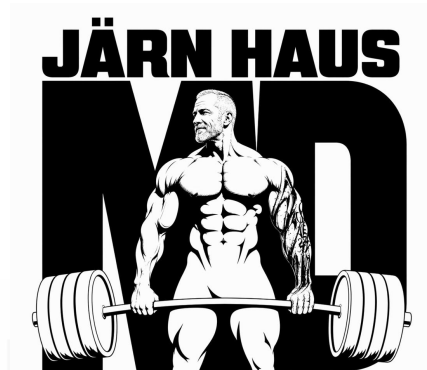




JÄRN HAUS MD

THE ATHLETE'S GUIDE

"Train Harder. Live Healthier. Stay in the Game Longer."

A comprehensive, evidence-based resource for strength athletes and bodybuilders who want to maximize performance while protecting long-term health.

Ragnvaldr Bjornsson, MD

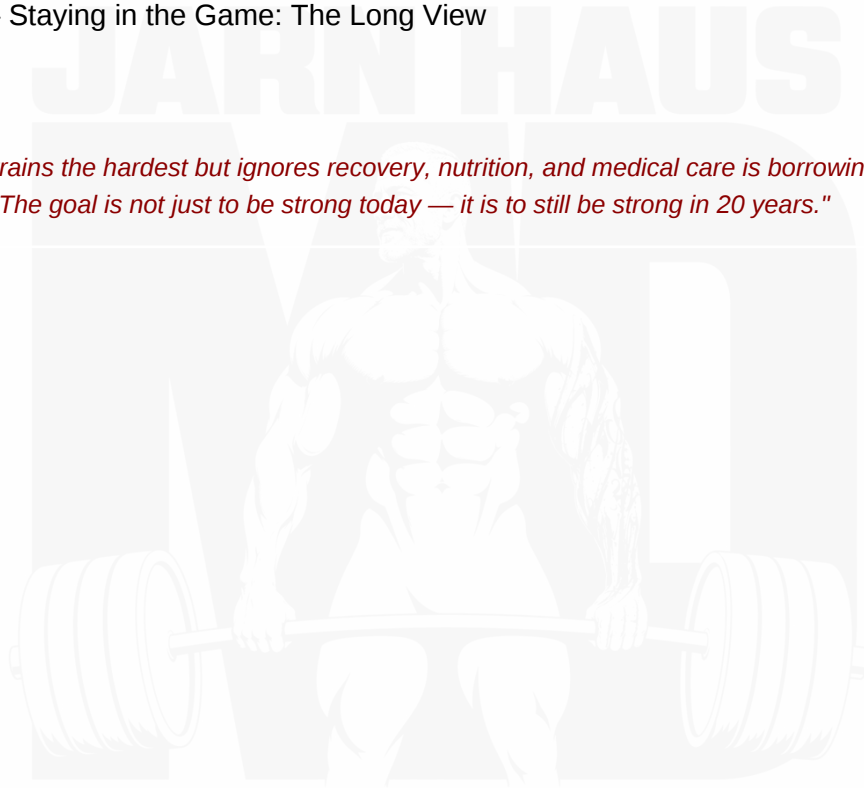
Järn Haus MD | Telehealth Clinic

This guide is for educational purposes only and does not constitute medical advice. Always consult a qualified physician before making changes to your health regimen.

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"The athlete who trains the hardest but ignores recovery, nutrition, and medical care is borrowing from a future they may never reach. The goal is not just to be strong today — it is to still be strong in 20 years."



CHAPTER 1: PHILOSOPHY — THE THREE PILLARS

The motto of Järn Haus MD — **"Train Harder. Live Healthier. Stay in the Game Longer."** — is not a slogan. It is a clinical framework built on three interdependent pillars that define how we approach athlete care.

Pillar 1: Train Harder

Training intensity is the engine of adaptation. Progressive overload, periodization, and intelligent programming are non-negotiable. But training harder does not mean training recklessly. It means extracting maximal stimulus from every session while managing fatigue, injury risk, and recovery debt. The athletes who make the longest careers are the ones who train with the most discipline — not just the most volume.

