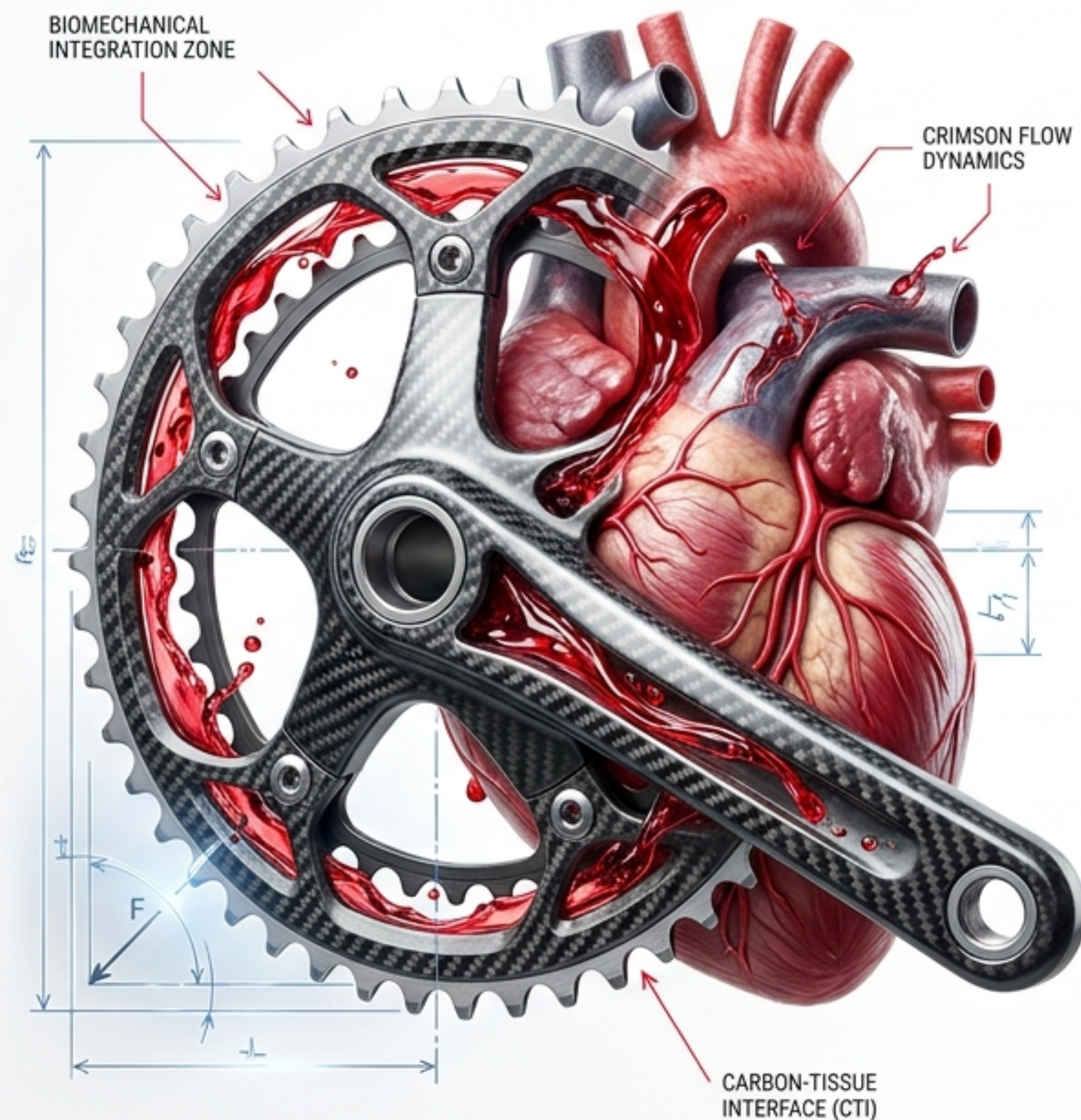


THE ULTIMATE ENGINE REBUILD

How a 62-Year-Old PhD Reversed
Severe Heart Disease to Break a
National Cycling Record

A Biomedical Case Study





A great ship asks for deep waters.

Profile Card

ENGINEERING
BIO-FUSION //
ANALYTICAL
DATA

Subject: Peter Megdal, PhD (Biomedical Engineering, Nutrition Focus)

METABOLIC OPTIMIZATION

Former Role: Biopharmaceutical Scientist

Current Status: 3x National Cycling Record Holder

HIGH PERFORMANCE CYCLING DATA
// VELODROME TRACK INTEGRATION

The Obstacle: Diagnosed with severe heart disease at the peak of his career.

