Side effects and risks of fertility treatments including OHSS

Why fertility treatments can cause side effects

Many fertility treatments work by altering or amplifying the hormonal signals that regulate ovulation. Oral ovulation medications, injectable gonadotropins, GnRH agonists or antagonists, ovulation triggers, progesterone support, and estrogen preparations can all produce noticeable effects because they influence ovarian activity, endometrial preparation, and fluid balance.

In an unstimulated menstrual cycle, usually one dominant follicle matures. In controlled ovarian stimulation, especially for in vitro fertilization, the aim may be to recruit multiple follicles so several eggs can be retrieved. This is medically useful but can make the ovaries enlarged and hormonally active. As estradiol rises and the ovaries expand, people may experience bloating, pelvic heaviness, nausea, breast tenderness, fatigue, headaches, and emotional lability.

The emotional side of treatment deserves equal attention. Hormonal changes may contribute to mood shifts, but uncertainty, repeated appointments, financial strain, previous pregnancy loss, infertility stigma, and the pressure of waiting for results can also be major contributors. Feeling anxious, tearful, irritable, or exhausted during treatment is common and does not mean you are

coping poorly.

Common medication-related side effects

Side effects vary by medication type, dose, baseline ovarian reserve, polycystic ovary syndrome, body size, previous response to stimulation, and whether the cycle is for ovulation induction, IUI, egg freezing, or IVF. Injectable gonadotropins are among the more potent medications because they directly stimulate follicle growth.

Local injection reactions: redness, bruising, itching, tenderness, or mild swelling at injection sites.
Hormonal symptoms: breast tenderness, headaches, hot flashes, mood changes, fatigue, and sleep disruption.
Gastrointestinal and pelvic symptoms: bloating, abdominal pressure, mild nausea, constipation, or pelvic discomfort as follicles enlarge.
Post-procedure symptoms: after egg retrieval or embryo transfer, some people notice cramping, light spotting, bloating, or transient soreness.
Luteal support effects: progesterone can cause breast tenderness, drowsiness, bloating, constipation, mood symptoms, and vaginal irritation depending on the formulation.

Most mild symptoms can be discussed with the fertility team at routine monitoring visits. However, rapidly worsening abdominal pain, marked abdominal swelling, faintness, heavy bleeding, fever, reduced urination, chest pain, or shortness of breath should never be treated as routine medication discomfort.

OHSS: what it is and why it matters

Ovarian hyperstimulation syndrome is an excessive response to ovarian stimulation. It is most often associated with injectable gonadotropins and ovulation-trigger medications. In OHSS, enlarged ovaries release mediators that increase vascular permeability. Fluid can move from the bloodstream into the abdomen or, less commonly, the chest, leading to bloating, ascites, hemoconcentration, electrolyte abnormalities, and reduced circulating blood volume.

OHSS exists on a spectrum. Mild forms may involve bloating, ovarian

enlargement, mild abdominal discomfort, and nausea. Moderate disease can cause more prominent abdominal distension, vomiting, diarrhea, weight gain, and ultrasound evidence of fluid accumulation. Severe OHSS may involve rapid weight gain, severe abdominal pain, persistent vomiting, reduced urine output, dehydration, blood thickening, kidney impairment, breathing difficulty, or thromboembolism. Rarely, it can be life-threatening.

OHSS can occur shortly after an ovulation trigger, but it may worsen if pregnancy occurs because early pregnancy hormones can further stimulate the ovaries. People with polycystic ovary syndrome, a high antral follicle count, high anti-Mˆ…llerian hormone, younger age, low body weight, a previous episode of OHSS, very high estradiol levels, or a large number of developing follicles may have increased risk. Risk is individualized, and your clinic may adjust medications or monitoring based on your response.

How clinicians reduce the risk of OHSS

Modern fertility protocols have reduced the frequency of severe OHSS, but prevention remains a central part of safe ovarian stimulation. Clinics use blood tests, ultrasound monitoring, and medication adjustments to balance egg yield with safety.

Individualized dosing: starting doses may be adjusted according to ovarian reserve markers, age, body size, PCOS features, and prior stimulation response.
Close monitoring: follicle counts and estradiol trends help clinicians identify an excessive response before severe symptoms develop.
Trigger choice: in some IVF cycles, a GnRH agonist trigger may be used instead of an hCG trigger to reduce OHSS risk, depending on the protocol.
Cycle modification: clinicians may reduce or pause stimulation, delay trigger, cancel an ovulation-induction or IUI cycle, or avoid embryo transfer in the same cycle.
Freeze-all strategy: embryos may be frozen and transferred later, after the ovaries and hormones have returned closer to baseline.

Patients should not change medication doses, fluid intake strategies, anticoagulant use, pain medicines, or activity levels without their clinician’s guidance. OHSS management depends on severity, pregnancy status, laboratory values, ultrasound findings, and overall medical history.

