

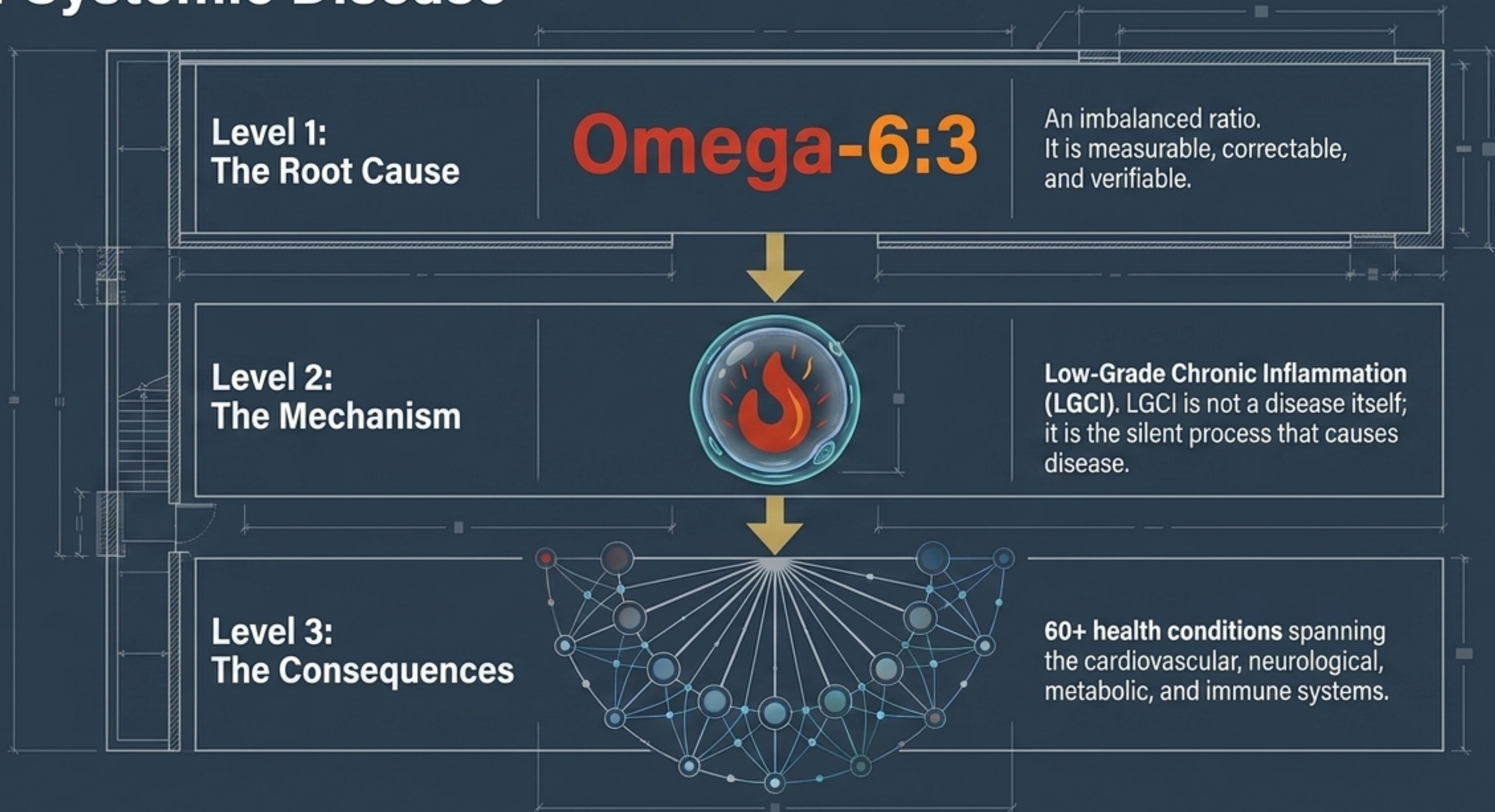
Low-Grade Chronic Inflammation: The Biological Equation of Aging and Disease.



The central mechanism linking the Omega-6:3 ratio to over 60 systemic health conditions.

Based on a synthesis of peer-reviewed clinical literature and 1.3M+ independent blood analyses.

The 3-Level Architecture of Systemic Disease



The Systemic Fallout of an Elevated Ratio

Cardiovascular (7 conditions)

Heart attack, stroke, atherosclerosis, hypertension, arrhythmia (+31% mortality risk).



