

Biohacking: The Intersection between Longevity, Performance & Recovery

by JR Burgess





*What does
"Beyond Biology" mean
in 2025?*





Models of the Future: Longevity & Technology

- **The Longevity Revolution:** Current scientific breakthroughs
- **Technology Integration:** How devices are reshaping human potential
- **Predictive Health Models:** AI-driven personalized interventions
- **Timeline Projections:** What's coming in the next 5-10 years
- **The New Health Paradigm:** From treatment to enhancement/experience



Top 7 Biohacking Technologies



1. Electricity - PEMF (Pulsed Electromagnetic Field)

- **Technology Overview:** How PEMF works at cellular level
- **Applications:** Recovery, inflammation, bone health
- **Devices:** Professional vs consumer options
- **Scientific Evidence:** ReSearch backing and limitations

Natural Benefits Analysis

- Enhanced cellular repair and regeneration
- Improved circulation and reduced inflammation
- Better sleep quality and faster recovery
- Passive workout



2. Movement Enhancement - OxeFit & ARX Training Devices, Anti-Gravity, Vaspar, BFR, Infra Slim

- **Advanced Fitness Tech:** Beyond traditional exercise
- **Hiking Optimization:** Technology-enhanced outdoor activities
- **Biomechanical Analysis:** Real-time movement correction
- **Performance Metrics:** Data-driven fitness improvement

Natural Benefits Analysis

- Increased functional strength and mobility
- Enhanced proprioception and balance
- Reduced injury risk through better biomechanics
- PUSH Pull Maz



3. Vibration Therapy - VibePlate Technology

- **Whole Body Vibration:** Mechanisms and benefits
- **Muscle Activation:** Enhanced training efficiency
- **Bone Density:** Implications for aging populations
- **Recovery Applications:** Post-workout and rehabilitation

Natural Benefits Analysis

- Improved bone density and muscle activation
- Enhanced lymphatic drainage
- Faster warm-up and recovery times
- Improves stretching capacity



4. Light Therapy - Red Light Technology

- **Photobiomodulation:** How light affects cellular function
- **Wavelength Specifics:** Red vs near-infrared applications
- **Skin Health:** Anti-aging and wound healing
- **Circadian Optimization:** Light's role in sleep and energy

Natural Benefits Analysis

- Improved skin health and wound healing
- Better circadian rhythm regulation
- Enhanced cellular energy production
- Immune Strengthening Support
- Enhanced Recovery



5. Nutrition Technology - Bioregenerative Foods - NanoV

- **Precision Nutrition:** Personalized dietary interventions
- **Functional Foods:** Enhanced nutrient delivery systems
- **Supplement Innovation:** Bioavailability breakthroughs
- **Nutrigenomics:** Genetics-& micronutrient, and sensitivity, seasonal based nutrition planning

Natural Benefits Analysis

- Optimized nutrient absorption and utilization
- Reduced inflammation and oxidative stress
- Improved metabolic flexibility



6. Oxygen Optimization - Hyperbaric & Hypoxia

- **Hyperbaric Oxygen Therapy (HBOT):** Healing acceleration
- **Hypoxia Training:** Controlled oxygen restriction benefits
- **Cellular Oxygenation:** Impact on mitochondrial function
- **Performance Enhancement:** Athletic and cognitive benefits
- **Breathwork practices**

Natural Benefits Analysis

- **Optimized nutrient absorption and utilization**
- **Reduced inflammation and oxidative stress**
- **Improved metabolic flexibility**

