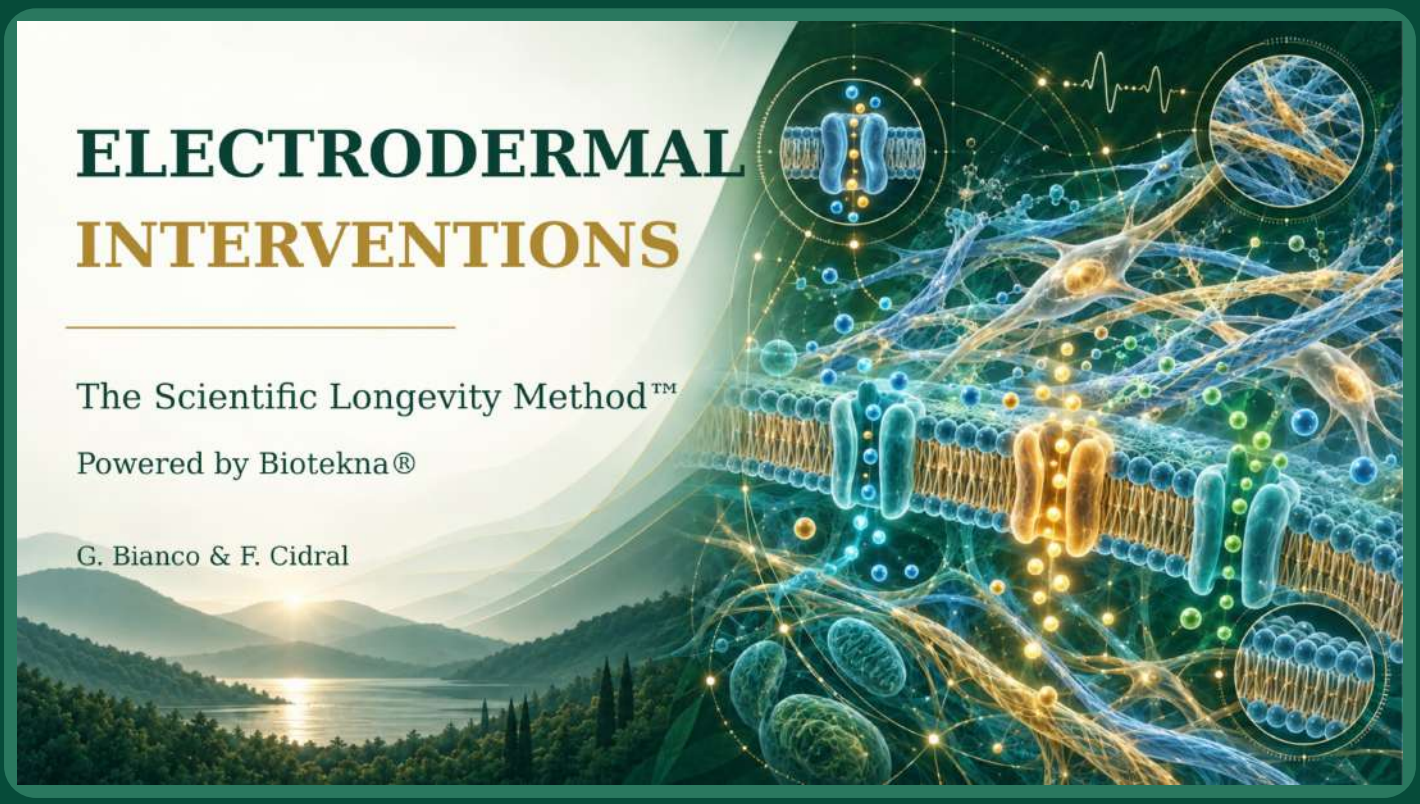
ELECTRODERMAL INTERVENTIONS

Bioelectrical regulation from cellular membranes to the extracellular matrix



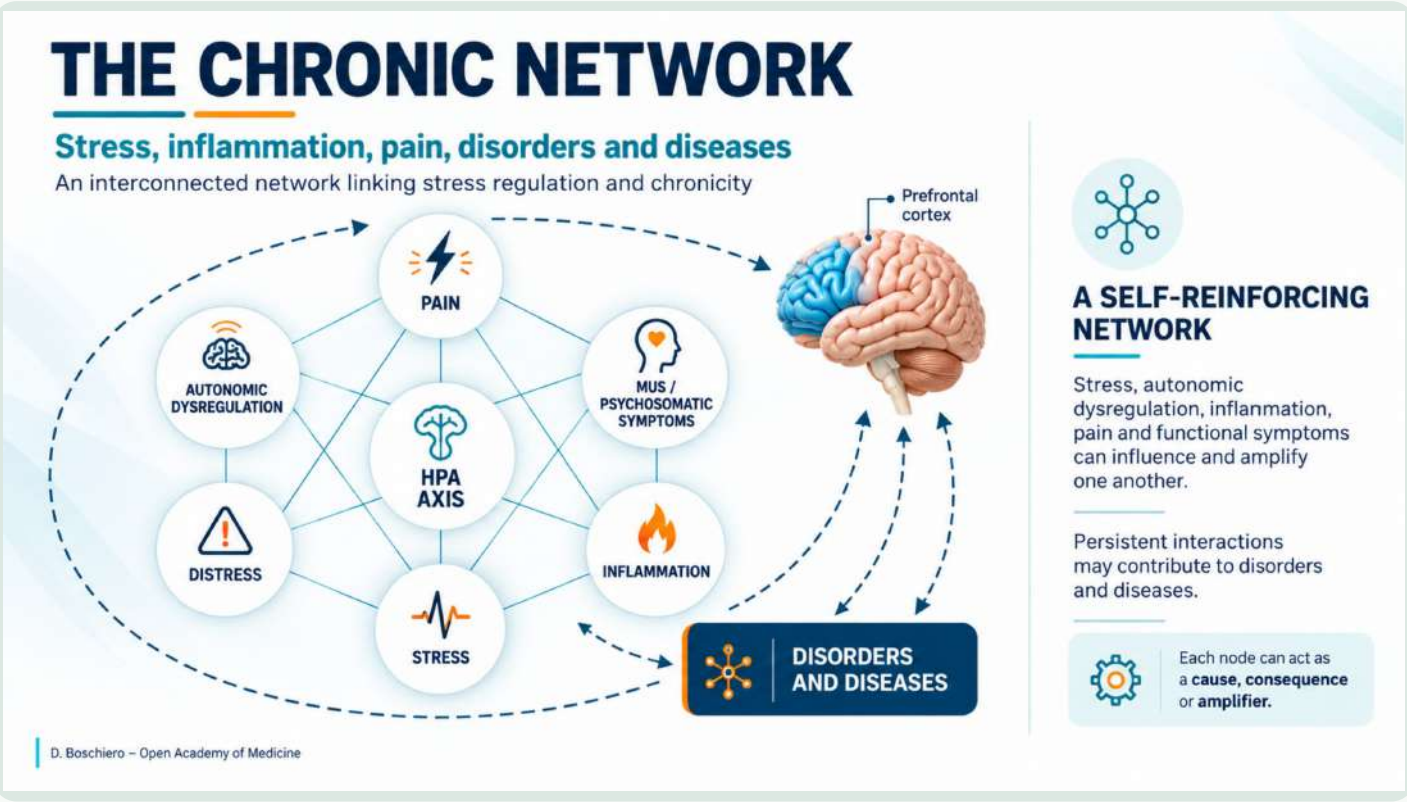
Electrodermal Interventions add a bioelectrical dimension to the Scientific Longevity Method. The clinical focus is the coordinated regulation of cell membranes, tissues, the extracellular matrix and the autonomic nervous system. RegMatEx provides personalized electrodermal biofeedback through weak electromagnetic fields, while TomEEx combines functional assessment with adaptive microcurrents at the tissue and extracellular-matrix level. Both pathways follow the same measurable logic: assess the regulatory state, apply a personalized intervention, monitor the response and reassess recovery. The objective is not to treat an isolated value, but to determine whether the organism can respond, adapt and return toward physiological organization.

ASSESS - INTERVENE - MONITOR - REASSESS

Bioelectrical physiology translated into a personalized and repeatable clinical pathway.

G. Bianco & F. Cidral

The Chronic Network



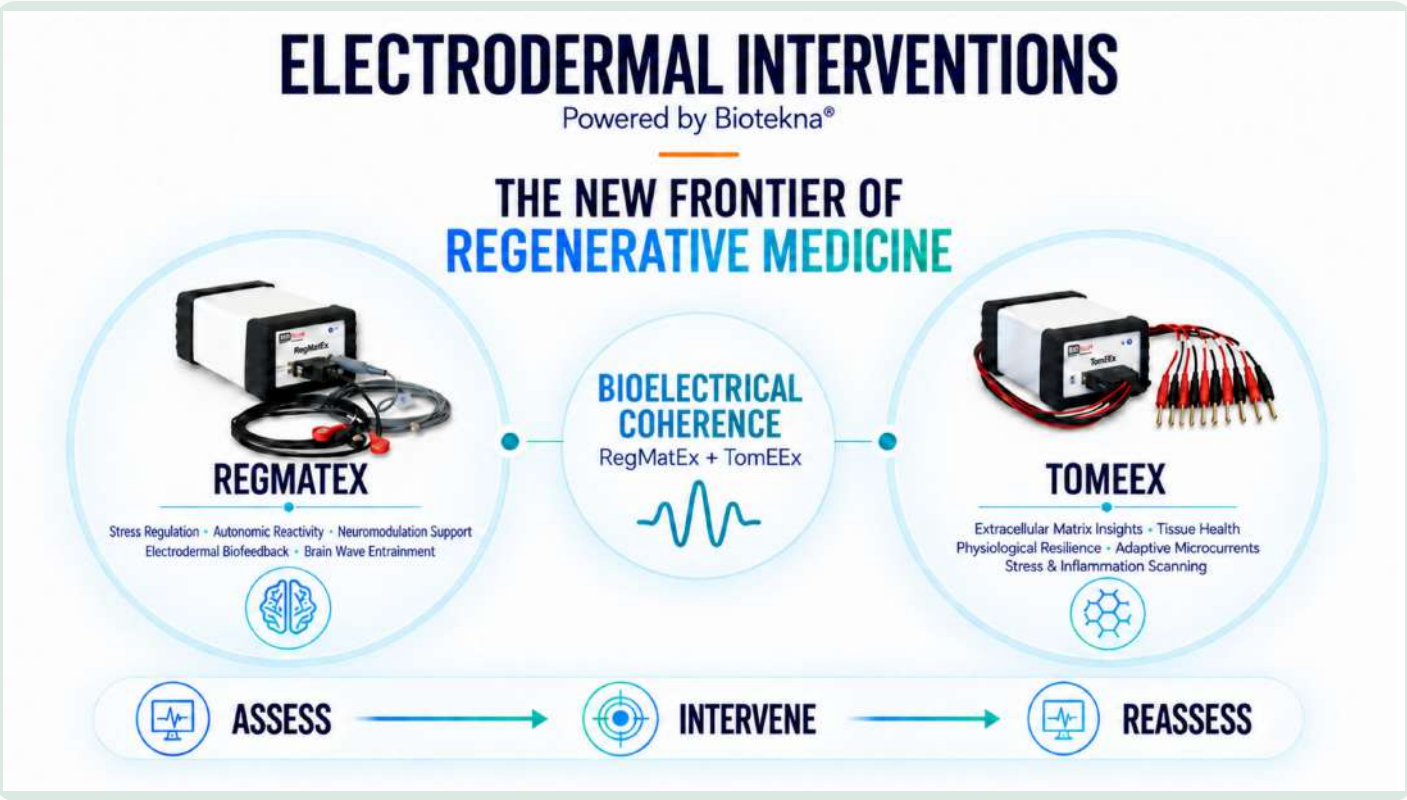
OVERVIEW

Chronic disease rarely develops from one isolated mechanism. Stress, autonomic dysregulation, inflammation, pain, HPA-axis activation and psychosomatic symptoms form an interconnected network. Each node can be a cause, a consequence and an amplifier of the others. Persistent stress can increase autonomic imbalance; autonomic imbalance can sustain inflammatory signaling; pain can reinforce emotional stress and further reduce adaptive capacity. This is why symptom-only interventions may provide incomplete or temporary results. The target is the network itself: we want to identify where regulation has become rigid, inefficient or unable to recover. Electrodermal assessment gives us a functional window into this network, while feedback interventions allow us to test whether regulatory flexibility can be restored. The goal is to interrupt self-reinforcing loops and move the patient from chronic reactivity toward physiological adaptability.

KEY MESSAGE

Chronic dysregulation is a network: each node can be a cause, an effect and an amplifier of the others.

Bioelectrical Coherence



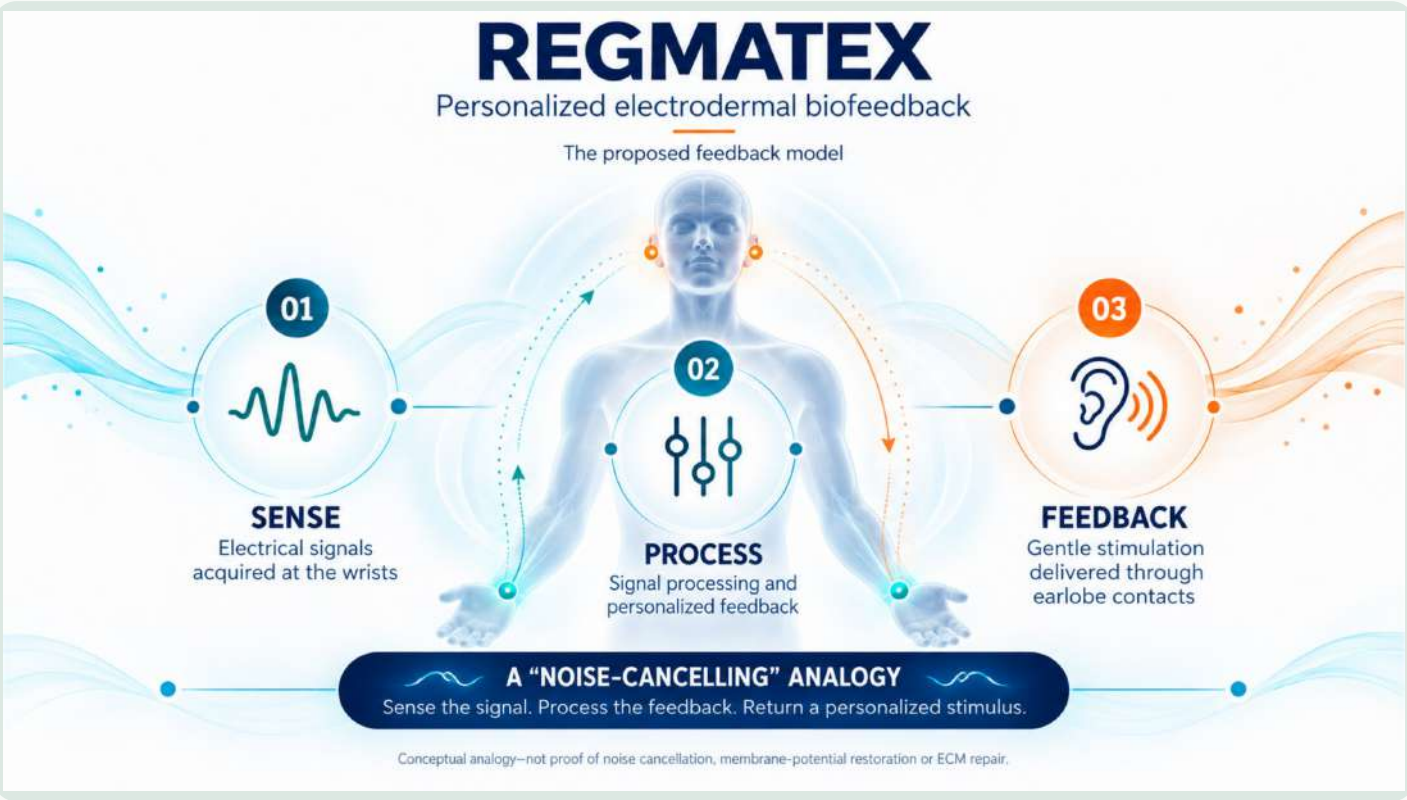
OVERVIEW

Bioelectrical coherence does not mean producing more electricity, and it is not represented by one ideal voltage. It describes the coordinated organization of electrical gradients across cell membranes, extracellular spaces and tissues over time. A coherent system maintains appropriate membrane polarization, ion mobility, intercellular communication and tissue conductivity, while still being able to change when a stimulus arrives and return toward baseline afterward. In other words, coherence combines stability with flexibility. RegMatEx and TomEEx approach this organization at complementary biological scales. RegMatEx works primarily on bioelectrical sensing and feedback related to membrane and cellular regulation. TomEEx evaluates and modulates charge movement through the extracellular matrix and tissue pathways. The sequence shown below - assess, intervene and reassess - is essential, because coherence is demonstrated by the quality of the response and recovery, not by a static measurement alone.

