Q-Alpha insoles and Garmin Body Battery: what six days of one user reveal

Observational case study (n = 1) — the signal is about the floor, not the ceiling

Level of evidence : Observed in-house (Garmin Body Battery score, 6 days) — retrospective observational case study, n = 1, non-randomized, non-blinded, unmatched conditions (seasonal confound); conflict of interest declared; exploratory signal, not proof

Study type	Observational, retrospective case study, n = 1 — exploratory
Participant	One adult man (initials A.S.) — Garmin data provided voluntarily
Indicator	Garmin Body Battery score (5–100), derived from HRV, stress and sleep
Conditions	6 days — 2 with Q-Alpha insoles, 4 before (Aug–Oct 2025)
Key result	Ceiling unchanged; floor raised (52.5 vs 36.8); drain cushioned (32 vs 46.8)
Reading	“Less energy lost,” not “more energy”
Status	Exploratory signal — not proof; conflict of interest declared

Structured summary

Eighth study in the series, and the first to leave the clinic for a real-world marker: Garmin’s Body Battery score (scale 5–100), estimated from heart-rate variability (HRV), stress and sleep. Observational, retrospective case study, n = 1, over six usable days — two with Q-Alpha insoles, four before. Clear, counterintuitive result: the ceiling (daily peak) barely changes (84.5 with vs 83.5 before). It is the floor that rises (low level 52.5 vs 36.8) and the discharge amplitude that drops (32 vs 46.8). In other words, on these days, the signal is not “more energy” but “less energy lost” — shallower troughs, better-conserved energy. Consistent with the participant’s note (“less steep” curves, faster recovery at rest), but strictly exploratory: unmatched conditions (August vs Sept–Oct), uncontrolled design, proprietary black-box score. Conflict of interest declared. The signal warrants a prospective study; it proves nothing.

1. Background and objective

Garmin’s Body Battery score estimates an available energy level from three inputs: heart-rate variability (HRV), stress and sleep. Activity and stress discharge it (sympathetic dominance); rest and good sleep recharge it (parasympathetic shift). It is therefore a composite, continuous and ecological marker (measured in real life, 24/7) of autonomic nervous-system balance.

Its appeal for an exploratory study: it rests largely on HRV, a recognized marker of autonomic regulation. Its limit, equally clear: it is a proprietary score (Firstbeat), an algorithmic “black box” that does not replace raw HRV measured independently.

The question here is precise: in this participant, do days with Q-Alpha insoles show a different dynamic — and on which parameter does the difference fall: the ceiling (peak), the floor (trough) or the amplitude?

2. Method

Conflict of interest declared. The author and the affiliation (Q-Technology) are linked to the manufacturer of the insoles. The link is declared transparently; it invites cautious reading and reinforces the need for independent replication.

Participant and consent. Single case, an adult man designated by his initials only (A.S.), a regular Garmin watch user; data provided voluntarily. Any nominative publication would be conditional on explicit written consent (health data).

Design, without indulgence:

- Type: observational, retrospective, non-randomized, non-blinded case study — a secondary analysis of real-life data, not an interventional protocol.
- Conditions: 2 days with Q-Alpha insoles (Oct 7, Sept 24, 2025) vs 4 days before (Sept 13, Aug 29 / 26 / 22, 2025). Imbalance acknowledged.
- Variables: high level (daily peak) and low level (daily trough) read from the Garmin Connect summary dials; discharge amplitude (high − low) derived.
- Analysis: purely descriptive (values, means, ranges). No inferential test — with n = 1 and six unmatched days, it would give a false impression of robustness.

3. Results

OBSERVATION High and low Body Battery levels read from the Garmin Connect summary dials, and derived amplitude (six days).

Date	Condition	High	Low	Amplitude
Oct 7	With Q-Alpha	81	**50**	31
Sept 24	With Q-Alpha	88	**55**	33
Sept 13	Before Q-Alpha	87	42	45
Aug 29	Before Q-Alpha	83	42	41
Aug 26	Before Q-Alpha	84	39	45
Aug 22	Before Q-Alpha	80	24	56

Descriptive summary by condition (read cautiously given the sample size):

Parameter	With Q-Alpha (n=2)	Before Q-Alpha (n=4)
High level — mean (range)	84.5 (81–88)	83.5 (80–87)
Low level — mean (range)	**52.5 (50–55)**	36.8 (24–42)
Discharge amplitude — mean	**32 (31–33)**	46.8 (41–56)

Daily peaks are nearly identical between conditions (84.5 vs 83.5). The contrast is elsewhere: the low level is markedly higher with the insoles (52.5 vs 36.8) and the discharge amplitude lower (32 vs 46.8). The participant also describes “less steep” curves and a faster recovery during rest periods — consistent with the recorded values.

