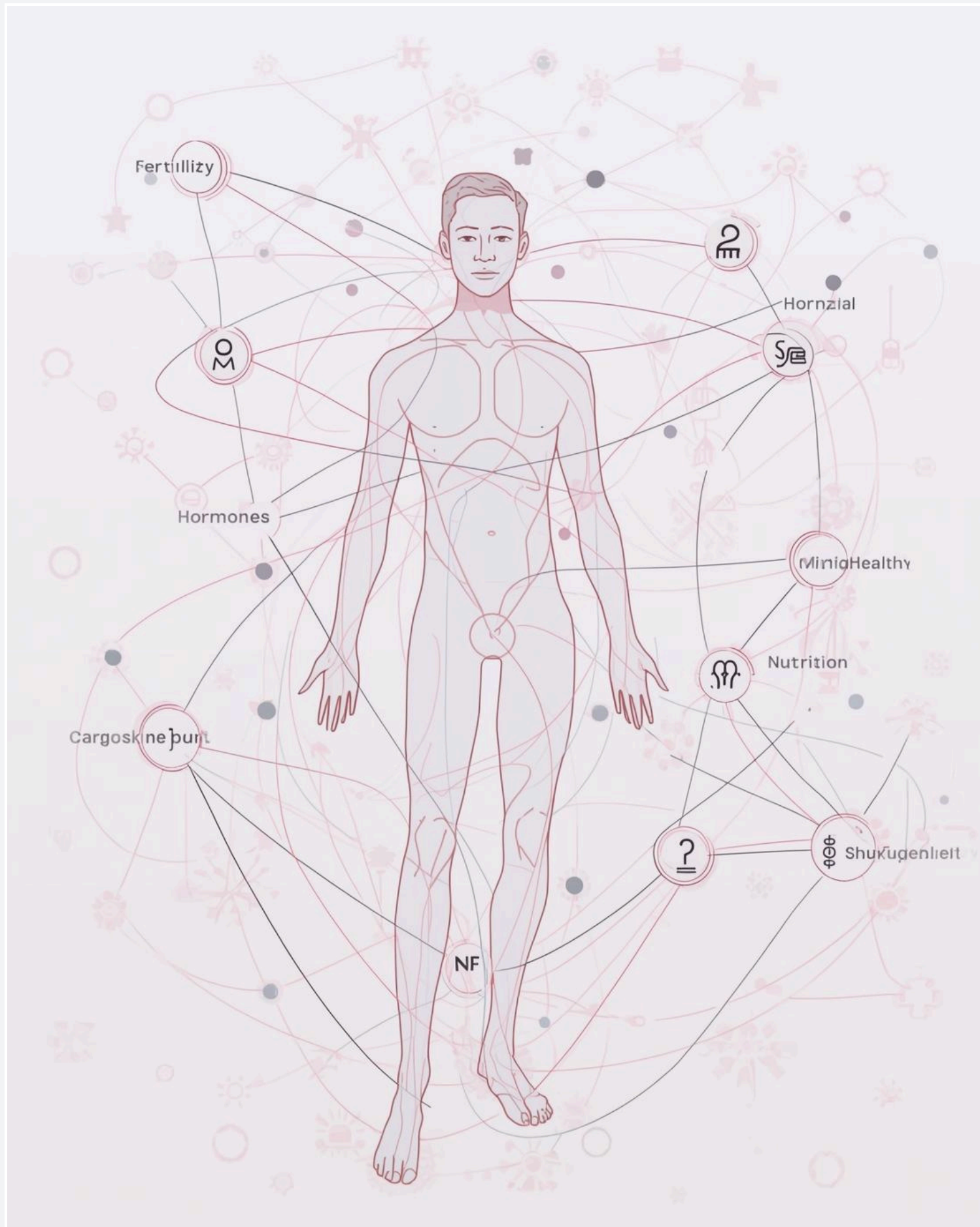


Men's Health: A Proactive Approach

Presented by Dr. Kristina Carman, Dr. Ryan Cole, Dr. Brooke Miller



Today's Agenda



Understanding Key Aspects of Men's Health



Cardiovascular and
Metabolic Health



Fertility: Factors and
Recommendations



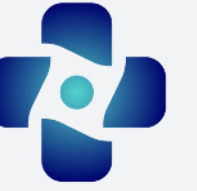
Hormones:
Importance and
Balance



Nutrition/Lifestyle:
Essentials and
Practical Tips



Introduction to Men's Health



Well-being

Prioritizing men's health is essential for everyone.



Cardiometabolic Risk Factors



- Insulin resistance → lowers testosterone, increases visceral fat, drives inflammation.
- Visceral adiposity → aromatase activity ↑ (T → E2), increased oxidative stress, endothelial dysfunction.
- Hypertension & dyslipidemia → impair vascular integrity; early signs often show up as ED.
- Chronic inflammation → contributes to low T, reduced sperm quality, fatigue, and accelerated aging.
- Mitochondrial dysfunction → reduced VO_2 max, low energy, impaired metabolic flexibility.
- Sleep disruption & sleep apnea → decrease testosterone, increase cortisol, raise cardiometabolic risk.
- Environmental toxicants (PFAS, phthalates, BPA) → increase insulin resistance and disrupt hormone signaling.
- Stress & cortisol load → worsen glucose control, abdominal fat deposition, and vascular reactivity.

Key Takeaway: Cardiometabolic health is foundational for male hormones, fertility, sexual function, vitality, and longevity.



Cardiometabolic Health: Prevention Strategies

Lifestyle Strategies

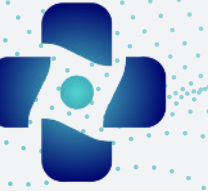
- Resistance training 2–4x/week → improves insulin sensitivity, increases testosterone, reduces visceral fat.
- Zone 2 cardio + VO_2 max training → enhances mitochondrial health and longevity.