Procedural risks: IUI, egg retrieval, and embryo transfer

Intrauterine insemination is generally a low-risk office procedure. Some people experience mild cramping or spotting. Infection is uncommon but possible. A more important risk in stimulated IUI cycles is multifollicular ovulation, which can increase the chance of twins or higher-order multiples. For that reason, clinics may cancel or convert cycles when too many follicles develop.

Egg retrieval during IVF is performed with ultrasound guidance, usually using a needle passed through the vaginal wall into the ovaries. Most people experience temporary cramping, bloating, spotting, or anesthesia-related grogginess. Rare complications include bleeding, pelvic infection, injury to nearby organs such as bowel, bladder, or blood vessels, and complications related to sedation or anesthesia.

Ovarian torsion is another uncommon but important risk, particularly when ovaries are enlarged after stimulation. Torsion occurs when an ovary twists on its supporting structures, potentially compromising blood flow. Sudden severe pelvic pain, often with nausea or vomiting, warrants urgent evaluation.

Embryo transfer is typically brief and minimally invasive. Mild cramping or light spotting can occur. The procedure itself is not usually painful, but the emotional significance of transfer and the waiting period afterward can be substantial.

Pregnancy-related risks after fertility treatment

Some risks after fertility treatment are related to patient factors that contributed to infertility, while others are related to treatment choices such as embryo number or ovarian stimulation. It can be difficult to separate the effect of treatment from age, PCOS, endometriosis, tubal disease, male factor infertility, prior miscarriage, metabolic disease, or other underlying conditions.

Multiple pregnancy is one of the clearest modifiable risks. Twins, triplets, and higher-order pregnancies have higher rates of miscarriage, preterm birth, low birth weight, cesarean birth, pre-eclampsia, gestational diabetes,

placental complications, neonatal intensive care admission, and long-term health challenges for babies born very early. Single embryo transfer, when clinically appropriate, is a major risk-reduction strategy in IVF.

Ectopic pregnancy, where a pregnancy implants outside the uterine cavity, can occur after natural conception or fertility treatment. It is more likely in people with tubal disease or previous ectopic pregnancy, and it can occur even after embryo transfer. Early pregnancy monitoring is therefore important, especially if there is one-sided pelvic pain, shoulder-tip pain, dizziness, fainting, or bleeding.

Miscarriage can still occur after fertility treatment. Risk is strongly influenced by age, embryo chromosomal status, uterine factors, medical conditions, and previous reproductive history. IVF may allow embryo testing in selected circumstances, but no treatment can eliminate miscarriage risk.

Some studies and clinical resources note slightly increased rates of pregnancy complications such as pre-eclampsia and gestational diabetes after fertility treatment, particularly IVF. The absolute risk for an individual depends on age, body mass index, multiple pregnancy, metabolic health, hypertension, and obstetric history. Preconception optimization and early obstetric care are important parts of treatment planning.

Longer-term concerns and medication safety

Many patients understandably worry whether fertility medications increase long-term cancer risk or harm future health. Research has not shown a clear, large increase in ovarian cancer, breast cancer, or other hormone-sensitive cancers from fertility medication use alone, but interpretation is complex because infertility itself, nulliparity, endometriosis, PCOS, age at first pregnancy, and family history may influence baseline risk.

If you have a personal history of cancer, a strong family history, BRCA or other hereditary cancer predisposition, estrogen-sensitive tumors, clotting disorders, severe liver disease, or significant cardiovascular risk factors, treatment planning should involve appropriate specialists. Fertility preservation before cancer treatment is a separate, time-sensitive situation that may require rapid coordination between oncology and reproductive medicine

teams.

People using donor eggs, donor sperm, donor embryos, surrogacy arrangements, or fertility preservation may also face legal, psychological, genetic, infectious-disease screening, and counseling considerations. These are not side effects in the narrow medical sense, but they are real components of risk-informed care.

Preparing for safer treatment and better communication

Risk cannot be removed entirely, but it can often be reduced through preparation and open communication. Before starting a cycle, ask your clinic to explain your individualized risk profile, including OHSS risk, likelihood of cycle cancellation, multiple pregnancy policy, anesthesia plan, and when to call after hours.

Review all medications, supplements, allergies, clotting history, prior surgeries, and previous pelvic infections with your care team.
Ask how many follicles would make an IUI or ovulation-induction cycle unsafe in your clinic’s protocol.
Discuss single embryo transfer, especially if you have good-prognosis embryos or high risk from multiple pregnancy.
Clarify which symptoms are expected and which require urgent assessment.
Plan practical support for procedure days, including transport after sedation and help if symptoms escalate.

It is reasonable to ask detailed questions. In fertility care, feeling informed is part of feeling safe. If your symptoms change quickly or your instinct tells you something is wrong, contact your clinic or urgent care service rather than waiting for the next scheduled appointment.