Skin & Anti-Aging (6 conditions)

Wrinkling, photoaging, acne (Excess AA activates MMP-1, degrading collagen).



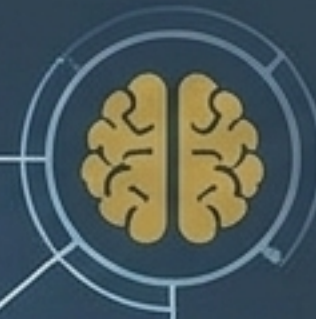
Metabolic (6 conditions)

Type 2 Diabetes, obesity, metabolic syndrome, NAFLD.



Neurological (5 conditions)

Alzheimer's, depression, ADHD, cognitive decline
↑ (-64% Alzheimer's risk linked to optimal ratios).



Joints & Autoimmune

Rheumatoid arthritis, osteoporosis, joint pain.



The Weight of Clinical Evidence

4,255

Published peer-reviewed studies on the Omega-6:3 ratio (PubMed).

118

Randomized Controlled Trials (RCTs).

23

Systematic review meta-analyses.

1.3M+

Independent blood tests analyzed globally (Vitas Analytical Services, Norway)—the largest dataset of its kind.

Research on this specific ratio has grown exponentially, from just 10 papers in 2000 to over 120+ annually today.

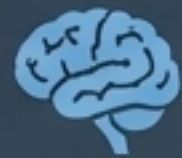
THE POWER OF 3:1: QUANTIFIED SYSTEMIC RESOLUTION



Cardio

-70%

total mortality (Simopoulos 2002);
-25% coronary events (REDUCE-IT).



Brain

-17%

dementia risk; increased mid-life
hippocampal volume.



Metabolism

-44.88

mg/dL in triglycerides;
improved insulin sensitivity.



Skin

+8x

increase in dermal EPA;
-91% fetal eczema risk.



Joints

↓ IL-6

Significant reduction in inflammation
and pain medication dependency
in Rheumatoid Arthritis.

