

DISCIPLINE. PURPOSE. SYSTEMS. LEGACY.

IN SEARCH OF HOMEOSTASIS

THE **HS1** FRAMEWORK

FROM PERSONAL TRANSFORMATION
TO RESTORING HUMAN SYSTEMS



AGE 20

DISCIPLINE
CREATES IDENTITY



AGE 40

CONTROL YOUR ENVIRONMENT
OR IT WILL CONTROL YOU



AGE 60

INTEGRATION
CREATES IMPACT

THE STANDARD IS HOMEOSTASIS. THE SYSTEM IS **HS1**.



BIOCHEMISTRY



NEUROSURGERY



REGENERATIVE
MEDICINE



PRIVATE
PRACTICE



METABOLIC
HEALTH

HS1 DR. GIO

FOUNDER OF THE **HS1** SYSTEM

HEAL THE SYSTEM. RESTORE HOMEOSTASIS. OPTIMIZE LIFE.

Chapter 1

The Search Begins

If you had met me at sixteen, you would not have predicted my future.

You would not have looked at me and said, "That kid is going to become a neurosurgeon." You would not have imagined medicine, systems thinking, regenerative medicine, or a framework called HS1. You certainly would not have imagined a lifelong pursuit called In Search of Homeostasis.

At sixteen, my life was moving in a very different direction.

My father was a prominent attorney in Oregon and later became a district court judge appointed by the governor. He represented structure, discipline, responsibility, and expectations. We had a difficult relationship. Looking back now, I understand more of it than I did then. But at the time, all I knew was friction.

I was intense. Stubborn. Physically big for my age. A bodybuilder before I knew what that really meant. I pushed limits. I challenged authority. I did what many teenagers do when they are searching for identity—but I pushed harder.

I was smoking pot, experimenting, acting out, and becoming increasingly difficult to control.

Eventually my father found drugs in my room.

Things had escalated to the point where he felt he had run out of options.

So he turned me in.

And at sixteen, I went to jail.

That sentence still feels strange to say.

Not because I deny it. But because life has a way of making you revisit chapters you never expected would become important.

At the time I viewed it as punishment.

Looking back now, I see something different.

Jail forced interruption.

It interrupted momentum.

It interrupted a trajectory.

Because every life develops momentum—good or bad. Small decisions become repeated behaviors. Behaviors become patterns. Patterns become identity.

I didn't know it then, but I was already beginning to observe loops.

Not consciously.

Not scientifically.

I wasn't studying physiology or systems theory. I wasn't talking about neuroplasticity. I wasn't thinking about homeostasis.

But my brain was quietly collecting information.

Cause.

Effect.

Action.

Outcome.

Environment.

Behavior.

I had begun seeing patterns long before I had language for them.

After I got out, my father helped me get a job at Honda.

At the time it felt like another job.

Looking back, it became one of the most important pivots of my life.

Because there I met people who changed my trajectory.

One man in particular took me under his wing. Life rarely sends perfect teachers. Sometimes lessons arrive through imperfect people.

He happened to be a professional bodybuilder.

He also happened to live in a world filled with risk and contradictions.

But he taught me something I desperately needed:

Transformation was possible.

Bodybuilding gave me structure.

Discipline.

Routine.

For the first time, effort produced visible results.

Lift.

Eat.

Recover.

Adapt.

Repeat.

I became fascinated.

I didn't realize it then, but I wasn't simply building muscle.

I was studying systems.

How could stress create growth?

Why did changing inputs change outcomes?

Why did one person respond differently than another?

Why did the body adapt?

Years later I would realize I had become obsessed with a question that would quietly shape the rest of my life:

Why do human beings move toward balance—or away from it?

I did not know it then.

But the search had already begun.

Chapter 2

The First Transformation

People often say they cannot change.

They say, "This is just who I am."

I've never fully believed that.

Maybe because I lived it differently.

Not once.

Three times.

Completely.

This was the first transformation of my life.

By every traditional measure, I wasn't supposed to be heading toward success. I had been a D student in high school. I wasn't the kid teachers pointed to as a future physician. Nobody was predicting medicine. Nobody was predicting neuroscience.

I barely had a path.

Because of my grades, I started at Portland State University. Not because it was some grand strategic plan—but because I simply couldn't get into many places.

And something happened there that changed everything.

For the first time, I found a subject that felt like it had been waiting for me.

Human physiology.

Bodybuilding had already planted the seed. Training had introduced me to adaptation, stress, recovery, and transformation. But physiology gave me language.

Suddenly the body wasn't random.

It was a system.

Questions that had lived in the background started becoming louder:

Why does muscle grow?

Why do hormones change performance?

Why do stress and recovery alter outcomes?

Why does one body adapt differently than another?

For the first time in my life, learning no longer felt forced.

It felt personal.

I went from being a D student to earning straight A's.

And I became obsessed.

Looking back now, I can see that I wasn't just studying information.

I was studying myself.

Bodybuilding became a major part of my identity. I was also a swimmer. Looking back, something stands out to me: I always leaned toward individual sports.

Bodybuilding.

Swimming.

Training.

Disciplines where success or failure rested directly on me.

No team.

No hiding.

No blaming anyone else.

I still don't fully know why I was wired that way. Maybe because individual sports reward ownership. Maybe because after growing up feeling directionless, I wanted control over outcomes.

Or maybe I simply wanted to know what I was capable of.

Eventually I transferred to the University of Oregon, where I completed a degree in biochemistry with honors.

