PIPADOR REVISION

MRCOG Part 1 Revision Notes

Assisted Conception Therapies

CLINICAL MANAGEMENT • LECTURE 489

VISUAL EXAMINATION REVISION NOTES

2026 Edition

489

MRCOG PART 1 REVISION NOTES | CLINICAL MANAGEMENT

Assisted Conception Therapies

IUI, IVF and ICSI — definitions, indications, NICE eligibility, steps, complications and regulation

≈ 3%	3 cycles	eSET	OHSS
UK births via IVF	NICE — women < 40	Single embryo transfer	Key complication

■ KEY FACTS: Learning objectives

- Define IUI, IVF, ICSI, embryo transfer, PGT and donor treatments.
- Describe indications, NICE eligibility and the steps of each treatment.
- Describe complications (OHSS, multiple pregnancy), outcomes, regulation (HFEA) and fertility preservation.

489.1 Key definitions

Term	Definition
Intrauterine insemination (IUI)	Placing prepared (washed) sperm into the uterine cavity around ovulation — natural or stimulated cycle
In vitro fertilisation (IVF)	Ovarian stimulation, oocyte retrieval, fertilisation in the laboratory and embryo transfer
ICSI	Intracytoplasmic sperm injection — a single sperm injected into each mature oocyte
Elective single embryo transfer (eSET)	Transferring one embryo to reduce multiple pregnancy
Frozen embryo transfer (FET)	Transfer of a cryopreserved (vitrified) embryo in a later cycle
PGT-M / PGT-SR / PGT-A	Preimplantation genetic testing for monogenic conditions / structural rearrangements / aneuploidy
OHSS	Ovarian hyperstimulation syndrome — exaggerated response to stimulation with capillary leak
HFEA	Human Fertilisation and Embryology Authority — UK regulator of fertility treatment and research

■ IN PLAIN ENGLISH: Assisted conception

IUI helps sperm reach the egg; **IVF** brings egg and sperm together in the lab; **ICSI** injects one sperm directly into each egg. The aim is a **single healthy baby**, so one embryo is usually transferred at a time.

489.2 IUI

Topic	Details
Indications (NICE)	• People unable to or finding it very difficult to have vaginal intercourse (disability, psychosexual problems)

Topic	Details
	• HIV-positive male partner (sperm washing) • Same-sex female couples/single women (donor sperm), mild male factor • Unexplained infertility (ESHRE: with ovarian stimulation)
Requirements	At least one patent tube, adequate sperm count after preparation
NICE	Up to 6 cycles of unstimulated IUI for those using donor sperm/unable to have intercourse before IVF (consider IVF earlier if poor prognosis)
Success	≈ 10–15% per cycle (age-dependent)
Risks	Multiple pregnancy with stimulation (cancel if > 2–3 follicles), infection (rare)

