

## Mixed Simulator of Pterygopalatine Ganglion Regional Anesthesia Fact Sheet

University of Florida Center for Safety, Simulation & Advanced Learning Technologies



This robust, turnkey mixed reality simulator simulates part of an anatomically correct face for practicing, learning, teaching and debriefing pterygopalatine ganglion blocks with and without ultrasound guidance or assistance. Designed for austere environments, it does not require wireless or internet access or wet fluids; accepts 110/220V, 50/60Hz. It can be unpacked/set up/be operational by an unfamiliar person in 5-7 minutes. The portable simulator fits inside a military-spec padded case with in-built wheels and telescoping pull-handle that can travel as checked airline luggage and weighs  $\leq 50$  lbs (23 kg).

<https://simulation.health.ufl.edu/technology-development/augmented-reality-mixed-simulation/pterygopalatine-fossa-regional-anesthesia-simulator/>

### **Procedures:**

- Pterygopalatine ganglion blocks with Ultrasound Guidance/Assistance/Landmark

*Out-of-Plane*

### **Components:**

- CT Scan-based 3D printed high-anatomical fidelity plastic model of facial bones and skull encased in gel
- Virtual model of the anatomy of the pterygopalatine ganglion, pterygopalatine fossa, muscle, veins and arteries
- Tracked instruments: needle, ultrasound probe, virtual camera (interoperable between SMMARTS-compliant simulators)
- Common SMMARTS modular stand for use with other modular anatomies and procedures
- Automated scoring and replay system for after action review (AAR)

### **Technology:**

- Adheres to SMMARTS (System of Modular, Mixed and Augmented Reality Tracking Simulators) open architecture rapid simulator development platform specifications
- Quick-release placement and indexing of SMMARTS-compliant anatomies to SMMARTS platform
- Anatomically correct, based on a highly detailed medical imaging scan of a real human patient
- Precise sub-millimeter tracking of all tracked tools
- High-durability simulated tissue can be rejuvenated in-situ for indefinite re-use

### **Features:**

- Adjustable visualization modes
- Adjustable view modes for realism and AARs
- Ultrasound image with depth markers
- Anisotropy simulation for needle
- Tactile feedback of needle striking bone
- Debriefing with replay of past/saved procedures

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