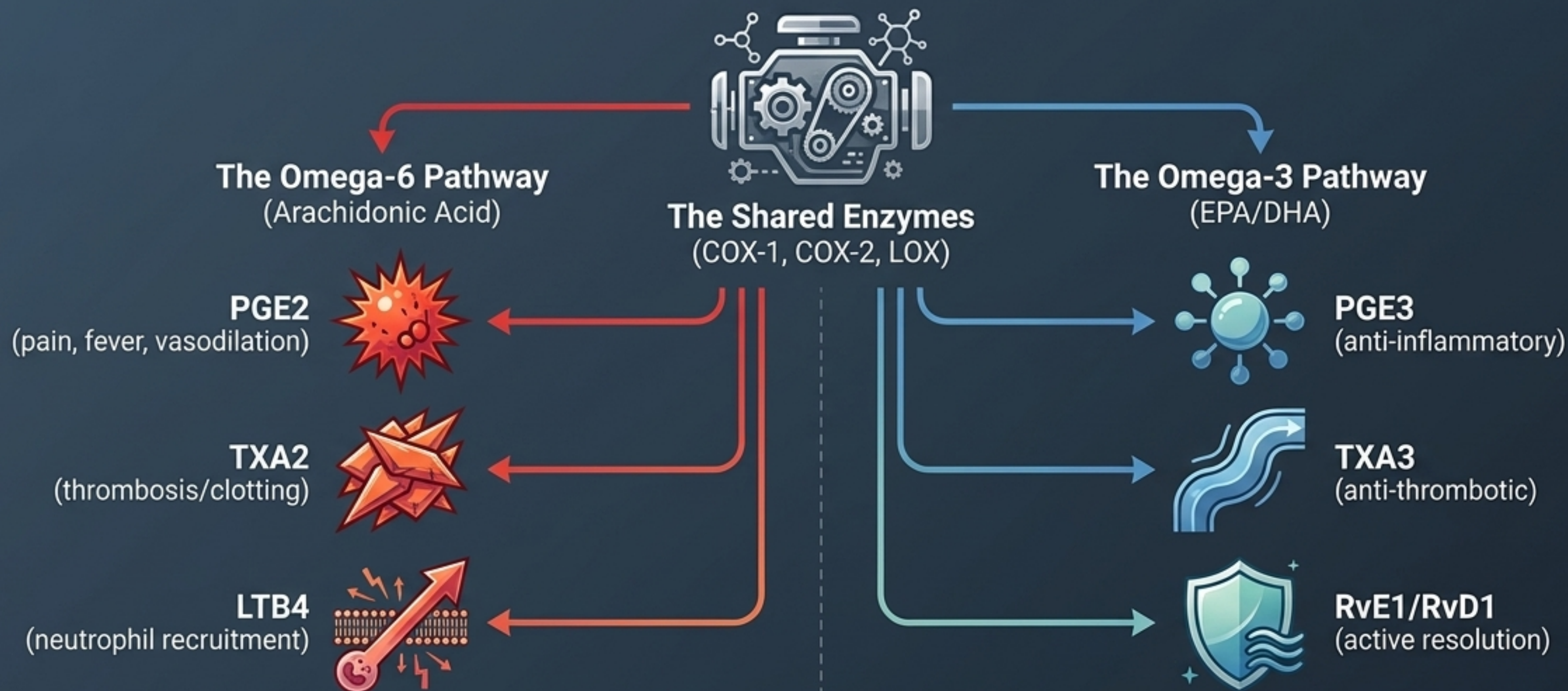


Immunity

↑ Treg

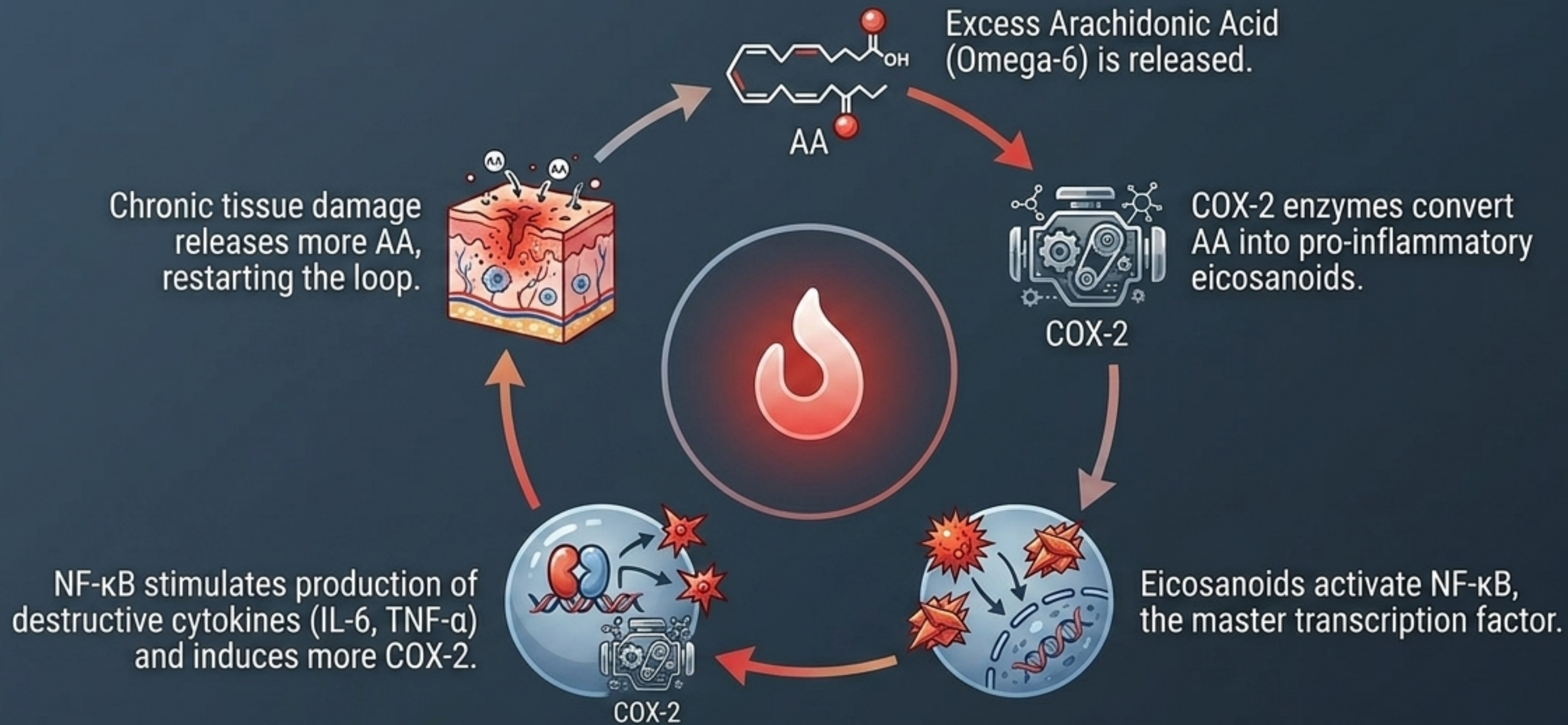
Increased T-regulatory cells;
shifts macrophages to the M2
(anti-inflammatory) phenotype.