489.3 IVF and ICSI

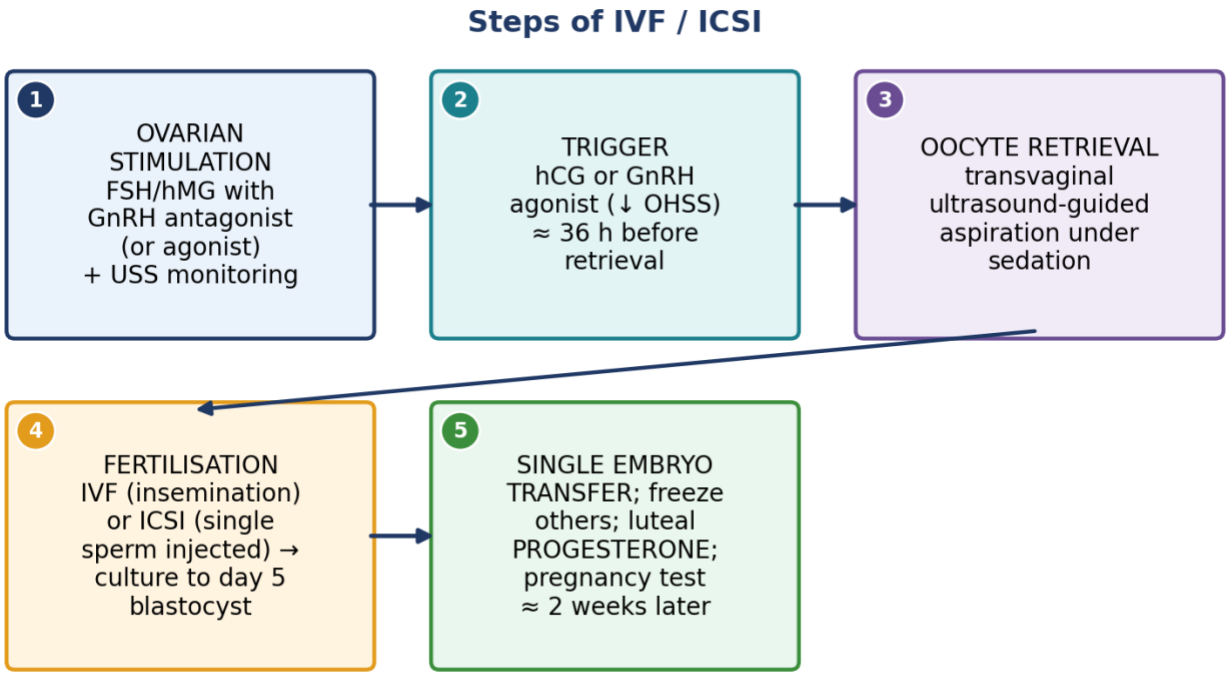


Figure 489.1 — Steps of IVF/ICSI

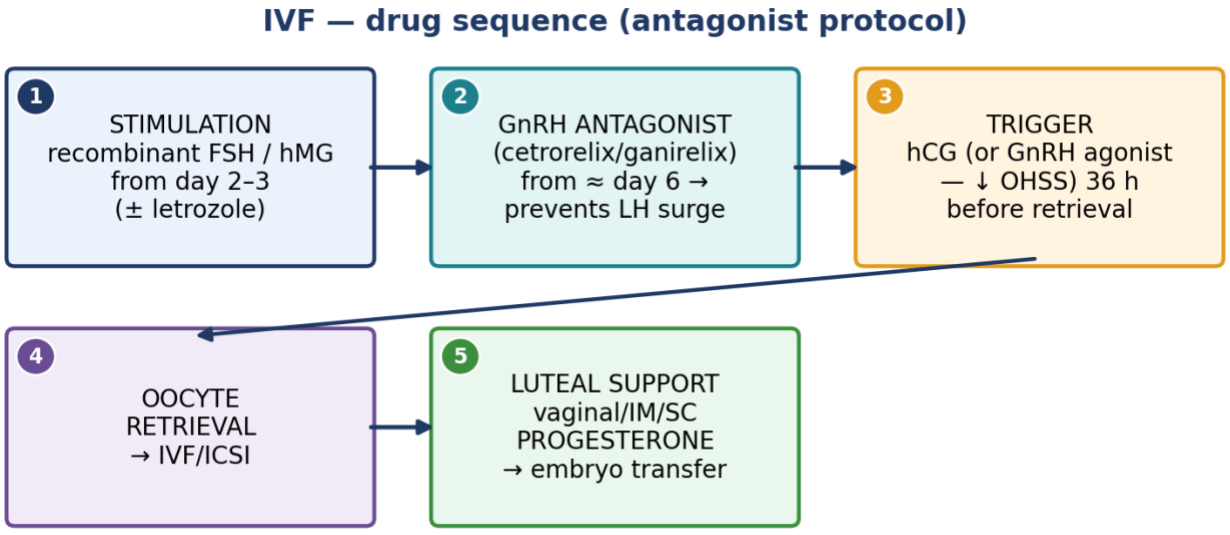


Figure 489.2 — IVF drug sequence (antagonist protocol)

Topic	Details
Indications for IVF	• Tubal disease, severe endometriosis • Unexplained infertility (after 2 years) • Failed ovulation induction, male factor, donor oocytes, PGT • Fertility preservation, surrogacy
Indications for ICSI	Severe semen deficits, surgically retrieved sperm, previous fertilisation failure with IVF, PGT-M/SR (avoid contamination)
NICE eligibility	• Women < 40: 3 full cycles after 2 years of trying (or 12 cycles of IUI) • Women 40–42: 1 full cycle if never had IVF, no low ovarian reserve, and implications discussed (access varies by ICB)
Ovarian reserve	AMH and antral follicle count predict response and guide dosing
Embryo transfer	• Day 5 blastocyst • Single embryo transfer especially < 37 or with good-quality embryos (HFEA multiple birth target)
Luteal support	Progesterone (vaginal/IM/SC)
Outcomes (HFEA)	Live birth per embryo transferred ≈ 30–35% < 35 years, falling sharply after 40 (≈ < 5% at 44+ with own eggs)
Add-ons	HFEA traffic-light ratings — most (endometrial scratch, immune tests, assisted hatching, time-lapse) lack evidence of benefit

