Hard Truths and Soft Tissues - Best Practices in Men's Integrative Health

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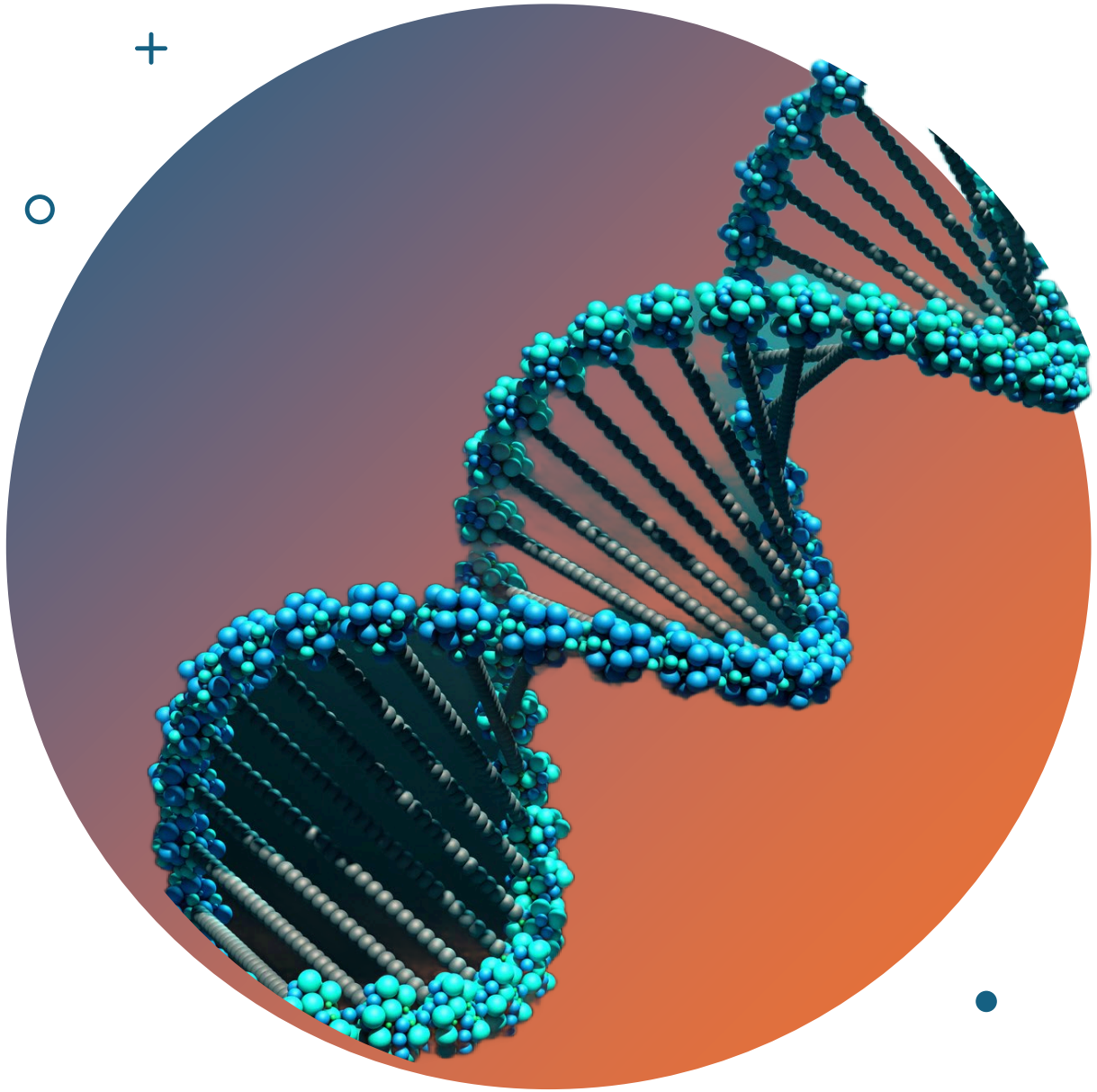
Learning Objectives

- Understand the evolving landscape of men’s health across the lifespan
- Identify key drivers of hormonal, metabolic, and cardiovascular dysfunction
- Integrate evidence-based lifestyle, nutraceutical, and medical strategies
- Apply a personalized, systems-based framework to male patient care
- **Key Concepts**
  - Men’s health as a *systems issue*, not a single hormone problem
  - The intersection of endocrinology, cardiometabolic health, inflammation, and lifestyle
  - Why conventional care often under-addresses early dysfunction

Background and Context

Biology
Behaviour
Environment



Biological Aspects

- Genetic Risk Factors: Higher prevalence of X-linked conditions, increased risk for conditions like cardiovascular disease, prostate cancer, and hemophilia.
- Hormonal Differences: Testosterone linked to muscle mass and aggression but also higher metabolic syndrome risk; lower estrogen may contribute to cardiovascular vulnerability.
- Aging Pathways: Faster aging markers in men, including telomere shortening, Epigenetic biomarker proxys and chronic inflammation patterns.

Behavioural and Lifestyle Aspects

- Health Behaviors: Men more frequently engage in smoking, excessive alcohol use, and have higher rates of substance misuse.
- Diet and Exercise: Lower rates of fruit/vegetable intake and physical activity adherence.
- Healthcare Avoidance: Men are less likely to seek preventive care, attend regular check-ups, or report symptoms early.

Psychosocial and Cultural Aspects

- Norms of Masculinity: Ideals around stoicism, dominance, and self-reliance deter health-seeking behaviors.
- Emotional Suppression: Men often internalize stress, leading to unaddressed anxiety and depressive symptoms.
- Socialization: From a young age, boys are taught to "tough it out," which becomes internalized in adulthood.

Structural and Environmental Aspects

- Socioeconomic Status: Men in lower-income brackets face higher exposure to stressors and occupational hazards.
- Men are much less likely to complete post secondary/tertiary education
- Occupational Risks: Higher engagement in physically dangerous jobs (e.g., construction, military, mining), leading to injury and chronic pain.

Mental Health and Suicide Risk

- Prevalence: Depression may be underdiagnosed due to atypical symptom presentation in men (e.g., irritability, anger).
- Suicide Statistics: Men are 3–4 times more likely to die by suicide than women; highest risk among middle-aged and elderly men.
- Barriers: Stigma, lack of culturally sensitive mental health services, and fear of appearing weak.