At the same time, I worked in a biochemistry laboratory focused on plant biology research. I eventually presented research work connected with Stanford lectures and became increasingly fascinated by science itself.

Not memorizing science.

Discovering science.

After graduation I received an American Heart Association research fellowship and spent over a year at OHSU Medical School studying prostaglandin research.

On paper, this looked like a dream trajectory.

But something unexpected happened.

Research began teaching me what I didn't want.

I watched brilliant people spend enormous amounts of time chasing grants, navigating politics, and competing for funding.

I realized I didn't want to spend my life sitting on the sidelines observing biology.

I wanted to live it.

I wanted to apply it.

I wanted to understand people.

More importantly, I wanted to understand human systems.

So I applied to medical school at OHSU.

And here's the truth:

I had no roadmap.

No physician father guiding me.

No family blueprint.

No strategy.

I wasn't born believing I would become a doctor.

I wasn't one of those people who said at ten years old, "One day I'll be a surgeon."

I was figuring it out as I went.

Alone.

I worked full-time while in medical school.

Friday through Monday I worked at a laser technology company where I eventually learned programming and wrote code related to laser systems. Over time I became Vice President of the company.

I wasn't doing this for experience.

I was doing it because I had to survive.

No safety net.

No entitlement.

No one carrying me.

And looking back, I think that became one of my greatest advantages.

Because when nobody owes you anything, and when you owe your progress only to effort, something changes inside you.

You become adaptable.

You become resourceful.

You become willing to learn.

Most importantly, you become dangerous in a very different way.

Not dangerous to others.

Dangerous to limitation.

Years later, I would understand that this first transformation wasn't really about grades.

Or bodybuilding.

Or medical school.

It was about identity.

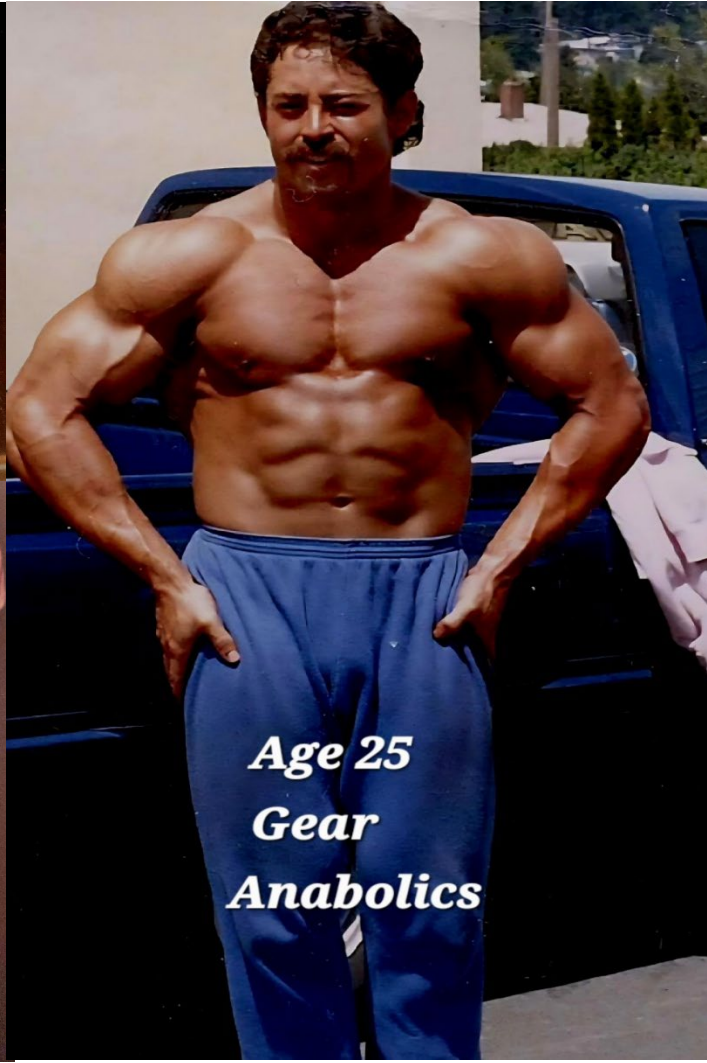
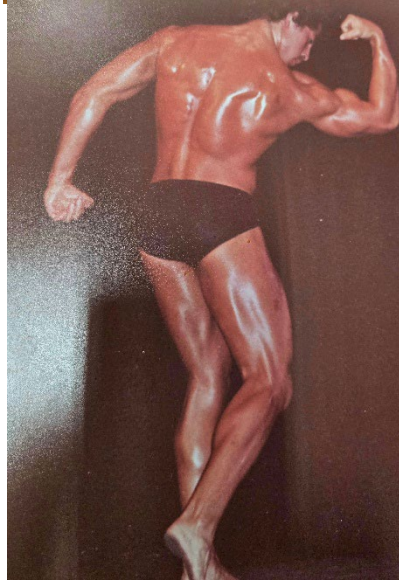
I had unknowingly rewired myself.

And maybe that was my first lesson in neuroplasticity.

Not in a laboratory.

Not in medicine.

But in life.



Age 25
Gear
Anabolics

Chapter 3

The First Experiment

In my early twenties, I unknowingly performed my first real experiment on human physiology.

The interesting part is that I did not see it that way at the time.

I wasn't thinking about systems biology. I wasn't thinking about homeostasis. I wasn't thinking about hormonal signaling pathways or feedback loops.

I was a bodybuilder.

And I wanted to win.

I had competed in nine bodybuilding contests naturally. I trained relentlessly and learned discipline through repetition. Bodybuilding had become more than exercise. It had become structure, identity, and proof that effort could reshape outcomes.