CARDIOVASCULAR EVENT MARKER
// CRITICAL FAILURE POINT



The Crucible: The 60-Minute Redline

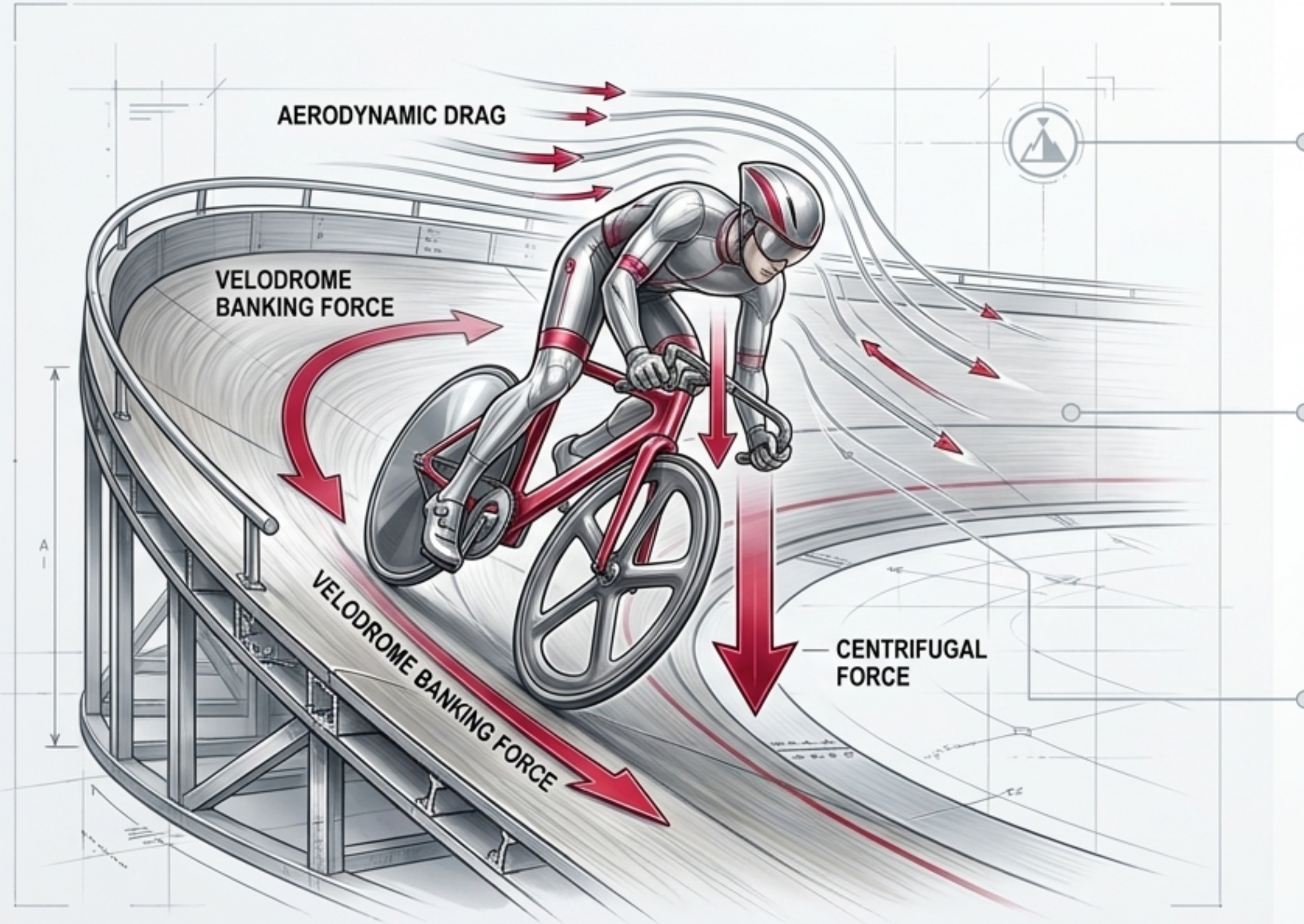
Analogy: The Hour Time Trial is cycling's most brutal event. **It is the biological equivalent of holding a racecar engine exactly 1 RPM below its breaking point for 60 consecutive minutes.**

The Rules of the Engine

- 1. No coasting.**
- 2. No food or drink** allowed once the clock starts.
- 3. No telemetry monitors** (no heart rate or power output screens visible to the rider).



The Physics of the Track



Altitude Constraint: 6,000 feet (Aguascalientes, Mexico).

