

# Stress Resilience in Virtual Environments (STRIVE)

One of the MedVR Group's goals is to comprehensively understand and train warfighters for the singular nature of the stress they will experience during combat. Our Stress Resilience in Virtual Environments (STRIVE) project for example, is comprised of a realistic combat/war theater experience represented in a virtual reality environment. These vignettes are designed to provoke physical, social, and emotional stress and will frequently portray a situation reported by Veterans with PTSD to have been the central event in their PTSD. After the combat scene, each module contains a session with an intelligent virtual mentor. The virtual mentor will explain, with the help of dynamic, high resolution animations, how the brain and the body react to stress. In conjunction with explaining the physiology of stress, the mentor will also present physical, social and cognitive exercises, utilizing Cognitive Behavioral Techniques (CBT), the warfighter can engage in to assist in preparation for the combat experience. These exercises will be designed to build behavioral, social, and emotional components of resilience in the context of understanding the physiology of stress and its resolution. STRIVE also contains a novel piece of basic neuroscience research: prior to the initiation of engaging in the modules, the warfighters will provide the biological specimens necessary to measure allostatic load (AL), which reflects the cumulative negative impact of daily life stressors. These stressors, when considered singly, may not cause a noticeable effect on the body or brain, but when considered in combination can be seen to be slowly but steadily deteriorating bodily functioning.