But there was a problem.

Getting truly competition-ready was extremely difficult for me.

I could get lean, but I would lose too much weight in the process. I kept placing well—second place, third place—but I struggled to maintain the muscle mass needed to reach the next level.

The harder I pushed, the more I seemed to sacrifice.

And eventually I made a decision.

I altered my physiology.

For one contest, I used anabolic steroids.

The result was dramatic.

For the first time, I maintained my size while becoming competition lean. My body composition changed in ways that felt almost unbelievable. Muscle fullness increased. Recovery changed. Strength changed. Everything changed.

And I won.

At the time, my interpretation was simple:

The experiment worked.

Mission accomplished.

But looking back decades later, I realize something much larger had happened.

For the first time in my life, I intentionally manipulated a biological system and watched the downstream effects unfold.

I had changed an input.

And the system responded.

That lesson stayed with me.

Not because of bodybuilding.

Because of physiology.

I began asking bigger questions.

Why did changing one variable create such profound effects?

What pathways changed?

What signals changed?

Why could a molecule alter the appearance and performance of an entire human system?

Little did I understand then that I was also altering something deeper:

baseline physiology.

Homeostasis.

The body is not passive.

It constantly adjusts.

Compensates.

Balances.

Adapts.

When we introduce powerful external signals, the body responds accordingly. At twenty years old, I did not understand receptor signaling, endocrine feedback, or long-term adaptation.

I simply saw the visible result.

Years later I would understand that every intervention has a cost, a tradeoff, and a biological response.

The body always keeps score.

Ironically, this experience did not push me toward long-term anabolic use.

It had the opposite effect.

I completed a short cycle and walked away.

That was it.

I never continued experimenting through my later years.

Not until decades later in my fifties, when life brought me back to hormones from an entirely different direction.

This time not through performance.

Through decline.

Through metabolic syndrome.

Through realizing that aging, stress, inflammation, and physiology had slowly changed the terrain beneath me.

But that chapter would come later.

Looking back now, I see this period as the beginning of something much larger.

Because when we are young, we inherit most of our inputs.

Parents shape nutrition.

Parents shape environment.

Parents shape routines.

Parents shape structure.

But eventually something changes.

You leave home.

And for the first time, you become responsible for your own inputs.

Your sleep.

Your nutrition.

Your environment.

Your stress.

Your habits.

Your biology.

You become responsible for your own system.

And without realizing it, that first experiment became the beginning of a question that would eventually shape my life:

How much of human physiology can we influence?

And where is the line between support and disruption?

I did not know it then.

But this question would follow me all the way into neurosurgery.



Chapter 4

From D Student to Neurosurgeon

The first major transformation of my life was not becoming a neurosurgeon.

It started much earlier.

It started when I stopped believing the story people had written about me.

For years I had carried labels.

D student.

Troublemaker.

Directionless.

Average.

People often assume intelligence is fixed. That education is simply something you either naturally fit into or you don't.

My life taught me something different.

I didn't suddenly become smarter.

I found interest.

And finding interest changed everything.

Looking back now, I realize this became one of the strongest loops in my life. I repeatedly followed curiosity and passion long before I understood why it worked.

Many people dismiss that idea because it sounds too simple:

"Follow your passion."

But for me it wasn't motivational advice.

It was observation.

Every major transformation in my life happened when interest became obsession.

Bodybuilding led to physiology.

Physiology led to biochemistry.

Biochemistry led to research.

Research led to medicine.

Medicine eventually led to neurosurgery.

I wasn't chasing titles.

I was following momentum.

Everything I pursued mirrored how my brain naturally functioned.

I rarely forced myself into environments.

I selected environments that fit me.

Looking back, that may have been one of my earliest lessons in homeostasis:

Systems function best when environments fit.

I remember one moment vividly at the University of Oregon.

Organic chemistry.

A notoriously difficult class with nearly four hundred students.

I always sat in the back wearing gym clothes and tank tops. At the time I looked more like a bodybuilder than a future physician. I doubt anyone looked at me and thought, there's a future neurosurgeon.

I studied differently.

I didn't memorize.

I tried to understand systems.

So one day after an exam, the professor stopped class.

"Will Mark Giovanini please stand up?"

I remember looking around wondering why.

Then he said:

"No one has ever aced my exam."

The room turned.

Hundreds of students looked back.

And I stood there thinking:

Why is everyone staring at me?

The professor looked almost shocked.

The muscular guy sitting in the back in workout clothes had aced one of the hardest exams on campus.

At the time I shrugged it off.

I never spent much time replaying victories.

I wasn't wired that way.

I always moved forward.

I never wanted to become the person who endlessly relived old accomplishments.

I wanted the next challenge.

The next adaptation.

The next environment.

Eventually that path led me to medical school and then to neurosurgery.

When I rotated through programs and externships, I wasn't analyzing prestige.

I was analyzing people.

I aligned with the personalities around me.

The work ethic.

The intensity.

The culture.

Something felt familiar.

That path eventually brought me to the University of Florida during an era filled with some of the most respected names in neurosurgery.

I had chosen the program almost randomly.

Or so I thought.

Looking back now, maybe it wasn't random at all.

The faculty saw something that had nothing to do with grades.

Work ethic.

Hunger.

Adaptability.

Lack of entitlement.

I had worked full time through medical school.

I built businesses.

I learned programming.

I survived on my own.

I wasn't arriving polished.

I arrived willing to work.

Then residency began.