Impact: Thinner air creates an immediate oxygen deficit for the engine.

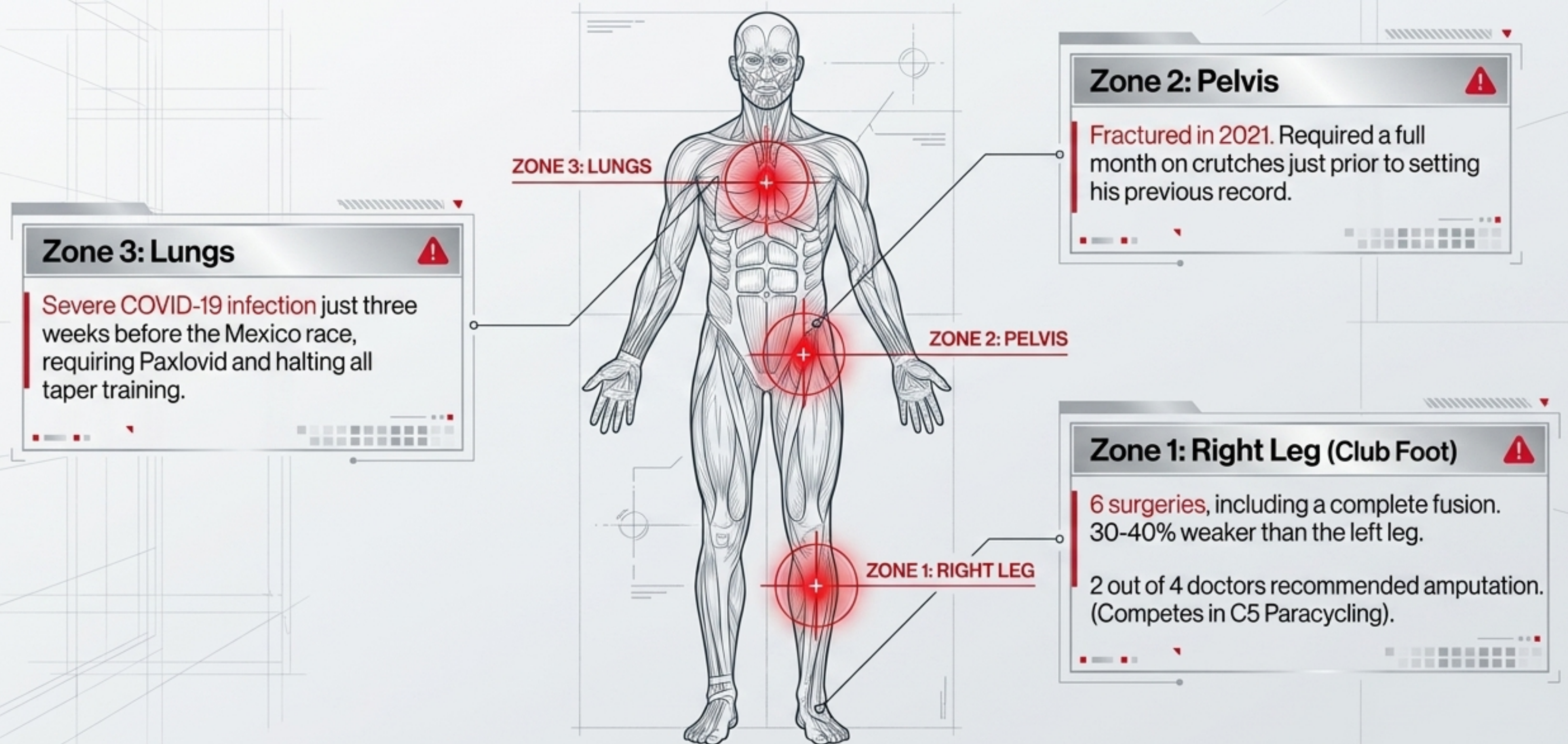
Structural Constraint: 250-meter indoor wooden track.

Centrifugal Force (The 40% Grade): The track features 40% banking.

