.



IVF / ICSI

Fertilization in the laboratory

In vitro fertilization reproduces the stages of conception outside the body.

It includes ovarian stimulation, oocyte retrieval, laboratory fertilisation (IVF or ICSI), embryo culture and then transfer to the uterus. Good quality embryos can be frozen for later use.

IVF is indicated in cases of non-permeable fallopian tubes, failure of simple treatments, male factor or diminished ovarian reserve. It allows the chances of several cycles to be grouped together in a single procedure, at the cost of a more intensive treatment with hormonal stimulation and close monitoring.



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IVF increases the chances of pregnancy by concentrating embryos from one or more cycles in a controlled procedure.

Indication for IVF

When IVF is necessary

IVF is indicated in cases of significant impairment of fertility or when other therapeutic approaches do not achieve pregnancy.

- Non-permeable tubes
- repeated insemination failures
- Advanced endometriosis
- Significant male factor
- Decreased ovarian reserve



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IVF is offered when natural or simple assisted fertilization is unlikely or ineffective.



IVF success rate

The essential role of age

The chances of success in IVF depend mainly on age.

- < 35 years: 30–40% per attempt
- 35–39 years: 20–30%
- \geq 40 years: gradual decrease



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The accumulation of attempts increases the overall chances of pregnancy.



Lifestyle

Optimization of modifiable factors

Certain lifestyle factors directly influence fertility.

Weight & physical activity

Moderate weight loss (5–10% if overweight) can improve ovulation. Regular physical activity is recommended.

Tobacco & Alcohol

Tobacco has a major impact on female and male fertility. Alcohol should be limited, especially during the conception period.

Preconception Preparation

Folic acid (0.4 mg/day) is recommended from the start of pregnancy.



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Simple adjustments can significantly improve the chances of pregnancy.



Therapeutic pathway

Progressive and individualized care

The treatment follows a progression adapted to the results of the assessment and the profile of the couple.

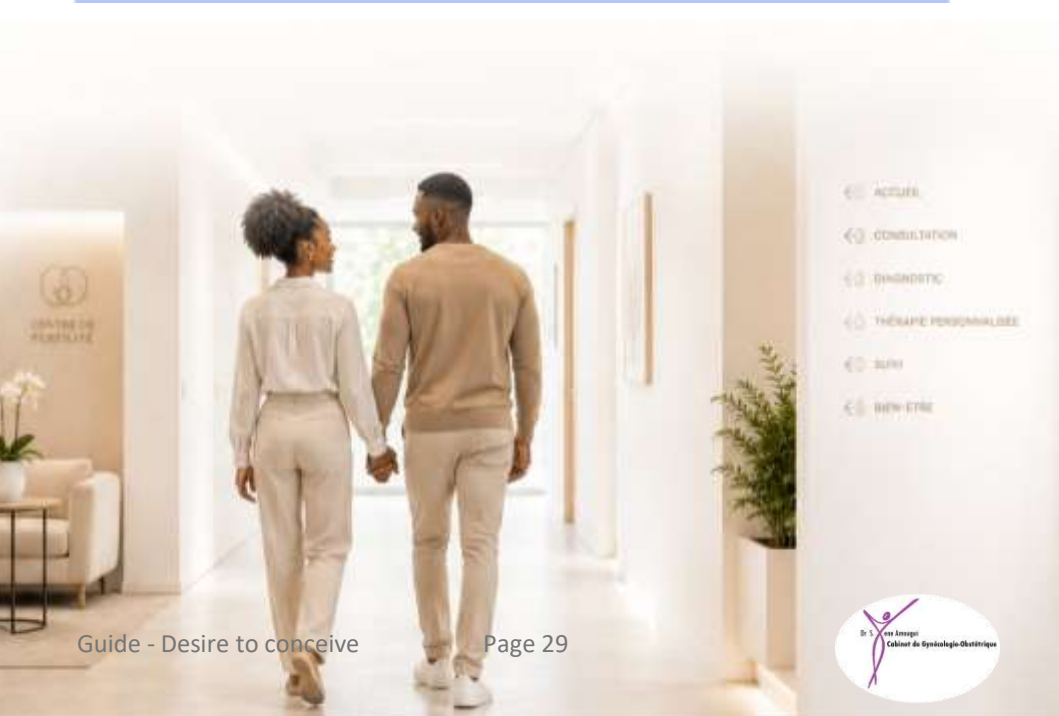
It ranges from simple treatments to ovarian stimulation with or without insemination, and then to IVF or ICSI if necessary.

In certain specific situations, egg donation can be discussed.



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A structured pathway, adapted to each medical situation.



Support

Medical and emotional support

The fertility journey can be an emotionally demanding time.

Clear medical support helps to understand each step, reduce the mental load and make decisions easier.

