

Treatment approaches for PCOS, endometriosis, and male factor



Start with the full fertility picture

When pregnancy has not happened as expected, the first useful step is often not a treatment, but a clear map of the problem. PCOS, endometriosis, and male factor infertility can each lower the chance of conception on their own, and they can also coexist. A thoughtful evaluation looks at ovulation, tubal and pelvic anatomy, ovarian reserve when relevant, and semen parameters, rather than assuming that one diagnosis explains everything.

In practice, clinicians often ask about cycle regularity, pain pattern, prior pelvic surgery, sexual function, medications, and metabolic health. If cycles are irregular, fertility evaluation after irregular cycles may show that ovulation is inconsistent rather than absent. For pelvic pain, symptoms do not always match the extent of endometriosis. For male partners, male factor infertility evaluation usually begins with semen analysis and, when needed, repeat testing because results can vary. A reproductive endocrinologist, gynecologist, or urologist may each contribute to the plan.

This broader approach matters because treatment is most effective when it targets the dominant bottleneck. Some people need ovulation support; others need surgery, sperm optimization, or assisted reproduction. Many need a

combination, and the right combination depends on age, duration of infertility, prior pregnancies, and how urgently conception is desired.

PCOS: restore ovulation and protect metabolic health

The current PCOS approach is individualized. The 2023 international guideline emphasizes shared decision-making, lifestyle intervention when appropriate, and symptom-targeted treatment rather than a single universal protocol. Weight management can improve ovulatory function in people with higher body weight, but care should not be reduced to weight loss alone. Nutrition quality, regular physical activity, sleep, and screening for dysglycemia all matter, because reproductive and metabolic health are tightly linked.

When pregnancy is the goal, the main medical question is often how to restore ovulation. For many patients, letrozole for ovulation induction is first-line because it tends to produce better ovulatory outcomes than older agents in PCOS. Clomiphene citrate is another option in selected cases, and metformin may be useful when insulin resistance, prediabetes, or other metabolic concerns are present. If oral agents fail, clinicians may consider gonadotropins, laparoscopic ovarian drilling in carefully selected patients, or IVF if other factors coexist or time is limited. Each option has different trade-offs for efficacy, monitoring burden, and risk of multiple pregnancy.

When pregnancy is not being pursued immediately, cycle regulation can protect the endometrium and reduce the risk of prolonged unopposed estrogen exposure. Because PCOS is systemic, metabolic screening before pregnancy is not optional extra care; it is often part of reproductive planning and long-term risk reduction.

Endometriosis: reduce pain, suppress disease, and protect fertility

Endometriosis treatment is shaped by two goals that can pull in different directions: pain control and fertility preservation. Nonsteroidal anti-inflammatory drugs can help with dysmenorrhea and pelvic pain, but they do not treat disease activity itself. Hormonal suppression with combined contraceptives, progestins, or GnRH analogs and antagonists can reduce estrogen-driven stimulation of endometriotic implants, yet these therapies generally prevent conception while they are being used. For someone who is

trying to conceive, that timing issue matters as much as the drug choice.

When pregnancy is the priority, the decision becomes more nuanced. Surgery may help some patients, especially when there are endometriomas, adhesions, distorted pelvic anatomy, or severe pain, but surgery can also affect ovarian reserve if ovarian tissue is removed. That is why endometriomas and ovarian reserve need to be discussed before an operation, not afterward. In some cases, proceeding directly to IVF is more efficient than repeated surgery or prolonged medical suppression, particularly when age, duration of infertility, or tubal disease make time important. For deep or extensive disease, an experienced surgical team is especially important.

Not every lesion must be excised, and not every patient with endometriosis-related infertility needs surgery. The most appropriate plan often blends symptom relief, fertility timing, and the lowest-risk path to conception.

Male factor: improve sperm quality and address reversible causes

Male factor treatment starts with confirmation. A semen analysis may reveal low concentration, reduced motility, abnormal morphology, or very low volume, and repeat testing is often helpful because spermatogenesis changes over time. Since a single sample can miss day-to-day variation, clinicians often interpret the result in context and may repeat it after a reasonable interval. Once the pattern is clear, they look for reversible causes: lifestyle factors affecting sperm quality, fever or heat exposure, varicocele, endocrine disorders, medication effects, and prior infections or surgery.

Simple changes can matter, although they are not magic. Stopping tobacco, moderating alcohol, avoiding anabolic steroids, reviewing supplements, improving sleep, and reducing heat exposure to the testes can support sperm production. Exogenous testosterone deserves special caution because testosterone therapy and sperm production are negatively linked; testosterone replacement can suppress spermatogenesis and worsen fertility. If a hormonal cause is found, targeted endocrine treatment may improve the picture, but treatment depends on the specific diagnosis and on whether the goal is conception now or later.

When a correctable cause is present, repair or medical treatment may help. Varicocele repair is considered in selected men with clinical varicocele and abnormal semen parameters. If sperm counts remain low, assisted reproduction can bypass some barriers: intrauterine insemination may fit mild cases, while IVF with ICSI is often used when sperm numbers or motility are more severely impaired. Genetic testing for male infertility is also important in selected severe cases.

How clinicians combine treatments when more than one factor is present

When more than one diagnosis is present, the order of treatment matters. A couple with PCOS and endometriosis may need ovulation induction, pelvic pain management, and a discussion about whether surgery or IVF offers the best balance of speed and success. A couple facing PCOS and male factor infertility may benefit from metabolic optimization on one side and semen-focused care on the other, rather than waiting for one issue to solve itself. The plan should also account for whether conception is being pursued naturally, with timed intercourse, through insemination, or with IVF.

Good fertility care is usually staged. First, clarify the major diagnoses. Next, address modifiable factors that improve the odds and reduce risk. Then choose the least invasive treatment that is likely to work within the available time window. If conception does not happen, escalation to assisted reproduction is not a failure; it is often the most efficient next step. Reassessment is important after each step so that the plan stays aligned with new information.

Support matters as much as the algorithm. Repeated cycles, pain, and uncertainty can be emotionally draining. Patients do better when they have a clinician who explains why a medication, procedure, or referral is being recommended, and when they are encouraged to ask how success is measured, what side effects matter, and what the backup plan will be if the first treatment does not work.