And residency changed everything.

This was my first introduction to chronic stress.

Not occasional stress.

Sustained stress.

Three days on call.

Trauma cases.

Truck accidents.

Life-and-death decisions.

Operating while exhausted.

Watching tragedy unfold in real time.

I saw everything.

At the time I thought I was adapting.

Externally, I was.

I still worked out.

I looked healthy.

I performed.

I felt productive.

But another adaptation was happening.

This one wasn't physical.

It was psychological.

Neurosurgery changes you.

I don't think there is any way around it.

Because if you stay fully emotionally exposed to every tragedy, every family, every catastrophic injury, every terrible outcome—you won't survive it emotionally.

So somewhere along the way, I changed.

Not intentionally.

Not consciously.

Adaptively.

I became more disciplined.

More focused.

More mission driven.

But I also became more emotionally protected.

More distant.

Maybe even antisocial at times.

I remember a moment that forced me to see it.

I went on vacation with an old friend—someone who had known me years earlier, including my bodybuilding years.

Someone who knew a different version of me.

After the trip they said:

"Wow... you've really changed."

And they didn't mean it as a compliment.

At the time I brushed it off.

Of course I had changed.

I was becoming a neurosurgeon.

I was evolving.

But years later I realized something important:

Adaptation is not always improvement.

Sometimes adaptation is survival.

I had learned to compartmentalize.

Suppress emotion.

Function while exhausted.

Continue moving under stress.

Those skills made me successful.

But they were also quietly reshaping who I was becoming.

And while I thought I was simply building a career, another process had already begun.

Something hidden.

Something accumulating.

Because stress always leaves a footprint.

And by the time I finally noticed it years later, I would have a name for it:

Metabolic syndrome.

That realization would begin my second transformation.



Chapter 5

The Hidden Decline

The next transformation in my life did not happen all at once.

There was no dramatic moment.

No catastrophe.

No wake-up call.

That was the problem.

It happened slowly.

Quietly.

And because of that, I almost missed it.

After residency I entered private practice in Pensacola, Florida. On paper, I had arrived.

I had become a neurosurgeon.

I had survived one of the most difficult training paths in medicine.

I had discipline.

Work ethic.

Structure.

Success.

But something had changed.

I wasn't as vibrant as I once had been.

Not immediately.

Not enough to notice.

Just enough to dismiss.

And that may be one of the most dangerous things about physiologic decline.

It rarely announces itself.

It whispers.

A little more fatigue.

A little less energy.

A little less drive.

A little more recovery time.

A little more weight around the midsection.

Nothing dramatic.

Just small changes.

Small enough that you explain them away.

Age.

Stress.

Work.

Responsibility.

Life.

And when you live in a high-performance environment, everyone around you often says the same thing:

"You're getting older."

"Low testosterone is normal."

"Just take testosterone."

"You're busy."

"You're stressed."

And part of me accepted those explanations.

But another part kept asking questions.

Because I had spent my life observing systems.

And something about the explanation felt incomplete.

By my forties another process had quietly started unfolding beneath the surface.

I had entered a completely different environment.

Not bodybuilding.

Not residency.

Private practice.

Responsibility.

Leadership.

Business.

Pressure.

Constant demands.

And unlike residency, where stress came in waves, this stress never really ended.

It accumulated.

Quietly.

I did not realize it then, but my environment had become toxic.

Not toxic in the traditional sense.

Not chemicals.

Not poison.

Stress.

Sustained stress.

Chronic stress.

The kind that slowly changes physiology over years.

When you're young, your body often absorbs enormous amounts of abuse.

Sleep deprivation.

Stress.

Overtraining.

Poor habits.

You recover.

Or at least you think you do.

But repeated stress leaves footprints.

Eventually adaptation becomes compensation.

And compensation eventually becomes dysfunction.

There was another variable entering the system during this period.

Alcohol.

At first it did not feel dangerous.

In fact, it felt functional.

I was responsible.

I never drank around surgery.

Never while operating.

Never while patient care was involved.

But weekends became different.

Weekends became recovery.

Or at least what I thought was recovery.

Because somewhere along the way alcohol had quietly become my stress reliever.

I still exercised.

I still trained.

Physical activity remained part of my identity.

But exercise was no longer enough.

Stress had accumulated.

Pressure had accumulated.

Responsibility had accumulated.

And alcohol slowly filled the gap.

At first, the effects were subtle.

Like everything else during this period.

Subtle enough to rationalize.

Subtle enough to normalize.

Successful people drank.

Professionals drank.

Physicians drank.

It felt ordinary.

Until eventually I began noticing something important:

Alcohol was not solving stress.

It was becoming part of the loop.

Stress led to alcohol.

Alcohol altered sleep.

Sleep altered recovery.

Recovery altered hormones.

Hormones altered energy and metabolism.

And the next day brought more stress.

Without realizing it, I had built another feedback system.

Not a healthy one.

A compensatory one.

There was another change happening that I did not recognize at the time.

My environment changed.

And more specifically, my circle changed.

Looking back now, this may have been one of the most powerful variables of all.

Because environments are not just places.

Environments are people.

Conversations.

Habits.

Expectations.

Norms.

Slowly life began organizing itself around a different set of rewards.

Vacations.

Parties.

Alcohol.

Status.

Material things.

Entertainment.

The strange thing was that none of it looked destructive at first.

In fact, it looked successful.

Work hard.

Earn money.

Reward yourself.

Repeat.

And for a while, it worked.

Or at least I thought it did.

Without realizing it, I had shifted from building to consuming.