KEY MESSAGE

Bioelectrical coherence combines stable electrical organization with the flexibility to respond and recover.

RegMatEx Personalized Electrodermal Biofeedback



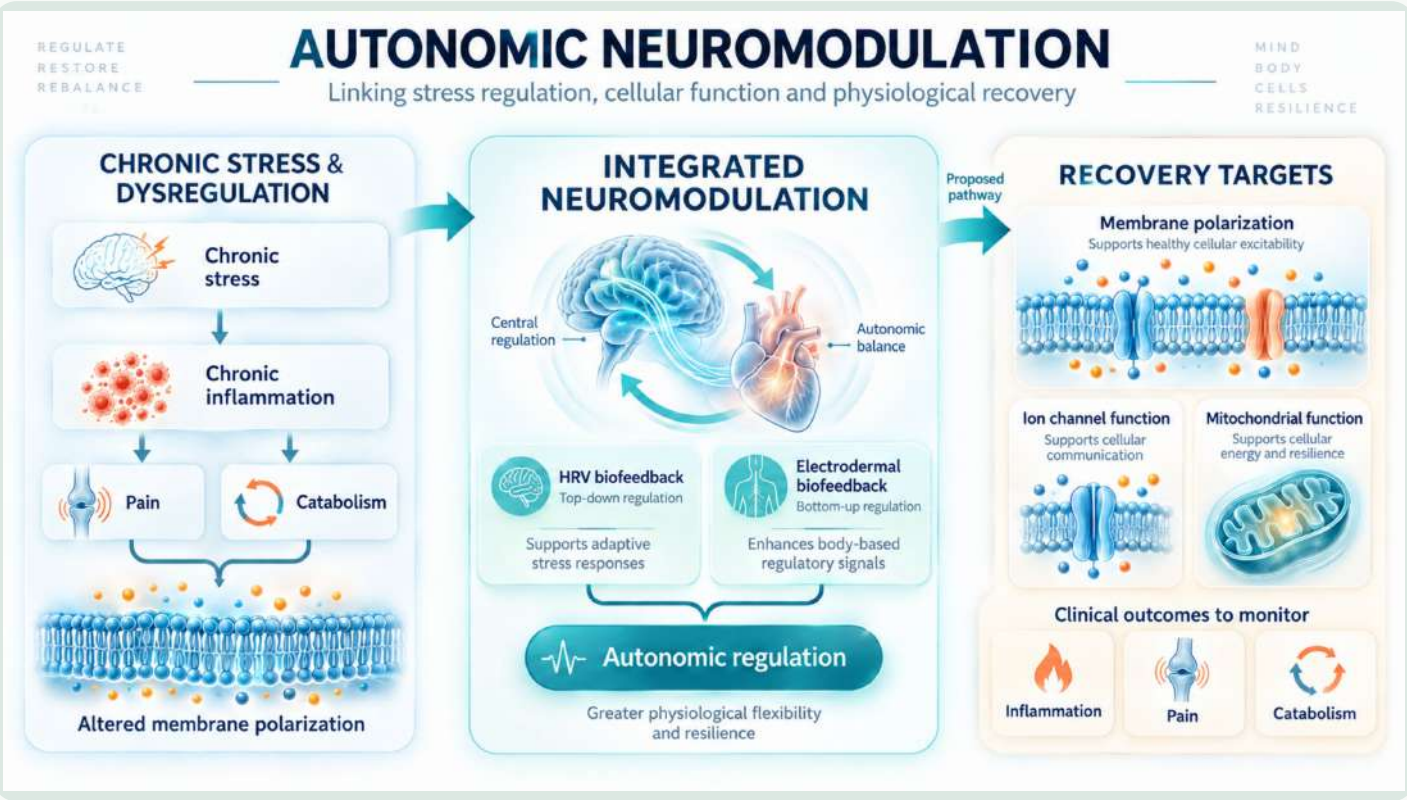
OVERVIEW

RegMatEx follows a closed-loop model: sense, process and return a personalized feedback signal. The device acquires electrodermal bioelectrical information through the contacts, analyzes the pattern, and delivers a gentle feedback signal adapted to what has been detected. The noise-cancelling analogy helps explain the concept: the system listens to the current pattern and returns information intended to support a more organized response. This analogy is conceptual; it does not imply literal acoustic noise cancellation. Clinically, the important point is personalization. The output is not a fixed protocol applied identically to every patient. The feedback is linked to the measured signal and is intended to support autonomic and bioelectrical regulation. We therefore evaluate not only what is delivered, but how the patient responds during and after the intervention.

KEY MESSAGE

RegMatEx closes the loop between sensing, signal processing and personalized electrodermal feedback.

Autonomic Neuromodulation



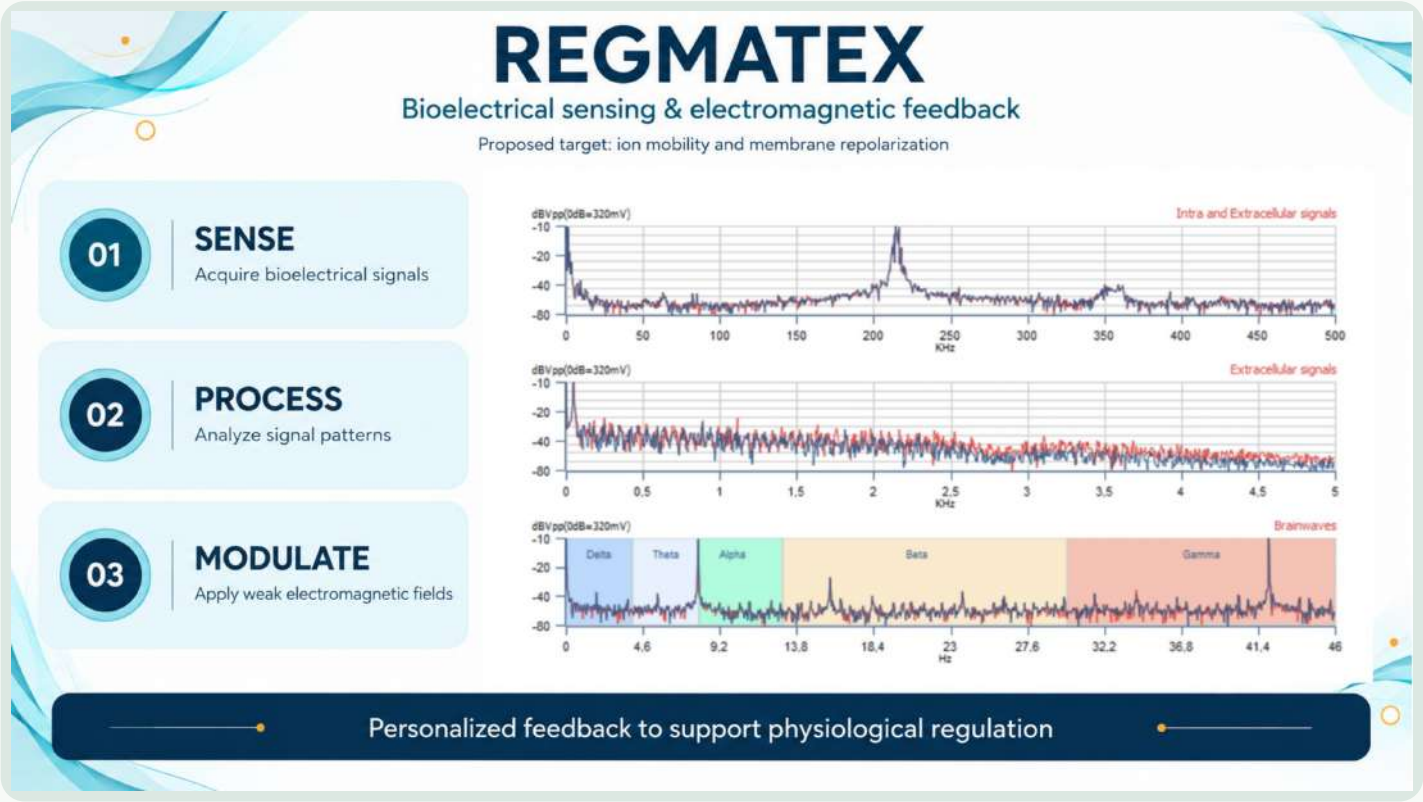
OVERVIEW

This slide connects chronic stress, altered membrane polarization and integrated neuromodulation. HRV biofeedback works from the top down by improving autonomic regulation and reducing emotional interference with the physiological response. Electrodermal biofeedback works from the bottom up by providing body-based regulatory information. When these two directions are combined, the objective is greater physiological flexibility: the nervous system becomes less dominated by persistent stress patterns, while peripheral tissues receive a more coherent regulatory input. The recovery targets shown here include membrane polarization, ion-channel function, mitochondrial function and the clinical variables we continue to monitor, such as inflammation, pain and catabolic load. As we will see at the end of the presentation, the electrodermal devices can be integrated with PPG Stress Flow through the Biotekna Plus software, allowing the electrodermal treatment to be performed simultaneously with HRV biofeedback.

KEY MESSAGE

Top-down HRV biofeedback and bottom-up electrodermal feedback can support the same regulatory objective.

RegMatEx Bioelectrical Sensing and Feedback



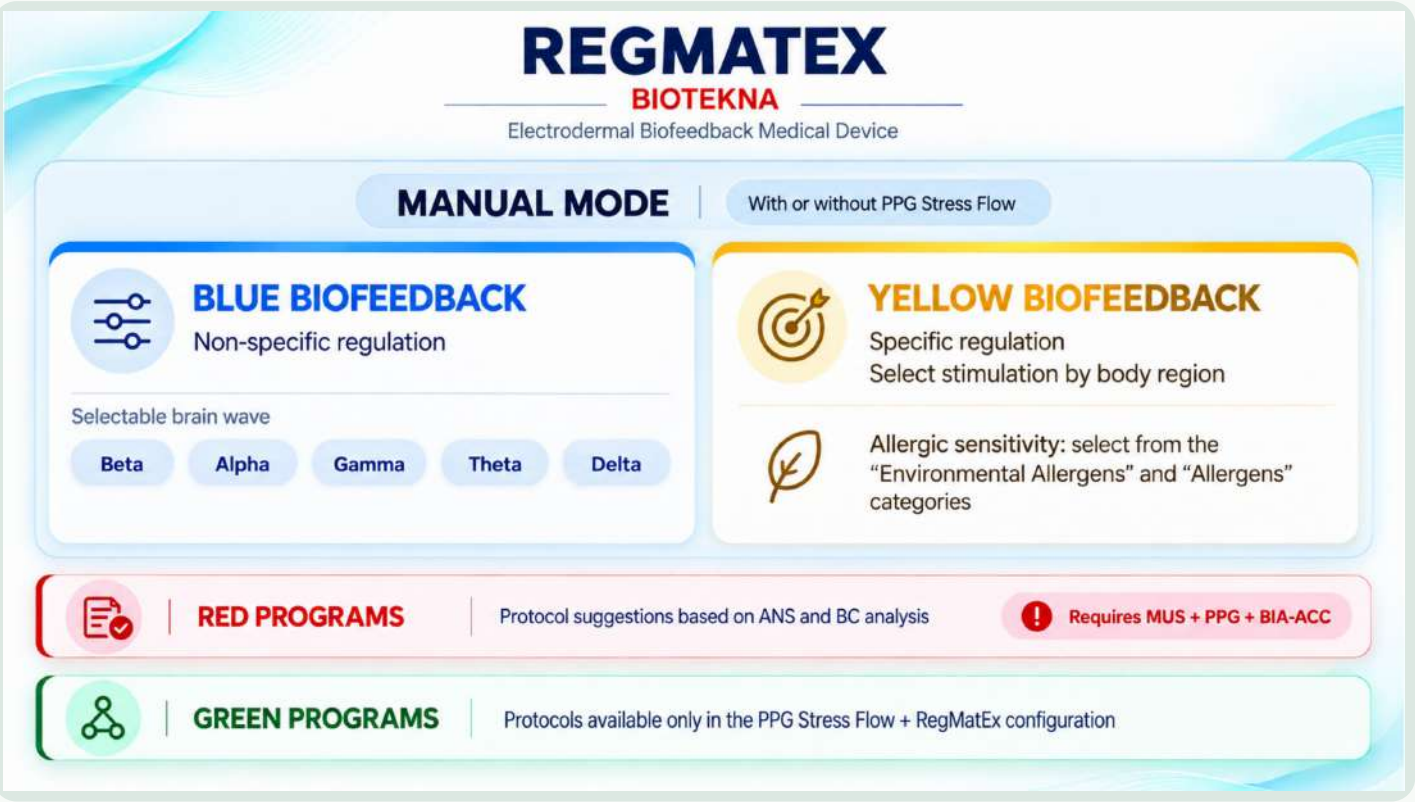
OVERVIEW

RegMatEx acquires the bioelectrical signal continuously, analyzes its spectral pattern and then applies weak electromagnetic feedback. In practical terms, this signal represents the integrated electrical activity generated across the body and detected at the recording interface. We can describe it as a real-time global representation of action-potential-related and extracellular electrical activity from cells and tissues. Scientifically, this is an aggregate surface-detected signal; it is not a direct intracellular recording of every individual cell. The upper spectrum combines intra- and extracellular components, the middle graph emphasizes extracellular signals, and the lower graph organizes low-frequency activity into delta, theta, alpha, beta and gamma bands. These patterns are processed to personalize the feedback. The proposed physiological target is improved ion mobility and support for membrane repolarization, rather than conventional high-intensity electrical stimulation.