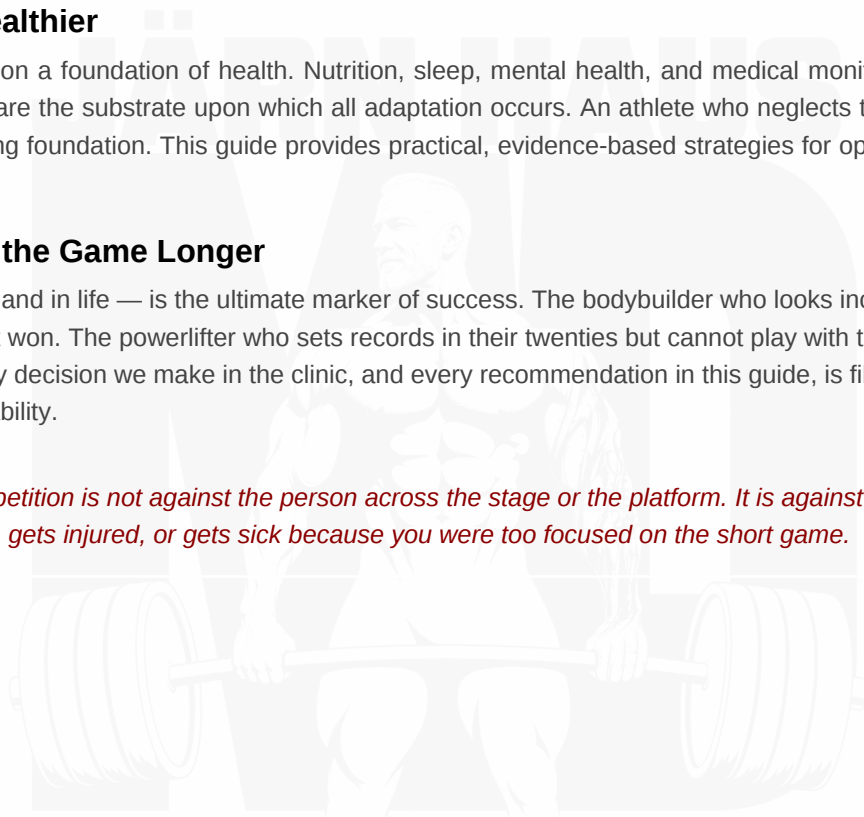
Pillar 2: Live Healthier

Performance is built on a foundation of health. Nutrition, sleep, mental health, and medical monitoring are not optional accessories — they are the substrate upon which all adaptation occurs. An athlete who neglects these areas is building muscle on a crumbling foundation. This guide provides practical, evidence-based strategies for optimizing each of these domains.

Pillar 3: Stay in the Game Longer

Longevity in sport — and in life — is the ultimate marker of success. The bodybuilder who looks incredible at 30 but is on dialysis at 50 has not won. The powerlifter who sets records in their twenties but cannot play with their grandchildren has not succeeded. Every decision we make in the clinic, and every recommendation in this guide, is filtered through the lens of long-term sustainability.

The greatest competition is not against the person across the stage or the platform. It is against the version of yourself that quits, gets injured, or gets sick because you were too focused on the short game.



CHAPTER 2: NUTRITION FOR PERFORMANCE & LONGEVITY

Nutrition is the single most controllable variable in your performance equation. No supplement, peptide, or pharmaceutical can compensate for a diet that fails to meet your physiological needs. The principles below are grounded in sports nutrition research and clinical practice.

Caloric Targets

Total daily energy expenditure (TDEE) is the starting point. For hypertrophy, a modest surplus of 250–500 kcal above TDEE is optimal — aggressive surpluses accelerate fat gain without proportionally increasing muscle protein synthesis. For fat loss, a deficit of 300–500 kcal preserves lean mass while maintaining training performance. Extreme caloric restriction (>750 kcal deficit) triggers adaptive thermogenesis, increases cortisol, and accelerates muscle loss.

Macronutrient Priorities

Macronutrient	Hypertrophy Phase	Maintenance	Fat-Loss Phase	Rationale
Protein	1.6–2.2 g/kg/day	1.4–1.8 g/kg/day	2.2–2.8 g/kg/day	Muscle protein synthesis plateaus at ~1.6 g/kg; higher intakes during deficit preserve LBM
Carbohydrate	4–7 g/kg/day	3–5 g/kg/day	2–4 g/kg/day	Primary fuel for glycolytic training; supports thyroid, testosterone, and insulin sensitivity
Fat	0.8–1.2 g/kg/day	0.8–1.2 g/kg/day	0.6–1.0 g/kg/day	Essential for steroidogenesis, cell membranes, and fat-soluble vitamin absorption

