

INTEGRATING HAPTICS TECHNOLOGY TO DELIVER MILITARY MEDICAL TRAINING

TC3SIM TESTBED MULTIMODAL RESEARCH WITH HAPTICS

OBJECTIVE:

To provide enhanced Tactical Combat Casualty Care (TCCC) military medical training in a virtual reality (VR) simulation with haptic feedback in order to deliver a more comprehensive training experience with a realistic sense of touch and intuitive interactions



TACTICS & STRATEGIES:

ECS is extending the legacy of over fifteen years of research and development in the Tactical Combat Casualty Care Simulation (TC3Sim) Testbed to now include the use of high-fidelity haptics in immersive simulations. Our team has developed multiple extended reality (XR) training scenarios that utilize haptic technology across a variety of skill training objectives and multiple hardware platforms. TC3Sim uses these story-driven scenarios to teach and evaluate a combat medic's knowledge of the required tactics, techniques, and procedures in a fully immersive virtual environment. Through the addition of haptics, Medics, Soldiers, First Responders, and Healthcare Professionals can now interact with and feel the virtual environment. Trainees can bandage a wound, apply a tourniquet, and perform other highly tactile procedures while immediately feeling the surface, pressure, or resistance of their interactions. This transformational use of XR enhances the performance of medical teams while also improving their quality of training.