KEY MESSAGE

RegMatEx uses an aggregate surface-detected bioelectrical signal to personalize weak electromagnetic feedback.

RegMatEx Operating Modes



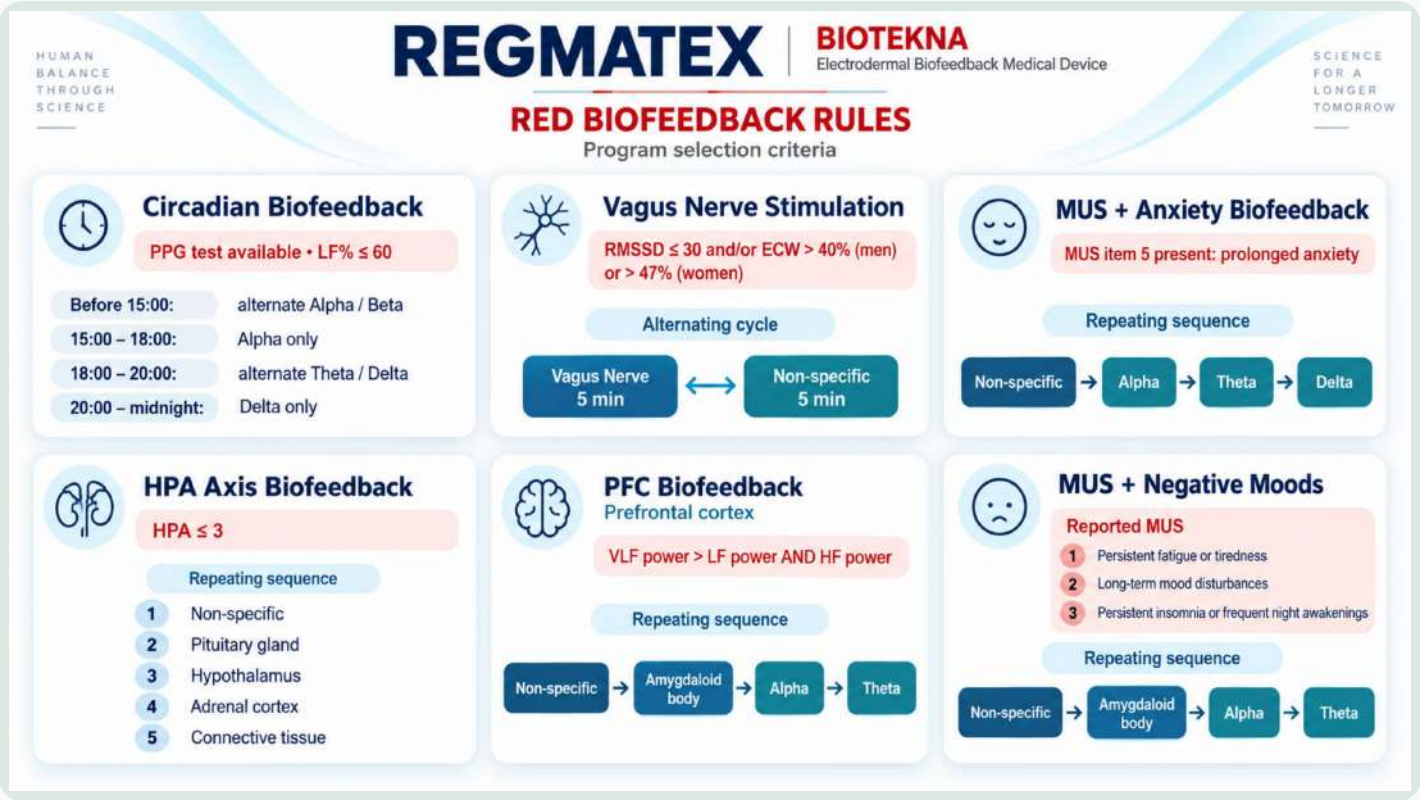
OVERVIEW

RegMatEx offers different levels of clinical control. In manual mode, blue biofeedback provides non-specific regulation and allows the operator to select the desired brain-wave range: beta, alpha, gamma, theta or delta. Yellow biofeedback provides specific regulation, allowing selection by body region or by predefined allergen-related categories. Red programs are suggested protocols based on previous ANS and body-composition analyses and therefore require the relevant assessment data. Green programs are available only when RegMatEx is configured with PPG Stress Flow and use fixed multibiofeedback sequences. The key distinction is between manual selection and data-guided protocol selection. This allows the clinician to begin with a broad regulatory approach or to choose a more specific pathway when the assessment supports it.

KEY MESSAGE

Operating modes range from manual selection to assessment-guided and integrated protocols.

Red Biofeedback Rules



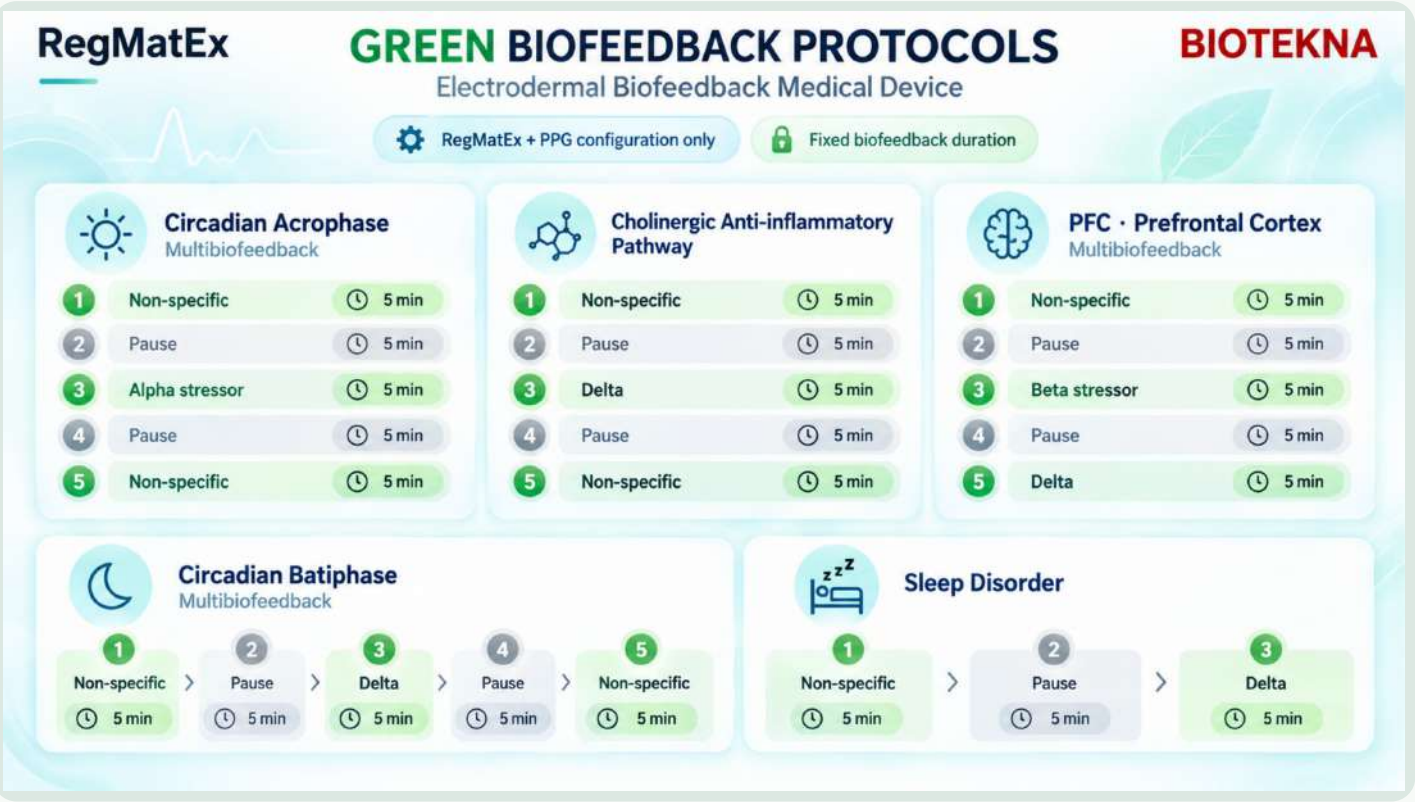
OVERVIEW

The red programs use predefined clinical rules to suggest a sequence when particular findings are present. Circadian biofeedback adapts the selected frequency range to the time of day when the PPG criteria are met. Vagus-nerve stimulation is proposed when vagal markers or extracellular-water findings indicate reduced regulation. HPA-axis biofeedback uses a repeating sequence directed toward the pituitary, hypothalamic, adrenal and connective-tissue components. Prefrontal-cortex biofeedback is proposed when very-low-frequency power predominates over low- and high-frequency power. Additional sequences address anxiety or persistent negative mood patterns identified through the MUS questionnaire. These rules do not replace clinical judgment. They organize assessment information into a reproducible starting protocol that can then be monitored and adjusted according to the patient's response.

KEY MESSAGE

Red rules translate assessment findings into reproducible protocol suggestions while preserving clinical judgment.

Green Biofeedback Protocols



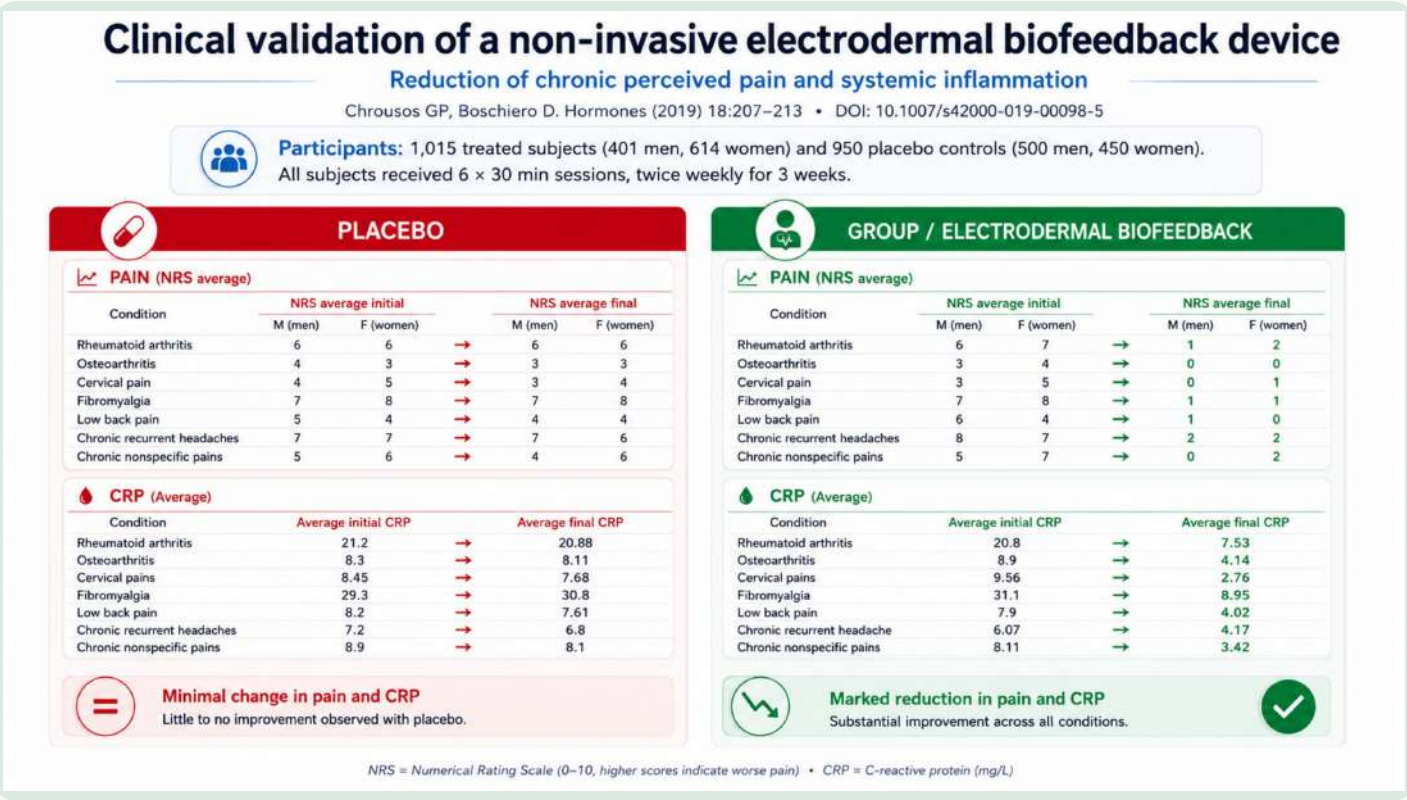
OVERVIEW

Green protocols are available only in the RegMatEx plus PPG configuration, and their duration is fixed. Each protocol alternates five-minute regulatory phases with pauses, creating a structured sequence rather than a continuous undifferentiated stimulus. Circadian acrophase and batiphase protocols are organized around the patient's temporal stress pattern. The cholinergic anti-inflammatory pathway protocol combines non-specific regulation with a delta phase. The prefrontal-cortex protocol adds beta and delta components, while the sleep-disorder protocol uses non-specific regulation followed by delta. The purpose of these programs is consistency: the clinician can repeat a defined sequence and evaluate whether autonomic and symptomatic measures change over time. Their value lies in the combination of standardized delivery and objective reassessment.

KEY MESSAGE

Green protocols combine fixed multibiofeedback sequences with objective autonomic reassessment.