- Sleep optimization (7–9 hours; screen-free evenings; treat OSA).
- Stress reduction → breathwork, mindfulness, nature exposure to modulate cortisol.
- Environmental detox basics → filtered water, avoid plastics, improve air quality.
- Weight management → even 5–10% body fat reduction dramatically improves metabolic markers.

Nutrition Strategies

- High-protein, Mediterranean-style diet → improves insulin sensitivity and reduces inflammation.
- Emphasize fiber-rich foods (vegetables, legumes, berries, whole-food carbs) for glucose stability.
- Prioritize healthy fats (olive oil, nuts, seeds, omega-3s) for lipid and endothelial support.
- Choose low-glycemic carbs to improve glucose variability and reduce cardiometabolic stress.
- Reduce ultra-processed foods, seed oils, sugars, excess alcohol.
- Ensure micronutrient sufficiency → magnesium, zinc, vitamin D, B vitamins, omega-3s.



Fertility & Hormones



Sperm Count

- Sperm counts have declined >50% since the 1970s (meta-analysis data).
- Key drivers: metabolic dysfunction, environmental toxins, chronic inflammation, poor diet, heat exposure, stress.
- Male factor accounts for ~50% of infertility cases.
- Fertility is an early biomarker of overall male health, not an isolated issue.
- Integrative care = addressing hormones + lifestyle + oxidative stress + toxins.

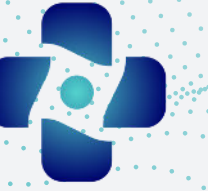
The Hormone–Sperm Connection

Spermatogenesis depends on:

- FSH → Sertoli cell function
- LH → Testosterone production
- Testosterone → Maintains sperm development inside seminiferous tubules
- Low T is often a symptom, not the root:
- Insulin resistance
- Sleep deprivation
- Stress/cortisol dominance
- Obesity and aromatization
- Important: Exogenous TRT/BHRT can suppress sperm production → careful consideration is needed.