THE BIOCHEMICAL TUG-OF-WAR



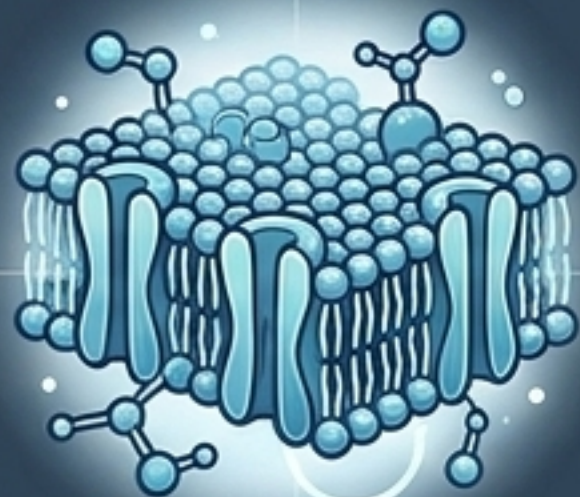
CORE PRINCIPLE: Both pathways compete for the exact same enzymes. Whichever molecule dominates the ratio, dictates the biological outcome.

Pathway 1: The NF- κ B Master Switch (~70% of Conditions)



Pathways 2, 3 & 4: Far Beyond Inflammation

Membranes (~15%)



Structural Integration.

EPA and DHA physically embed into the lipid bilayer, improving fluidity and receptor sensitivity.

Fact: DHA makes up ~40% of brain polyunsaturated fats. Cognitive decline often stems from structural DHA deficit, not just inflammation.

Resolvins (~10%)



The Active 'OFF Switch'.

The body doesn't just 'reduce' inflammation; it actively resolves it. EPA/DHA are the mandatory precursors to Resolvins (RvE1, RvD1) and Protectins.

Without them, the body cannot turn the inflammatory response off.

Epigenetics (~5%)



Gene Expression.

EPA/DHA activate PPAR γ nuclear receptors, acting as master regulators of lipid metabolism and insulin sensitivity.

Directly impacting obesity and Type 2 Diabetes at the genetic level.

THE SILENT DASHBOARD: MEASURING THE INVISIBLE



CRP (C-REACTIVE PROTEIN)

Systemic liver marker.
Normal: < 1 mg/L.
Elevated: 1–3 mg/L.

Associated with a 2-3x increase
in cardiovascular risk.



IL-6 (INTERLEUKIN-6)

Systemic pro-inflammatory cytokine.
Normal: < 1.8 pg/mL.
Elevated: 2–7 pg/mL.

Strongly associated with
elderly mortality.




TNF- α (TUMOR NECROSIS FACTOR)

Inflammation amplifier.
Normal: < 8.1 pg/mL.

Elevated levels directly drive insulin
resistance and tissue cachexia.


Summary: A balanced Omega-6:3 ratio keeps all three needles in the green.

The Intervention Mechanism: BalanceOil+

Pathway 1: 
Downregulates COX-2
(Inflammation)



Standard Omega-3 supplements fail because the delicate EPA/DHA molecules oxidize in the stomach before reaching the cells.

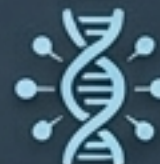
Pathway 3: 
Generates RvE1/RvD1
(Resolvins)



Pathway 2:
Rebuilds cellular structure
(Membranes)



The Polyphenol Shield:
BalanceOil+ pairs pure EPA/DHA with early-harvest olive oil polyphenols (750 mg/kg). This acts as a biological chaperone, protecting lipids from oxidation and ensuring intact delivery.



Pathway 4:
Activates PPAR γ
(Epigenetics)

The 120-Day Protocol



1. Test (Baseline)

Discover your actual, hidden ratio with an independent dry blood spot test. Eliminate the guesswork.

2. Correct (120 Days)

Supplement with weight-adjusted BalanceOil+ for exactly 120 days.

Why 120 days? Because that is the exact lifecycle of a red blood cell. It takes 4 months to completely rebuild cellular membranes.

3. Verify (Re-Test)

Take a second blood test to prove the physiological shift. 98% of users reach the optimal <math><3:1</math> target.

The ratio is the cause. The protocol is the cure. Verify it in your own blood.