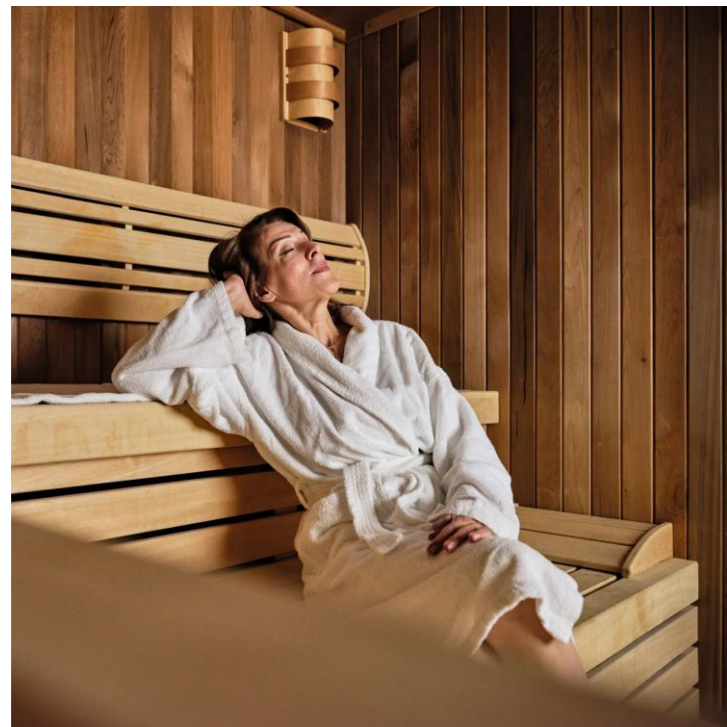


7. Contrast Therapy Hot & Cold Contrast

- **Sauna Protocols:** Heat shock proteins and longevity
- **Cold Plunge Technology:** Advanced cooling systems
- **Contrast Therapy:** Alternating temperature benefits
- **Hormetic Stress:** How controlled stress improves resilience

Natural Benefits Analysis

- Improved cardiovascular health
- Enhanced stress resilience
- Better sleep and recovery





Top 7 Lifestyle Personal Hacks



Environment

Nutrition / Nature

- Time-restricted eating strategies
- Metabolic flexibility enhancement

Nervous System

Exercise

- Micro-workouts throughout the day
- Posture correction techniques

Detox & Cleanse

Regenerate & Revitalize

Community

- Community building for longevity
- Technology to enhance real relationships



JR's Top 3





Contrast Therapy

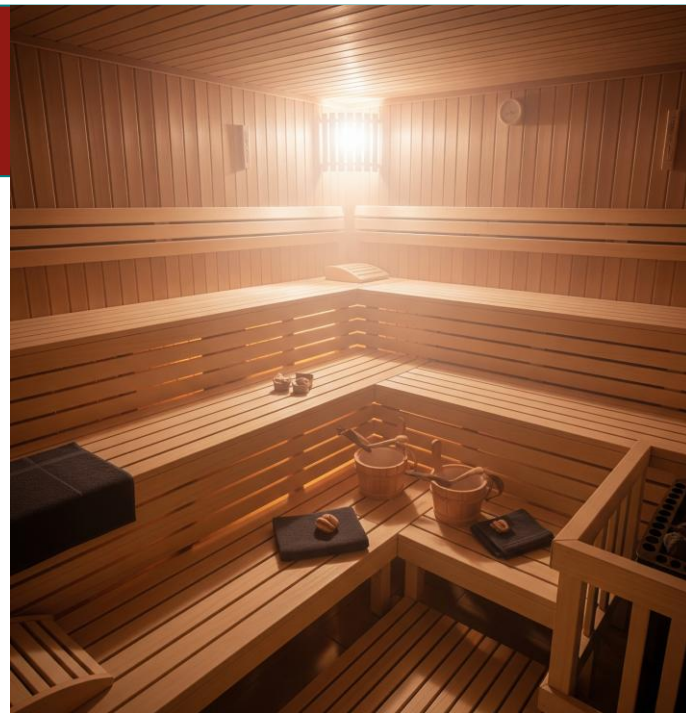


Sauna vs Cold Plunge

- Hot-Cold Cycling:
- Vascular Training: Circulation enhancement
- Recovery Applications: Post-exercise protocols
- Mental Resilience: Psychological adaptation benefits