Epidemiology & Key Health Challenges in Men

- **Trends & Risks**
  - Earlier onset of metabolic syndrome, obesity, and insulin resistance
  - Rising hypogonadism diagnoses (true vs functional)
  - Cardiovascular disease as the leading cause of mortality
  - Mental health, stress, burnout, and declining testosterone trends
- **Clinical Insight**
  - Many “age-related” issues are modifiable with early intervention

Cardiometabolic Sphere

Timing of Cardiometabolic Disease

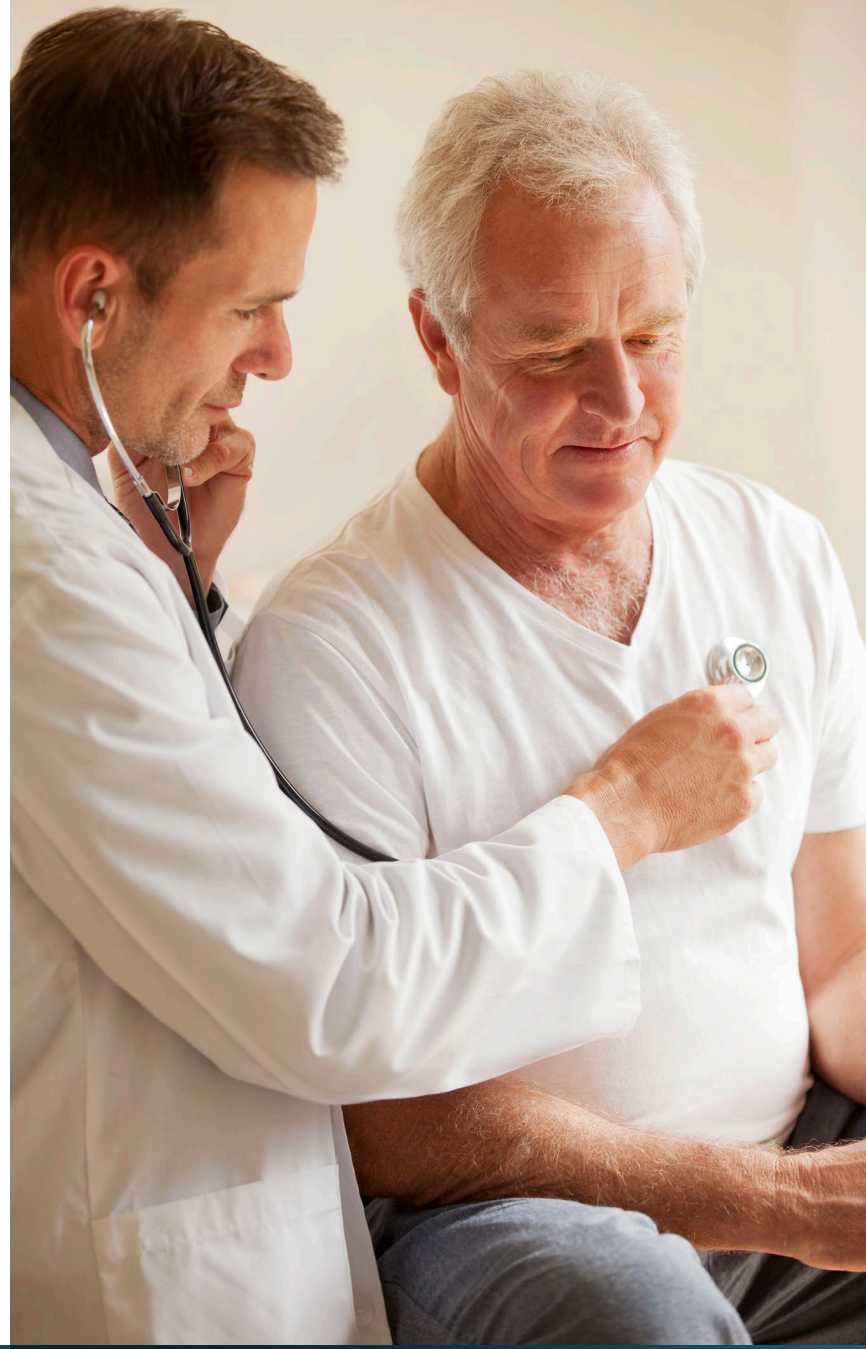
Aspect	Evidence Pattern
Risk factor development	Men often show earlier insulin resistance & fasting dysglycemia; women show different patterns (e.g., IGT)
Metabolic Disease Prevalence	Mixed; some populations show higher rates in women, others in men; age alters sex differences
Onset age	Men may develop cardiometabolic complications earlier; women catch up post-menopause
Progression severity	Some data show women have steeper increase in risk factors during prediabetes (varies by race)

Clinical Implications

- Screen earlier for metabolic and cardiac dysfunction
  - Begin age 20-25 for those with higher risk
  - 30-35 for low to moderate risk
- Use advanced tools to screen to avoid missing clinically significant early trends
  - More comprehensive metabolic and cardio biomarkers

Risk Determination – Who is a higher risk patient

- 2 or more of the following:
  - BMI over 25 (northern Euro non-power athlete)
  - Hip: Waist circumference
  - Elevated blood pressure
  - Family history of cardiometabolic disease, PCOS, etc.



Screening Testing for Cardiometabolic

- Basic
- Physical:
  - BMI, hip waist, Body Composition
  - Blood pressure
- Lab:
  - Fasting glucose
  - Fasting insulin (HOMA-IR)
  - Lipids
  - Apo B
  - Lipo A (especially if family history))
  - HsCRP
  - Fibrinogen

A Note About Blood Pressure Measurement

Initial Office BP Measurement:

- Use **validated automated devices**, ensuring the patient is seated, rested, and using proper technique.
- If BP is ≥140/90 mmHg, confirm with out-of-office testing.

Confirmatory Methods:

- **Ambulatory Blood Pressure Monitoring (ABPM) – Gold Standard**
  - Measures BP every 15–30 minutes over 24 hours.
- Detects:
  - **White coat hypertension** (elevated office, normal ABPM)
  - **Masked hypertension** (normal office, elevated ABPM)
  - **Nocturnal hypertension**
- **Daytime average ≥135/85 mmHg** or **24-hour average ≥130/80 mmHg** confirms HTN.
  - **Home Blood Pressure Monitoring (HBPM) – Practical Alternative**
  - Take **2 readings, morning and evening, over 7 days** (discard day 1).
  - Average of readings ≥135/85 mmHg confirms hypertension.
  - Use **validated, upper-arm cuff devices**.