Nutrient Timing

- **Pre-training (60–90 min before):** Mixed meal with protein (30–40 g) and carbohydrate (40–80 g). Digestion time matters — train on a settled stomach.
- **Intra-training:** Essential amino acids (EAAs) or fast-digesting carbohydrate (20–40 g) during sessions exceeding 90 minutes. Simple sugars (cyclic dextrin, dextrose) outperform complex carbs here.
- **Post-training (within 2 hours):** Protein (30–50 g) plus carbohydrate (0.5–1.0 g/kg). The "anabolic window" is wider than the supplement industry suggests, but co-ingestion of protein and carbs post-training does enhance glycogen replenishment and net protein balance.
- **Pre-sleep:** Casein protein (30–40 g) before bed has been shown to increase overnight muscle protein synthesis by approximately 22% (Res et al., 2012).

Micronutrient Non-Negotiables

Hard-training athletes have elevated micronutrient demands. Deficiencies in the following are common and directly impair performance and recovery:

Nutrient	Target	Why It Matters	Best Sources
Vitamin D	40–60 ng/mL (serum)	Bone density, immune function, testosterone synthesis, muscle function	Sunlight, supplementation (2,000–5,000 IU/day)
Magnesium	400–600 mg/day	Sleep quality, muscle contraction, insulin sensitivity, 300+ enzymatic reactions	Glycinate or threonate form preferred

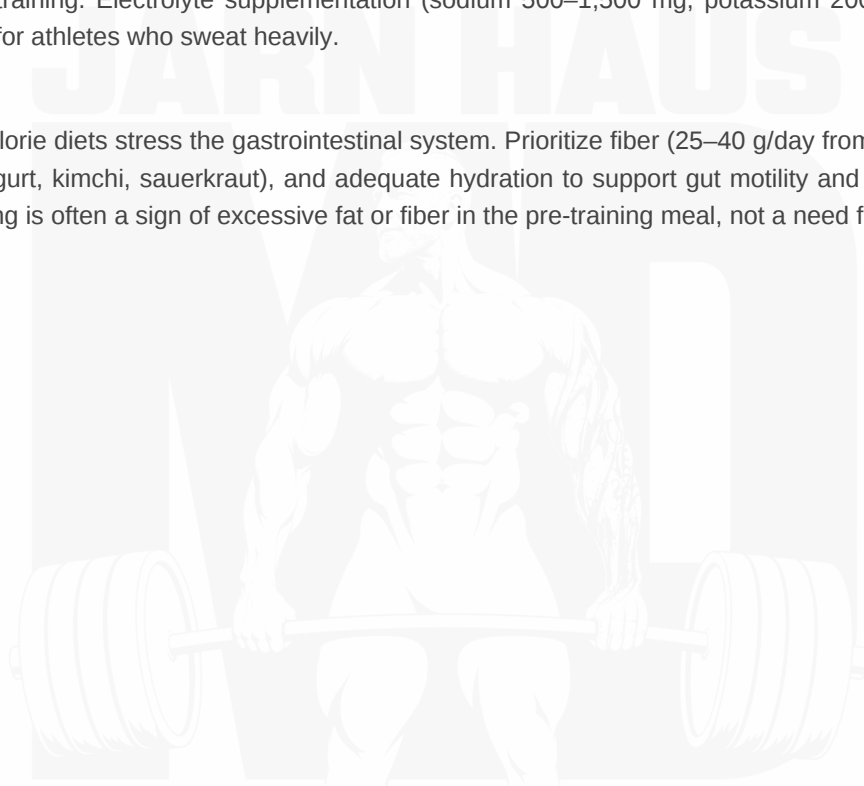
Nutrient	Target	Why It Matters	Best Sources
Zinc	25–45 mg/day	Testosterone synthesis, immune function, wound healing	Red meat, oysters, pumpkin seeds
Omega-3 (EPA/DHA)	2–4 g/day combined	Inflammation modulation, lipid health, joint integrity, brain function	Fatty fish, high-quality fish oil
Iron	Monitor ferritin; supplement only if deficient	Oxygen transport; excess iron is pro-oxidant and harmful	Red meat, organ meats; test before supplementing

Hydration

A 2% loss of body mass through dehydration reduces strength by approximately 5–10% and endurance by up to 20%. Baseline intake should target a minimum of 1 mL per kcal consumed (e.g., 3,500 kcal diet = 3.5 L). Add 500–1,000 mL per hour of intense training. Electrolyte supplementation (sodium 500–1,500 mg, potassium 200–400 mg per hour of training) is essential for athletes who sweat heavily.