From self-reflection to distraction.

From growth to reward.

That became my dopamine.

That became my version of fun.

Not because I lacked discipline.

Not because I lacked ambition.

But because after years of operating under stress, I had built a life that finally gave me permission to seek reward.

The problem was that reward slowly became regulation.

And once reward becomes regulation, the system begins organizing around it.

Looking back now, I can see it clearly.

I wasn't simply drinking alcohol.

I was participating in an environment.

And environments reshape physiology far more than most people realize.

What made this period harder to understand was realizing these changes never occur in isolation.

Systems spread.

Stress spreads.

Patterns spread.

Environments spread.

The loops we create rarely affect only us.

Over time I saw that the environment I had built was affecting people around me significantly.

Relationships changed.

Energy changed.

Interactions changed.

The people closest to me were affected too.

Not always physically.

Not always in obvious ways.

But emotionally.

Behaviorally.

Psychologically.

I realized something I had missed:

Human beings regulate each other.

Stress transfers.

Habits transfer.

Mindsets transfer.

Environments transfer.

The final piece of the pattern was something I completely underestimated.

Mornings.

At that time alcohol had become associated with reward, weekends, vacations, and fun.

But every system extracts a cost.

I just wasn't paying attention to where the bill was arriving.

Because the cost showed up the next morning.

And mornings matter far more than I understood at the time.

Physiologically.

Structurally.

Morning is where the body recalibrates.

Hormones begin signaling.

Energy systems activate.

Circadian rhythms organize metabolism.

Recovery reveals itself.

And mine had become disrupted.

I would wake up tired.

Low energy.

Hungover.

Mentally foggy.

Not destroyed.

Just diminished.

And like many high performers, I responded the only way I knew how:

Push harder.

Compensate.

Caffeine.

Energy drinks.

Coffee.

Stimulants.

Whatever allowed me to override physiology.

Without realizing it, I was layering one compensation on top of another.

Stress on top of stress.

Alcohol on top of stress.

Poor sleep on top of alcohol.

Stimulants on top of poor recovery.

Repeated over years.

And eventually biology always responds.

Because systems keep score.

The result eventually became impossible to ignore:

Visceral adiposity.

Hormonal dysfunction.

Metabolic decline.

Renal insufficiency.

Cardiac ischemia.

Early heart failure.

What shocked me most was not the diagnosis.

It was realizing I had watched it happen in slow motion.

I had spent my life observing systems in everyone else.

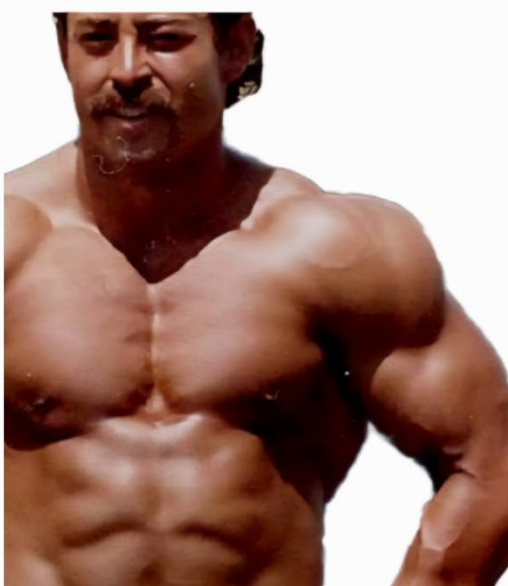
But I had missed the system collapsing inside myself.

And for the first time, I had to ask a question I had never seriously asked before:

What if health wasn't about isolated behaviors?

What if health was the cumulative expression of thousands of inputs repeated over years?

That question would become the beginning of my third transformation.



Chapter 6

The Awakening

This was the epiphany of my life.

My third transformation.

And unlike the first two, this one did not begin with ambition.

It began with collapse.

At age fifty-nine, I was losing.

Not publicly.

Not professionally.

Physically.

Biologically.

Internally.

By that point I weighed approximately 270 pounds.

I had severe hypertension.

Blood pressure readings approaching 210/105.

I walked around like that.

Looking back now, it sounds unbelievable.

But when decline happens slowly, you normalize things that should never become normal.

I had ankle swelling.

Bruising.

Fatigue.

I could hear the pulsing in my ears from hypertension.

Signs of cardiac ischemia.

Renal insufficiency.

Visceral adiposity.

I was exhausted.

Not normal tired.

Worn out.

And what made this even more confusing was that I knew physiology.

I knew medicine.

I knew exercise.

So I did what I had always done.

I worked harder.

I trained harder.

I returned to methods that had always worked in the past.

But they were not working anymore.

This happened during the rise of the GLP-1 era.

Everyone wanted rapid weight loss.

Everyone wanted shortcuts.

I made a decision.

I chose not to go that route.

Instead, I started searching.

Again.

I initially returned to what I knew.

Exercise.

Mediterranean nutrition with increased protein.

And surprisingly, I lost twenty pounds.

But then something caught my attention.

I came across red light therapy, hyperthermic conditioning, and a protocol that introduced me to concepts I knew almost nothing about.

Not for patients.

For myself.

And curiosity had changed my life before.

So I paid attention.

I began experimenting.

Heat became part of my daily routine.

Not changing effort.

Changing variables.

And something fascinating happened.

The weight started falling.

Not because I was overpowering biology.

Because I was changing inputs.

I eventually shifted toward a carnivore-based approach because I wanted fewer variables and less processed food.

For me, it became a way of simplifying the environment.

As the process continued, the weight continued dropping.

