PIPADOR REVISION

MRCOG Part 1 Revision Notes

Male Factor Subfertility

CLINICAL MANAGEMENT • LECTURE 487

VISUAL EXAMINATION REVISION NOTES

2026 Edition

487

MRCOG PART 1 REVISION NOTES | CLINICAL MANAGEMENT

Male Factor Subfertility

Definitions, causes, assessment and management of male factor subfertility (NICE CG156, WHO 2021)

≈ 30%	3 months	ICSI	TESE
Of infertility (male factor)	Repeat abnormal semen analysis	Severe male factor	Sperm retrieval in azoospermia

■ KEY FACTS: Learning objectives

- Define the semen parameter abnormalities and categories of male factor subfertility.
- Describe causes, history, examination and investigations of the subfertile man (NICE CG156, WHO 2021).
- Describe medical, surgical and assisted reproductive management, including azoospermia and donor sperm.

487.1 Key definitions

Term	Definition
Male factor subfertility	Reduced fertility due to abnormalities of sperm production, function or delivery
Oligozoospermia	Sperm concentration < 16 million/mL (WHO 2021)
Asthenozoospermia	Progressive motility < 30% (total motility < 42%)
Teratozoospermia	Normal forms < 4%
Azoospermia	No sperm in the ejaculate — obstructive (normal production) or non-obstructive (failure of production)
Retrograde ejaculation	Semen passes into the bladder (check post-ejaculatory urine)
Surgical sperm retrieval	PESA/TESA (aspiration) or TESE/micro-TESE (extraction) from epididymis/testis

■ IN PLAIN ENGLISH: Male factor subfertility

In about a third of couples the main problem is with the sperm. Treatable causes (like **testosterone or steroid use**) must be found; otherwise **ICSI** allows fertilisation even with very few sperm, and sperm can often be **surgically retrieved** when none are in the semen.