Fertility: Key Factors



Sperm Quality

Sperm quality determines the ability to fertilize an egg and sustain early embryo development. Key metrics include:

- Count — total sperm produced
- Motility — ability to swim effectively
- Morphology — shape and structural integrity
- DNA Fragmentation — level of oxidative damage impacting fertilization & miscarriage risk
- Optimal sperm quality reflects overall metabolic, hormonal, and inflammatory balance.

Lifestyle Factors

Healthy lifestyle habits strongly impact sperm production, hormone balance, and DNA integrity:

- Sleep (7–9 hrs) → testosterone peaks during deep sleep; deprivation lowers sperm count
- Exercise → resistance training & Zone 2 improve insulin sensitivity and testosterone
- Stress management → high cortisol suppresses LH/FSH and impairs spermatogenesis
- Alcohol & smoking → major contributors to oxidative stress and sperm DNA damage
- Heat exposure (sauna, hot tubs, laptops on lap) → decreases motility & count



Fertility & Hormones: Key Factors



Diet/ Nutrition

Targeted nutrition improves hormone production, mitochondrial function, and antioxidant capacity:

- Protein-rich diet → supports testosterone synthesis
- Omega-3 fatty acids → improve membrane fluidity and motility
- Fruits & vegetables → antioxidants reduce ROS and DNA fragmentation
- Zinc & selenium-rich foods → oysters, pumpkin seeds, Brazil nuts
- Mediterranean-style eating → linked to higher sperm concentration and improved morphology
- Reduce: processed foods, sugars, seed oils, trans fats

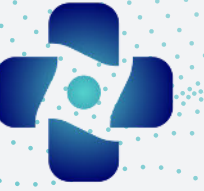
Environmental Factors

Modern environmental exposures significantly disrupt male reproductive hormones and sperm quality:

- Endocrine disruptors: phthalates, bisphenols (BPA/BPS), PFAS
- Pesticides/herbicides → oxidative and genotoxic effects on sperm
- Heavy metals → lead, cadmium, mercury toxic to Leydig & Sertoli cells
- Plastics, personal care chemicals → anti-androgenic effects
- Air pollution & microplastics → associated with reduced motility & morphology
- Reducing exposures supports healthier testosterone signaling and sperm integrity.



Fertility & Hormones



Oxidative Stress: The Core Mechanism

- Sperm membranes are rich in PUFAs → extremely vulnerable to oxidation.
- Excess ROS → DNA fragmentation, reduced motility, abnormal morphology.
- Major ROS drivers:
 - Insulin resistance & high glucose
 - Inflammation (gut, oral, metabolic)
 - Toxins, smoking, alcohol
 - Poor diet / low antioxidants
 - Sleep deprivation
- 80% of men with infertility show elevated oxidative stress markers.

Visual Idea: ROS arrows damaging sperm cell graphic.

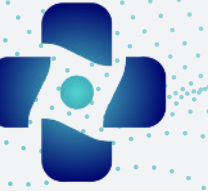
Metabolic Health, Fertility & Hormones Are Tightly Linked

- High insulin & glucose impair Leydig cell testosterone production.
- Visceral fat ↑ aromatase → converts testosterone → estradiol.
- Mitochondrial dysfunction = reduced sperm motility & viability.
- ED can be a microvascular sign of insulin resistance—often precedes CVD.
- Improving metabolic health is fertility treatment.

Visual Idea: Venn diagram of metabolic syndrome ↔ low T ↔ low fertility.



Advanced Labs



GI-MAP

- Identifies dysbiosis, inflammation, leaky gut.
- Supports: metabolic health, hormonal balance, mood, fertility.

Organic Acids Test (OAT)

- Assesses mitochondria, oxidative stress, neurotransmitters.
- Supports: energy, mood, cognition, metabolic function, sperm quality.