Epigenetic Biomarker Proxies (EBP) Assessment

- **Risk Prediction & Early Detection**
  - Epigenetic changes occur before overt clinical disease.
  - Methylation patterns of genes like **ABCA1, APOE, NOS3** associate with dyslipidemia, hypertension, and atherosclerosis.
- **Pathophysiological Insights**
  - Reveal how lifestyle, aging, and environmental factors (e.g., smoking, diet, pollution) drive CVD risk.
  - Help understand inflammatory, oxidative stress, and endothelial dysfunction pathways.
- **Dynamic & Reversible Markers**
  - Unlike fixed genetic variants (SNPs), epigenetic marks can change with **interventions** (e.g., diet, exercise, medications), making them **targets for personalized therapy**.
- **Disease Stratification & Prognosis**
  - Certain **DNA methylation clocks (epigenetic age)** predict cardiovascular mortality and biological aging.
  - miRNA profiles (e.g., **miR-133, miR-208**) can differentiate stable vs. unstable coronary artery disease.
- **Therapeutic Monitoring**
  - Epigenetic profiles may track response to statins, antihypertensives, or lifestyle interventions.

Functional Testing

- Physical Performance Testing (Older adults)
  - Grip Strength
  - Push up capacity
  - Gait speed (4m space)
- ECG – not recommended in asymptomatic low risk adults
- Echocardiogram - not recommended in asymptomatic low risk adults
- Stress ECG/Echo – not recommended in asymptomatic low risk adults

Gait Speed – **Basic 4-Meter Gait Speed Test**

Setup

- Mark a **4-meter** walking path on the floor.
- Allow a **1-meter acceleration and 1-meter deceleration zone** on each end if space allows, to reduce variability from start/stop motion.
- Person should wear usual footwear and use assistive devices (e.g., cane) if normally used.

Instructions to Participant

- “Walk at your usual pace from here to the end.”
- Don’t encourage to walk faster or slower.

Procedure

- Position patient with both feet just behind the starting line.
- Start the stopwatch **when the first foot crosses the starting line**.
- Stop the stopwatch **when the first foot crosses the 4-meter finish line**.
- Record the time in seconds.

Calculation

- Gait *Speed (m/s)* $= \frac{4\ meters}{Time\ in\ seconds}$

Anatomical Testing: CACs and CCTAs

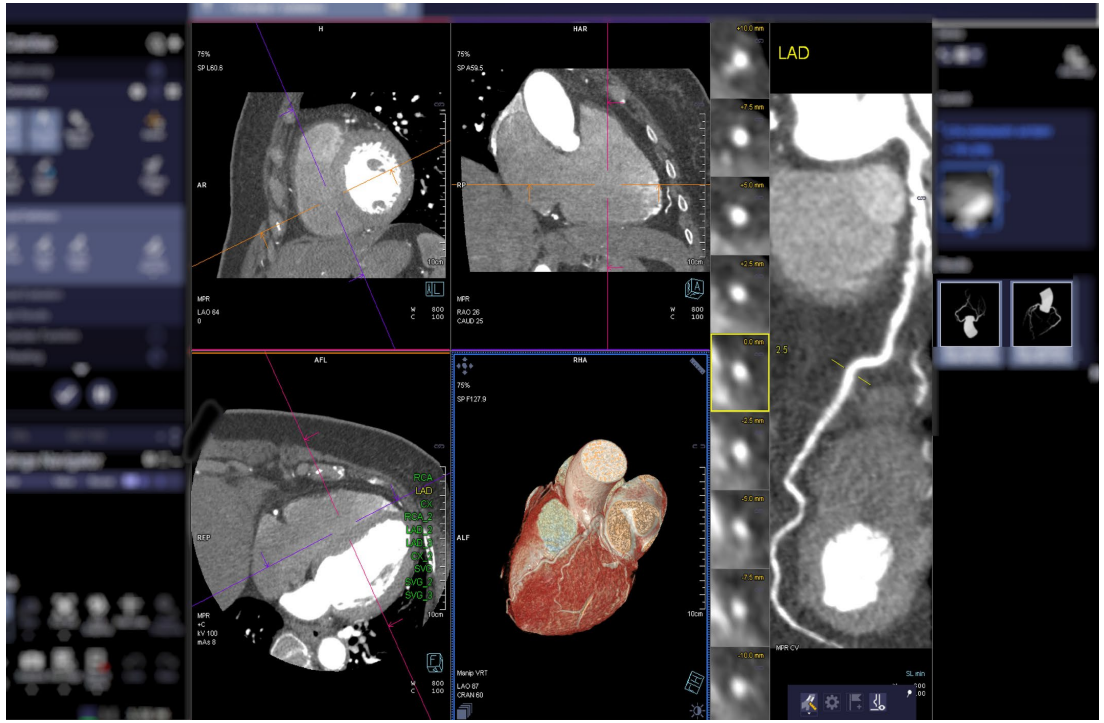
- Coronary Artery Calcium Score & Coronary CT Angiography (CCTA)
- Calcium score detects calcified plaques in arteries whereas CCTA detects both soft and hard plaque and flow
- Both utilize radiation so caution is advised

Coronary Artery Calcium Score

- **Supported Use:**
  - **Refines cardiovascular risk** beyond traditional calculators
  - Guides decisions on **statin therapy** or lifestyle intensification
  - CAC = 0 → Very low 5-year event risk
  - CAC >100 → High event risk; intensify prevention
- **Not Recommended For:**
  - Routine screening in **low-risk or asymptomatic** general population
  - Repeating serial CAC scans without new risk factors/symptoms
- **Guidelines:** ACC/AHA endorse CAC for risk reclassification