Gut Health

High-protein, high-calorie diets stress the gastrointestinal system. Prioritize fiber (25–40 g/day from whole food sources), fermented foods (yogurt, kimchi, sauerkraut), and adequate hydration to support gut motility and microbial diversity. GI distress during training is often a sign of excessive fat or fiber in the pre-training meal, not a need for digestive enzymes.



CHAPTER 3: SLEEP — THE MOST UNDERRATED ANABOLIC

Growth hormone secretion peaks during slow-wave sleep. Testosterone production is sleep-dependent. Muscle protein synthesis rates are highest during rest. If you are not sleeping, you are not growing — no matter what else you are doing.

Sleep is the single most powerful recovery tool available to any athlete. It is free, legal, and more effective than any supplement on the market. Despite this, it is the most commonly neglected variable in strength sport. Research consistently shows that sleep deprivation reduces testosterone, increases cortisol, impairs glucose metabolism, elevates inflammatory markers, and accelerates muscle protein breakdown.

Sleep Architecture and the Athlete

A full sleep cycle lasts approximately 90 minutes and includes light sleep (Stages 1–2), slow-wave sleep (Stage 3), and REM sleep. For athletes, slow-wave sleep (SWS) is particularly critical — this is when the largest pulses of growth hormone are released and when tissue repair is most active. REM sleep supports cognitive function, emotional regulation, and motor learning (skill consolidation). Most adults need 7–9 hours; hard-training athletes often need 8–10 hours, especially during intensified training blocks.

Sleep Optimization Protocol

Strategy	Implementation	Evidence
Consistent schedule	Same bed/wake time ± 30 min, including weekends	Stabilizes circadian rhythm; improves sleep efficiency
Temperature	Bedroom 65–68°F (18–20°C); hot shower 90 min before bed	Core temperature drop is a primary sleep onset trigger
Light exposure	Bright light (10,000 lux) within 30 min of waking; dim/red light 2 hr before bed; eliminate screens or use blue-light blocking	Melatonin suppression by blue light delays sleep onset by 60–90 min
Caffeine curfew	No caffeine after 12:00–2:00 PM (half-life 5–7 hours)	Even one cup of coffee at 3 PM reduces SWS by 20%
Alcohol avoidance	Eliminate or minimize; never within 3 hours of bed	Alcohol fragments sleep architecture and suppresses REM by up to 40%
Magnesium glycinate	300–400 mg 30–60 min before bed	Activates parasympathetic nervous system; improves sleep quality scores
Training timing	Finish intense training ≥ 4 hours before bed if possible	Post-training sympathetic activation and elevated core temp impair sleep onset

Obstructive Sleep Apnea: The Hidden Epidemic in Strength Athletes

OSA prevalence in strength athletes — particularly those with thick, muscular necks (>17 inches / 43 cm) and elevated body mass — is dramatically underdiagnosed. A STOP-BANG score of ≥ 3 warrants a formal sleep study. Untreated OSA elevates blood pressure, increases cardiovascular risk, fragments sleep architecture, suppresses growth hormone, and impairs recovery. CPAP therapy in athletes with OSA has been shown to improve recovery, reduce resting heart rate, and lower systemic inflammation. If you snore loudly, wake unrefreshed despite adequate sleep duration, or your partner observes pauses in your breathing, get tested.

CHAPTER 4: MENTAL HEALTH & THE ATHLETE MINDSET

Strength sport selects for people who are disciplined, driven, and willing to endure discomfort. These traits drive performance — and they also create blind spots. The same personality that pushes through a brutal training session may also push through the warning signs of depression, anxiety, or body dysmorphia without seeking help.

Muscle Dysmorphia and Body Image

Muscle dysmorphia — the persistent belief that one is "too small" or insufficiently muscular despite objective evidence to the contrary — affects an estimated 10–25% of competitive bodybuilders. It drives compulsive training, rigid dietary behaviors, social isolation, and escalation of performance-enhancing substance use. Recognizing these patterns is the first step toward addressing them. Cognitive behavioral therapy (CBT) has the strongest evidence base for body image disorders in athletes.