Psychological support can also be offered if necessary.



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Comprehensive support improves serenity and care.



Conclusion

Moving forward with confidence

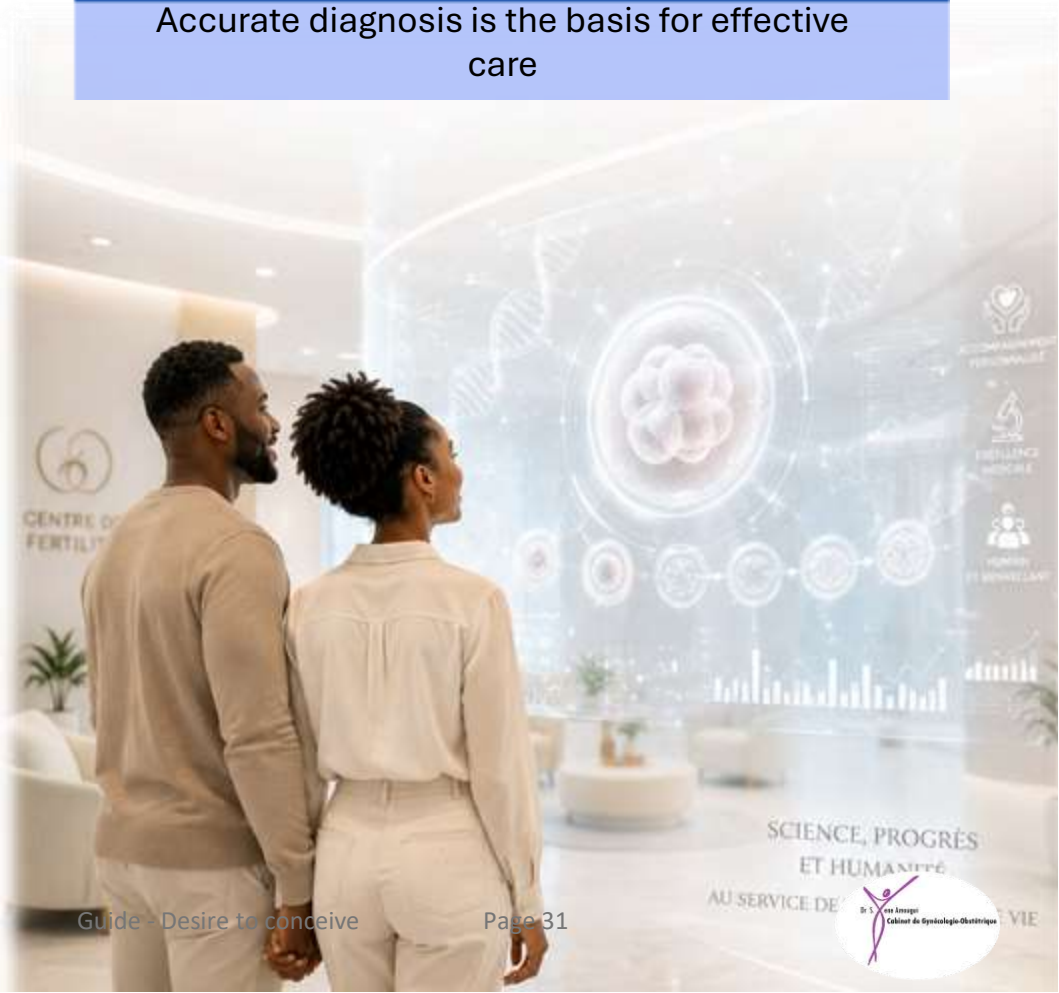
The fertility journey is a structured, progressive and human medical approach.

A precise assessment and a personalized strategy optimize the chances of pregnancy.



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Accurate diagnosis is the basis for effective care





INFERTILITY

BOOSTING YOUR
FERTILITY

FERTILITY
AND AGE

Scientific Sources and Recommendations

Science-based reproductive medicine

This guide is based on current international recommendations in reproductive medicine and infertility, which are regularly updated according to the latest scientific data.

- World Health Organization (WHO) – Reproductive Health and Infertility
- American Society for Reproductive Medicine (ASRM)
- European Society of Human Reproduction and Embryology (ESHRE)
- International Federation of Gynecology and Obstetrics (FIGO)
- Royal College of Obstetricians and Gynaecologists (RCOG)
- Deutsche Gesellschaft für Reproduktionsmedizin (DGRM) / DGGM

These recommendations aim to ensure that infertility management is safe, personalised and based on the best available scientific evidence.

Understand today
to move forward serenely
towards tomorrow.



This guide helps you better understand infertility,
explore possible causes, and discover treatment
options adapted to your situation.

UNDERSTAND MORE • DIAGNOSE EARLIER • TREAT BETTER



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