

The Biology Behind Client Results

**How Key Gene Variants Shape
the Way Your Clients Respond**

A Practical Guide for Health & Wellness Coaches



About This Guide

This guide introduces several key gene variants that may help explain some of the patterns coaches observe most often in practice. It is intended as an educational resource and is not a substitute for medical advice, diagnosis, or treatment.

Instead, think of it as a reference guide designed to help you better understand the genetic factors that may contribute to differences in client experiences and outcomes.

What is a SNP?

A SNP (single nucleotide polymorphism) is a common variation in a single position within the DNA sequence. SNPs are not mutations or disorders. They are normal biological variations that may influence how efficiently certain enzymes and pathways function. Many people carry one or more of the SNPs discussed in this guide, often without realizing it.

Genes Included in This Guide

Gene	What It Does
COMT	Helps break down dopamine, norepinephrine, and certain estrogen metabolites.
FKBP5	Influences how the body regulates its response to cortisol.
MTHFR	Supports methylation, a process involved in energy production and other essential functions
MTRR	Helps maintain the active form of vitamin B12 needed for methylation.
ACTN3	Influences fast-twitch muscle fiber function and exercise performance tendencies.
IL6	Helps regulate inflammation involved in exercise recovery and adaptation.
CLOCK	Influences circadian rhythm and sleep timing.
PER3	Contributes to sleep architecture and individual differences in sleep needs.

Why Two Clients Get Different Results

During your coaching career, you've probably experienced this more than once. You use a similar framework, make similar recommendations, and provide the same level of support to two clients. One client achieves the results you expected, while the other does not.

Genetics may be one of the reasons why. Although factors such as lifestyle, environment, and consistency all play important roles, genetic differences can also influence the way clients respond to stress, exercise, sleep, nutrition, and other aspects of wellness.

Many coaching approaches are built around general principles. Your clients, however, are individuals. Each person carries a unique combination of genetic variants that may influence how efficiently certain pathways function and how their body responds to internal and external demands.

Stress Response & Nervous System Regulation

Why some clients recover differently from stress

Stress responses vary considerably from one client to another. Clients who take longer to recover from stress or feel perpetually wired may be influenced by genetic differences affecting stress regulation.

COMT (Catechol-O-Methyltransferase)

What coaches observe: Clients may have difficulty letting go of stressful events, heightened emotional reactivity, a tendency toward rumination, sensitivity to caffeine, or feeling easily overstimulated.

Why it matters: Clients with slower COMT activity may benefit from approaches that prioritize decompression, reduced stimulant load, and gentler transitions between activities.

FKBP5 (FK506 Binding Protein 5)

What coaches observe: Clients may have difficulty letting go of stressful events, heightened emotional reactivity, a tendency toward rumination, sensitivity to caffeine, or feeling easily overstimulated.

Why it matters: Clients with slower COMT activity may benefit from approaches that prioritize decompression, reduced stimulant load, and gentler transitions between activities.

Energy Metabolism & Fatigue

How genes may explain differences in energy and recovery

Persistent fatigue is a common concern among coaching clients. When lifestyle habits appear supportive but energy remains low, genetic differences affecting methylation may be one factor worth considering.

MTHFR (Methylenetetrahydrofolate Reductase)

What coaches observe: Clients may report persistent fatigue, difficulty recovering from physical exertion, brain fog, or fluctuations in mood despite otherwise healthy habits.

Why it matters: Methylation influences several processes involved in energy production and resilience. Clients with less efficient methylation pathways may not respond to energy strategies in the same way as others.

MTRR (Methionine Synthase Reductase)

What coaches observe: Clients may describe unusual sensitivity to B12 supplementation or cognitive symptoms that do not improve with standard lifestyle approaches.

Why it matters: MTRR supports the methylation cycle alongside MTHFR. Recognizing patterns associated with both genes may help explain why some clients benefit from additional nutritional support before other strategies gain traction.