4. The reading — the signal is about the floor, not the ceiling

The clear result of this note is not that the user “has more energy.” The peaks are equivalent. The contrast lies in the floor and the discharge amplitude: on these days, available energy is better conserved over time, and the troughs are shallower.

For coaching, performance or biohacking use, the distinction matters: daily energy resilience is often more decisive than a high morning peak. The observed profile is “same summit, cushioned drop” — not “higher.”

5. Mechanistic plausibility (hypothesis)

HYPOTHESIS Since Body Battery is largely HRV-derived, any factor steering the sympatho-vagal balance toward better parasympathetic recovery could, in theory, raise the floor and soften the discharge.

That is precisely the register of cardiac coherence (≈ 0.1 Hz), one of Q-Technology's public references (alongside the embryonic frequency and the Schumann resonance, 7.83 Hz). The proposed mechanism — a passive circuit emitting a coherent low-frequency signature, read directly by the central nervous system while bypassing the classical exteroceptors — thus provides a plausible hypothesis. The foot is merely a practical wear location; the effect is not reduced to plantar proprioception. This plausibility remains to be tested directly, for example via independently measured nocturnal HRV.

The literature establishes the role of plantar afferents in postural control (Kavounoudias & Roll, 2001, 2003; Frontiers in Human Neuroscience, 2020). But those works concern classical sensory pathways; the mechanism advanced here is distinct and not reducible to them. These references serve as context on the nervous system's sensitivity to low-level inputs — not as proof of a device effect.

6. Limitations

- n = 1: a single case, no generalization possible.
- Few days (6) and unbalanced conditions (2 with vs 4 before).
- Retrospective, non-randomized, non-blinded design: expectation / placebo effect uncontrolled.
- Temporal confound: the "before" days are in August, the "with" days in September–October; sleep, load, stress, diet and season may explain part of the gap.
- Proprietary indicator: Body Battery is a Firstbeat composite score (black box), not independent raw HRV.
- Limited granularity: high and low of the summary dial, no instantaneous slope or area under the curve.
- No concurrent postural, autonomic or motor measurement.

7. Next steps

To turn this exploratory signal into proof:

- Within-subject randomized crossover (ABAB design), ideally with several participants.
- Blocks of 10–14 days per condition, with a wash-out period.
- Blinding as far as possible: wearing an identical-looking inert pair in the control condition.
- Parallel daily measures: independently measured nocturnal HRV, sleep, steps, load, perceived stress, rest.
- Metrics: daily floor, discharge amplitude and slope, recovery speed at rest, area under the curve.
- Q-Technology layer: postural measures (3 planes), balance and neuromuscular performance, to link the ecological marker to clinic measures.

8. Conclusion

From the Garmin captures provided, the most reasonable reading is that, in this participant, days with Q-Alpha insoles show a more stable Body Battery dynamic: shallower troughs, a lower discharge amplitude, a more visible daytime recharge — at equal ceiling. The apparent benefit is not "more energy," but "less energy lost." This reading remains an n = 1 pilot observation, non-

medical and non-causal: its value is not probative, it is heuristic. The signal is clear and coherent enough to warrant a controlled prospective study — the only one that can decide. Framing: an exploratory case study, to be confirmed, with no medical claim.

References

Kavounoudias A, Roll R, Roll J-P. Foot sole and ankle muscle inputs contribute jointly to human erect posture regulation. Journal of Physiology, 2001.

Kavounoudias A, Roll R, Roll J-P. The plantar sole as a “dynamometric map” for human balance control. Journal of Physiology, 2003.

Contribution of plantar afferents to postural control. Frontiers in Human Neuroscience, 2020 (PMC7352194).

Garmin / Firstbeat Analytics. Body Battery: energy-level estimation from HRV, stress and sleep (product documentation).

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Source: Garmin Connect captures (Body Battery summary dials), six days, August–October 2025; high/low level readings and derived amplitude. Case study n = 1, retrospective, non-randomized, non-blinded, unmatched conditions; conflict of interest declared; participant designated by initials (written consent required for any nominative publication). Unaudited internal data. Not a medical claim.