Clinical Validation



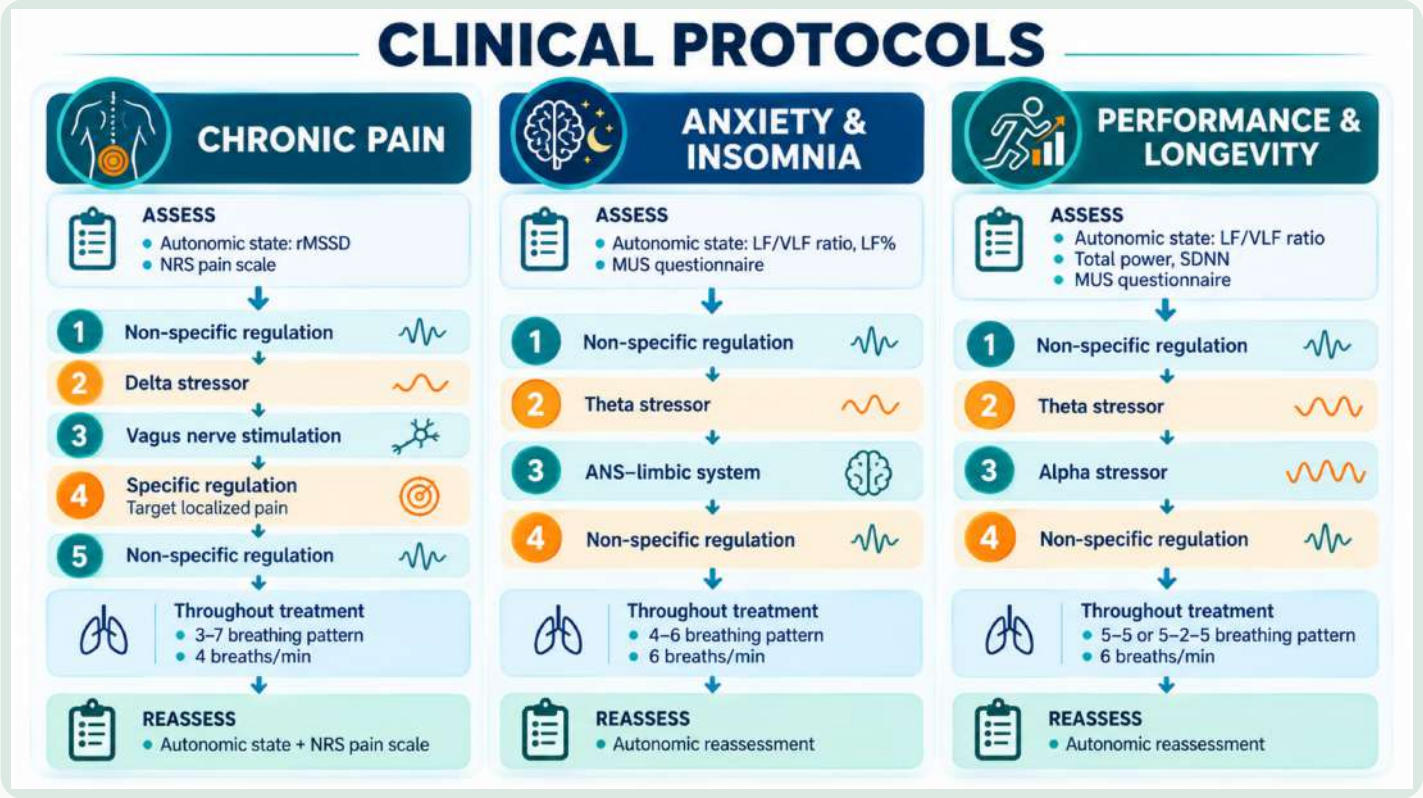
OVERVIEW

This study compared electrodermal biofeedback with placebo in more than one thousand treated subjects and a large placebo group, using repeated sessions over three weeks. The table summarizes changes in pain scores across several conditions and changes in C-reactive protein as a marker of systemic inflammation. The placebo group showed little or no consistent improvement, whereas the electrodermal-biofeedback group showed reductions across the reported pain conditions and a marked decrease in CRP. The practical message is not that every patient will respond identically, but that the intervention was associated with measurable changes beyond subjective relaxation alone. When presenting these results, we should keep the study design and population in mind and avoid extending the findings beyond the conditions that were evaluated. This evidence supports the rationale for structured protocols and objective pre- and post-treatment monitoring.

KEY MESSAGE

Structured electrodermal protocols should be evaluated through measurable clinical and inflammatory outcomes.

Clinical Protocols



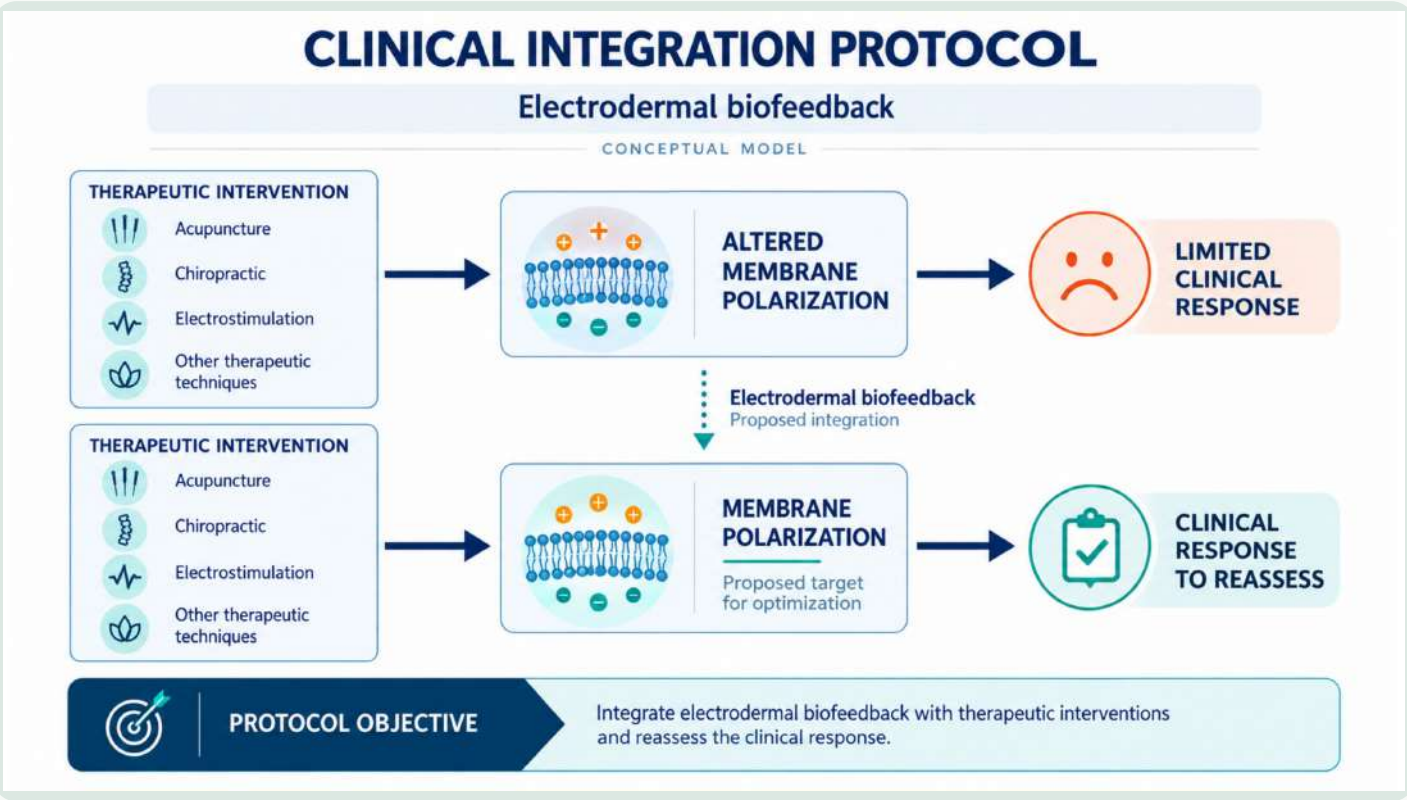
OVERVIEW

Here we see three examples: chronic pain, anxiety and insomnia, and performance and longevity. Every pathway begins with assessment, because the same symptom may arise from different regulatory patterns. Chronic-pain protocols combine non-specific regulation, delta feedback, vagal modulation and region-specific work. Anxiety and insomnia protocols integrate autonomic assessment, MUS evaluation, theta feedback and limbic-system regulation. Performance and longevity protocols focus more strongly on total power, SDNN and the LF-to-VLF relationship, then combine theta, alpha and non-specific regulation. Breathing patterns are maintained throughout treatment to reinforce autonomic control. Each pathway ends with reassessment of the autonomic state and, where appropriate, the numerical pain scale or symptom profile. The protocol is therefore a monitored process, not a one-time stimulation.

KEY MESSAGE

Every clinical pathway begins with assessment and ends with objective reassessment.

Clinical Integration Protocol



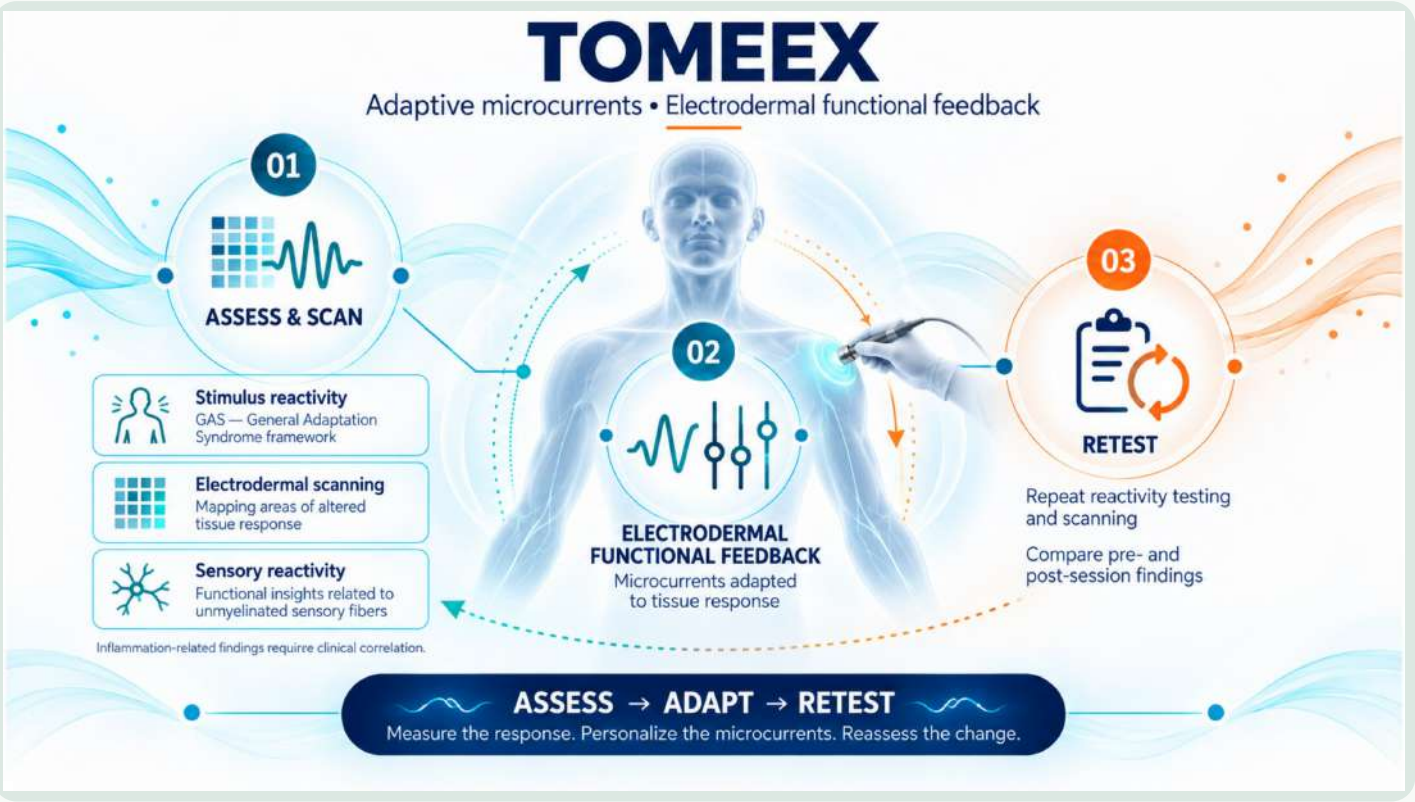
OVERVIEW

This slide illustrates how electrodermal biofeedback can be integrated with acupuncture, chiropractic care, electrostimulation or another therapeutic technique. A patient with altered membrane polarization may show a limited clinical response even when the selected therapy is technically appropriate. The proposed strategy is not to replace the original intervention, but to optimize the regulatory context in which it is delivered. Electrodermal biofeedback is added to support membrane polarization and improve the organism's capacity to respond. The therapeutic intervention is then repeated or continued, and the clinical response is reassessed. This creates a practical decision loop: if the patient is a poor responder, we evaluate bioelectrical regulation, introduce feedback and verify whether responsiveness changes. The objective is integration and personalization, rather than competition between techniques.

KEY MESSAGE

Electrodermal feedback can optimize the regulatory context in which another therapeutic intervention is delivered.

TomEEx Assess Adapt Retest



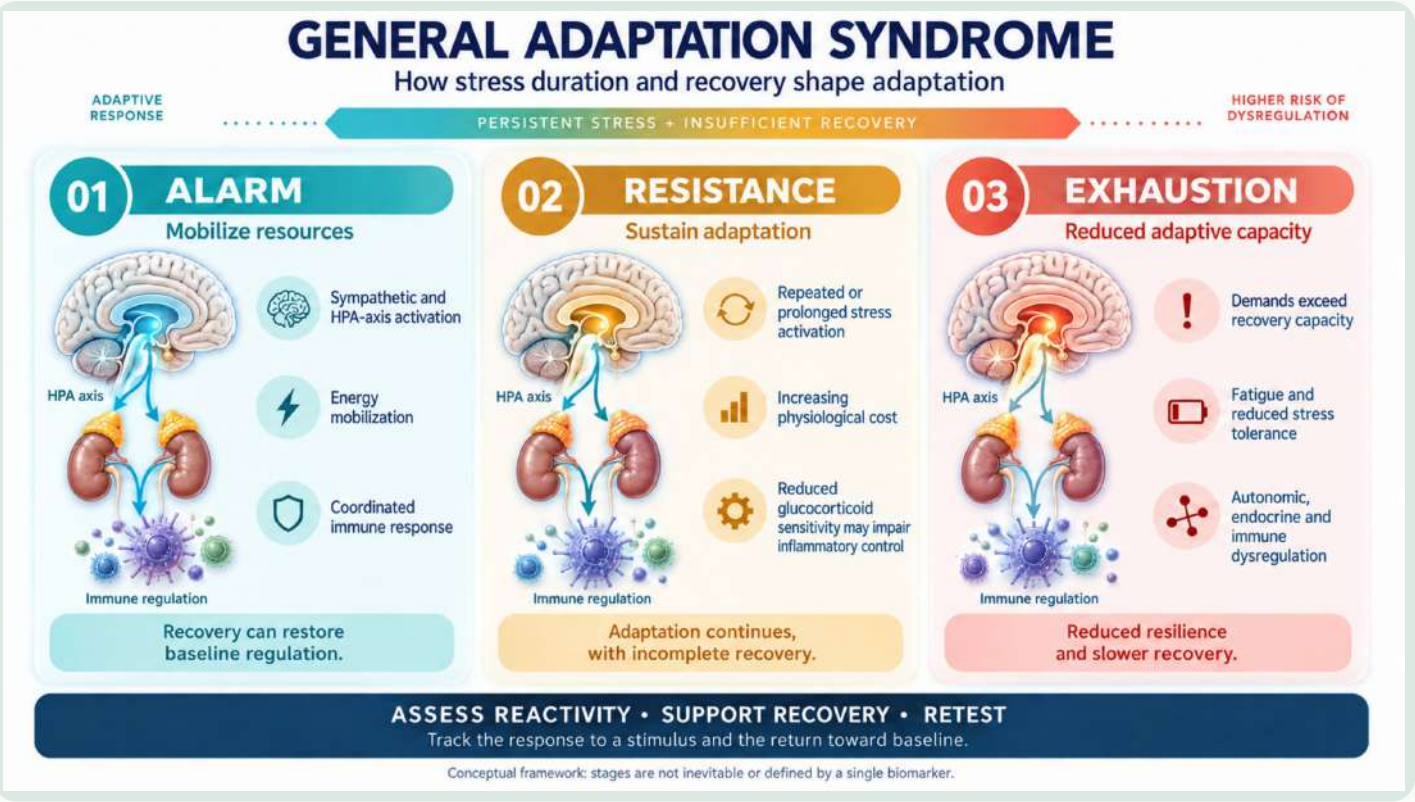
OVERVIEW

TomEEx is organized around three phases: assess and scan, adapt, and retest. The initial assessment measures stimulus reactivity, maps altered tissue zones and evaluates the behavior of small sensory and autonomic fibers. The adaptive phase applies microcurrents that change according to the tissue response rather than remaining fixed. The final phase repeats the reactivity test and scanning so that the clinician can compare the pre- and post-session findings. This is why we call it electrodermal functional feedback. The intervention is guided by physiology observed in real time. The goal is to personalize the current, support charge movement within the extracellular matrix and then verify whether the system demonstrates improved regulation, recovery or tissue response.

