

State of the Art Clinical Skills Workshop using Mixed Simulation for EMS Providers

Brion Benninger, MD, MSc, Professor, Executive Director, Medical Anatomy Center, Healthcare & Education Futurist was invited to design and teach an all-day mixed simulation and cadaver medical skills CME course on Thursday, March 7, 2019 for the annual State of Jefferson EMS conference. Attendees were taught advanced airway with video (Eaglevision, Glidescope) and novel direct (Vie scope) laryngoscopy with 7-Sigma. Chest tube placement, with a technique developed by Benninger using Reactor technology. Trauma ultrasound using Sonivate dual array finger probe, GE Vscan and Phillips Lumify hand held ultrasound systems. He also introduced Intelligent Ultrasound technology with important clinical skills. He provided surface anatomy for eFAST and fracture identification with ultrasound using CAE Blue Phantom and echogenic needles. Cricothyrotomy and tracheostomy procedures using 7-Sigma technology with synthetic skin. He taught the DPAC method he invented for interosseous IV access. He revealed Sectra table technology and its multiple benefits for learning and maintaining medical invasive skills with CT/MRI and 3D imaging and Toltech Opus mini robotics with haptics for muscle memory exercises using an ultrasound probe and needle syringe. In chronological order, he integrated mixed simulation with novel images, dynamic anatomy, innovative prepared donor cadaver applying andragogical teaching technique he created. Dr. Benninger wanted to give special thanks to Marcus Pearson OMSI and William Maloney OMSI from COMP-Northwest for their contribution in facilitating the technology and skills.



EagleVision video laryngoscope intubation technique for common and difficult airways
with 7-Sigma hi-fidelity simulation
Image from Rebecca Heigel Photography



Assessing fluid volume viewing inferior vena cava using Intelligent Ultrasound simulation technology. Image from Rebecca Heigel Photography



Cricothyrotomy & Tracheostomy using 3-D printed airway of 7-Sigma simulation with synthetic skin. Image from Rebecca Heigel Photography



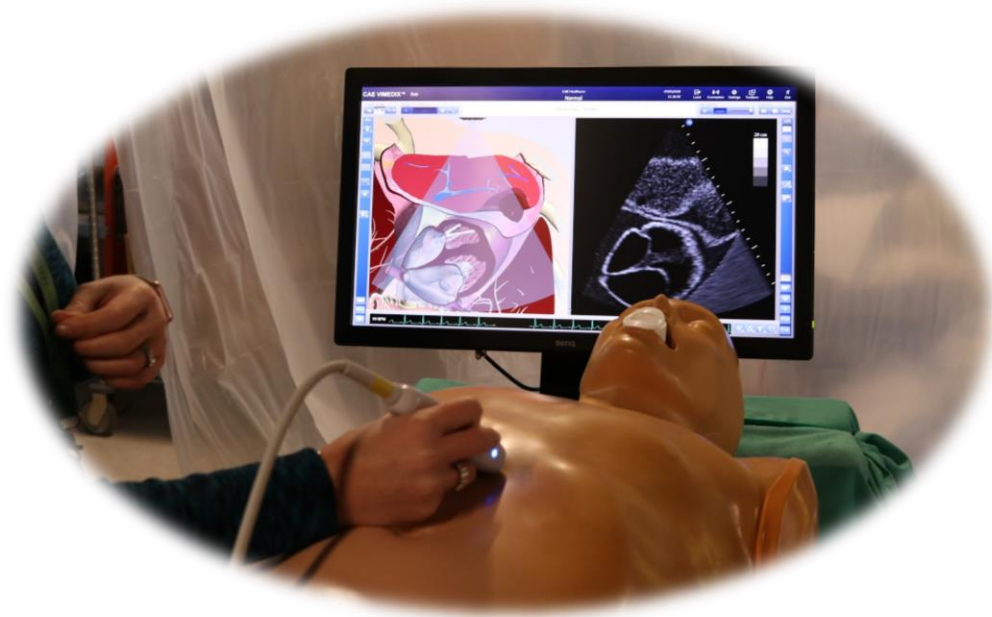
Glidescope video laryngoscope used on difficult anterior airway with 7-Sigma simulation.
Image from Rebecca Heigel Photography



IV access using a cut down method on a special prepared donor cadaver with full vessels. Image from Rebecca Heigel Photography



Using Vie Scope, a novel direct laryngoscope, one can view cords, provide suction and intubate without moving scope position on 7-Sigma simulation. Image from Rebecca Heigel Photography



Trauma ultrasound revealing subxiphoid 4-chamber heart view with CAE Vimedix & Hololens simulation. Image from Rebecca Heigel Photography