Exercise & Recovery Response

How genes may help explain differences in exercise response and recovery

Clients can follow similar training programs and experience very different outcomes. Genetic differences may influence muscle composition, inflammation, and recovery, helping explain why the same approach does not work equally well for everyone.

ACTN3 (Alpha-Actinin-3)

What coaches observe: Some clients naturally gravitate toward endurance activities and recover well from longer-duration exercise, yet struggle to build strength, power, or speed at the rate they expect.

Why it matters: Recognizing these tendencies can help coaches set realistic expectations and modify training approaches to better align with a client's natural strengths.

IL6 (Interleukin-6)

What coaches observe: Clients may experience prolonged soreness, fatigue that lingers after workouts, or feel worse rather than better when exercise intensity or volume increases.

Why it matters: Recovery is an important part of adaptation. Some clients may benefit from longer recovery periods and a more gradual approach to increasing training demands.

Sleep Architecture & Circadian Rhythm

How genes may help explain differences in sleep patterns and recovery

Sleep influences every aspect of health and coaching outcomes, yet individual sleep patterns can vary considerably. Genetic differences may help explain why some clients struggle with sleep despite following common recommendations.

CLOCK (Circadian Locomotor Output Cycles Kaput)

What coaches observe: Clients may naturally prefer later bedtimes, feel most alert in the evening, and struggle with early morning schedules despite their best efforts.

Why it matters: Sleep strategies that align with a client's natural circadian tendencies may be more sustainable than approaches that work against them.

PER3 (Period Circadian Regulator 3)

What coaches observe: Some clients appear especially sensitive to insufficient sleep. Mood, concentration, and decision-making may be disproportionately affected after even a single poor night of sleep.

Why it matters: For these clients, protecting sleep may be an important component of resilience, recovery, and overall well-being.

Quick Reference Guide

Common genomic pathways, observable patterns, and coaching considerations.

GENE	PATHWAY	WHAT YOU MAY OBSERVE	COACHING CONSIDERATION
COMT	Stress / Neurotransmitter clearance	Rumination, emotional reactivity, overstimulation	Decompression windows, lower stimulant load
FKBP5	Cortisol regulation	Chronic tension, unresolved stress	Active nervous system downregulation
MTHFR	Methylation / Energy	Fatigue, brain fog, mood instability	Nutritional support before behavioral strategies
MTRR	B12 / Methylation support	Poor response to standard energy interventions	B12 sensitivity; refer clinically
ACTN3	Muscle fiber composition	Limited strength adaptation, better endurance	Align training type to fiber profile
IL6	Exercise inflammation	Prolonged soreness, post-workout fatigue	Longer recovery windows, manage volume
CLOCK	Circadian timing	Night owl pattern, difficulty with early demands	Work with natural rhythm where possible
PER3	Sleep architecture	High sensitivity to sleep deprivation	Frame sleep as biological priority

How to Use This as a Coach

A practical framework for applying genomic awareness within your scope of practice

Genomic awareness in coaching is not about diagnosing or treating. It is about understanding. Recognizing that clients may respond differently allows you to ask better questions, set more realistic expectations, and design strategies that work with their biology.

Three principles for applying this framework:

1. Use genetics to explain, not prescribe.

If a client has shared their DNA report, this information may help explain patterns you are observing. If genomic testing has not been completed, these patterns may help identify areas for further exploration and inform discussions about whether testing may be appropriate.

2. Refer supplement and clinical decisions to a qualified practitioner.

This guide is an educational resource. Supplement protocols, medical recommendations, and clinical interventions based on genomic data require a licensed practitioner with relevant training.

3. Genomics informs strategy. It does not replace it.

Gene variants describe tendencies, not certainties. Environment, life experiences, and daily habits all interact with genetic predisposition. Use genomics as one lens among many to better understand the individual in front of you.

This guide provides an introduction to how genomics may help explain why clients respond differently. Additional educational resources will build on these concepts and explore them in greater depth.

Disclaimer

This guide is provided for educational purposes only and does not constitute medical advice. Gene variants reflect biological tendencies, not certainties. Always work within your professional scope of practice when applying genomic information.