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Male Preconception Health

GP Checklist & Clinical Framework

Optimising paternal health before conception improves sperm quality, pregnancy outcomes and long-term child health.

Why male preconception health matters

Sperm are produced continuously over a 70–90 day cycle, making them sensitive to environmental and lifestyle influences in the 3 months before conception.

Paternal obesity, smoking, poor nutrition, advanced age and toxin exposure independently impair sperm quality, elevate DNA fragmentation, and are associated with increased risk of miscarriage, birth defects and chronic disease in offspring.

GP consultation, ideally 3–6 months before planned conception, is the optimal window to identify and address modifiable risk factors.

Lifestyle & Environmental Risk Factors

	Assessment / Screening	GP Action / Recommendation
Smoking & vaping	Smoking history; current use; pack-year history; vaping/e-cigarette use	Cessation counselling; pharmacotherapy (varenicline, NRT). Smoking triples sperm DNA damage.[a]
Alcohol & substances	AUDIT-C screen; recreational drug use (cannabis, cocaine, anabolic steroids)	Advise <10 standard drinks/week; abstinence preferred. Anabolic steroids cause azoospermia; may be irreversible.
BMI / weight	BMI; waist circumference; metabolic screening if BMI >30	Target BMI 18.5–25. Weight loss reduces scrotal temperature, oxidative stress and DFI. Refer to dietitian if indicated.[a]
Heat & toxin exposure	Occupational heat, laptop use on lap, hot tubs; pesticide, solvent, radiation exposure	Advise loose clothing; avoid scrotal heat. Review exposure history; advise protective equipment if high-risk occupation.

Nutrition & Supplementation

	Assessment / Screening	GP Action / Recommendation
Diet	Dietary recall; Mediterranean diet adherence; processed food/trans fat intake	Mediterranean-pattern diet improves sperm motility and morphology. Reduce ultra-processed foods, red meat and sugar-sweetened beverages.[a]
Antioxidant supplementation	Current supplement use; review for evidence-based vs. unproven products	Evidence supports: CoQ10 (200–300mg/day), zinc, selenium, folate, vitamins C & E, omega-3 and lycopene. Advise for 90 days pre-conception.[a]
Folate / folic acid	Current intake from diet and supplements	Paternal folate deficiency is associated with chromosomal abnormalities in sperm. Advise 400–500 mcg/day for 3 months pre-conception.

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Medical History & Clinical Assessment

	Assessment / Screening	GP Action / Recommendation
Reproductive history	Time to conception; previous pregnancies; history of STIs, orchitis, undescended testes; prior vasectomy or reversal	Previous reproductive history informs investigation pathway. Orchitis and undescended testes significantly increase infertility risk.
Chronic conditions	Diabetes, hypertension, thyroid dysfunction, cystic fibrosis carrier status; autoimmune conditions	Optimise glycaemic and BP control. Assess medications for anti-spermatogenic effects (e.g. sulfasalazine, chemotherapy, some antihypertensives).
Genital examination & sexual health	Testicular volume; varicocele; STI screen (chlamydia, gonorrhoea, HIV, hepatitis B/C); sexual function	Varicocele repair improves sperm parameters and reduces DFI in selected men. Treat active STIs before conception attempts.

Age, Genetics & Psychological Wellbeing

	Assessment / Screening	GP Action / Recommendation
Paternal age	Age; family planning timeline; urgency of conception	DNA fragmentation index rises independently after 40. Offer Sperm DNA fragmentation testing for men >40 regardless of Semen Analysis. Counsel on de novo mutation risk and offspring outcomes.[b]
Genetic history & mental health	Family history of male infertility; chromosomal conditions; PHQ-9 / GAD-7 screen; work/relationship stress	Refer for genetic counselling if azoospermia or relevant family history. Chronic stress impairs HPG axis — refer for psychological support if indicated.

*** Table adapted from: Homan GF & Tremellen K. Reproductive Health Planning: A Potential New Role for Comprehensive Fertility Nursing Care. Supporting evidence: [a] Wright C, et al. Reprod Biomed Online. 2014;28(6):684–703. PMID: 24745838 [b] Gonzalez DC, et al. World J Mens Health. 2022;40(1):104–115. PMID: 33987998 Frey KA, et al. Am J Obstet Gynecol. 2008;199(6 Suppl 2):S389–95. PMID: 19081435 Homan GF, deLacey S, Tremellen K. Hum Reprod Open. 2018;2018(1):hox028. PMID: 30895240**

When to refer to Repromed

→ Abnormal semen analysis on repeat testing
→ Elevated DNA fragmentation Index on Halosperm testing (>15%)
→ Unexplained infertility after 12 months of trying to conceive (<35yr) or 6 months (>35yr)
→ Recurrent miscarriage (≥2 losses) with male factor suspected
→ Advanced paternal age (>40yr) with fertility concerns
→ Second opinions

For more information or to make a referral:

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