



Dr. Keren Doenyas-Barak obtained her M.D. from the Hebrew University in Jerusalem in 2002 and currently teaches physiology and clinical practice at Tel Aviv University's School of Medicine.

For the past eight years, she has led the PTSD unit at Sagol Center for Hyperbaric Medicine and Research, focusing on the biology and pathophysiology of PTSD. Her comprehensive research program covers various aspects of PTSD, including the effects of hyperbaric oxygen therapy, biomarker characterization, and PTSD diagnosis.

Research Fields:

1. **Biomarkers for PTSD:** Dr. Doenyas is leading a program to classify long-term changes in the autonomic nervous system (ANS) activity, brain structure, and activity in veterans with PTSD. The study uses fMRI, EEG, and questionnaires, with ANS activity monitored during sleep, fMRI tasks, EEG, and interviews. The research will contribute to objective PTSD diagnosis and enhances our understanding of the syndrome, particularly the role of ANS in its pathogenesis.
2. **Hyperbaric Oxygen Therapy (HBOT) for PTSD:** New brain imaging techniques reveal long-term changes in brain activity and microstructural integrity in PTSD patients. Dr. Doenyas ongoing researches, conducted on civilian and military PTSD, exploring HBOT as a novel therapeutic approach that induces physiological alterations, fostering regenerative neuroplasticity and providing clinical relief to those with persistent symptoms.
3. **Hippocampal Neuroplasticity and Memory Modulation during HBOT:** Memory plays a crucial role in PTSD. Dr. Doenyas's project, supported by the prestige grant of ONRG, evaluates the potential of hippocampal neuroplasticity induced by HBOT to facilitate memory surfacing. This research aims to improve post-traumatic symptoms and serves as a model for memory investigation and intervention.