Mood, Aggression, and Hormonal Influence

Fluctuations in testosterone, estradiol, and other androgens have direct effects on mood regulation, impulse control, and emotional reactivity. Athletes using supraphysiologic doses of androgens should be particularly vigilant for irritability, interpersonal conflict, depressive episodes (especially post-cycle), and anxiety. These are not character failures — they are neurochemical consequences that respond to clinical intervention.

Practical Mental Health Strategies

- **Screen regularly:** PHQ-2/PHQ-9 for depression, GAD-7 for anxiety. These take 60 seconds and catch problems early.
- **Build a support system:** Training partners, a therapist, a physician who understands your sport. Isolation is a risk factor.
- **Separate identity from physique:** You are not your body fat percentage. Your worth is not determined by your last lift.
- **Monitor substance use:** Alcohol, stimulants, and recreational drugs interact with training and hormonal status. The AUDIT-C screen takes 30 seconds.
- **Journaling and mindfulness:** Even 5–10 minutes daily of structured reflection or meditation has measurable effects on cortisol, sleep latency, and emotional regulation.
- **Professional help is strength:** Seeking therapy is no different from seeking a coach. The strongest athletes are the ones who build the strongest teams around them.

If you are experiencing suicidal thoughts, reach out immediately: 988 Suicide & Crisis Lifeline (call or text 988). You are not alone, and this is not weakness — it is a medical emergency.

CHAPTER 5: EVIDENCE-BASED SUPPLEMENTATION

The supplement industry generates over \$50 billion annually and is largely unregulated. Most products have no meaningful human data supporting their claims. The following are the supplements with genuine, replicated evidence for strength athletes — and the doses that actually work.

Tier 1: Strong Evidence, Recommended

Supplement	Dose	Mechanism	Evidence Level	Clinical Notes
Creatine monohydrate	3–5 g/day (no loading needed)	Increases intramuscular phosphocreatine stores → more ATP for high-intensity efforts; cell volumization; neuroprotective	Strongest evidence of any sport supplement (>500 studies)	Monohydrate is the gold standard. More expensive forms offer no advantage. Safe long-term. Monitor creatinine on labs (expected mild elevation).
Caffeine	3–6 mg/kg, 30–60 min pre-training	Adenosine receptor antagonism → reduced perceived exertion; enhanced motor unit recruitment	Meta-analyses show 3–5% strength improvement	Tolerance develops; cycle 2 weeks off periodically. Respect the caffeine curfew for sleep.
Vitamin D3	2,000–5,000 IU/day (dose to serum level)	Steroidogenesis, calcium metabolism, immune modulation, muscle function	Strong evidence for deficiency correction; moderate for supraphysiologic benefit	Test serum 25-OH vitamin D. Target 40–60 ng/mL. Co-administer with K2 (MK-7, 100–200 mcg).
Omega-3 fatty acids	2–4 g EPA+DHA/day	Anti-inflammatory; membrane fluidity; triglyceride reduction; joint protection	Strong evidence for cardiovascular and inflammatory markers	Choose products tested for heavy metals and oxidation. Refrigerate after opening.
Magnesium	300–600 mg/day (glycinate, threonate, or taurate)	Cofactor in 300+ enzymes; sleep quality; muscle relaxation; insulin sensitivity	Strong evidence for deficiency states; moderate for performance	Oxide form is poorly absorbed. Glycinate preferred for sleep; threonate for cognition.

Tier 2: Moderate Evidence, Conditionally Recommended

Supplement	Dose	Mechanism	Notes
Beta-alanine	3.2–6.4 g/day (split doses)	Increases intramuscular carnosine → buffers H ⁺ during high-rep work	Most benefit for sets of 60–240 seconds. Paresthesia (tingling) is harmless.
Citrulline malate	6–8 g, 60 min pre-training	Nitric oxide precursor → vasodilation; ammonia clearance	Modest evidence for rep performance at high volumes. More effective than arginine.
EAA's / Leucine	6–12 g EAAs or 3–5 g leucine peri-training	Directly stimulates mTOR and muscle protein synthesis	Most relevant during fasted training or very long sessions. Whole food protein post-training is equally effective.
Ashwagandha (KSM-66)	600 mg/day	Adaptogen; cortisol modulation; modest testosterone support	Limited but promising data for strength and recovery. Some interaction with thyroid medications.
Tart cherry extract	500 mg 2×/day or 8–12 oz juice	Anthocyanin-mediated anti-inflammatory; reduces DOMS	Best evidence around competition or very high-volume training blocks.