KEY MESSAGE

TomEEx follows a closed sequence: assess and scan, adapt the microcurrent, and retest the response.

General Adaptation Syndrome



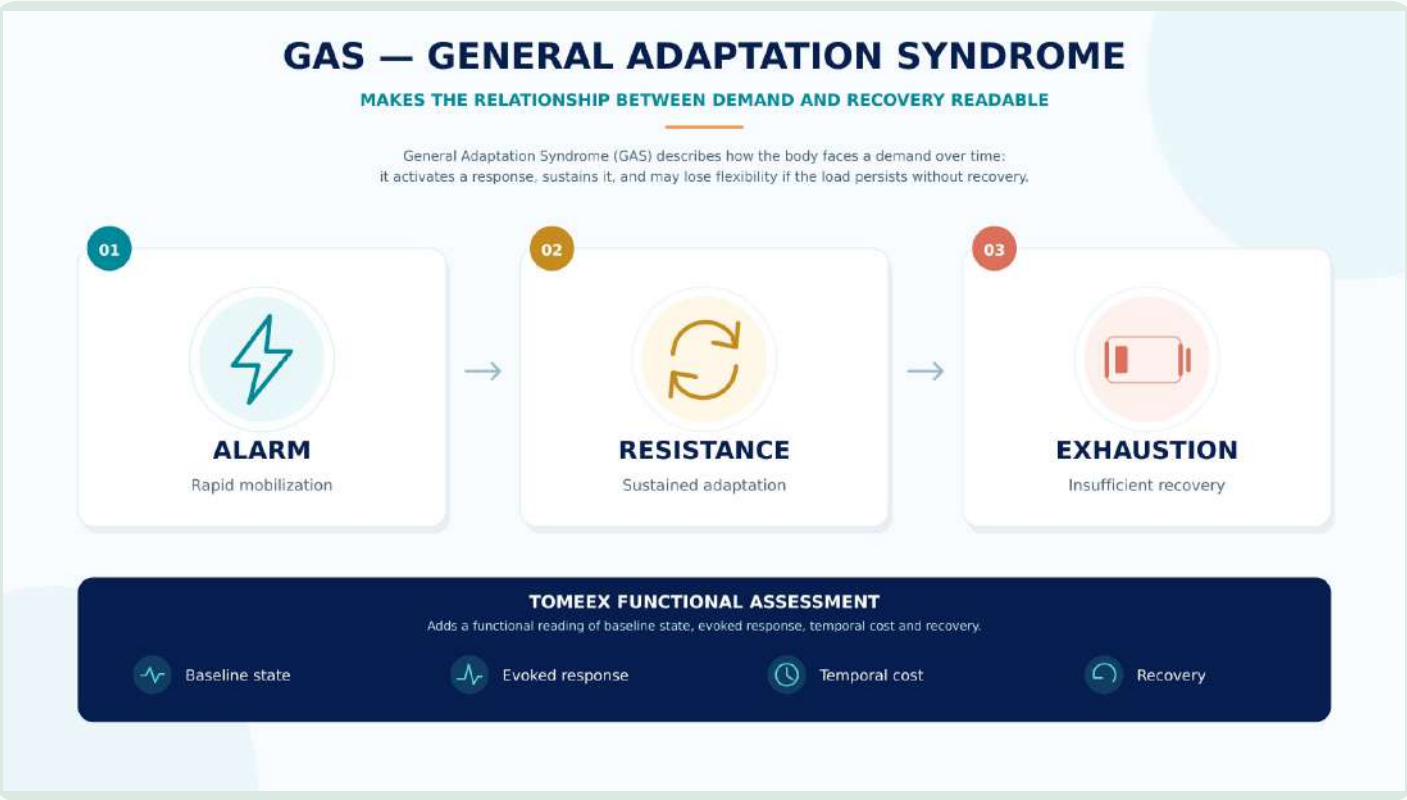
OVERVIEW

The General Adaptation Syndrome describes how the organism responds to demand over time. In the alarm phase, sympathetic and HPA-axis activation mobilize energy rapidly and coordinate the immune response. This is an appropriate short-term reaction when recovery follows. During resistance, the response is sustained. The organism can continue to function, but the physiological cost increases, glucocorticoid sensitivity may change and inflammatory control may become less efficient. In exhaustion, demands exceed recovery capacity. Fatigue, reduced stress tolerance and broader autonomic, endocrine and immune dysregulation become more likely. These phases are not rigid diagnoses and are not determined by a single biomarker. They provide a functional framework for asking whether the patient can mobilize resources, sustain a response and return toward baseline.

KEY MESSAGE

GAS describes the progression from rapid mobilization to sustained adaptation and insufficient recovery.

TomEEx Functional Assessment of GAS



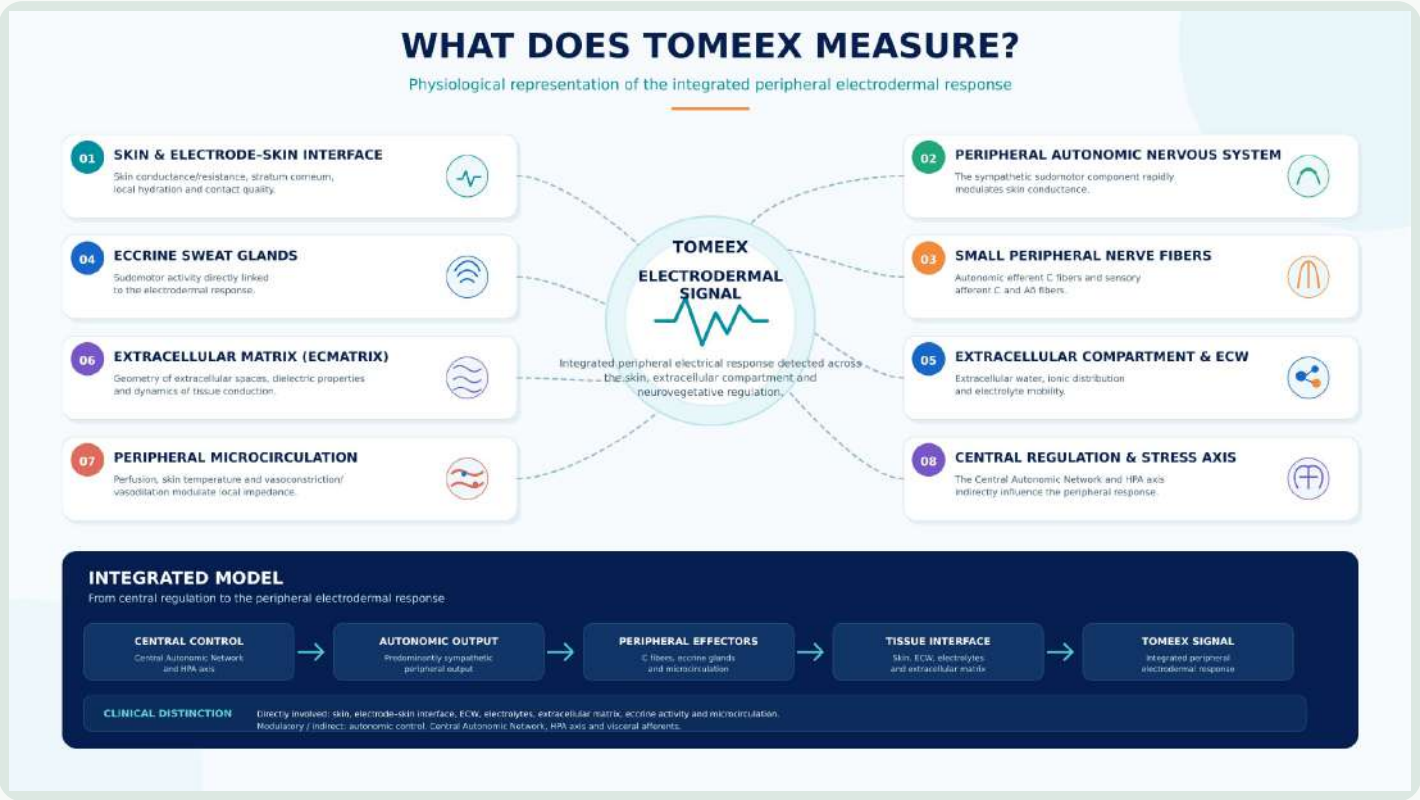
OVERVIEW

This simplified representation makes the central question readable: what is the relationship between demand and recovery? Alarm corresponds to rapid mobilization, resistance to sustained adaptation, and exhaustion to insufficient recovery. TomEEx adds a functional interpretation by examining four elements: the baseline state, the evoked response to a controlled stimulus, the temporal cost of that response and the capacity to recover. A strong initial reaction is not automatically healthy, and a small response is not automatically pathological. We must consider whether the response is proportional, whether it can be sustained without excessive cost, and whether the system returns toward baseline. This is why the retest is essential. Functional capacity is demonstrated through change over time.

KEY MESSAGE

Functional capacity is revealed by the relationship among baseline, evoked response, regulatory cost and recovery.

What TomEEx Measures



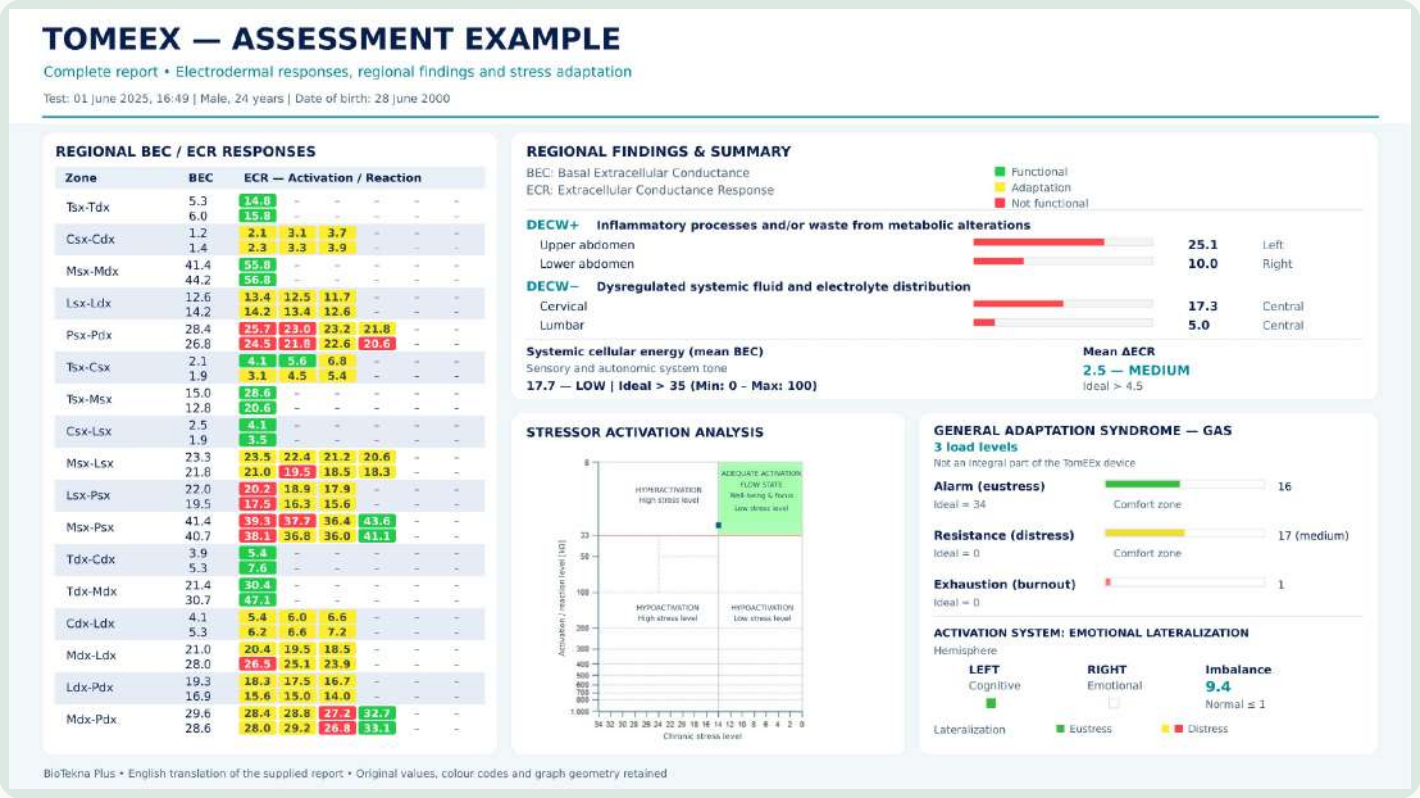
OVERVIEW

TomEEx records an integrated peripheral electrodermal response. The signal is directly influenced by the skin and electrode-skin interface, eccrine sweat-gland activity, extracellular water and electrolytes, the extracellular matrix and local microcirculation. Small autonomic and sensory fibers contribute through sudomotor and afferent activity. Central autonomic networks and the HPA axis influence the signal indirectly by modulating sympathetic output and peripheral effectors. It is therefore important not to interpret the measurement as a single-organ reading. The signal represents the interaction between central regulation, autonomic output, peripheral fibers, sweat glands, microcirculation, skin, extracellular water and matrix conductivity. Clinically, this integrated model helps us distinguish what is directly sampled at the tissue interface from the central systems that modulate the response.