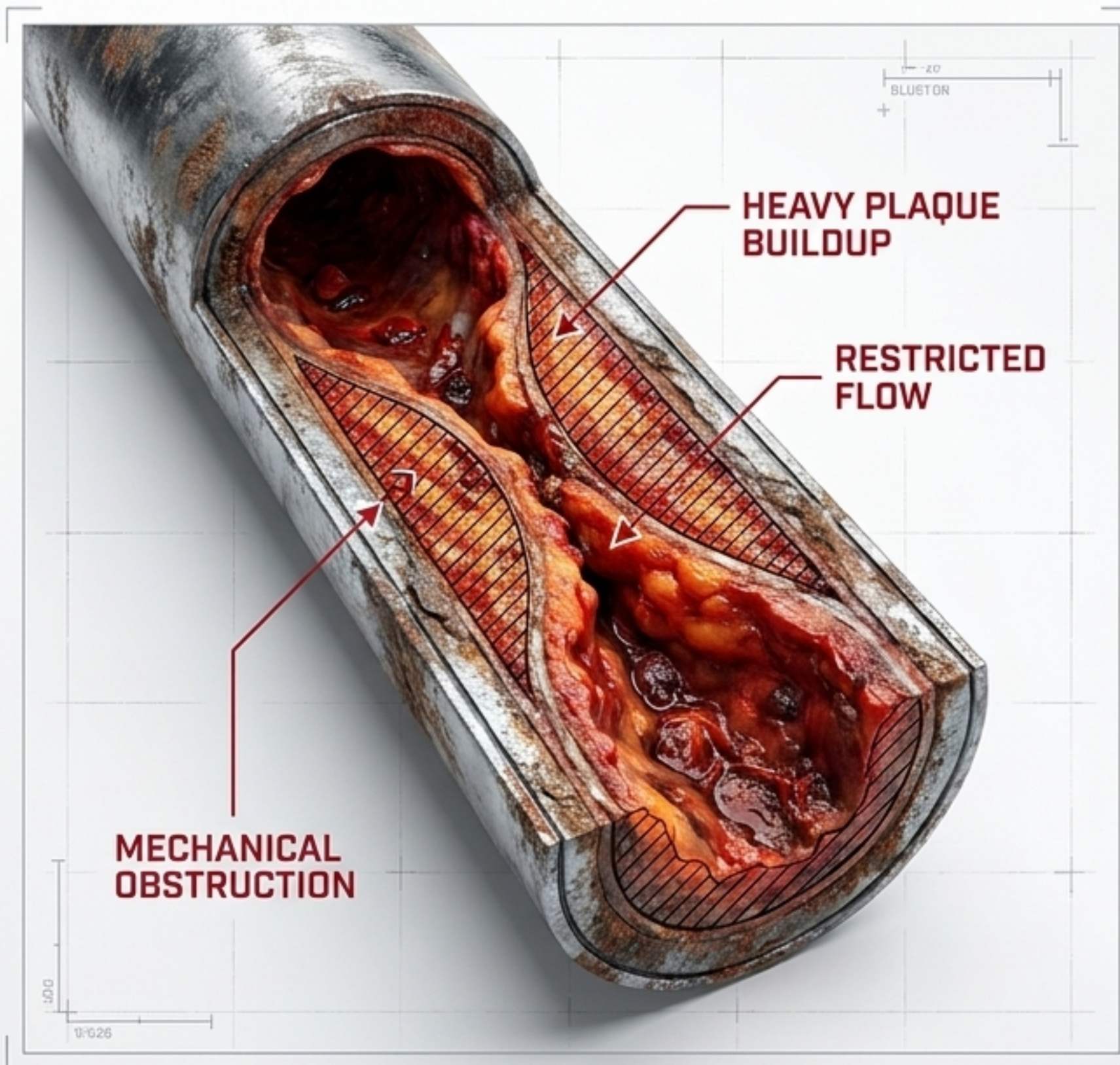
Impact: Generates nearly 2x body weight in centrifugal force pushing the rider down into the saddle, creating excruciating physical pain.



The Damaged Chassis



INTERNAL SYSTEM FAILURE



THE DIAGNOSIS

Severe blocked arteries discovered after a sudden drop in cycling performance.

