



The Pathophysiology of Male Fertility

Infertility is described as the inability to conceive after 1 year of unprotected sexual intercourse. It occurs in approximately 15% of reproductive-aged couples globally.¹ Common causes of male infertility are a history of cryptorchidism, genetic conditions, DNA damage, infection, and certain endocrine disorders.¹ Approximately 6% of men with infertility may experience an underlying medical condition.¹

Risk factors for male infertility include anatomical obstructions, pelvic surgical history, genetic and epigenetic abnormalities, and systemic pathologies including diabetes and hypertension.¹ Other risk factors include endocrine disruption potentially due to environmental pollution and reactive oxygen species, smoking, excessive alcohol intake, increasing age, psychological stress, and history of certain sexually transmitted infections.¹ Certain occupations may also increase the risk of male infertility due to toxin exposure or prolonged increase in scrotal temperature. These include welding, painting, steel work, and sedentary jobs.¹

Evaluation for male infertility is usually recommended after 1 year of frequent unprotected sexual intercourse or sooner in the presence of specific infertility risk factors.¹ This clinical protocol is designed to support male fertility and includes evidence-based lifestyle and dietary interventions known to support healthy fertility in men.*

Diagnostic Biomarkers and Clinical Indicators

Due to the wide range of etiologies for suspected male infertility, a full history, physical exam, and laboratory testing should be performed by a knowledgeable health-care professional. Potential confounding illnesses should be ruled out.

- Evaluation may include:¹
 - Semen analysis
 - Endocrine evaluation
 - Initial testing may include follicle-stimulating hormone (FSH) and total testosterone
 - Further testing may include free testosterone, prolactin, luteinizing hormone (LH), and thyroid-stimulating hormone (TSH)
 - Imaging such as scrotal or transrectal ultrasound or other imaging based on history and physical examination
 - Other evaluations may include genetic testing, testicular biopsy, and screening for systemic pathologies

Therapeutic Diet and Nutritional Considerations

- Advise consumption of a Mediterranean-type diet rich in fruits, legumes, vegetables, and polyunsaturated fatty acids (PUFAs). Research indicates that diets rich in minerals, vitamins, and omega-3 PUFAs may support the body's response to oxidative stress and may help improve semen quality.^{1,2}
- Address nutritional deficiencies and consider supplementation with carnitine and CoQ10, which have been shown to promote the body's response to oxidative stress and may contribute to reproductive health. Nutritional status has been shown to influence fertility.²
- Ensure adequate intake of zinc, which is a critical mineral for sperm production, morphology, count, and function. Supplementation with zinc has been associated with higher sperm count, viability, and increased antioxidant activity.²

Lifestyle Interventions

- Encourage moderate physical activity, which may have a protective effect on fertility.¹
- Provide resources for smoking cessation and reduction in alcohol intake due to positive association with male infertility.^{1,3}
- Recommend stress management techniques such as meditation, yoga, or similar mindfulness practices, as stress and anxiety reduction has been associated with the optimization of erectile function.³
- Encourage unprotected intercourse on multiple days per week near the time of ovulation, which may increase the chance of conception.⁴



Supplement Protocol

Primary Support:



ZPRO FERTM

NOx Synergy™

Dose	1 Tbsp per day in 8 ounces of water
Duration	Ongoing
Formula Highlights	NOx Synergy™ is a synergistic formula designed to optimize nitric oxide (NO) levels in the body. The ingredients in this formula work to help promote the synthesis and discourage the degradation of nitric oxide, which is beneficial for cardiovascular function, circulation, and muscular performance.*

CoQnol™ 200

Dose	1 softgel per day
Duration	Ongoing
Formula Highlights	CoQnol™ 200 features a unique combination of ubiquinol and trans-geranylgeraniol (GG). The GG complements the actions of ubiquinol by enhancing absorption and supporting endogenous CoQ10 synthesis naturally in the body.* This formula provides 200 mg of ubiquinol as DuoQuinol™ and 125 mg of trans-geranylgeraniol as GG-Gold® per serving, along with quillaja extract for enhanced absorption and bioavailability.

Ribo-CarniClear™

Dose	1 tsp per day
Duration	Ongoing
Formula Highlights	CarniClear™ is a supersaturated liquid carnitine. It is ideal when economical, high-dose carnitine supplementation is desired for supporting fat metabolism, energy levels, and endurance.* Vitamin B5 (as pantothenic acid) is included to enhance the function of carnitine in fat metabolism. This product is an excellent choice for individuals who consume little or no meat and is best taken on an empty stomach.

Zinc Supreme™

Dose	1 capsule per day with a meal
Duration	Ongoing
Formula Highlights	Zinc Supreme™ offers chelated minerals by Albion Advanced Nutrition, the leader in mineral technology. These are ideal chelates with a 2:1 molar ratio of two molecules of the amino acid glycine chemically bonded in liquid to one mineral ion of zinc or molybdenum for optimal absorption. These minerals are combined with other nutrients such as vitamin B6 and taurine to provide superior results.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---male-fertility-protocol-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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