270.

250

225

195

165

No GLP-1 medications.

At that time I was also using testosterone.

My total testosterone had dropped near 200.

My SHBG was elevated.

Everything felt out of alignment.

I was completely out of homeostasis.

At that point I believed supplementation was necessary.

Because when your system feels broken, supplementation feels logical.

Then another piece entered the picture.

Nitric oxide.

I met Nathan Bryan and encountered ideas that challenged things I had accepted for years.

Mouthwash.

Sunscreen.

Daily routines.

Things we never question.

Again, I became curious.

Again, I experimented.

Then I added infrared sauna training.

Not sitting.

Training.

Pushing.

Heat.

Lactate.

Stress.

Recovery.

Repeated.

Daily.

And slowly the results accelerated.

But there was another major variable that changed.

Alcohol disappeared.

Not gradually.

Completely.

And looking back now I can say clearly:

This amplified everything.

Because alcohol had never simply been alcohol.

It had become stress relief.

Reward.

Entertainment.

Routine.

Environment.

Identity.

Removing it did far more than improve physiology.

It changed perception.

At first I thought I was simply improving physically.

Losing weight.

Sleeping better.

Improving blood pressure.

Then something unexpected happened.

I became more aware.

More aware of myself.

More aware of people.

More aware of my surroundings.

I began noticing patterns I had never fully seen before.

Behavior.

Energy.

Stress.

Compensation.

Motivation.

I have always been highly observant of people, but suddenly it felt amplified.

Like static had disappeared.

And with that awareness came something difficult.

My environment changed.

Or maybe I finally saw it.

I realized many of my relationships had organized themselves around environments I no longer fit.

Vacations.

Parties.

Alcohol.

Distraction.

Reward.

Escaping.

That had become my dopamine.

That had become fun.

And once I changed, many of those environments no longer made sense.

Not because anyone was wrong.

Not because anyone was bad.

But because I had changed.

Again.

And change has consequences.

For a while it felt lonely.

Because when you alter yourself, you sometimes outgrow environments and relationships that once felt normal.

But eventually something else happened.

I found different people.

Builders.

Thinkers.

Reflective people.

People asking bigger questions.

People aligned with growth.

And once again I saw another pattern:

Environment always wins.

Not because people lack discipline.

Because human beings adapt.

We regulate each other.

We become what repeatedly surrounds us.

Then the true epiphany arrived.

A friend had suffered a stroke.

He lost weight.

Improved his health.

And his testosterone normalized.

That stopped me.

Because by then I had accepted a belief:

Low testosterone equals aging.

Low testosterone equals replacement.

That was the narrative.

Then I thought:

Maybe I can do this too.

So I stopped testosterone.

I waited.

I watched.

As body fat approached ten percent and physiology improved, my numbers normalized.

Not supplemented.

Normalized.

And in that moment I understood something:

The problem was not testosterone.

The problem was terrain.

My physiology had not failed.

It had adapted.

It had responded exactly as biology is designed to respond.

Responding to stress.

Responding to environment.

Responding to decades of accumulated inputs.

That was the moment HS1 was born.

Not in a clinic.

Not in a boardroom.

Not through business.

In realization.

People needed a framework.

People needed to understand that the body wants to regulate itself.

That homeostasis is not passive.

That biology adapts.

That environment matters.

That systems matter.

That health is cumulative.

And then came the moment I will never forget.

Before robotic hernia surgery I became worried.

I thought:

They're going to cancel surgery.

My blood pressure will be too high.

I had lived with hypertension for years.

Before surgery I followed my nitric oxide protocol consistently.

Two weeks.

Simple consistency.

Then they wrapped the blood pressure cuff around my arm.

I waited.

130 over 80.

I sat there stunned.

And then I cried.

Because in that moment I realized:

I wasn't fighting my body anymore.

For the first time in decades, my body and I were finally on the same team.

That was the day.

That was the moment.

That was the awakening.

HS1
HOMEOSTASIS ONE

RESTORE.
REBALANCE.
REVIVE.

**AI-DIRECTED
PHYSICIAN-LED**

- ✓ DATA
- ✓ PATTERNS
- ✓ INSIGHT
- ✓ PHYSICIAN JUDGMENT

COMPREHENSIVE. PRECISE. HUMAN.

PHENOTYPE ANALYSIS

METABOLIC	INFLAMMATION	HORMONAL	ENERGY	RECOVERY
79	92	87	95	88

PATIENT: OPTIMIZED

VITALS	SCORE
HEART RATE	92
BLOOD PRESSURE	98

CFL

"YOU ARE NOT BROKEN. THE SYSTEM IS OUT OF BALANCE."
RESTORE THE SYSTEM — AND THE BODY RESPONDS.

Chapter 7

The Human Operating System Defined

The transformation described in the previous chapter was not simply weight loss. Losing one hundred pounds was only the visible outcome. The real transformation was the realization that the human body already knows how to heal, regulate, adapt, and restore itself when the environment supports normal physiology.

That realization became the foundation for what would eventually become HS1 — the Human Operating System.

For years, I lived inside metabolic dysfunction without fully understanding it. Like millions of others, I chased symptoms instead of causes. High blood pressure was treated as high blood pressure. Fatigue was treated as fatigue. Depression was treated as depression. Obesity was treated as obesity. Every condition existed in its own compartment, disconnected from the larger system.

But after rebuilding my own physiology through hyperthermic conditioning, exercise, circadian restoration, nutritional correction, sleep optimization, and environmental modification, I began to recognize something important:

The body was not failing.