THE GENETIC DESTINY

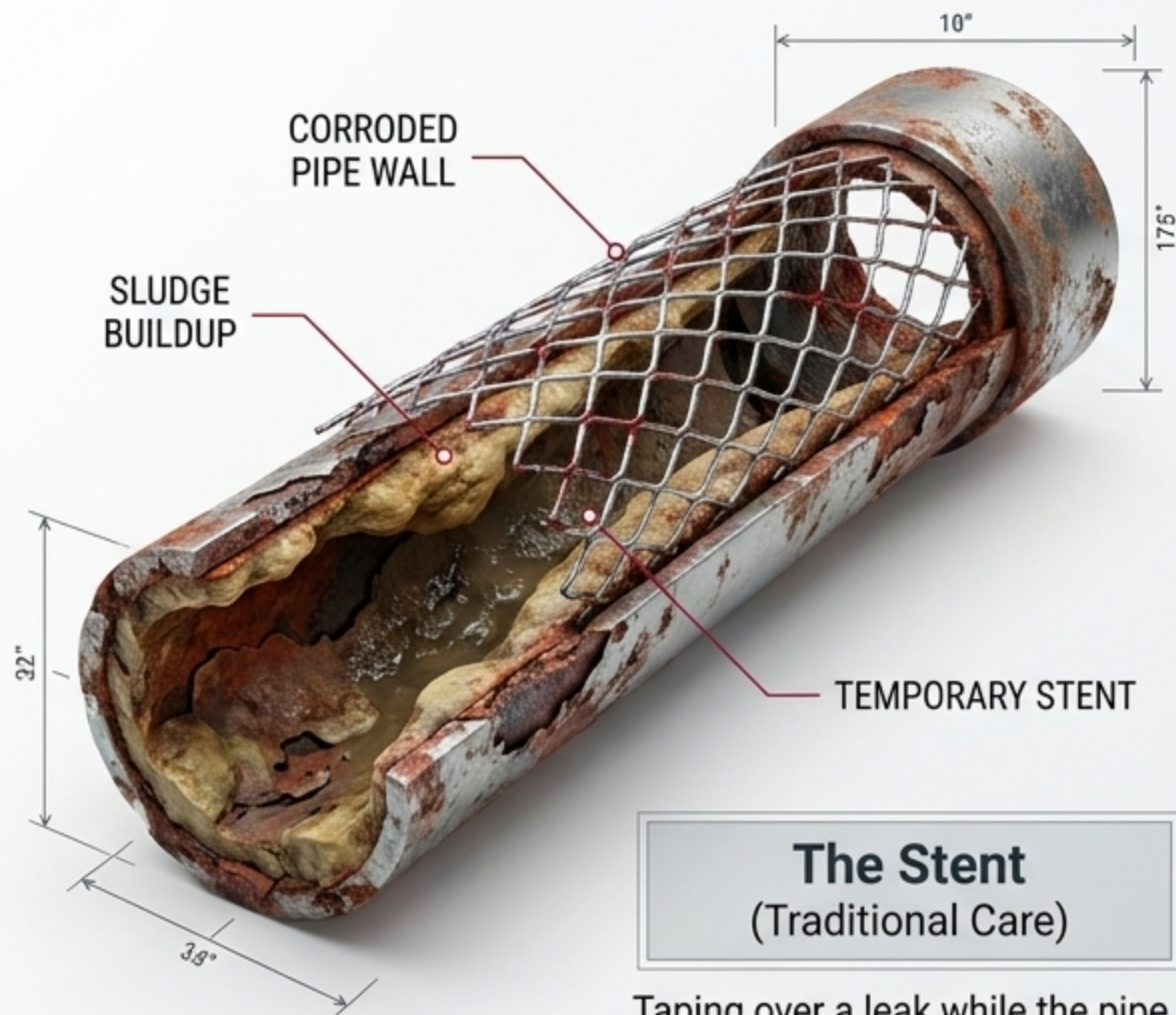
A family history of lethal heart disease (parents, grandfather, uncle, and younger brother all died from it; older brother diagnosed).

THE PALLIATIVE FAILURE

Traditional cardiology placed a stent to open the artery, but performance continued to decline. The fix was mechanical, not biological.