Coronary CT Angiography

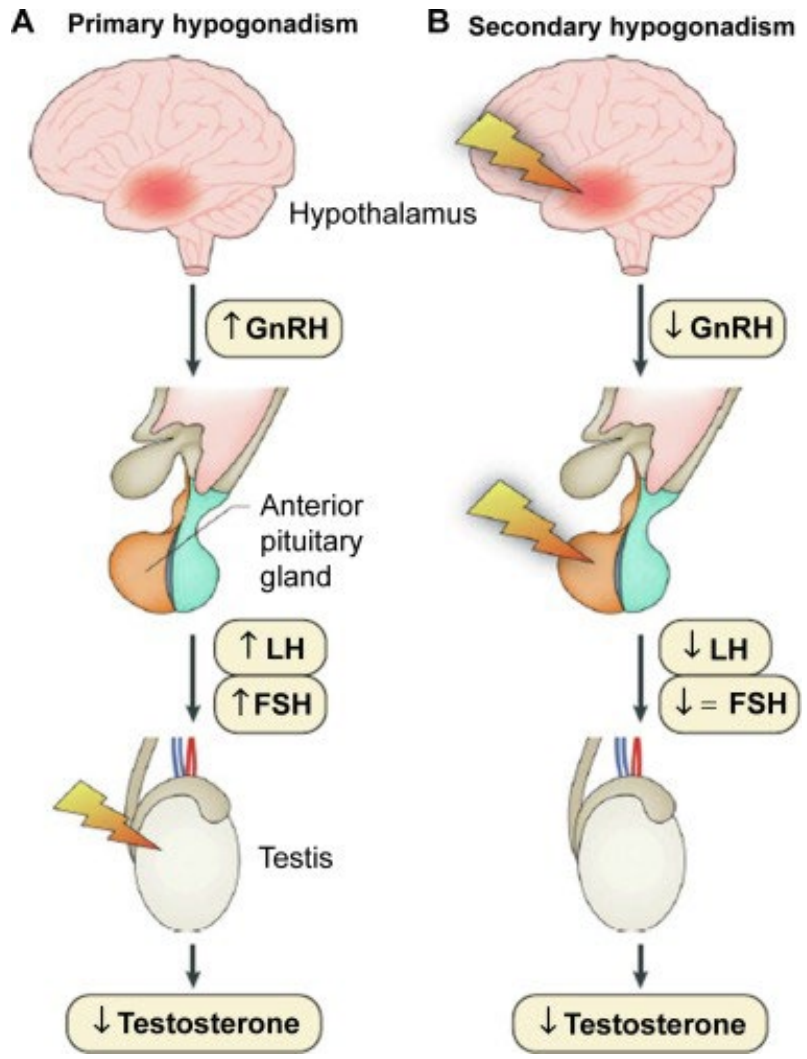
- **Appropriate Use:**
  - Evaluation of **stable chest pain** in symptomatic individuals
  - Risk stratification in **high-risk metabolic or diabetic patients**
  - Identifies **non-calcified, obstructive plaques** and high-risk features
- **Not Recommended For:**
  - **Routine screening** of asymptomatic individuals
  - Population-level screening due to radiation, cost, and overdiagnosis
  - **Evidence:** CCTA improves outcomes in *diagnostic pathways* (e.g., SCOT-HEART)
- **Not yet validated** for broad use in primary prevention



Endocrine Sphere

Hypogonadism - True

- Primary
  - Klinefelter syndrome (47,XXY)
  - Cryptorchidism
  - Testicular trauma or orchitis (e.g., mumps)
  - Chemotherapy or radiation
  - Aging-related Leydig cell failure
- Secondary
  - Congenital GnRH deficiency (e.g., Kallmann syndrome)
  - Pituitary adenomas
  - Traumatic brain injury
  - Infiltrative diseases (e.g., hemochromatosis, sarcoidosis)



Hypogonadism – Functional (reversible)

- Obesity: Adipose tissue increases aromatization of testosterone to estradiol, which can suppress LH secretion via negative feedback.
- Type 2 diabetes mellitus (T2DM) and metabolic syndrome
- Chronic illness: e.g., kidney disease, liver cirrhosis, HIV
- Inflammatory states: Elevated cytokines (e.g., IL-6, TNF-α) may inhibit the HPG axis
- Medications: Opioids, glucocorticoids, anabolic steroids
- Psychosocial stress and depression
- Aging (late-onset hypogonadism): Often overlaps with functional hypogonadism and may be multifactorial

Hypogonadism – Assessment (Clinical Suspicion)

- Reduced libido and erectile dysfunction
- Fatigue and reduced vitality
- Loss of muscle mass and strength
- Decreased bone density (osteopenia/osteoporosis)
- Mood changes, depression, or irritability
- Anemia (normochromic, normocytic)
- Infertility or gynecomastia

Laboratory Assessment

- Testosterone (Free and Total) (am testing 7-10 am)
- Sex Hormone Binding Globulin
- Prolactin
- Estradiol
- LH/FSH
- Thyroid Function Tests
- Cortisol (AM/PM)

Follow-Up Assessment/Referrals

For Primary Hypogonadism:

- Karyotyping (e.g., suspect Klinefelter syndrome)
- Testicular ultrasound (if masses or trauma suspected)
- History of chemotherapy, radiation, infection (e.g., mumps orchitis)

For Secondary Hypogonadism:

- Pituitary MRI (if other pituitary hormone deficiencies or mass effects)
- Assess other pituitary hormones: TSH, prolactin, ACTH, IGF-1
- Consider iron studies (hemochromatosis)
- Evaluate for chronic illness, weight loss, steroid or opioid use

Additional Analysis

Fertility Assessment: If relevant, order semen analysis and refer to reproductive endocrinology or urology.

Bone Density Testing: Consider DEXA scan in men with long-standing hypogonadism or fractures.

Cardiovascular Risk: Screen for CV risk factors before TRT initiation.

Urological Sphere

Core Domains of Urological Health in Men

- Prostate health
- Erectile and sexual function
- Lower urinary tract function (LUTS)
- Fertility and testicular health
- Hormonal regulation (androgen axis)
- Urological oncology risk and surveillance

Prostate Health Across the Lifespan

- Benign Prostatic Hyperplasia (BPH)
  - Androgen/DHT driven growth
  - Estrogen/testosterone ratio shifts with age
  - Role of inflammation and metabolic syndrome
- Prostatitis
  - Chronic pelvic pain syndrome
  - Inflammatory vs infectious
  - Links to stress and immune dysregulation
- Prostate Cancer
  - Most common male cancer
  - Often slow-growing but biologically heterogeneous

Prostatitis – A Deeper Look

- This shifts prostatitis from being seen as “non-infectious” to often being “undetected infectious + immune dysregulation.”
- Key stealth pathogen categories:
  - Intracellular bacteria
  - Biofilm-forming organisms
  - Atypical bacteria
  - Viral persistence
  - Fungal and mycoplasma species

PSA: Utility and Limitations

- PSA is:
  - Organ-specific, not cancer-specific
- Influenced by:
  - Prostate volume
  - Inflammation
  - Infection
  - Ejaculation
  - DHT activity
- Interpretation tools:
  - PSA velocity
  - PSA density
  - Free vs total PSA
- Age-adjusted PSA ranges

Erectile Dysfunction as a Cardiovascular Marker

- ED is often a vascular disease first
- Penis arteries are smaller than coronary arteries → earlier symptom manifestation
- ED precedes cardiovascular events by ~3–5 years
- Strong associations with:
  - Insulin resistance
  - Endothelial dysfunction
  - Inflammation
  - Low testosterone