What NOT to Waste Money On

- **BCAAs:** If you are eating adequate protein (1.6+ g/kg/day), BCAAs provide no additional benefit. Leucine alone (as part of EAAs or whole protein) is what matters.
- **Testosterone boosters:** Tribulus, D-aspartic acid, fenugreek — none of these raise testosterone in a clinically meaningful way in healthy males.
- **Fat burners:** Most are caffeine in a capsule with proprietary-blend filler. Save your money for food.
- **Glutamine (for muscle):** Glutamine has clinical value for gut health and immune function in critically ill patients. For muscle growth in healthy athletes eating adequate protein, it does nothing.



CHAPTER 6: PEPTIDES — WHAT THE SCIENCE SHOWS

Peptides are short chains of amino acids that act as signaling molecules in the body. Interest in peptide therapy among athletes has grown substantially, driven by claims of enhanced recovery, fat loss, and tissue repair. The reality is more nuanced — some peptides have legitimate research behind them, while others are largely based on animal data or anecdote. Below is an honest assessment of the current evidence.

Important: Peptide sourcing is a significant concern. Many products sold online are underdosed, contaminated, or mislabeled. If you choose to use peptides, work with a physician who can prescribe pharmaceutical-grade products from licensed compounding pharmacies and monitor your health appropriately.

Peptide	Proposed Mechanism	Evidence Summary	Clinical Considerations
IGF-1 LR3	Long-acting IGF-1 analog → mTOR activation, muscle protein synthesis, satellite cell proliferation, anti-apoptotic in muscle tissue	Animal data strong; human data limited but mechanism is well-characterized. IGF-1 is a primary mediator of GH effects on muscle.	Requires medical supervision. Monitor IGF-1 serum levels, fasting glucose, and insulin. Risk of hypoglycemia. Theoretical concern for neoplastic growth — screen appropriately.
BPC-157 (Body Protection Compound)	Gastric pentadecapeptide → angiogenesis, tendon/ligament healing, GI mucosal protection, nitric oxide modulation	Extensive animal data for tendon, ligament, and GI healing. Human clinical data is limited but emerging. Mechanism is plausible.	Used for tendon injuries, GI healing, and recovery. Relatively well-tolerated in reported use. No long-term human safety data.
TB-500 (Thymosin Beta-4)	Actin-binding peptide → cell migration, angiogenesis, anti-inflammatory, tissue repair	Strong animal data for wound healing and cardiac repair. Limited human data outside of ophthalmology.	Often used alongside BPC-157 for injury recovery. Monitor inflammatory markers.
GH-releasing peptides (Ipamorelin, CJC-1295, Tesamorelin)	Stimulate endogenous GH release → body composition, recovery, sleep quality	Tesamorelin is FDA-approved for HIV-associated lipodystrophy. Ipamorelin/CJC-1295 have clinical-trial data but are not FDA-approved for athlete use.	A more physiologic approach than exogenous GH. Monitor IGF-1, fasting glucose, insulin. Watch for water retention, joint pain, carpal tunnel.
PT-141 (Bremelanotide)	Melanocortin receptor agonist → sexual function	FDA-approved (Vyleesi) for hypoactive sexual desire disorder in premenopausal women. Off-label use in males for ED.	Not a first-line treatment. Can cause nausea, flushing. Consult provider.

The distinction between "research chemical" and "medicine" is the quality of the evidence and the oversight of a qualified provider. If you are going to explore peptide therapy, do it with a physician, with lab monitoring, and with pharmaceutical-grade products.

CHAPTER 7: MEDICAL MONITORING — YOUR MOST IMPORTANT INVESTMENT

You track your macros. You log your lifts. You monitor your sleep with a wearable. But do you know your hematocrit? Your LDL and ApoB? Your eGFR? Your left ventricular mass? The athletes who stay in the game longest are the ones who monitor the health markers that matter — not just the performance metrics that feel good.