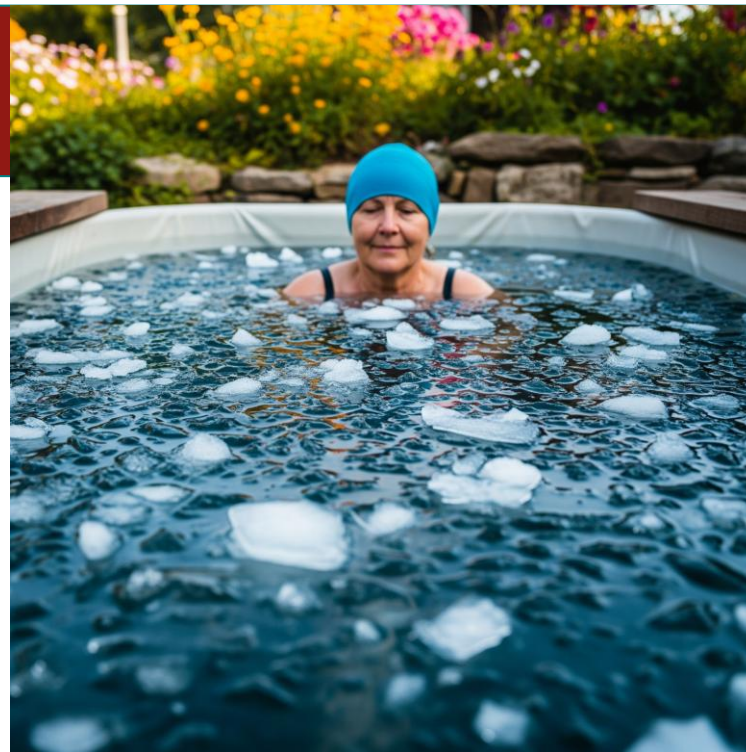
1. Sauna Protocols

- Finnish vs Infrared: Comparing modalities
- Optimal Temperatures: 176-194°F protocols
- Duration Guidelines: 15-20 minute sessions
- Frequency: 4-7 sessions per week for longevity



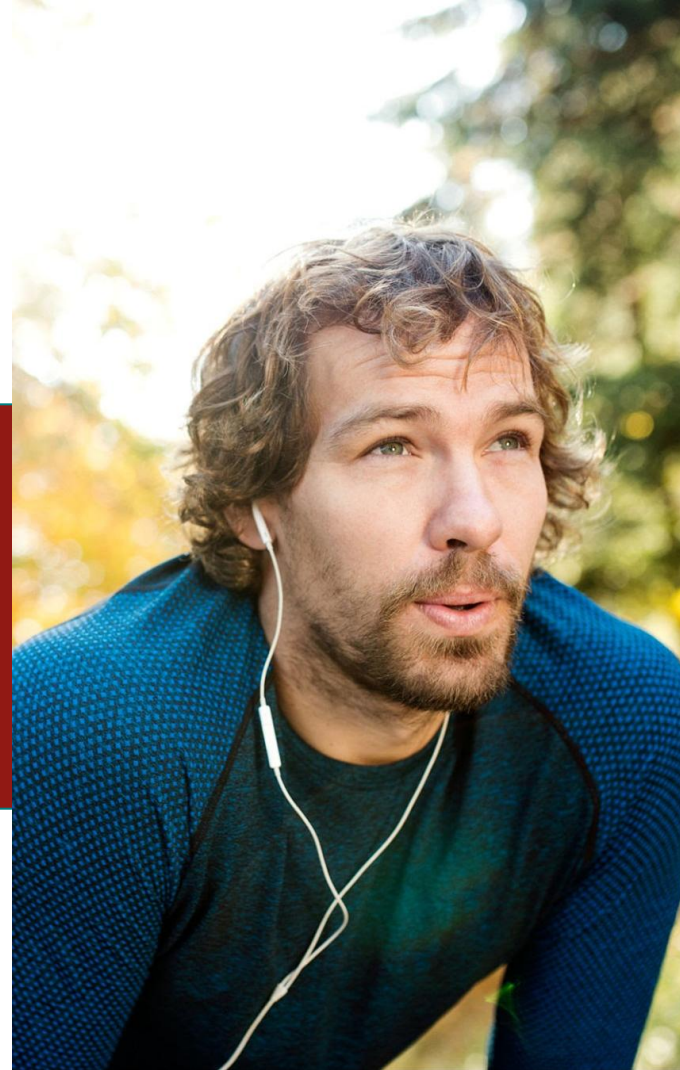
2. Cold Plunge Systems

- Temperature Ranges: 39-59°F optimal zones
- Immersion Protocols: 2-4 minute sessions
- Technology Options: Home vs commercial systems
- Safety Considerations: Gradual adaptation protocols