487.2 Causes

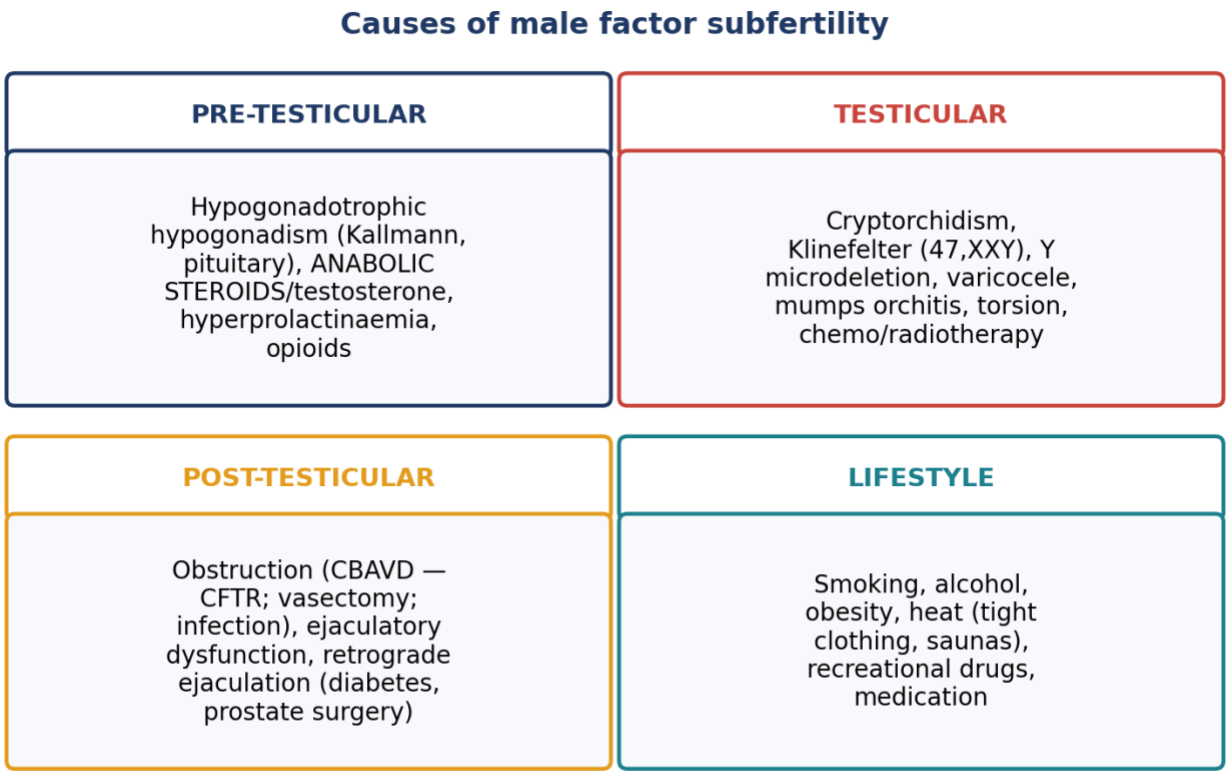


Figure 487.1 — Causes of male factor subfertility

487.3 Assessment

Element	Details
History	• Duration, previous fertility • Coital frequency/function • Testicular maldescent, torsion, mumps orchitis, STIs • Surgery (hernia, vasectomy) • Chemo/radiotherapy • Medications (testosterone, anabolic steroids, sulfasalazine, opioids), smoking, alcohol, occupation
Examination	BMI, secondary sexual characteristics, gynaecomastia, testicular volume (< 15 mL small), varicocele, vas deferens present?, epididymis
Semen analysis	• After 2–7 days abstinence • WHO 2021 reference values • Repeat after 3 months if abnormal (as soon as possible if azoospermia or severe oligozoospermia)
Hormones	• FSH, LH, testosterone, prolactin — ↑ FSH suggests testicular failure • ↓ FSH/LH hypogonadotrophic
Genetics	Karyotype (Klinefelter), Y-chromosome microdeletion (AZF), CFTR (CBAVD)
Imaging	• Scrotal USS (varicocele, testicular lesions — ↑ testicular cancer risk) • TRUS for ejaculatory duct obstruction