Mechanisms of Erectile Dysfuntion

- Vascular:
  - Impaired nitric oxide signaling
  - Atherosclerosis
- Neurogenic:
  - Diabetes
  - Spinal pathology
  - Hormonal:
  - Low testosterone
  - Elevated estradiol
- Psychological:
  - Stress, anxiety, depression
  - Medication-induced:
  - SSRIs, beta-blockers, finasteride

Lower Urinary Symptoms

- Common symptoms:
  - Nocturia
  - Urgency
  - Weak stream
  - Incomplete emptying
  - Frequency
- Key drivers:
  - Prostate enlargement
  - Bladder dysfunction
  - Autonomic imbalance
  - Metabolic syndrome
  - Sleep apnea

Testosterone and Urological Health

Testosterone influences:

- Prostate physiology
- Erectile function
- Libido
- Urinary tract tone
- Muscle mass and pelvic floor support

Myth:

- Testosterone causes prostate cancer

Evidence:

- Normal physiological levels are not associated with increased risk when appropriately monitored.

Fertility and Testicular Health

- Sperm production reflects:
  - Mitochondrial health
  - Hormonal balance
  - Toxic burden
  - Oxidative stress
- Key issues:
  - Varicoceles
  - Environmental toxins
  - Heat exposure
  - Anabolic steroid history
  - Medications (finasteride, SSRIs)

Urological Cancers

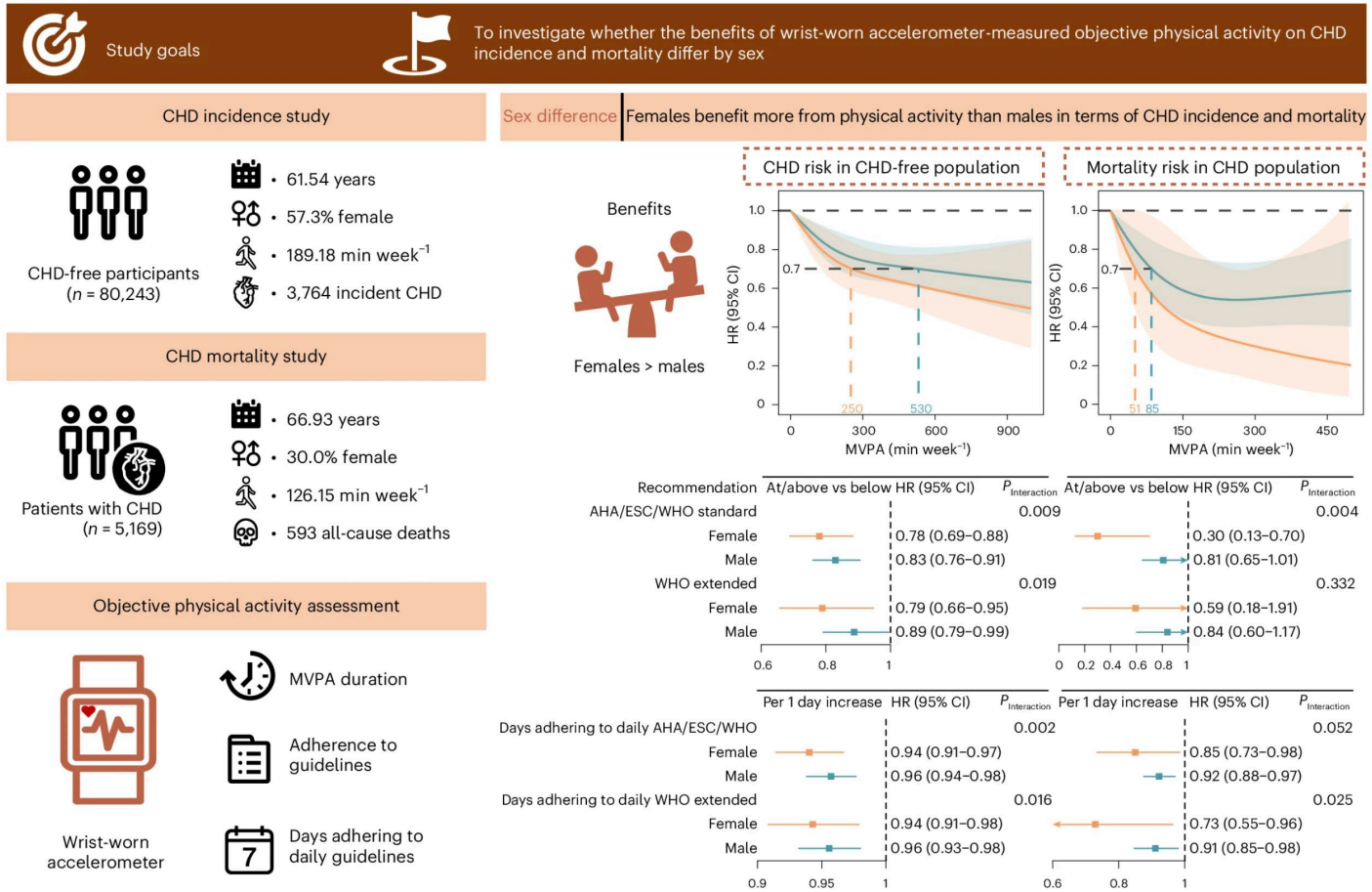
- Main focus:
  - Prostate cancer
    Secondary:
  - Bladder cancer
  - Kidney cancer
  - Testicular cancer
- Key discussion points:
  - Screening controversies
  - Risk stratification
  - Active surveillance vs treatment
  - Role of precision biomarkers

Precision Tools for Prostate Cancer Screening

- PSA derivatives and algorithms
- Prostate MRI
- Genomic risk profiling
- Urine-based biomarkers (PCA3, SelectMDx, etc.)
- ctDNA (emerging role) (MCED)

Treatment Approaches: Cardiometabolic

Lifestyle – Physical Activity



Nutrition: Evidence-Based Actions

- Universal goals for cardiometabolic risk:
  - Emphasize whole foods: fruits, vegetables, legumes, whole grains, nuts, seeds.
  - Reduce processed and red meat, refined carbs, sugary beverages.
  - Moderate healthy fats (e.g., olive oil, omega-3 sources).
- Men-focused evidence/considerations:
  - Men tend to consume less plant-based diets and more processed/red meats vs. women, potentially increasing cardiometabolic risk.
  - Reducing abdominal adiposity through diet lowers metabolic syndrome risk.
  - Increased protein intake recommendations to preserve lean body mass 1.5 – 2.0 g/kg
  - Increased fiber intake important…men tend to have lower fiber to overall energy dietary intake

