



Catalyzing Success Through Scientific Strategy

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1. ABOUT US

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Immediate peripheral and cerebral circulation markers following a single 20-minute AVACEN session

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A 54-year-old male completed a single 20-minute AVACEN session applied to the left hand. Non-invasive measurements were collected immediately before the session, immediately after the session, and again 30 minutes later using Biotekna PPG and HEG devices (Biotekna, Italy).

Before the session, Bilateral Flow Gain (BFG) values were 196.8 on the left side and 153.5 on the right side. Immediately after the session, BFG increased to 419.7 on the left side and 195.4 on the right side, corresponding to a 113% increase on the treated (left) side and a 27% increase on the right side. When measurements were repeated 30 minutes later, BFG remained elevated compared to baseline on the left side, with a value of 220.5 (approximately 12% above baseline).

Peripheral perfusion, assessed via the perfusion index, also increased meaningfully. The perfusion index rose from 1.8% at baseline to 3.3% immediately after the session, representing an 83% increase. This change shifted the perfusion interpretation from moderate peripheral perfusion to good peripheral perfusion. At the 30-minute follow-up, the perfusion index remained higher than baseline at 2.0%. Pulse transit time (PTT) was noted as already optimal prior to the session at 126.8 ms. Immediately following the session, PTT increased to 147.0 ms, representing a 16% increase.

Cerebral circulation markers also changed substantially. The HEG-derived cerebral blood flow metric (CBF ratio) increased from 217 prior to the session to 421 immediately after the session, reflecting a 94% increase. At 30 minutes post-session, the CBF ratio remained 32% higher than baseline at 287.

Overall, this single-session snapshot suggests a fast, physiologically meaningful response to the intervention, with the clearest signal appearing on the treated (left) side. The immediate jump in left-sided Bilateral Flow Gain, together with the strong rise in perfusion index and its shift into a “good peripheral perfusion” range, is consistent with an acute improvement in peripheral circulation markers rather than a subtle change. Importantly, several measures remained above baseline 30 minutes later, indicating that the response was not only transient. In parallel, the large increase in the HEG-derived CBF ratio—still elevated at the 30-minute follow-up—points to a notable short-term shift in cerebral circulation dynamics. Taken together, these findings paint an encouraging picture: a brief,

localized session was followed by substantial, measurable improvements in both peripheral and cerebral blood flow–related markers, with benefits that were still evident well after the session ended.

Results Summary Table

Metric	Baseline	Immediately After	30 min After
BFG – Left	196.8	419.7	220.5
BFG – Right	153.5	195.4	121.3
Perfusion Index	1.8%	3.3%	2.0%
Pulse Transit Time	126.8 ms	147.0 ms	96.5 ms
CBF ratio	217	421	287

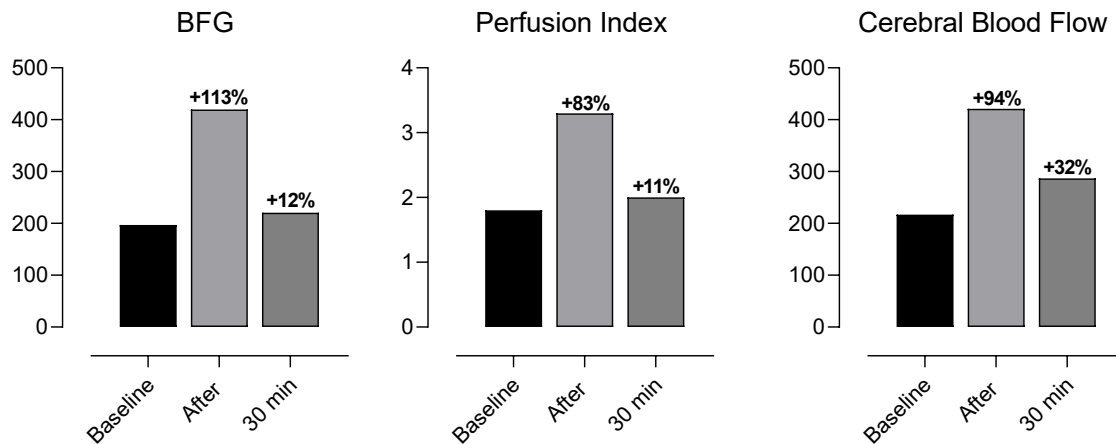


Figure 1. Acute changes in peripheral perfusion and cerebral blood flow markers following a single 20-minute AVACEN session. Bar graphs show values recorded at baseline (pre-session), immediately after the 20-minute session, and 30 minutes post-session in a 54-year-old male. Bilateral Flow Gain (BFG; Biotekna PPG) is shown for the treated (left) side, perfusion index (%; Biotekna PPG) reflects peripheral perfusion status, and cerebral blood flow is reported as the HEG-derived CBF ratio (Biotekna HEG). Percent labels above bars indicate the relative change compared with baseline for each measure.