The body was adapting to the inputs it was receiving.

That distinction changed everything.

As I studied modern medicine, health influencers, functional medicine providers, biohackers, and wellness practitioners, I noticed a common theme. Even many of the most progressive voices were still operating within an allopathic framework. The solutions were still primarily symptom-directed.

If someone had obesity, they were prescribed a GLP-1 agonist.

If someone had hypertension, they were given blood pressure medication.

If someone was anxious or depressed, they were prescribed antidepressants.

Even alternative medicine often followed the same pattern — replacing pharmaceuticals with supplements while still targeting symptoms instead of system regulation.

I am not dismissing medicine. Medicine saves lives every day. I use medicine. I respect medicine. But somewhere along the way, healthcare drifted away from the original goal: restoring the body back to equilibrium.

Treatment became permanent maintenance.

Symptoms became lifelong diagnoses.

And the environment that created the dysfunction was rarely addressed.

During this period of exploration, I spent countless hours studying lectures, podcasts, research papers, and interviews. I watched experts from every discipline imaginable — neuroscience, endocrinology, exercise physiology, nutrition, psychology, longevity science, and performance medicine. I absorbed information from everyone I could find, trying to connect the pieces into a single understandable framework.

Then I encountered the work of Dr. Jack Kruse.

Many people consider him controversial. Some dismiss his theories entirely. But regardless of opinion, his work forced me to think differently. His discussions about light, circadian biology, mitochondrial function, and environmental signaling introduced a concept that fundamentally altered the way I viewed human physiology.

I remember watching one particular lecture repeatedly — probably fifteen times. It was dense, complicated, and deeply rooted in physics. At first, much of it seemed almost impossible to grasp. But buried inside the complexity was a profound idea:

The human body is constantly responding to environmental signals.

Light changes throughout the day. The spectrum of the sun shifts from sunrise to sunset. Those wavelengths communicate information to the body. Hormones fluctuate accordingly. Cortisol rises. Melatonin falls. Cellular activity changes. Metabolism changes. Sleep cycles change. Immune function changes.

The body is not operating independently from the environment.

The environment is programming the body.

That realization hit me hard.

Modern humans have dramatically altered nearly every environmental input that shaped human physiology for thousands of years. Artificial light replaces sunlight. Sedentary behavior replaces movement. Climate control replaces thermal stress. Processed food replaces natural nutrition. Sleep is disrupted. Circadian rhythms are overridden. Psychological stress becomes chronic and unrelenting.

And then we act surprised when the system begins to fail.

At that moment, the framework for HS1 began to form.

What if disease was not simply random failure?

What if many chronic illnesses were the downstream consequence of environmental mismatch and physiologic dysregulation?

What if the body was doing exactly what it was programmed to do under abnormal conditions?

Those questions became the driving force behind the development of the Center for Life.

I knew immediately that this could not become another supplement company, another wellness brand, or another clinic built around symptom management. If we were going to create meaningful change, we needed a system that could evaluate the totality of human inputs.

The problem was complexity.

No clinician can fully track every lifestyle variable manually. Sleep, movement, stress, light exposure, nutrition, thermal exposure, recovery, emotional state, environmental toxins, social behavior, circadian disruption — the variables are endless.

So we developed a questionnaire system designed to synthesize human lifestyle inputs into recognizable patterns.

The goal was simple:

Identify the environmental and behavioral factors disrupting homeostasis.

Then gradually modify those inputs to move the body back toward physiologic balance.

That became the core philosophy of HS1.

Not overriding biology.

Supporting biology.

Not fighting the body.

Understanding the body.

Not replacing physiology with lifelong intervention.

Restoring physiology whenever possible.

As this system evolved in clinical practice, something remarkable happened. Initially, I expected it to help patients with metabolic dysfunction, obesity, fatigue, and musculoskeletal pain. And it did.

But then patients with autoimmune disease began improving their quality of life.

Patients with rheumatoid arthritis reported functional improvement.

Patients with neurodegenerative disorders described better energy, better sleep, and improved resilience.

Patients with chronic inflammatory conditions began regaining hope.

I want to be very clear: HS1 is not a replacement for medicine. It is not a miracle cure. It is not an attempt to override evidence-based healthcare.

Rather, it is an attempt to optimize the environment in which healing occurs.

Medicine remains essential. Biology matters. Pathology matters. But environment matters too — perhaps far more than we currently acknowledge.

I believe many treatments were always intended to be temporary bridges, not permanent destinations.

Stabilize the patient.

Correct the dysfunction.

Restore homeostasis.

Then allow the body to function normally again.

That belief became the birth of HS1.

The Human Operating System was never designed to replace medicine.

It was designed to explain why the system breaks in the first place.

The greatest transformation was not the weight I lost, but the life I regained.
I no longer live chained to dysfunction and fear.

I live unshackled.”

— Mark Giovanini



Chapter 8 Final

Unshackled: My Life at Sixty-Four

Today, at sixty-four years old, I sit here with something I once thought was impossible:

Freedom.

Not perfection. Not immortality. Not some fantasy version of health promoted on social media.

Real freedom.

Freedom from the constant burden of disease.

Freedom from dependence on medications.

Freedom from the feeling that my body was slowly betraying me.

At my worst, I weighed nearly 270 pounds. I was metabolically unhealthy, inflamed, exhausted, and trapped in a cycle that millions of people currently live through every day. Like so many others, I believed declining health was simply part of aging.

I now understand that much of what we call “normal aging” is actually prolonged physiologic dysfunction.