KEY MESSAGE

The TomEEx signal integrates skin, sweat glands, small fibers, extracellular water, matrix and microcirculation.

TomEEx Assessment Example Regional Report



TOMEEX — ASSESSMENT EXAMPLE

Complete report • Electrodermal responses, regional findings and stress adaptation

Test: 01 June 2025, 16:49 | Male, 24 years | Date of birth: 28 June 2000

REGIONAL BEC / ECR RESPONSES

Zone	BEC	ECR — Activation / Reaction					
Tsx-Tdx	5.3 6.0	14.8 15.8	–	–	–	–	–
Csx-Cdx	1.2 1.4	2.1 2.3	3.1 3.3	3.7 3.9	–	–	–
Msx-Mdx	41.4 44.2	55.8 56.8	–	–	–	–	–
Lsx-Ldx	12.6 14.2	13.4 14.2	12.5 13.4	11.7 12.6	–	–	–
Psx-Pdx	28.4 26.8	25.7 24.5	23.0 21.8	23.2 22.6	21.8 20.6	–	–
Tsx-Csx	2.1 1.9	4.1 3.1	5.6 4.5	6.8 5.4	–	–	–
Tsx-Msx	15.0 12.8	28.6 20.6	–	–	–	–	–
Csx-Lsx	2.5 1.9	4.1 3.5	–	–	–	–	–
Msx-Lsx	23.3 21.8	23.5 21.0	22.4 19.5	21.2 18.5	20.6 18.3	–	–
Lsx-Psx	22.0 19.5	20.2 17.5	18.9 16.3	17.9 15.6	–	–	–
Msx-Psx	41.4 40.7	39.3 38.1	37.7 36.8	36.4 36.0	43.6 41.1	–	–
Tdx-Cdx	3.9 5.3	5.4 7.6	–	–	–	–	–
Tdx-Mdx	21.4 30.7	30.4 47.1	–	–	–	–	–
Cdx-Ldx	4.1 5.3	5.4 6.2	6.0 6.6	6.6 7.2	–	–	–
Mdx-Ldx	21.0 28.0	20.4 26.5	19.5 25.1	18.5 23.9	–	–	–
Ldx-Pdx	19.3 16.9	18.3 15.6	17.5 15.0	16.7 14.0	–	–	–
Mdx-Pdx	29.6 28.6	28.4 28.0	28.8 29.2	27.2 26.8	32.7 33.1	–	–

REGIONAL FINDINGS & SUMMARY

BEC: Basal Extracellular Conductance
ECR: Extracellular Conductance Response

Functional
Adaptation
Not functional

DECW+ Inflammatory processes and/or waste from metabolic alterations

Upper abdomen — 25.1 Left
Lower abdomen — 10.0 Right

DECW− Dysregulated systemic fluid and electrolyte distribution

Cervical — 17.3 Central
Lumbar — 5.0 Central

Systemic cellular energy (mean BEC)
Sensory and autonomic system tone
17.7 — LOW | Ideal > 35 (Min: 0 – Max: 100)

Mean ΔECR
2.5 — MEDIUM
Ideal > 4.5

STRESSOR ACTIVATION ANALYSIS

GENERAL ADAPTATION SYNDROME — GAS

3 load levels
Not an integral part of the TomEEx device

Alarm (eustress) — 16
Ideal = 34 — Comfort zone

Resistance (distress) — 17 (medium)
Ideal = 0 — Comfort zone

Exhaustion (burnout) — 1
Ideal = 0

ACTIVATION SYSTEM: EMOTIONAL LATERALIZATION

Hemisphere

LEFT	RIGHT	Imbalance
Cognitive	Emotional	9.4
		Normal ≤ 1

Lateralization — Eustress — Distress

BioTekna Plus • English translation of the supplied report • Original values, colour codes and graph geometry retained

OVERVIEW

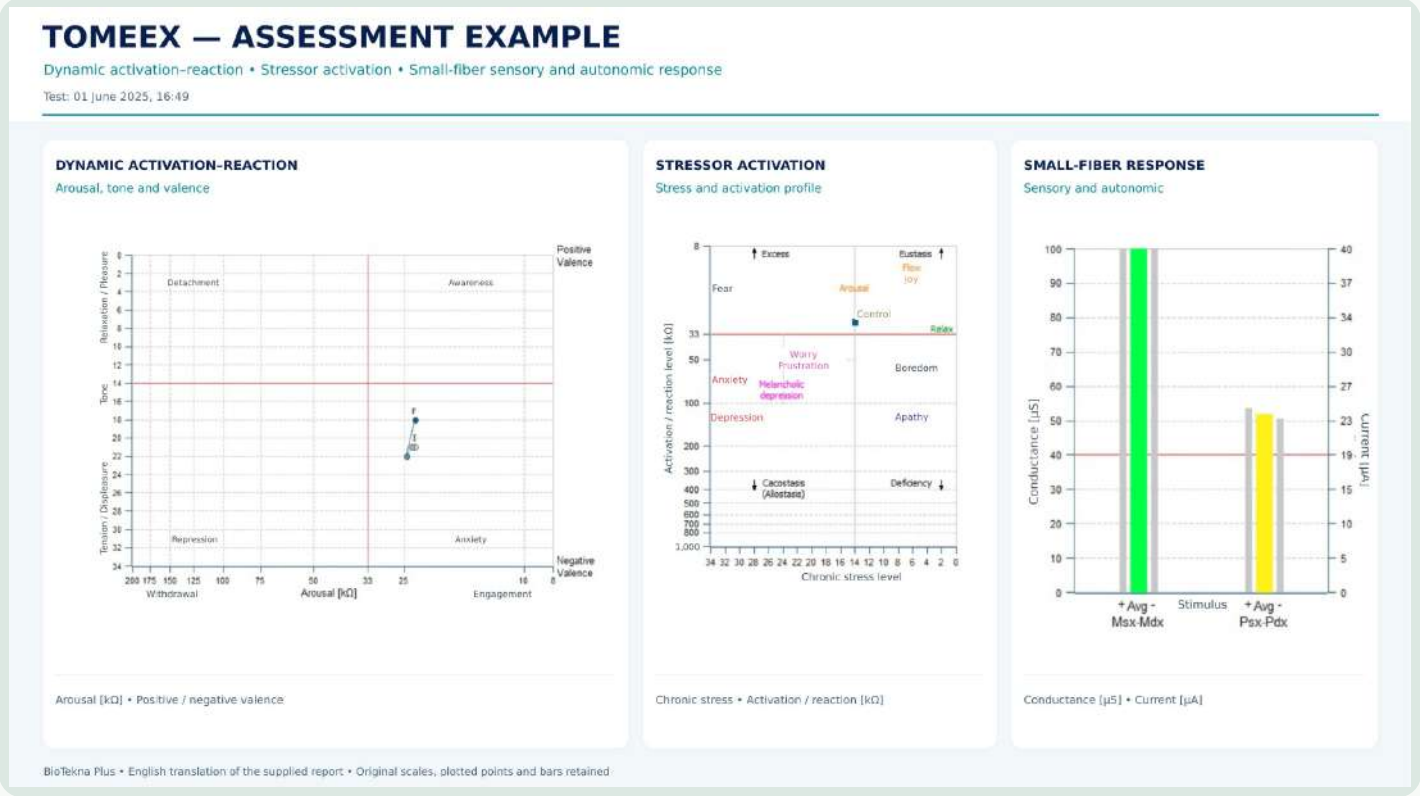
This report combines regional basal extracellular conductance (BEC) with evoked conductance responses (ECR) on 34 different parts of the body. Green values indicate a functional response, yellow indicates adaptation and red indicates a non-functional pattern. The regional table is interpreted together with the summary of inflammatory or metabolic-waste patterns, hydroelectrolytic distribution, systemic cellular-energy markers and the mean evoked response. The lower panels add stressor-activation analysis, the General Adaptation Syndrome load levels and emotional lateralization. The purpose is not to diagnose a disease from a colored cell. The value comes from integrating regional behavior, systemic patterns and the quality of response to stimulation. This provides a functional map that can guide where to intervene and what to reassess after feedback.

T = head, C = cervical, M = hand, L = lumbar, P = foot, sx = left, dx = right

KEY MESSAGE

Regional values become clinically useful only when integrated with systemic patterns and response quality.

TomEEx Assessment Example Dynamic Maps



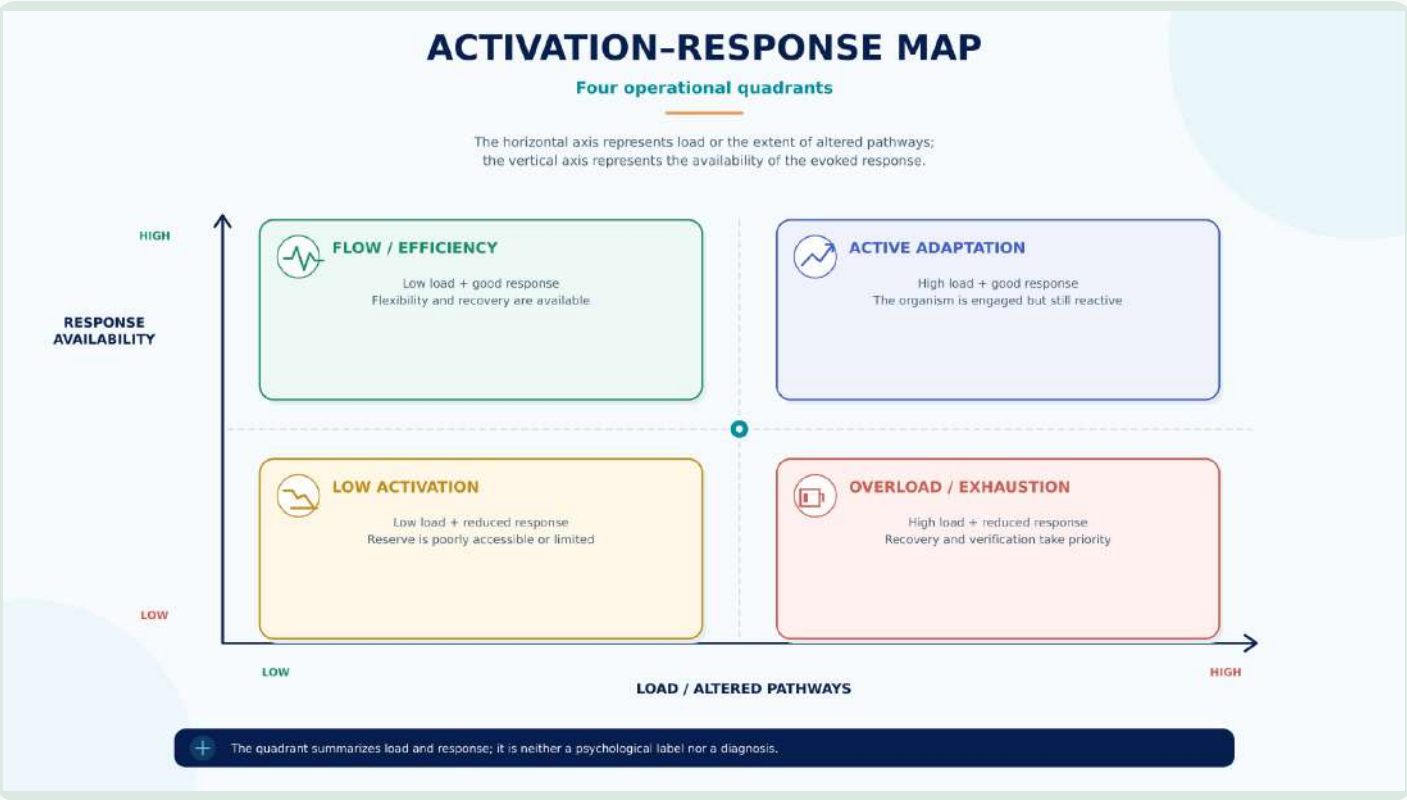
OVERVIEW

This page focuses on dynamic activation and response. The upper graph maps arousal against tone and valence, showing where the patient's initial and final points lie within the four functional regions. The lower-left graph compares chronic load with activation or reaction and places the response in relation to flow, control, anxiety, apathy or allostatic overload. The lower-right graph summarizes small-fiber sensory and autonomic responses, comparing conductance and current across selected regions. These are functional coordinates, not psychological labels and not standalone diagnoses. Their purpose is to show whether the response is available, excessive, reduced or inefficient, and whether different pathways behave symmetrically. This information helps select the feedback strategy and provides a baseline for the post-treatment comparison.

KEY MESSAGE

Dynamic maps show whether the evoked response is available, excessive, reduced or inefficient.