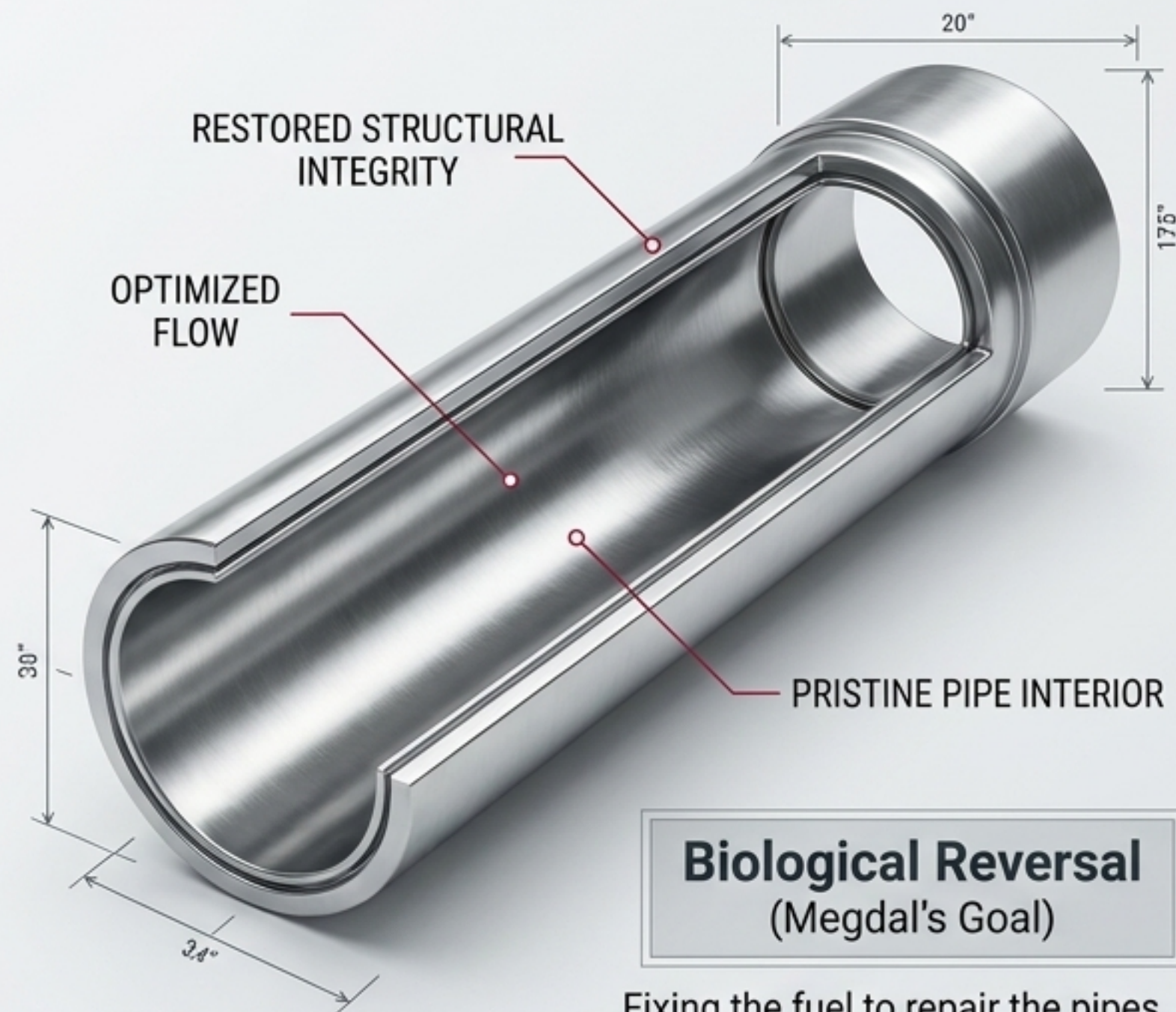


The Palliative Patch vs. The Total Rebuild



The Stent (Traditional Care)

Taping over a leak while the pipe continues to rot. Manages the symptom but allows the disease to progress.



Biological Reversal (Megdal's Goal)

Fixing the fuel to repair the pipes. Reversing the plaque buildup entirely from the inside out.



THE ENGINE REBUILD FORMULA

ENGINEERING BIO-FUSION // ANALYTICAL DATA – CARDIOVASCULAR REPAIR STRATEGY



GEAR 1: AGGRESSIVE MEDICINE

Utilizing the most powerful anti-cholesterol drugs available to aggressively drop lipids.



GEAR 2: FUEL CHANGE

Strict adherence to a whole-food, plant-based (vegan) diet, validated by clinical trials.



GEAR 3: BASE AEROBIC VOLUME

Massive low-intensity aerobic conditioning. Building up to 300-450 miles per week (up to 25 hours) averaging 18 mph.

+167 - 109,182
-30 - 16,694

-100 - 700,000
+200 - 48,000



THE PROOF OF CONCEPT

ENGINEERING BIO-FUSION // ANALYTICAL DATA – CARDIOVASCULAR REPAIR STRATEGY

THE RESULT

Four years after the initial diagnosis and failed stent, a second angiogram revealed the impossible.

MEDICAL OUTCOME

All arteries had opened up. The plaque had receded. The disease was biologically reversed.

THE INSIGHT

The internal engine was entirely cleared, providing the biological foundation required to overcome his permanent external chassis damage.



TELEMETRY: THE ULTIMATE STRESS TEST

ENGINEERING BIO-FUSION // ANALYTICAL DATA – PERFORMANCE DIAGNOSTICS



MINUTE 0.

Pre-loaded with 3g of sodium and 100-calorie carb gels. Perfect pacing at 19.8 seconds/lap.