Supplemental Considerations

- Omega 3 fatty acids
- Berberine
- Phytosterols
- Certain probiotics
- Magnesium
- Vitamin C
- Polyphenols

Treatment Approaches: Hormonal

Testosterone supports

Fundamental Approaches to Functional Hypogonadism

- Resistance exercise & HIIT
- Healthy body weight & fat loss
- Adequate sleep
- Stress management
- Correction of nutritional deficiencies (vitamin D, zinc, magnesium)

Supplemental Approach – Ashwagandha (*Withania Somnifera*)

- Mechanism of Action:
  - Cortisol reduction
  - Antioxidant action
  - Perhaps enhance Leydig cell function
- Supplementation Guidelines:
  - Standardized extracts KSM-66
    - 600 mg/day
  - 6-8 weeks
  - Expectation 10-20% increase

Supplemental Approach – Fenugreek (*Trigonella foenum groecum)*

- Mechanisms of Action:
  - Enzyme inhibition (aromatase and 5-alpha-reductase)
  - Steroidal Precursors
- Clinical Application
  - Standardized preparations are better researched to saponins (total or specific e.g. protodioscin)
  - Dosing 500-600 mg/day

Supplemental Approach – Tongkat Ali (*Eurycoma longifolia)*

- Mechanisms of Action:
  - Increase free testosterone
  - Aromatase inhibition
  - Cortisol reduction
  - Inflammation inhibition (NFKB)
- Clinical Application:
  - Use standardized extracts to eurycomanone (usually 2%+)
  - 300-600 mg daily

Testosterone Replacement Therapy - TRT

Indications:

- Primary or secondary hypogonadism
- Symptomatic Low Testosterone including:
  - Fatigue and Low Energy Levels
  - Loss of Libido and Erectile Dysfunction
  - Mood Disorders including depression or irritability linked to hormonal imbalances.
  - Cognitive Changes including difficulty concentrating or memory impairment
- Sarcopenia in aging Osteoporosis/Osteopenia

Contraindications:

- Prostate or breast cancer.
- Severe benign prostatic hyperplasia (BPH) with obstructive symptoms
- Uncontrolled heart failure or thromboembolic disorders
- Polycythemia
- Liver Disease
- Elevated PSA
- Severe sleep apnea
- Male infertility

TRT – Baseline evaluation

- History and Examination
  - Comprehensive physical and history taking
  - Check for: CVD, sleep apnea, hematological conditions, etc.
- Laboratory Assessment
  - PSA (Prostate-Specific Antigen)
  - Hematocrit/Hemoglobin
  - Lipid profile
  - Liver function tests
  - LH, FSH, prolactin (to assess primary vs. secondary hypogonadism)

TRT – dosing strategies

- **Topical**
- 40-120 mg transdermal daily Monday to Saturday; Escalation at 40 mg increments
- **Injection**
- **Testosterone Enanthate/Cypionate (Long-Acting)**
  - Typical dose: 50–400 mg IM every 2–4 weeks.
    Most common regimen: 100–200 mg IM every 1–2 weeks.
  - Adjust based on clinical response and serum testosterone levels, aiming for a mid-normal range (300–1,000 ng/dL)
- **Testosterone Undecanoate (Very Long-Acting)**
  - Initial dose: **750 mg IM** on day 0, followed by **750 mg after 4 weeks**, then every **10 weeks** thereafter.
  - Requires monitoring for side effects, especially pulmonary oil microembolism reactions.

TRT – Things to look for during treatment

- Monitor:
  - PSA
  - Hematological parameters
  - Blood pressure
  - Lipid profile
  - Liver function tests
  - Hba1c
  - If fertility is a concern, LH/FSH (better to use clomiphene or HcG in these men)
  - Monitor for mood changes

Urinary Tract Support

Prostate and Beyond

Prostate Health

- Check for infections and treat appropriately
- Integrative Agents
  - Serenoa repens
  - Pygeum Africanum
  - Pumpkin Seed Oil
  - Beta-Sitosterol
  - Rye pollen extract (cernilton)
  - Urtica dioica

Agent	Typical Clinical Dose Range	Notes
Beta-Sitosterol	60–130 mg/day (divided)	Improves urinary symptoms; does not shrink prostate.
Pygeum africanum (source of sito-sterol)	75–200 mg/day (divided)	Standardized bark extract studied.
Saw Palmetto (Standardized to fatty acids)	160–320 mg/day (some studies up to 500 mg)	Mixed evidence on symptom relief.
Pumpkin Seed Extract/Oil	500–1000 mg/day	Used in multiple clinical trials.
Stinging Nettle Root	~450 mg/day (some regimens up to 600–1200 mg)	Some positive symptom data.
Rye Grass Pollen (Cernilton)	~126 mg 2–3×/day	Studied internationally for BPH symptoms. Also show size reduction potential.
Lycopene	15 – 60 mg/day (15 mg common in prevention trials)	May reduce or stabilize PSA

Zinc Controversy: Prostate Cancer Prevention

Biological Plausibility

- Zinc plays a crucial role in **normal prostate metabolism**
- Prostate cancer cells often show **lower intracellular zinc levels**
- Hypothesized protective role, but **mechanisms unclear in humans**

Human Studies: Inconsistent Evidence

- No strong evidence that zinc **prevents prostate cancer**
- Some studies: **neutral or slightly protective effects**
- Others: **high-dose zinc (>75–100 mg/day)** linked to **increased risk of aggressive disease**

Erectile Dysfunction Support

- Assess underlying factors to determine priority:
  - Vascular
  - Metabolic
  - Hormonal
  - Prostatic
  - Stress/Psych emotional sphere

Integrative ED Support for Mild to Moderate Symptoms

- Erections may still occur spontaneously or with stimulation.
- Difficulty may be situational (e.g., under stress or fatigue).
- Penetration is possible but may be inconsistent or not maintained.
- Satisfaction with sexual performance is often diminished.
- Psychological and relationship impacts are present but not overwhelming.
- You can use Sexual Health Inventory for Men (IIEF) scores 12+

ED: Vascular - Arginine

Good clinical evidence that it can support men with mild to moderate ED

Dosing 1.5-5g/day consider combining with beet root crystals

At higher doses can cause GI upset and lower BP (may be desired)