Why Athlete-Specific Medical Care Matters

- **Standard reference ranges may not apply:** A creatinine of 1.4 mg/dL might be normal for a 240-lb muscular male but flagged as abnormal on a standard lab report. An athlete-literate physician understands the difference.
- **Supraphysiologic hormone use changes the risk equation:** Blood pressure, lipid profiles, hematocrit, liver enzymes, and cardiac structure all require closer surveillance in athletes using androgens.
- **Early detection saves careers — and lives:** Left ventricular hypertrophy, coronary artery calcium accumulation, polycythemia, and hepatotoxicity are silent until they are not. By the time you have symptoms, significant damage may already be done.
- **Harm reduction requires data:** Informed decisions about training, nutrition, and supplementation require objective biomarker data, not guesswork.

Recommended Monitoring Schedule

Domain	Tests	Minimum Frequency	Why
Hematologic	CBC with differential (hematocrit focus), ferritin	Every 3–6 months	Polycythemia is the most common acute risk in androgen users
Lipid / CV risk	Lipid panel, ApoB, Lp(a), hs-CRP	Every 6 months	Androgens suppress HDL and elevate LDL; ApoB is a superior predictor of atherosclerotic risk
Hepatic	AST, ALT, GGT, ALP, bilirubin	Every 3–6 months (more often if using oral AAS)	Oral 17 α -alkylated compounds are directly hepatotoxic
Renal	Creatinine, eGFR, cystatin C, urinalysis	Annually (more often if using NSAIDs heavily)	High-protein diets and anabolic agents increase renal workload
Endocrine	Total/free testosterone, E2 (sensitive), LH/FSH, SHBG, prolactin, TSH, IGF-1	Every 6–12 months	Hormonal status drives recovery, mood, and metabolic health
Metabolic	Fasting glucose, HbA1c, fasting insulin	Annually	GH, insulin, and androgen use alter glucose metabolism
Cardiac imaging	ECG, echocardiogram with GLS, CAC score	Annually for ECG/echo; CAC per physician	Cardiac remodeling and subclinical atherosclerosis develop silently
Mental health	PHQ-9, GAD-7	Every visit	Hormonal fluctuations directly impact mood and cognition

What Järn Haus MD Offers

Järn Haus MD is a telehealth clinic built specifically for strength athletes and bodybuilders. We provide comprehensive metabolic, hormonal, and cardiovascular monitoring with an evidence-based, non-judgmental approach. Whether you are natural, enhanced, or somewhere in between, we meet you where you are and provide the medical care you need to

train harder, live healthier, and stay in the game longer.

- New patient history and physical with AAS-specific intake
- Longitudinal lab tracking across all relevant biomarkers
- Cardiac risk stratification (ECG, echocardiogram with GLS, CAC scoring)
- Harm reduction counseling — honest, evidence-based, athlete-centered
- Fertility preservation planning
- Mental health screening and referral coordination
- Peptide therapy under physician supervision with pharmaceutical-grade products
- Prescription management and pharmacy coordination



CHAPTER 8: STAYING IN THE GAME — THE LONG VIEW

The final chapter of this guide is about the only metric that truly matters: time. How many years can you continue to do what you love? How many decades of quality life will you have after you step off the platform or the stage? The decisions you make today compound — for better or worse.

The Compounding Effect of Small Decisions

- **Blood pressure managed at 125/78 instead of ignored at 145/92** — over 20 years, this is the difference between a healthy heart and a failing one.
- **ApoB monitored and treated below 100 mg/dL** — this single number predicts atherosclerotic cardiovascular disease more accurately than LDL alone.
- **Hematocrit kept below 52% with regular monitoring** — versus an unmonitored 58% that silently raises stroke and PE risk.
- **Sleep prioritized at 8 hours instead of rationalized at 5** — the cumulative hormonal, metabolic, and cognitive impact is staggering.
- **Mental health addressed proactively** — rather than only after a crisis.

The 10 Commandments of Athletic Longevity

1. Get bloodwork. Regularly. Do not train blind.
2. Sleep 7–9 hours. Non-negotiable. This is where you grow.
3. Eat real food first. Supplements are supplements, not replacements.
4. Monitor your blood pressure. Own a cuff. Use it.
5. Protect your heart. Echocardiograms and CAC scores are not optional after age 35.
6. Manage your lipids aggressively. ApoB below 100. HDL above 40. Treat, do not ignore.
7. Address your mental health with the same seriousness as your physical health.
8. Work with a physician who understands your sport and does not judge your choices.
9. Play the long game. The goal is to be strong AND healthy at 60.
10. Remember why you started. The love of the iron should add to your life, not subtract from it.

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