489.4 Complications

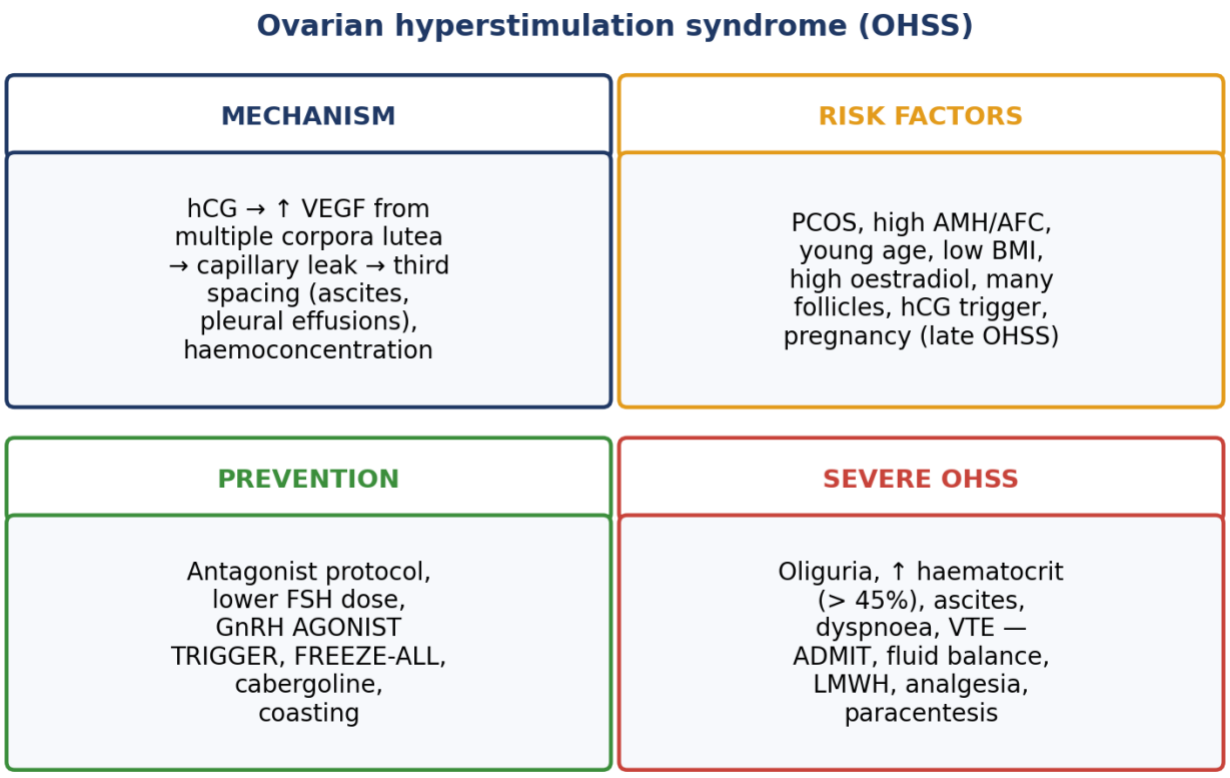


Figure 489.3 — Ovarian hyperstimulation syndrome

- **Multiple pregnancy** — the biggest avoidable risk (preterm birth, perinatal mortality, maternal complications)
  - ↓ with eSET (UK multiple birth rate now < 10%).

- Procedure: bleeding, infection, injury at oocyte retrieval; anaesthetic risks.
- Pregnancy: ectopic and heterotopic pregnancy, miscarriage
  - ↑ pre-eclampsia, placenta praevia and preterm birth (particularly with FET in artificial cycles — some data).
- Psychological stress; financial cost.

489.5 Donation, surrogacy and fertility preservation

- **Donor oocytes**: POI, very low reserve, genetic disease
  - **Donor sperm**: azoospermia, single women, same-sex couples — implications counselling
  - Donors identifiable to offspring at 18 (UK law).
- **Surrogacy**: absent/abnormal uterus (MRKH, hysterectomy) or medical contraindication to pregnancy; legal parenthood via parental order.
- **Fertility preservation** before gonadotoxic treatment: oocyte/embryo cryopreservation (random-start stimulation), ovarian tissue cryopreservation (children/urgent), sperm banking
  - NHS funded per NICE.
- **PGT**: PGT-M/SR for known genetic conditions (HFEA-approved list); PGT-A not recommended routinely (no clear benefit in live birth rate).

■ COMMON PITFALLS

Transferring multiple embryos to 'improve' success.

Missing early OHSS symptoms after hCG trigger.

Recommending unproven add-ons.

489.6 Must-know summary

■ EXAM TIP

- IUI: same-sex/single women, unable to have intercourse, HIV sperm washing, mild male factor; ≈ 10–15% per cycle.
- IVF steps: stimulation (antagonist protocol), trigger, retrieval, fertilisation (IVF/ICSI), blastocyst eSET, luteal progesterone.
- NICE: 3 cycles < 40; 1 cycle 40–42 if criteria met; ICSI for severe male factor/previous failure.
- OHSS: prevent (agonist trigger, freeze-all); multiple pregnancy reduced by eSET; HFEA regulates and rates add-ons.

■ MNEMONIC / MEMORY AID

IVF steps — 'Stimulate, Trigger, Collect, Fertilise, Transfer, Support'.