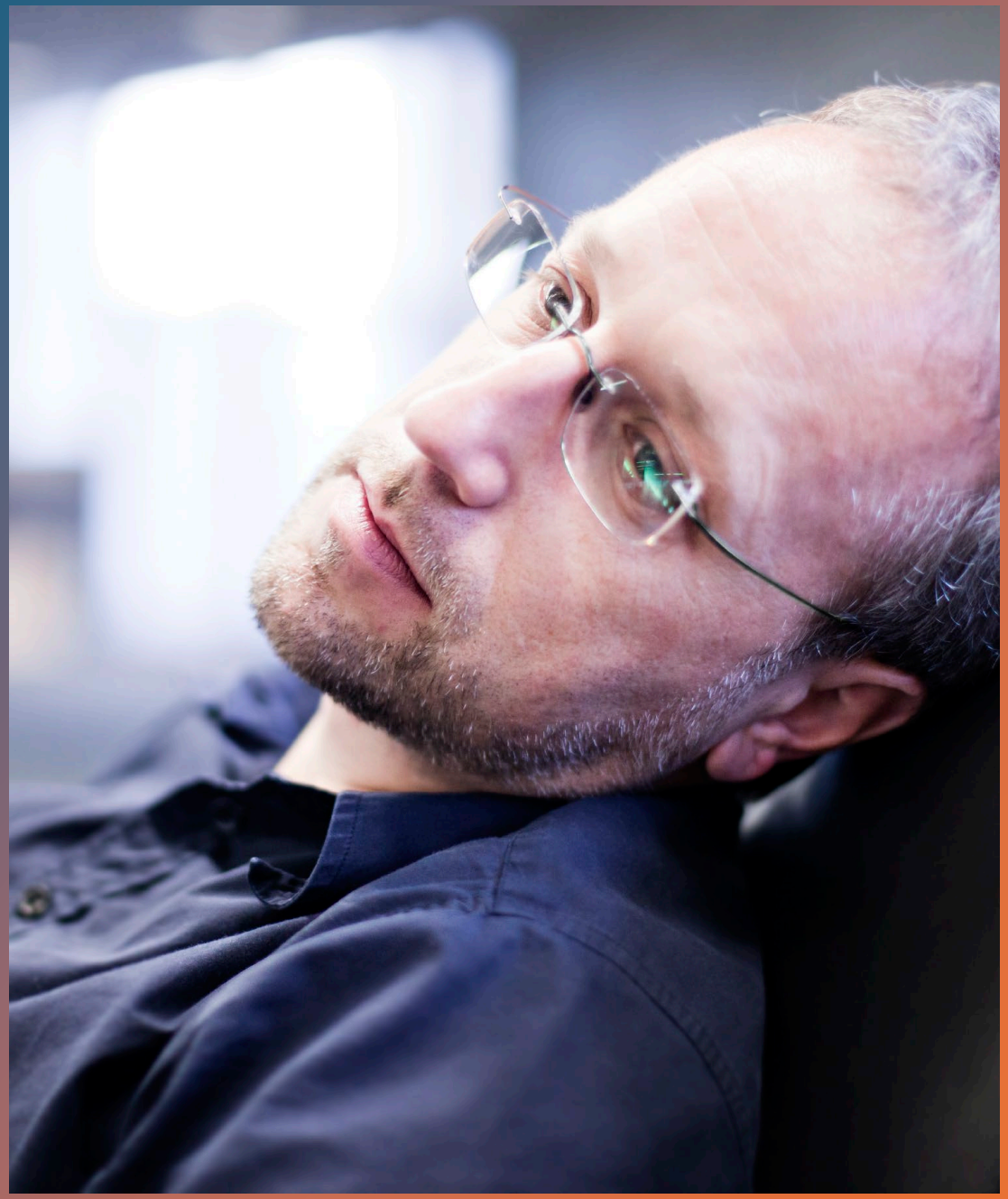
Caution with nitrates and anti-hypertensives

Botanical interventions for ED

Botanical Agent	Typical Dose (Historical/Clinical Use)	Clinical Evidence Strength	Type of Benefit Found (if any)
Panax Ginseng	900–3000 mg/day	Moderate	Improved IIEF scores, erectile rigidity, overall sexual satisfaction
Tribulus Terrestris	750–1500 mg/day	Low to Moderate	Mixed results; possible libido and erectile support
Saffron (Crocus sativus)	30–200 mg/day (extract)	Limited but Positive	Improved erectile function and satisfaction in small trials
Maca (Lepidium meyenii)	1500–3000 mg/day	Limited	Improved libido and subjective sexual well-being
Horny Goat Weed (Epimedium spp.)	Icariin 5–15 mg/day (standardized extract)	Preclinical or Traditional	Animal data suggest PDE5 inhibition; human data lacking
Fo-Ti (Polygonum multiflorum)	Not standardized; 3–6 g/day traditionally in decoctions	Traditional Use Only	No proven benefit in clinical trials; anecdotal claims of virility boost

Mental Health Support

The often overlooked contributor to health and wellbeing



How Mental Health Presents Differently in Men

- Symptoms may manifest as anger, irritability, or aggression rather than sadness
- Increased substance use or risk-taking behaviors may mask underlying issues
- Physical symptoms (e.g., headaches, fatigue, sleep disturbances) may be more commonly reported
- Social withdrawal or difficulty maintaining relationships can signal emotional distress
- Men may minimize or deny emotional difficulties, complicating diagnosis

Core Symptom Screening Tools

- PHQ-9
- GAD-7
- My Mood Monitor
- Male specific tool:
  - Male Depression Risk Scale
  - Useful in contexts where “typical” depression measures (focused on sadness) might miss men’s experiences.