DUTCH Hormone Test

- Detailed sex hormones + cortisol rhythm.
- Supports: fatigue, libido, stress patterns, androgen metabolism.

Omega-3 Index

- Reflects inflammation + membrane health.
- Supports: cardiovascular risk, mood, sperm motility.

Micronutrient Testing

- Zinc, selenium, magnesium, B vitamins, vitamin D.
- Supports: hormone production, fertility, energy, metabolism.

Advanced Cardiometabolic Markers

- ApoB, Lp(a), homocysteine, hs-CRP.
- Supports: early cardiovascular detection and longevity.

Environmental / Mycotoxin Panels

- Assesses mold & toxin burden.
- Supports: unexplained fatigue, low T, inflammation, metabolic shifts.



Nutrition: Foundations



Balanced Meals

- Adequate protein (1–1.2 g*/kg/day) → supports androgen & muscle synthesis
- Healthy fats: omega-3s, olive oil, avocados, nuts
- Antioxidant-rich foods: berries, leafy greens, crucifers, citrus
- Mineral-rich foods: oysters, pumpkin seeds, Brazil nuts
- Reduce: processed foods, seed oils, sugars, trans fats
- Mediterranean-style diet consistently linked to better sperm quality.

Hydration

- Essential for sperm quality and whole-body cardiometabolic health.
- Supports semen volume, nutrient delivery, and temperature regulation in the testes.
- Reduces oxidative stress that drives sperm DNA damage.
- Improves blood viscosity, circulation, and vascular function.
- Enhances hormone transport, erectile function, and metabolic resilience.
- Supports mitochondrial efficiency and overall energy production.
- Even mild dehydration can raise cortisol and impair glucose metabolism.
- Consistent water + electrolyte intake strengthens fertility and overall male vitality.



Nutrition & Lifestyle



Detoxification & Lifestyle

- Sleep 7–9 hours → testosterone peaks during deep sleep
- Strength training + Zone 2 cardio → ↑ testosterone, ↑ insulin sensitivity
- Reduce heat exposure (hot tubs, sauna, laptop on lap)
- Environmental detox basics:
 - Avoid plastics (use glass/stainless steel)
 - Clean personal care products
 - Filtered water
- Stop smoking / reduce alcohol → massive impact on sperm DNA integrity
- Manage stress → cortisol directly reduces gonadotropins & testosterone.

Nutrients Men Commonly Lack

- Zinc deficiency common due to stress, GI issues, poor diet
- Low omega-3 index widespread
- Low vitamin D → linked to low T & low motility
- Low magnesium → reduces androgen synthesis & sleep quality
- Subclinical B12/folate issues affect methylation of sperm DNA
- Antioxidant depletion → oxidative stress dominates modern lifestyles



Mental Health, Connection & Purpose in Men's Well-Being

Mind–Body Foundations

- Chronic stress, low mood, and emotional suppression impact hormones, metabolism, sleep, and cardiovascular health.
- Supporting mental health amplifies every other lifestyle intervention.

Connection & Community

- Strong social ties lower all-cause mortality, improve resilience, and reduce inflammation.
- Men with consistent connection (friends, partners, groups, teams) show better metabolic and hormonal profiles.

Belief, Meaning & Purpose

- A sense of “something bigger” — whether spiritual, philosophical, or community-driven — improves:
- Stress regulation
- Motivation and consistency
- Mental well-being and long-term health behaviors
- Purpose is strongly correlated with longevity and lower cardiovascular risk.