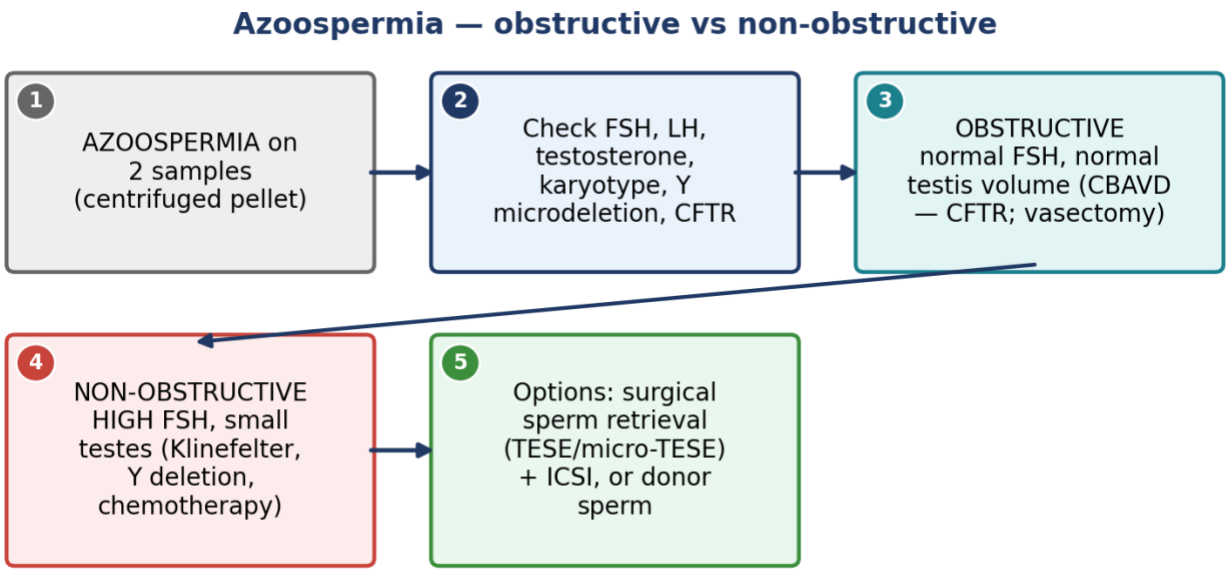


Figure 487.2 — Obstructive vs non-obstructive azoospermia

487.4 Management

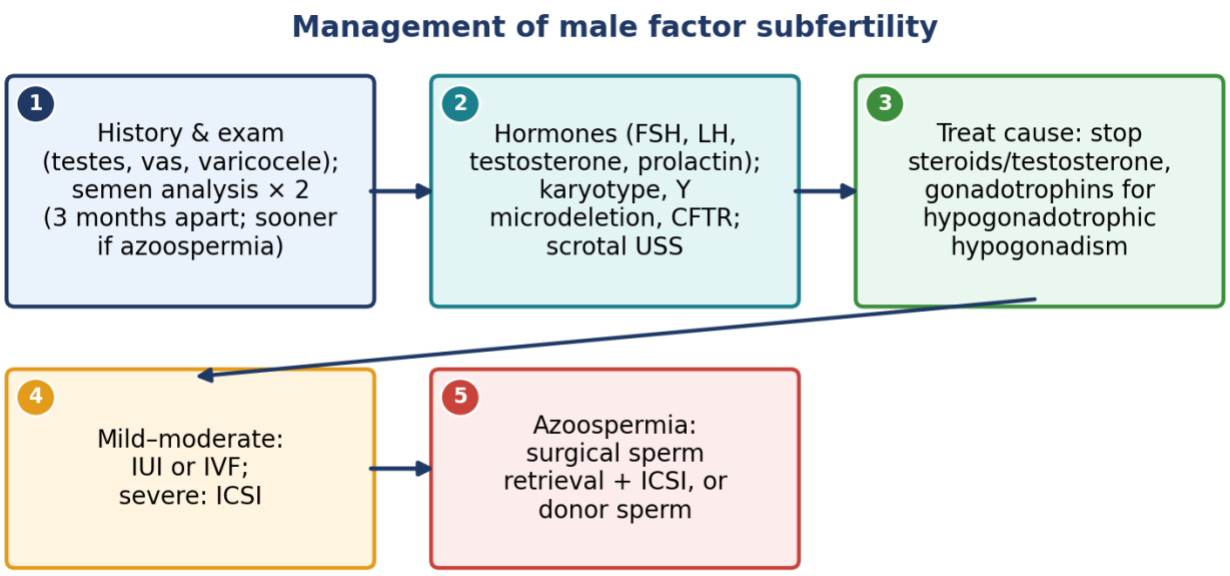


Figure 487.3 — Management pathway

Option	Key points (NICE CG156)
Lifestyle	• Stop smoking, ≤ 3–4 units alcohol/day, healthy BMI, loose underwear, avoid recreational drugs • Review medications
Hypogonadotrophic hypogonadism	Gonadotrophins (hCG ± FSH) — effective in restoring spermatogenesis
Exogenous testosterone/anabolic steroids	Stop — recovery may take 6–24 months
Varicocele	Surgery NOT offered as a fertility treatment (does not improve pregnancy rates — NICE)
Antioxidants, anti-oestrogens, androgens	Not recommended (no proven benefit)

Option	Key points (NICE CG156)
Obstructive azoospermia	Surgical correction of epididymal block where feasible, or sperm retrieval + ICSI
Ejaculatory problems	• Treat medically/with sperm retrieval • Retrograde — retrieve sperm from urine
IUI	Mild male factor (and when intercourse is not possible)
IVF / ICSI	ICSI for severe deficits, previous fertilisation failure, surgically retrieved sperm
Donor insemination	Azoospermia without retrievable sperm, genetic disease, or patient choice — counselling, HFEA rules, partner consent

■ **COMMON PITFALLS**

Not asking about testosterone or anabolic steroid use.

Offering varicocelectomy as fertility treatment.

Missing testicular cancer on scrotal examination/USS.

Relying on a single semen sample.

487.5 Must-know summary

■ **EXAM TIP**

- Male factor ≈ 30%; causes pre-testicular (hypogonadotrophic, steroids), testicular (Klinefelter, Y deletion, varicocele, chemo), post-testicular (obstruction, ejaculatory).
- Assess: history, exam, WHO 2021 semen analysis (repeat after 3 months), FSH/LH/testosterone/prolactin, karyotype, Y microdeletion, CFTR.
- Treat cause; gonadotrophins for hypogonadotrophic hypogonadism; no varicocele surgery for fertility.
- Mild: IUI/IVF; severe: ICSI; azoospermia: surgical sperm retrieval + ICSI or donor sperm.

■ **MNEMONIC / MEMORY AID**

Male causes — 'Pre, Testis, Post' (hormones, factory, pipes).