Activation Response Map



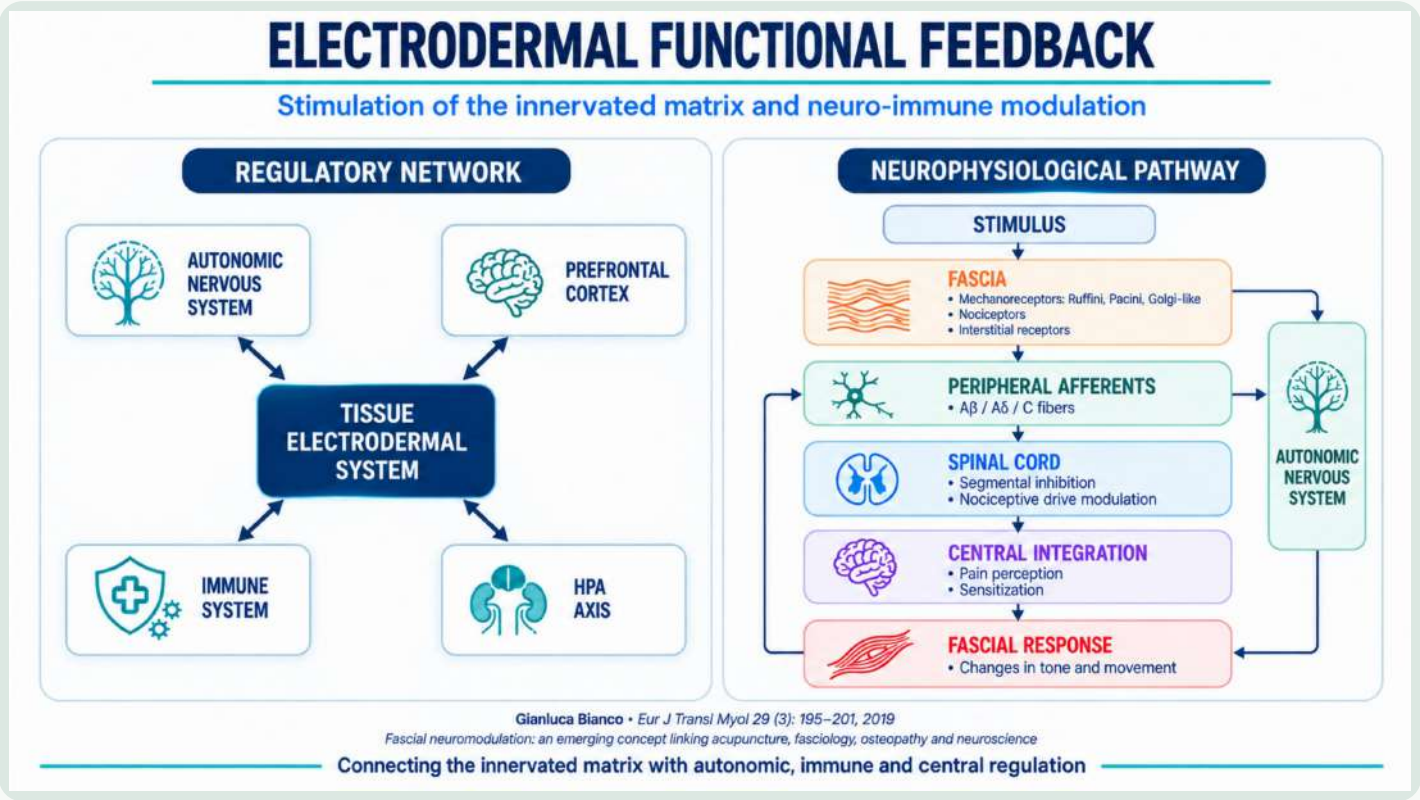
OVERVIEW

The horizontal axis represents load or the extent of altered pathways; the vertical axis represents the availability of the evoked response. Low load with a good response is the flow or efficiency quadrant: flexibility and recovery are available. High load with a good response is active adaptation: the organism is still reactive, but it is working under greater demand. Low load with a reduced response suggests low activation or limited accessible reserve. High load with a reduced response indicates overload or exhaustion, where recovery and verification become priorities. The quadrant summarizes the balance between demand and responsiveness. It is not a psychological label and it is not a diagnosis. It is a practical way to decide whether the next intervention should challenge, regulate or prioritize recovery.

KEY MESSAGE

The activation-response quadrant summarizes the balance between physiological load and available responsiveness.

Electrodermal Functional Feedback



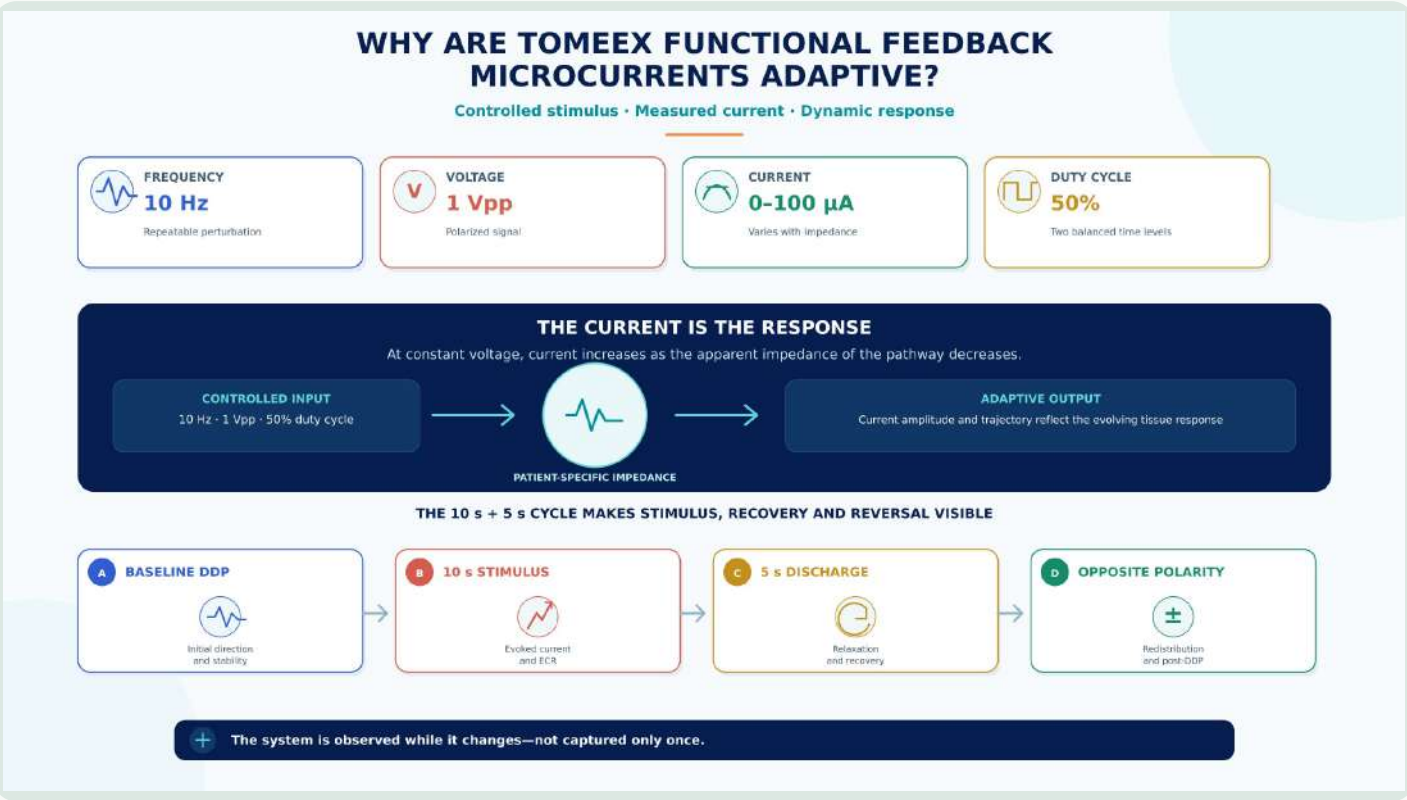
OVERVIEW

Electrodermal functional feedback acts through an innervated tissue network. The fascia contains mechanoreceptors, nociceptors and interstitial receptors. Peripheral A-beta, A-delta and C fibers transmit information to the spinal cord, where segmental inhibition and nociceptive modulation occur. Central integration influences pain perception and sensitization, while the autonomic nervous system provides continuous bidirectional regulation. Changes in fascial tone and movement then feed back into this network. The left side of the slide emphasizes that the tissue electrodermal system is also connected with the prefrontal cortex, the HPA axis, the immune system and autonomic regulation. The clinical concept is therefore neuro-immune and neuro-fascial modulation, not simply local current delivery.

KEY MESSAGE

Electrodermal functional feedback acts within an integrated neuro-fascial, autonomic and immune network.

Why TomEEx Microcurrents Are Adaptive



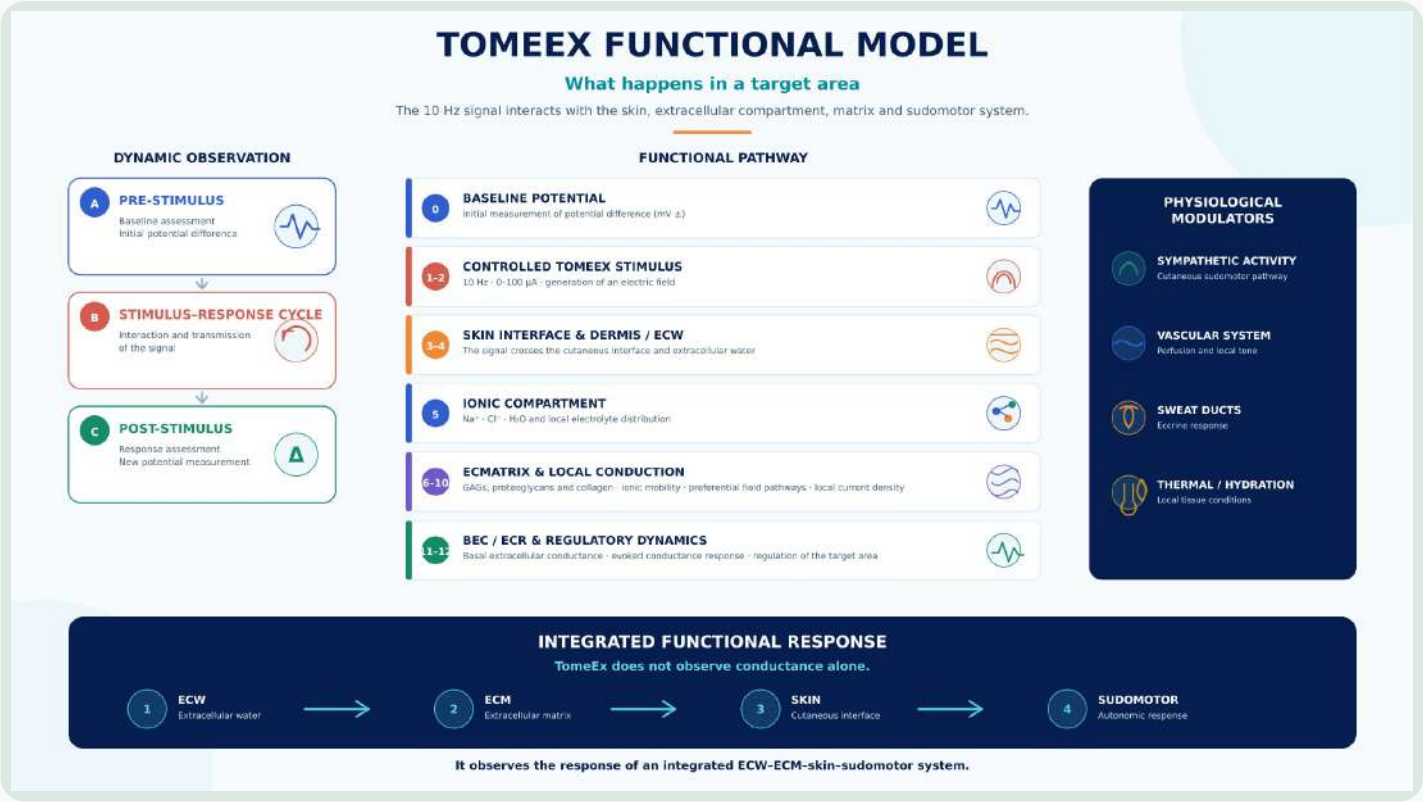
OVERVIEW

The controlled stimulus has defined parameters: 10 hertz, 1 volt peak-to-peak, a current ranging from zero to one hundred microamperes and a fifty-percent duty cycle. The voltage and timing are controlled, while the current is the response. At constant voltage, the measured current changes as the apparent impedance of the pathway changes. This means the output reflects the tissue encountered between the electrodes. The ten-second stimulus and five-second discharge cycle allows us to observe stimulation, recovery and reversal rather than taking only one static measurement. The system therefore adapts the amplitude and trajectory of the microcurrent to the tissue response. TomEEx observes the system while it is changing.

KEY MESSAGE

At constant voltage, changing current reveals the tissue response and allows the microcurrent to adapt.

TomEEx Functional Model Target Area



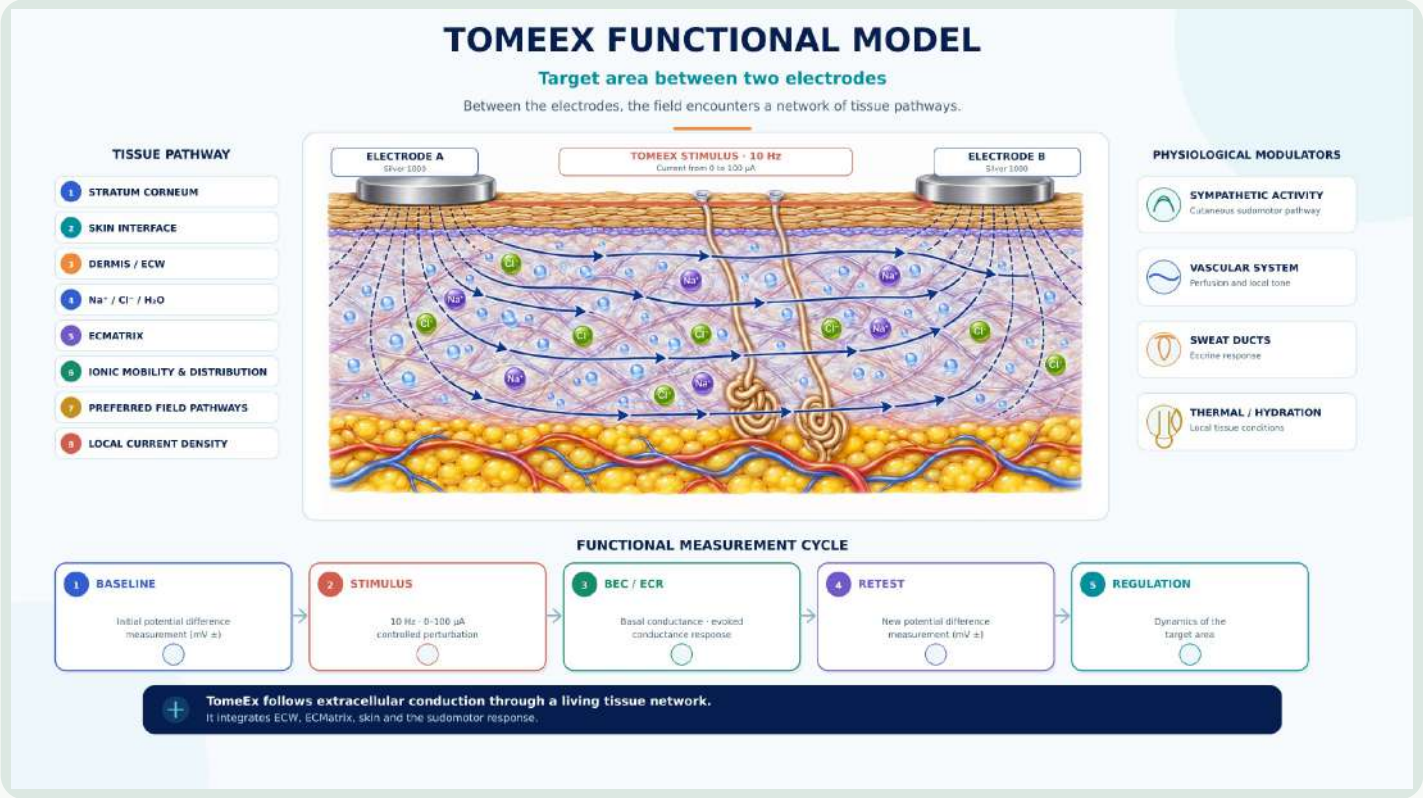
OVERVIEW

This functional model follows the signal through a target area. Before stimulation, the device measures the baseline potential difference. During the controlled 10-hertz stimulus, current interacts with the skin interface, dermis, extracellular water, ionic compartment and extracellular matrix. The tissue's conductivity, ionic distribution and local pathways determine the measured response. After the stimulus, the post-stimulus phase reveals relaxation and initial recovery. Sympathetic activity, vascular behavior, sweat ducts and local thermal or hydration conditions modulate the pattern. The key point is that TomEEx does not observe conductance in isolation. It observes the integrated response of an ECW-ECM-skin-sudomotor system and evaluates how that response evolves before, during and after stimulation.