Therapeutic Interventions

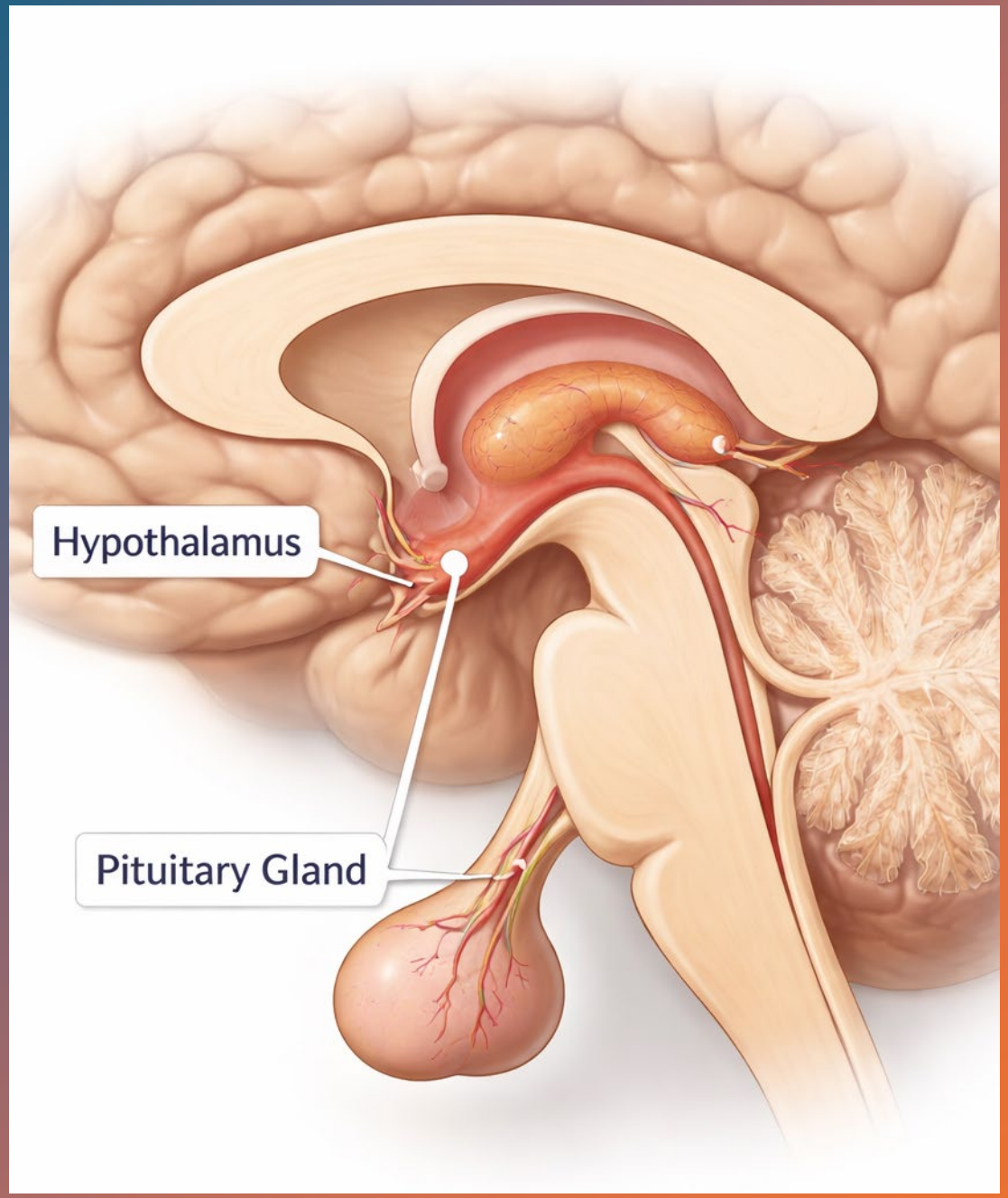
Type of Intervention	Strengths	Research Status
CBT & evidence-based talk therapies	Strong evidence overall for depression/anxiety	High
Somatic Experiencing (SE)	Body-based, trauma-focused	Preliminary evidence ✓
EMDR & trauma therapies	Strong evidence for PTSD	High
Mindfulness/Interoceptive skills	Reduces stress broadly	Moderate
Yoga/breathwork	Supports regulation	Mixed & low quality

Trending Topic

Research based peptides

Safety and Regulatory Notes

- Injectable peptides are often sold as “research chemicals” and are not regulated like approved medications, which raises concerns about purity, dosing, and adverse effects.
- Some peptides are banned by sports authorities and carry unknown long-term risks.
- Very few are legally available in Canada through pharmacies



Growth Hormone-Releasing Peptides (GH-Secretagogues)

- Sermorelin – GHRH analogue that encourages the pituitary to release growth hormone. Historically used for growth hormone diagnostics and, off-label, in age-related hormone support.
- Ipamorelin – More selective GH secretagogue with fewer side effects (less impact on cortisol/ACTH). Often paired with other peptides.
- CJC-1295 – Longer-acting peptide that increases GH over extended periods; frequently combined with ipamorelin.
- Tesamorelin – Used clinically for HIV-associated fat redistribution; off-label for visceral fat reduction and GH support

Tissue Repair, Recovery & Structural Support

- BPC-157 – Popular in fitness communities for soft-tissue repair (tendons, ligaments), although not approved for human use and banned in sports
- TB-500 (Thymosin beta-4 fragment) – Claimed to aid tissue healing and flexibility; similar caveats apply
- Copper peptide (GHK-Cu) – Used topically in skincare for wound healing and anti-aging; its systemic use is more experimental.

Other Peptides

- Libido and Sexual Function:
  - PT-141 (Bremelanotide) – Acts on the nervous system (melanocortin receptors) to increase libido and sexual arousal. It's FDA-approved for female hypoactive sexual desire but is discussed off-label for men.
- Metabolic and Body Composition:
  - MK-677 (Ibutamoren) – Oral compound that stimulates GH and IGF-1; often discussed for increasing lean mass, improving sleep, and aiding recovery.

“Stacks”

- Growth hormone
  - Sermorelin/CJC-1295
  - Ipamorelin
  - BPC-157
  - TB-500
- Workout Recovery
  - BPC 157
  - TB-500
- Longevity
  - Epitalon
  - MOTS-c
  - GHK-Cu

Key Takeaway: Redefining Men's Health Care

- Men's health is a systems biology problem, not a single-hormone issue
- The core interconnected domains are:
  - Cardiometabolic function
  - Endocrine balance
  - Urological health
  - Mental health and stress physiology
  - Lifestyle and environmental load
- Many male conditions labeled as "aging" are actually modifiable and preventable
- Erectile dysfunction, LUTS, fatigue, and low testosterone are often early warning signs, not isolated diagnoses
- Earlier, more advanced screening changes outcomes:
  - Metabolic and vascular disease
  - Functional hypogonadism
  - Prostate risk stratification
  - Mental health vulnerability
- Integrative medicine allows clinicians to move from:

Symptom suppression → Risk interception → Physiologic optimization

The Future of Men's Integrative Care

- **The next era of men's health is:**
  - Preventive, not reactive
  - Precision-guided, not protocol-only
  - Systems-based, not siloed
- **Core clinical commitments:**
  - Screen earlier
  - Think metabolically before hormonally
  - Treat inflammation, insulin resistance, and stress physiology first
  - Use TRT, peptides, and advanced therapies responsibly and selectively
  - Integrate mental health as a foundational pillar of male vitality
- **Ultimate goal:**
  - Extend not just lifespan, but healthspan, performance, resilience, and quality of life for men

Questions?