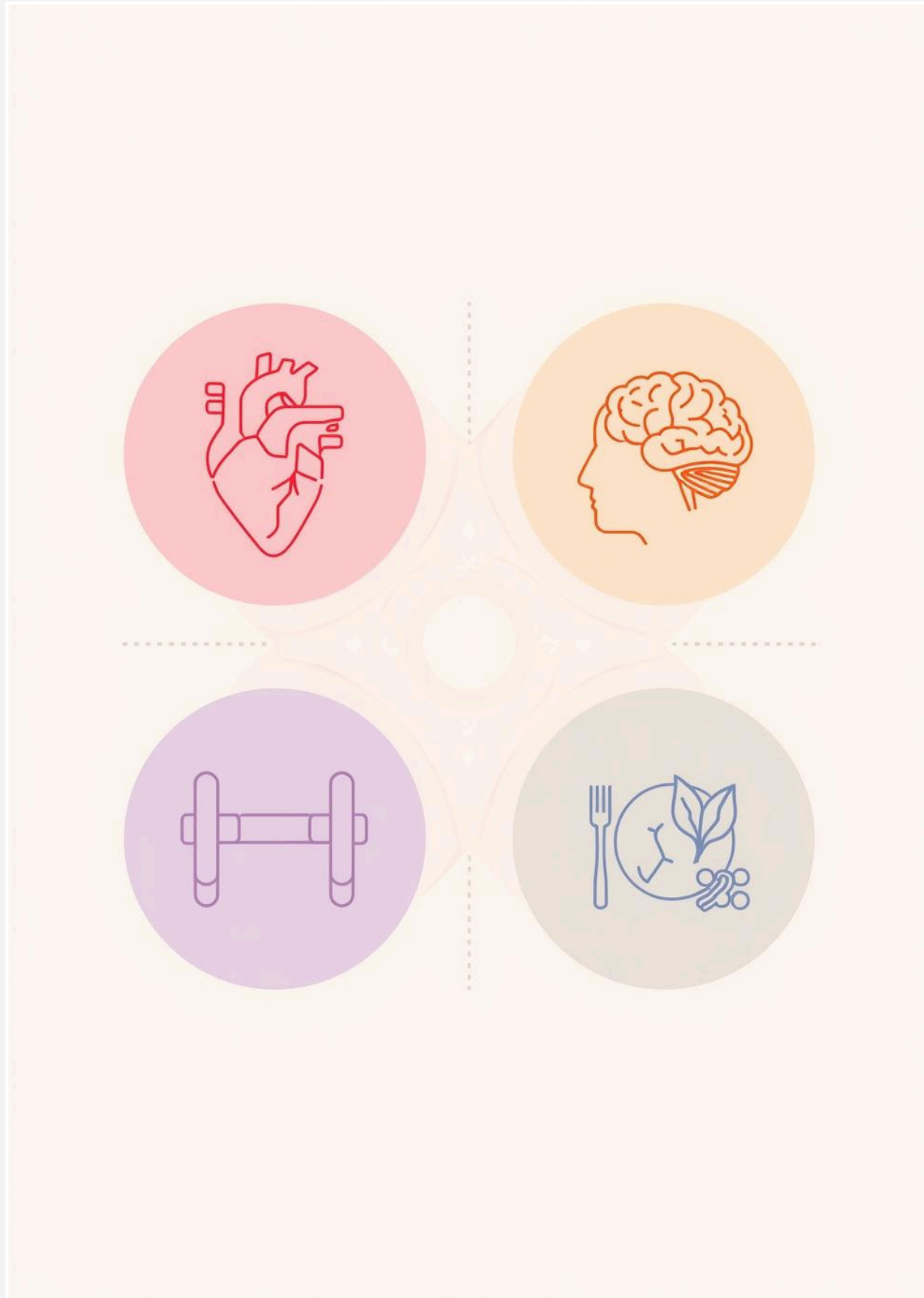
Simple Practices That Support Men's Mental Health

- Time in nature, breathwork, mindfulness, prayer/meditation.
- Regular movement and exercise communities.
- Acts of service, mentorship, or belonging to a group.
- Digital boundaries + restorative downtime.

Key Takeaway

- Mental health, connection, and purpose aren't “extras” — they're essential drivers of metabolic health, hormone balance, fertility, and overall male vitality.





Thank you

**Embracing a Holistic Approach to
Men's Health**