KEY MESSAGE

TomEEx observes the integrated ECW-ECM-skin-sudomotor system before, during and after stimulation.

TomEEx Functional Model Between Two Electrodes



OVERVIEW

Between the two silver electrodes, the field encounters a living network of possible tissue pathways. The signal crosses the stratum corneum and skin interface, moves through dermal and extracellular-water compartments, and is influenced by sodium, chloride, water, matrix architecture, ionic mobility and local current density. Sweat ducts and vascular structures create additional preferential pathways. The functional measurement cycle begins with the baseline potential difference, applies the 10-hertz microcurrent stimulus, measures basal and evoked conductance, performs a retest of the potential difference and evaluates the dynamics of the local area. This is why electrode placement matters: TomEEx is assessing the electrical behavior of the specific tissue network located between the contacts.

KEY MESSAGE

Electrode placement defines the living tissue network whose electrical behavior is being assessed.

TomEEx Functional Feedback Time Plot

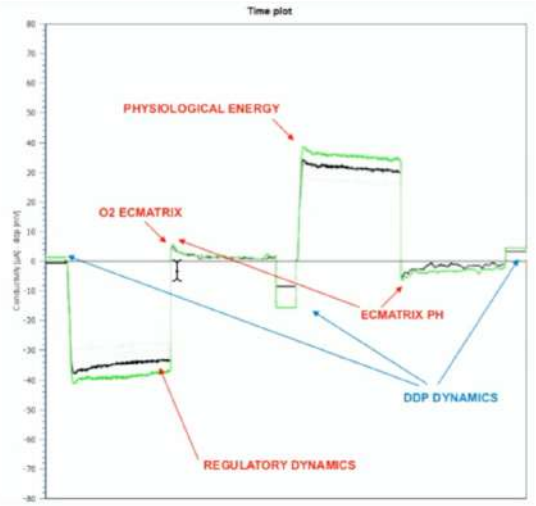
TOMEEX — FUNCTIONAL FEEDBACK

Session example • Time plot and reported response analysis

Electrodermal functional feedback

TIME PLOT

Original annotated recording



STIMULUS ANALYSIS

Parameter	Reported status
Physiological energy	Normal
Regulatory dynamics	Normal
ECMatrix colloidal state	Normal
O_2 ECMatrix	Low
ECMatrix pH	Altered

DDP ANALYSIS

Parameter	Reported status
DDP dynamics	Normal
DDP event 1	Normal
DDP event 2	—
DDP event 3	—

Source: supplied functional feedback report • Original recording retained • Results transcribed from the supplied analysis

OVERVIEW

This graph shows the complete functional cycle. First, TomEEx measures the initial difference in potential, or DDP, establishing the electrical baseline of the pathway. It then applies the controlled stimulus for ten seconds. The signal produced during this phase represents the regulatory expenditure: how much electrical and physiological work the tissue requires to respond. The stimulus is followed by a five-second discharge phase. The recovery pattern during discharge provides information about the capacity to return toward baseline and is interpreted in relation to tissue oxygenation, extracellular-matrix pH and the broader physiology of the tissue. For DDP dynamics to be considered physiological, one of every three DDP events should show opposite polarity, demonstrating the ability to reverse rather than remain electrically rigid. TomEEx Functional Feedback is therefore presented as a repolarization therapy: it measures, stimulates, observes recovery and adapts the microcurrent to support restoration of physiological polarity.

KEY MESSAGE

The DDP, ten-second stimulus and five-second discharge reveal regulatory expenditure, recovery and polarity dynamics.

TomEEx Pre and Post Functional Feedback



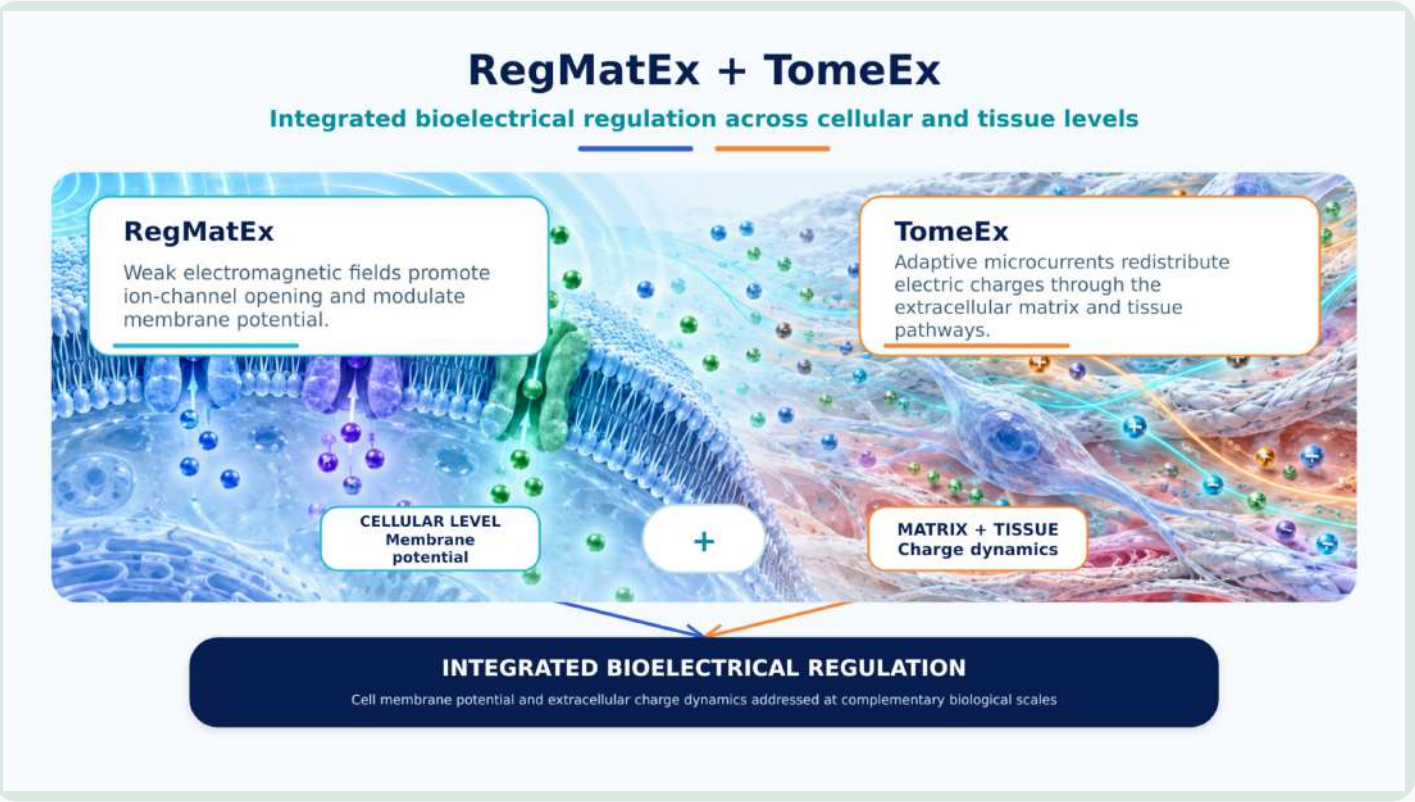
OVERVIEW

This slide compares the assessment before and after a functional-feedback session. We can examine regional conductance, evoked responses, inflammatory or metabolic-waste patterns, hydroelectrolytic distribution, mean basal energy, mean ECR, stressor activation, GAS load and emotional lateralization. The objective is not to make every value green in one session. We look for a more organized pattern: fewer non-functional responses, improved recovery, a shift toward the comfort zone and reduced asymmetry or excessive load. The post-treatment scan is essential because it verifies whether the selected feedback produced a measurable physiological change. This allows the clinician to retain, modify or discontinue the chosen strategy based on response rather than assumption.

KEY MESSAGE

The post-treatment scan verifies whether functional feedback produced a measurable physiological change.

RegMatEx and TomEEx Integrated Regulation



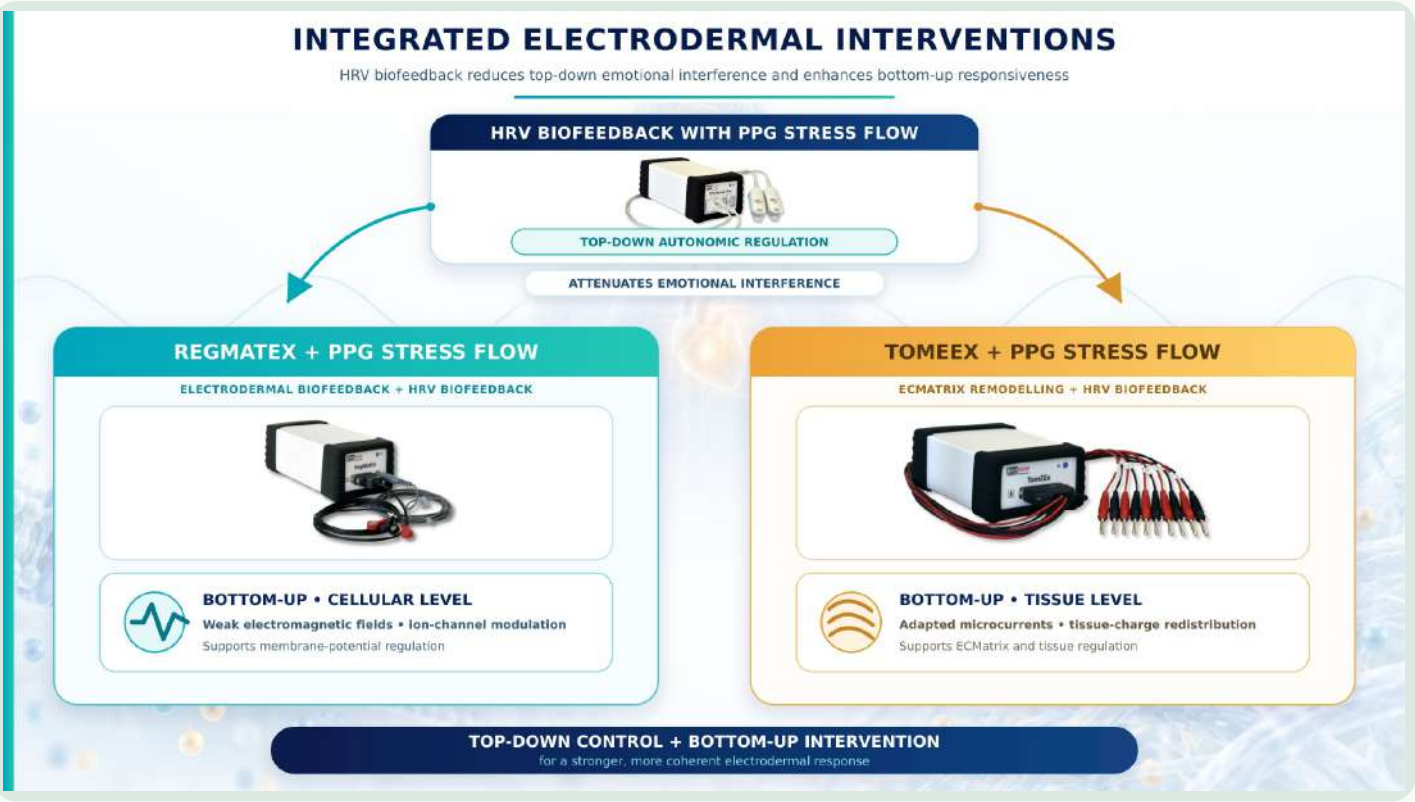
OVERVIEW

RegMatEx and TomEEx address complementary levels of bioelectrical regulation. RegMatEx uses weak electromagnetic fields with the proposed aim of supporting ion-channel behavior and membrane-potential regulation at the cellular level. TomEEx uses adaptive microcurrents to redistribute electrical charge through the extracellular matrix and tissue pathways. One approach is centered on membrane and cellular signaling; the other emphasizes matrix conductivity, extracellular charge dynamics and tissue response. These levels are biologically interconnected: cell-membrane polarization influences the extracellular environment, while extracellular ionic and matrix conditions influence cellular excitability. Integration therefore creates a broader bioelectrical strategy while preserving a clear assessment-intervention-reassessment sequence.

KEY MESSAGE

RegMatEx targets membrane regulation while TomEEx targets extracellular charge and tissue dynamics.

Integrated Electrodermal Interventions with PPG Stress Flow



OVERVIEW

HRV Biofeedback with PPG Stress Flow provides the shared top-down component. By regulating breathing and autonomic oscillations, HRV biofeedback reduces emotional and central autonomic interference during the electrodermal intervention. Through Biotekna Plus, PPG Stress Flow can be integrated with RegMatEx or TomEEx so that HRV biofeedback is performed simultaneously with the bottom-up treatment. In the RegMatEx pathway, electrodermal biofeedback and weak electromagnetic fields support cellular membrane regulation. In the TomEEx pathway, adaptive microcurrents support charge redistribution and ECMatrix remodeling at the tissue level. The clinical hypothesis is that reducing top-down interference allows a clearer and more coherent bottom-up response. The two directions therefore work together: autonomic regulation from the top down and electrodermal regulation from the bottom up.

KEY MESSAGE

HRV biofeedback reduces top-down interference and can amplify the bottom-up electrodermal response.

Assess Restore Monitor Reassess



OVERVIEW

The message I would like to leave you with is that longevity and recovery must be measured as physiology, not presented as a vague wellness promise. We assess the patient's regulatory state, restore what can be modified, monitor the response and reassess objectively. Electrodermal interventions add a bioelectrical dimension to this process. RegMatEx contributes personalized electromagnetic feedback at the cellular and membrane level. TomEEx contributes functional assessment and adaptive microcurrents at the extracellular-matrix and tissue level. PPG Stress Flow adds HRV biofeedback and top-down autonomic regulation. Together, these tools create a coherent clinical workflow focused on adaptability, recovery and verified change.

For informational and professional education purposes. Functional measurements support clinical reasoning but do not replace medical diagnosis, appropriate investigation or individualized care. Device use must consider history, contraindications and applicable regulations.

KEY MESSAGE

Assess it. Restore it. Monitor it. Reassess it. That's physiology.