Today, I weigh approximately 165 pounds.

I achieved this without weight-loss medications, without hormone replacement therapy, and without surgical intervention. My transformation came through environmental change, behavioral change, physiologic restoration, and relentless consistency.

But this journey was not simply physical.

It became intellectual, emotional, and deeply philosophical.

As I searched for answers, I immersed myself in research. I studied metabolism, inflammation, circadian biology, neurodegeneration, recovery science, exercise physiology, hormone optimization, mitochondrial health, environmental medicine, and human performance. I spent countless hours listening to lectures, reading papers, watching interviews, and trying to understand one central question:

Why are modern humans so physiologically broken?

The deeper I went, the more everything seemed to point back toward one concept:

Homeostasis.

The body's natural ability to self-regulate.

Not perfection.

Not enhancement.

Balance.

I pursued formal education along the way because I wanted to understand these systems at a higher level. I completed fellowship training in regenerative medicine through American Academy of Anti-Aging Medicine. I also completed functional medicine training focused on hormone optimization and replacement therapies.

Ironically, after all of that education, all of the research, all of the certifications, and all of the advanced therapies, I arrived at a surprisingly simple conclusion:

The body already possesses extraordinary self-regulating capabilities when given the proper environment and support.

Sometimes it simply needs a little help from your friends.

That “help” may come through medicine.

It may come through mentorship.

It may come through technology.

It may come through structured lifestyle intervention.

It may come through recovery modalities, nutritional correction, movement, sleep restoration, or emotional support.

But ultimately, the goal is not dependence.

The goal is restoration of self-regulation.

That realization changed everything for me.

Ironically, many of the things I once laughed at or dismissed — practices embraced by my more holistic friends, chiropractors, wellness practitioners, and lifestyle-focused clinicians — eventually became part of my own daily routine. What I once viewed skeptically, I now understand differently.

Not because I abandoned science.

But because I began to see the body as a dynamic adaptive system rather than a collection of isolated diseases.

My lifestyle today is intentionally simple.

I follow a Mediterranean-style diet focused on nutrient density and anti-inflammatory foods. I maintain a mild caloric deficit most of the time. I prioritize micronutrients because modern health conversations focus almost entirely on macronutrients while often ignoring the cellular environment required for normal physiology.

The body does not simply run on calories.

It runs on information, minerals, light exposure, sleep quality, movement, recovery, hormones, emotional stress, and mitochondrial function.

Micronutrient sufficiency matters.

Circadian rhythm matters.

Environmental inputs matter.

I train daily. Some days are intense. Some days are restorative. But movement is no longer optional in my life. Recovery has become equally important. When natural recovery is insufficient, I use adaptive modalities such as red light therapy, thermal conditioning, and structured recovery techniques to support energy production and physiologic balance.

I also try to remain brutally honest with myself.

For example, I still consume caffeine daily. I enjoy the taste and stimulation of an energy drink in the morning, even while fully recognizing that artificial stimulation can interfere with natural circadian signaling. Years ago, I would never have thought about that connection. Now I evaluate nearly everything through the lens of HS1.

That perspective changes how you see the world.

You stop asking only:

“What drug treats this symptom?”

And instead begin asking:

“What input created this physiologic state?”

That shift in thinking has transformed not only my health, but my entire philosophy of medicine and life.

One of the most exciting developments in this journey has been the integration of artificial intelligence into the HS1 framework. I now use a personalized AI agent trained to analyze health, lifestyle, recovery, and environmental factors through the HS1 lens. In many ways, this became one of the original reasons for building the system itself.

No human being can continuously process every physiologic variable affecting modern life.

But intelligent systems can help identify patterns.

They can help individuals recognize dysfunction earlier.

They can help educate people about the relationship between environment and physiology.

Most importantly, they can empower people to participate in their own recovery.

That is the true goal of HS1.

Not dependence.

Participation.

The most remarkable part of this transformation is not the weight loss.

It is not the appearance changes.

It is not even the improved laboratory markers or physical performance.

The most remarkable part is that I no longer feel chained to illness.

For years, disease felt like an anchor attached to my body. Everything revolved around it — energy, fear, limitations, medications, appointments, uncertainty. I depended on the healthcare system to rescue me from the consequences of my own physiologic decline.

Now, I feel unshackled.

I wake up without carrying that weight — physically or mentally.

I move differently.

I think differently.

I live differently.

That freedom is what I want other people to experience.

I do not want to replace medicine.

I want to work alongside medicine.

Acute care medicine is one of the greatest achievements in human history. Emergency medicine, trauma care, surgery, infectious disease treatment, and critical care save lives every day. We need those systems.

But many of the chronic diseases overwhelming modern healthcare are not simply acute medical problems.

They are lifestyle, environmental, metabolic, and behavioral problems manifesting biologically over decades.

And many people do not necessarily need a lifelong rescuer.

They need education.

They need structure.

They need coaching.

They need awareness.

They need a framework that helps them understand how their environment is influencing their physiology.

That is the future direction of HS1.

The next phase is not simply treatment.

It is education.

The next book will explore the actual components of the Human Operating System — the variables, inputs, recovery mechanisms, environmental influences, behavioral patterns, and physiologic signals that shape human health.

My goal is not to create dependency on a provider.

My goal is to help people understand themselves well enough that they can actively participate in restoring their own homeostasis.

Because ultimately, that may be what most people truly need.

Not lifelong management.

But guidance back toward balance.

“The greatest transformation was not the weight I lost, but the life I regained.

I no longer live chained to dysfunction and fear.

I live unshackled.”