

My model of performance enhancement is the Balance Model: BODY, MIND, RELATIONSHIPS and ENVIRONMENT.

1. Optimize the body using the five elements spoken of in the Vedic sciences.
 - Earth: plant-based food (minimally cooked)
 - Fire: sun-ripened food, sun gazing, sunbathing
 - Space: fasting (intermittent daily + 3 days water fasting once a month)
 - Air: breathwork (pranayama, kapalabhati)
 - Water: water and water-rich foods
2. Balance the body's pH with food using the [Renal Acid Loading](#) chart. Stick mostly to plant-based food and fruit which have negative renal loading.
 - Ash gourd (winter melon), juice daily (morning and evening), best alkalizing drinks
 - [Organic curcumin](#), [ashwaganda](#), [moringa leaf](#), cucumber, celery, [amla](#) (green juice) x 1 a day.

Note: Currently experimenting on how far I can push the body using only natural remedies, eating patterns and recovery techniques. I am measuring this against my running and sleep data, testing the ceiling for load management against recovery and performance.

3. Environment:
 - External: everything you can see, smell, touch, hear and taste
 - Internal: mental strength, mindfulness, meditation

Reference: Chapter 6 of [Breathe Believe Balance](#): The relationship between an individual's external and internal environment is well documented research in the ancient scripture – [Patanjali's Yoga Sutras](#).

Optimizing home environment:

- Pillow analysis: [Pillow \[ology\]](#), [Pluto Pillow](#)
- [Niosh App](#) (test ambient white noise) and [white noise machine](#) to drown out ambient noise for better quality sleep
- [Game Ready](#): icing and graduated compression
- Install: [alkaline water filters](#), [air purifiers](#), [dehumidifiers](#), [light dimmers](#), [acupressure mats](#), [high pressure showers](#), etc.

Optimizing work environment (playing arena):

- Multiple [ice baths](#) and hot baths (contrast baths)
- [Catapult GPS trackers](#): data includes acceleration, deceleration, total distance, turning left vs right, braking speed. This is used to customize training
- Lactic acid testing: quantifying turn point against intensity
- Hydration testing: urine analysis (pre and post training) and sweat analysis (precision hydration customizes salt and electrolyte balance in drinks)
- Heart Rate Variability: [Suunto](#) and [FirstBeat](#). Digital receivers customized to receive data from 150 m away.

- [Force Plates](#): explosive power and joint loading
- Biomechanics: [Silicon Coach](#) (digitized biomechanics for injury prevention and technique analysis)

Optimizing Internal Environment:

- Meditation, solitude practices, Vipassana retreats, [gratitude journaling](#)
- Apps: [Insight Timer](#), [Calm](#)
- Technology: [Apollo Neuro](#), [Dozee](#). Monitors the impact of your breath and respiration in real time on your HRV. You can see how with each second you hold your breath, your parasympathetic nervous system is stimulated.

Physiological Testing done with athletes:

- [Full gut-microbiome](#)
- [Genetic transcriptome](#), metabolics, lactic acid testing, [dermatoglyphics](#) (fingerprint analysis vs processing strengths), sleep data, ketone production ([Proteomics](#)), sweat analysis, biomechanics when injured or looking to change technique), urine analysis, acclimatization and heat analysis, Proton Magnetic Resonance Spectroscopy to test muscle fibre type (type I & II), eye screening
- Difference between 1st and 4th in an Olympic event is roughly 0.5. My job is to use science to close that gap. We push the ceiling physiologically and close whatever is left psychologically. Top athletes are almost physiologically similar (track and field not games)

Training: We also focus heavily on posterior chain strengthening and stability. Most injuries happen in the deceleration phase of training.

- Eccentric loading is for tendon and ligament strengthening. Direct correlation between eccentric loading, tendon strength and injury risk.
- Chronic workloads are the key to performance and injury prevention. The gap between the ceiling and the floor is critical to manage injuries. **This is a common mistake, not only among pros but also amateurs. Too many reps before you reach the ceiling.**
- **Training injury prevention paradox:** Higher work load, fewer injuries.
- Quantify load demands, GPS, force plates, high-speed cameras.
- **Session RPE – rate the intensity of each session using a 1-10 scale x duration = load**
- **Quantify load vs injury vs blood lactate levels vs performance**
- Over training? How to quantify? Data?
- **How do you increase power output at the end of an exercise routine?**
Competition, towards the end requires more energy in high-pressure situations. This can only be achieved through load management training but that requires data to quantify fatigue, effort, and recovery time.

Interesting:

- We use [Timing Gates](#) in practice to quantify the speed differences between dominant and non-dominant sides. The body will move at an average speed between both sides. The secret to performance improvement is to close the gap between the two sides. This leads to better movement economy and efficiency.
- When training athletes to get into FLOW, the secret is to practice at a physiologically tougher level than when you compete. Pros drop physiological

intensity in competition to ensure psychological optimization. FLOW is a psychological state and if the body is physiologically tapped-out, the first component that is compromised is mental clarity, awareness, focus and cognitive decision-making.

Central Governor Theory

- The brain will tell the body to slow down, and it will tell you to do that way before you have tapped into your physiological limits.
- The central governor theory is why I have a Mind and Relationships in my model.

Relationships: Coaches can push you out of your comfort zone. The brain has no vested interest in making you uncomfortable.

Knowing yourself is important but knowing the type of person who can push you out of your comfort zone is more important.

Mindfulness – teaches you to become aware and question whether what you are feeling is reality or a false perception of reality. The gap between the two can become detrimental to performance.

Athletes operate between two mental states:

- Supreme confidence - needed for performance
- Humility - needed for learning.

The relationship with the coach is critical in helping athletes transition between these states.

Travel hacks:

1. [Lumostech](#) (sleep mask with light flashes)
2. [Noise canceling headphones](#)
3. Hotel rooms away from elevators or ground floors.
4. Fasting on planes
5. Flying in newer aircrafts (better air purification systems)
6. Mild-workout, stretch + steam on arrival days.
7. No sleeping on day flights.
8. [Eye masks](#) + [Blue Light blocking glasses](#)
9. Travel with a standard pillow ([Pillow \[ology\]](#))
10. Light, breathable travel gear