Psoas force (hip flexor), with and without Q-Technology

Instrumented pilot study (subject Régis) — the strong side did not move, and that is the point

Level of evidence : Observed in-house — pilot study (n = 1), triple corroboration (best-of-3 peak, averaged peak, sustained force) and an internal control against warm-up

Study type	Exploratory pilot, within-subject, paired comparison without Q vs with Q
Participant	One adult subject (Régis), one session
Device	Kinvent Physio dynamometer (500 Hz), strap test
Movement	Psoas — leg extended in external hip rotation, supine
Task	Maximal voluntary isometric contraction — 3 efforts/condition
Conditions	Without Q circuit (6:11 p.m.), then with Q circuit (6:13 p.m.) — fixed order, ~2 min apart
Readings	Peak (best of 3) · averaged peak (3 trials) · sustained mean force · asymmetry
Response threshold	≥ 10% on the weak limb (set in advance)

Summary

Seventh measurement in the Kinvent series — the first psoas (hip flexor). The subject started with a large asymmetry (28.2% gap). With a Q-Technology circuit, the weak side (left) jumps +46% (6.9 → 10.1 kg) while the strong side (right) does not move (0%, 9.6 → 9.6 kg): asymmetry falls to 4.3%. Three independent readings — best-trial peak, peak averaged over three trials, and sustained force — all converge. And the strong side staying flat acts as a quasi-internal control against the warm-up objection. Exploratory result on a single subject, to be replicated.

1. Background and objective

Every before/after measurement draws the same legitimate objection: “it’s just warm-up.” The second condition (with Q) might be better simply because the subject is warmer. This case is interesting precisely because it answers that objection by its structure, without needing a blinded protocol.

The subject had a large baseline asymmetry on the psoas: a 28.2% gap between the two sides. That is the ideal setting to see whether the effect targets the weak link — or raises both sides indiscriminately.

2. Method

Standardized protocol, instrument-read measurements:

- Participant: one adult subject (Régis), a single session.
- Device: Kinvent Physio dynamometer (500 Hz), strap test.
- Movement: psoas — leg extended in external hip rotation, supine.
- Task: maximal voluntary isometric contraction (MVC) against the strap.
- Repetitions: 3 maximal efforts per condition. Three readings: peak (best of 3), peak averaged over 3 trials, sustained mean force.

- Conditions: without Q circuit (6:11 p.m.), then with Q circuit (6:13 p.m.) — fixed order, ~2 min apart.
- Response threshold set in advance: ≥ 10% on the weak limb.
- Outcomes kept: force (peak and sustained) and asymmetry. Velocity metrics (RFD, time to peak) discarded (artifact — see §5).
- Note: the exact Q circuit was not recorded on the export.

3. Results

OBSERVATION The weak side jumps, the strong side stays flat — and three independent readings converge.

Reading	Left (weak side)	Right (strong side)	Asymmetry
Peak force (best of 3)	6.9 → 10.1 kg (+46%)	9.6 → 9.6 kg (0%)	28.2 → 4.3%
Averaged peak (3 trials)	6.5 → 8.8 kg (+35%)	9.2 → 9.1 kg (−1%)	29.8 → 2.6%
Sustained mean force	5.5 → 7.2 kg (+31%)	7.2 → 8.3 kg (+15%)	22.9 → 13.5%

The weak side (left) gains +46% on peak force (6.9 → 10.1 kg) and the baseline asymmetry, 28.2%, falls to 4.3%. The strong side stays exactly where it was (9.6 → 9.6 kg).

The strength comes from convergence: three independent readings — the best trial, the mean of the three trials, and sustained force — all point the same way (asymmetry 28.2 → 4.3%; 29.8 → 2.6%; 22.9 → 13.5%). It is not a “best-of-three” artifact: the pattern holds however the measurement is read.

4. The strong side did not move — an internal control against warm-up

This is the strongest point of this measurement. The classic objection to any before/after test is warm-up: the second condition would be better because the subject is warmer. Here, the data answer on their own.

A general warm-up raises BOTH sides. Yet the strong side stayed flat: 9.6 → 9.6 kg on peak, 9.2 → 9.1 kg on the averaged peak. Only the weak side rises (+46%). The gain is therefore specific to the weak link — the signature of a targeted rebalancing, not a global potentiation or a warm-up.

This is not a blinded trial with a sham condition — that remains to be done. But it is a structural argument that makes the “just warm-up” hypothesis implausible in this particular case.

5. What we do not conclude — velocity

As in the other sessions, the velocity metrics are not usable here: the rate of force development (RFD) drops (left 7.83 → 5.51 kg/s; right 9.06 → 5.60) and time to peak lengthens (left 1.12 → 3.45 s).

This is the signature of a strap-test artifact (a higher peak reached by a slower rise), not a velocity result. We therefore make no explosivity claim — we stick to force and symmetry, which are clean.

6. Scope

To place it correctly: one subject, one joint, one session. This is a clear individual demonstration, not a population study — and no generalizable promise is drawn from it.

What this case adds to the series is the quality of its internal control: in a subject with a large baseline asymmetry, the strong side staying flat turns a simple before/after observation into an argument hard to attribute to warm-up.

7. Limitations

- n = 1, one session. Individual demonstration, not a population study.
- Non-randomized order (without → with, ~2 min), no blinded sham condition — but the strong side staying flat strongly mitigates the warm-up confound.
- Velocity metrics (RFD, time to peak) discarded (measurement artifact); analysis limited to force and symmetry.
- Q circuit not recorded on the export — to be completed before public use. First psoas in the dataset.

8. Next steps

- Repeat with alternating order and a blinded sham condition placed by a third party.
- Target several subjects with large baseline asymmetry — that is where the “strong side flat” control is most legible.
- Record the circuit used (Alpha / Theta / Omega).
- Extend to several muscles and joints.

9. Conclusion

Seventh case, first psoas, and the most convincing on method: the weak side jumps +46%, the strong side does not move, asymmetry goes from 28.2% to 4.3% — and the three readings (peak, averaged peak, sustained force) converge. The strong side staying flat acts as a quasi-internal control: a warm-up would have raised both sides. It remains to be confirmed blinded, with a sham condition, across several subjects. Framing: an exploratory pilot study, to be replicated, with no medical claim.

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Source: Kinvent Physio report (500 Hz, strap), psoas in external rotation (supine), best of 3 trials + mean of 3 + sustained force. Circuit not recorded. Unaudited internal R&D data. Not a medical claim.