Hypoxia Training: The Oxygen Paradox



Understanding Hypoxia

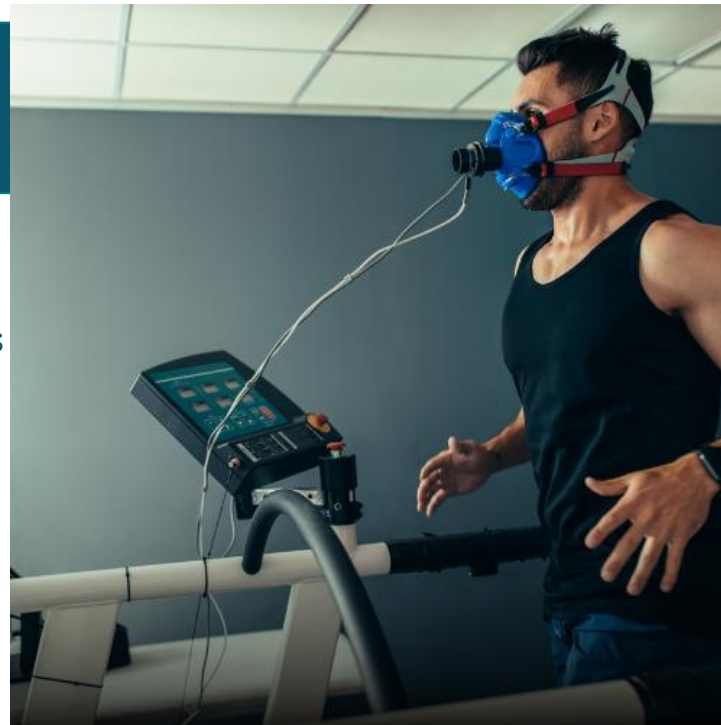
- Controlled vs Pathological: Safe oxygen restriction
- Cellular Adaptations: Mitochondrial improvements
- Training Protocols: Altitude simulation methods

Natural Benefits

- Increased EPO Production: Natural blood doping
- Enhanced Oxygen Utilization: Improved efficiency
- Stress Resistance: Cellular resilience building
- Cognitive Benefits: Mental clarity and focus

Implementation Methods

- Breath Holding Protocols: Wim Hof and similar methods
- Altitude Training Masks: Pros and limitations
- High-Altitude Simulation: Technology options





Redlight Therapy



Considerations

- **Health Savings:** Reduced medical costs
- **Performance Gains:** Career and quality of life improvements
- **Longevity Value:** Cost per year of healthspan extension





Cost-Benefit Analysis: Is It Worth It?

Investment Tiers



- **Low Cost (\$0-\$500):** DIY protocols and basic tools
- **Medium Investment (\$500-\$5,000):** Consumer devices
- **High Investment (\$5,000+):** Professional-grade equipment

Pros vs Cons Matrix

PROS

- Evidence-based interventions with measurable outcomes
- Technology making previously expensive therapies accessible
- Compound benefits when protocols are combined
- Potential for significant longevity and healthspan gains

CONS

- High upfront costs for quality equipment
- Time investment required for consistent protocols
- Potential for over-optimization and obsessive behaviors
- Limited long-term human studies for newer technologies

DECISION FRAMEWORK

- **Start with fundamentals:** Sleep, nutrition, movement
- **Add one intervention at a time:** Measure and assess
- **Focus on consistency:** Better to do simple things daily
- **Invest in what you'll actually use:** Sustainability over perfection



THANK YOU

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