

# ***Improvement In Cerebral Metabolism In Chronic Brain Injury After Hyperbaric Oxygen Therapy***

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While no research study has yet demonstrated convincing evidence for the efficacy of Hyperbaric Oxygen Therapy (HBOT) in patients with chronic neurological disorders (CND), anecdotal studies have been supportive of its use in improving healing of the damaged brain.

The current study hypothesized that (1) individuals with CND show increases in cerebral blood flow and metabolism as measured by Single Positron Emission Computed Tomography (SPECT) in the cerebral hemispheres, but not on measures of cerebellar and pons blood flow; and (2) younger patients show more improvement than older patients.

The study used archival data to compare 25 older and 25 younger subjects who were given SPECT scans pretherapy, midtherapy, and posttherapy. ANOVAs using the SPECT scans as a within subjects variable and age as a between subjects variable confirmed the hypothesis that the cerebral measures all changed but that the cerebellar and pons measures did not. Post-hoc t-tests confirmed that there was improvement in blood flow from the beginning to the end of the study. An age effect was found on only two of the five measures; however, there were no interactions. Analysis by post-hoc t-tests showed that the younger group had higher blood flows, but not more improvement than the older group.

The results provided the first statistical research data to show the effectiveness of HBOT in improving blood flow in CND. These results indicate that HBOT can be an effective part of the treatment for such clients. The implications of these findings and future research directions were discussed.