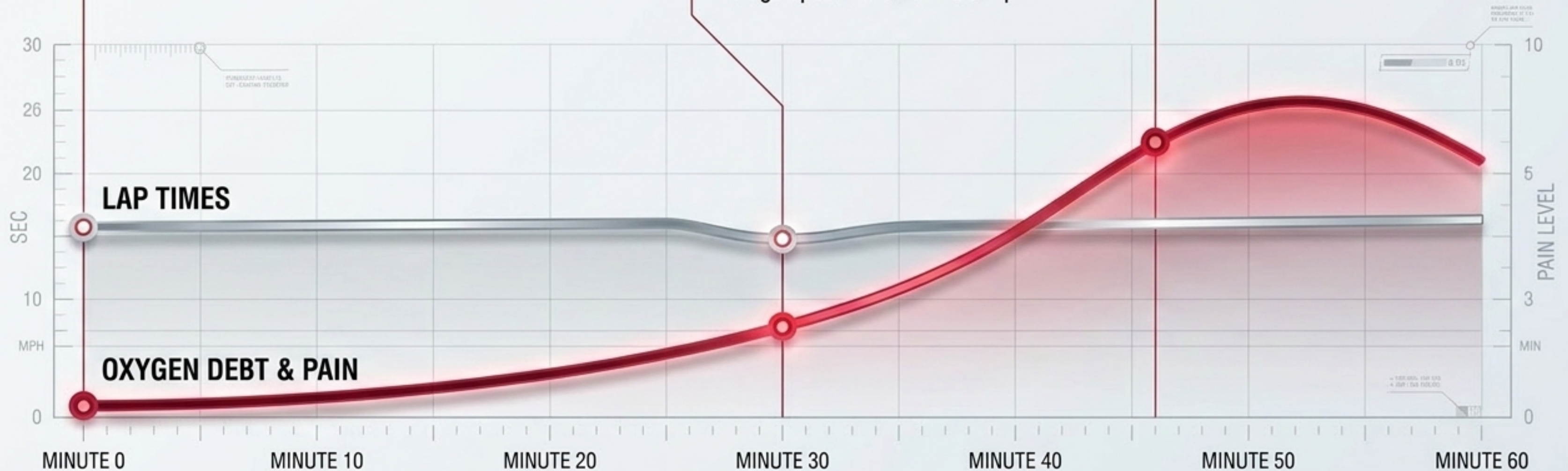
MINUTE 30.

Post-COVID fatigue sets in. 2x body-weight G-forces crush the pelvis. Lap times slow slightly to 20 seconds. Average speed holds at 28.3 mph.



MINUTE 45-60.

Pushing into severe oxygen debt (dangerous in a 100% aerobic event). The mind plays tricks, begging to quit.



THE OUTPUT

ENGINEERING BIO-FUSION // ANALYTICAL DATA – PERFORMANCE DIAGNOSTICS – FINAL READOUT



45.55 KM

DISTANCE:

45.55 kilometers (28.3 miles) covered in exactly 60 minutes.

RESULT:

Smashed his own National Record by over half a kilometer.

THE CONTEXT:

Achieved his third national record at age 62—surviving COVID, a broken pelvis, a club foot, and fully reversed heart disease.

TWO APPROACHES TO CARDIOLOGY

ENGINEERING BIO-FUSION // ANALYTICAL DATA – COMPARATIVE ANALYSIS

TRADITIONAL CARE	MEGINAL APPROACH
 GOAL: Algorithm Management (lower LDL to 70)	 GOAL: Complete Biological Reversal
 METHOD: Stents & Statins	 METHOD: Aggressive Meds + Whole-Food Plant-Based Diet
 ANALOGY: Patching the rusty pipe	 ANALOGY: Rebuilding the pipe entirely
 OUTCOME: Disease stabilizes or slowly progresses	 OUTCOME: Disease reverses; health span extends

The Poster Child for the Couch Potato

The Core Insight

You do not need to set a national cycling record to benefit from an engine rebuild.

The Application

For the 75-year-old who just survived a heart attack, the goal isn't the velodrome—it is reclaiming a normal quality of life. The clinical data shows that nearly everyone who strictly follows the reversal protocol improves.

THE PLATFORM: CURINGHEARTDISEASE.COM

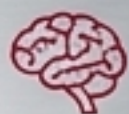
THE MISSION

Peter quit the pharma industry to found a premier heart health education and advocacy platform.

THE TOOLS

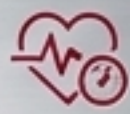
AI RESEARCH TUTOR

Translates peer-reviewed cardiology research into plain language (trained exclusively on published data to prevent hallucinations).



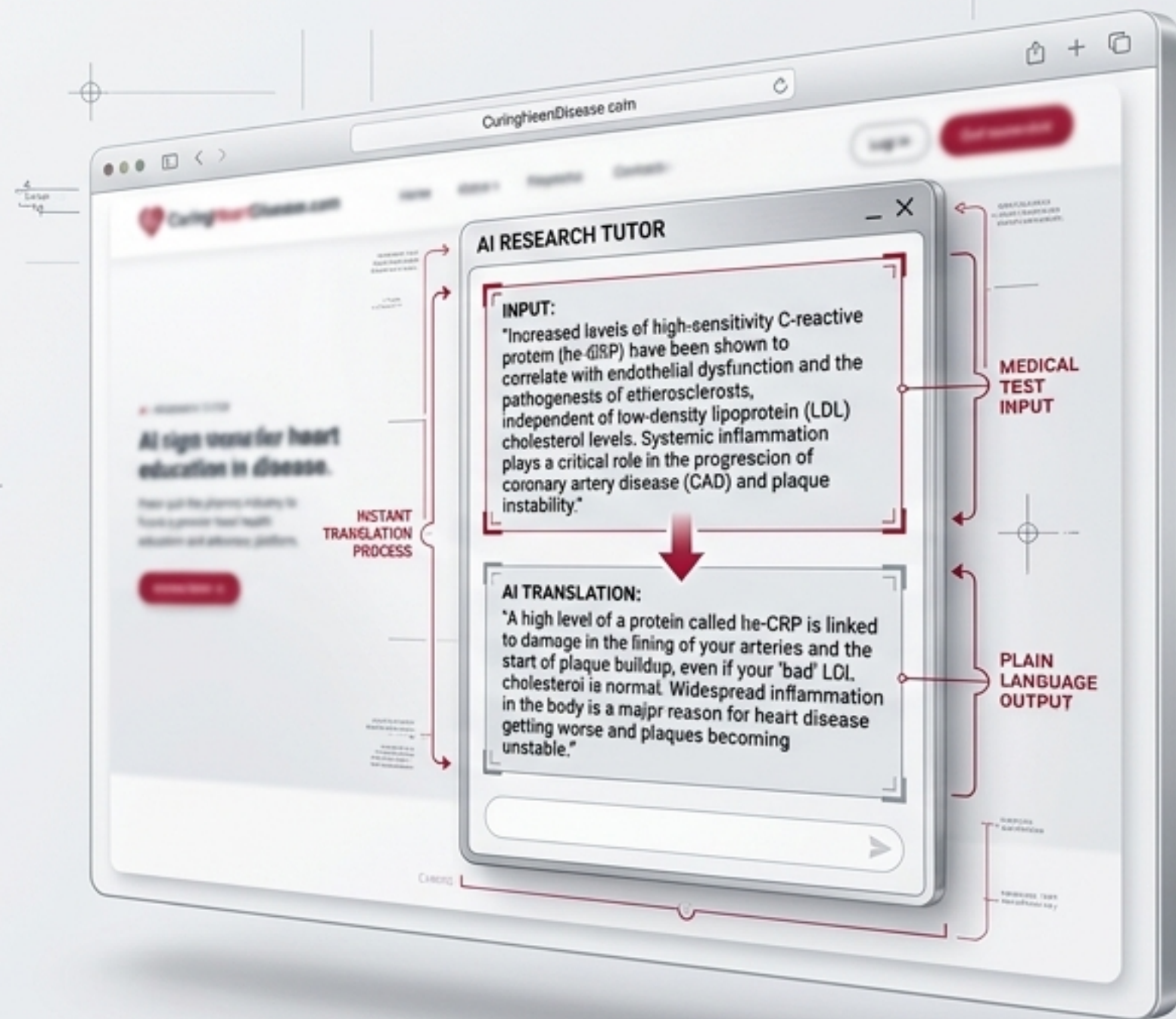
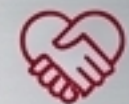
HEART RISK CALCULATOR

Personalized cardiovascular risk assessment.



PRO-BONO CONSULTING

Patient advocacy and physician consulting on a sliding scale.





TREAT THE BIOLOGY, NOT THE PIPES.

TAKEAWAY:

Your genetic history is a blueprint, but it is not a life sentence.

ACTION:

Visit CuringHeartDisease.com to access free research tools, utilize the AI Instructor, and learn how to rewrite your own biological maintenance log.