



MUSCLE MEMORY IN MOTION

AEROMED DYNAMICS WILL DEBUT A NEW CABIN CREW SIMULATOR FOR THE AIR MEDICAL SECTOR THIS FALL, DESIGNED TO HELP TRANSPORT NURSES AND HEMS TEAMS PRACTICE CRITICAL SKILLS IN A REALISTIC, GROUND-BASED ENVIRONMENT.

STORY BY BEN FORREST | PHOTOS PROVIDED BY AEROMED DYNAMICS



In some respects, training in helicopter emergency medical services (HEMS) is similar to that of an elite athlete. Every member is part of an extraordinary team, running high-stakes missions where inches — or even millimeters — can mean the difference between success and failure.

This holds true for paramedics, respiratory therapists, nurse practitioners, and doctors just as much as it does for flight nurses, pilots, and hoist operators.

Just as athletes build muscle memory through intense, frequent practice, there's a growing movement to give nurses more "reps" in purpose-built simulators.

"Any time you can replicate a high-stress environment in a controlled setting, it will have a positive effect," said Truxton Fox, CEO of AeroMed Dynamics. "We replicate real situations — and sometimes even make them more extreme than reality — because anytime you can do that, you better prepare people for what's ahead."

Based in Stephenville, Texas, AeroMed Dynamics designs and builds simulators specifically for transport nurses. Its first model will launch this fall at the EMS World Expo and the Air Medical Transport Conference (AMTC). The simulator is a physical pod built to resemble an Airbus H145 HEMS helicopter.

"There's no virtual reality with it," noted Truxton, who co-founded the company with his wife, Jessica Fox, and now oversees a team of five employees. "It is dimensionally correct to the model we built it after. It's got operational doors, both front and back. It's got windows and correct placements all the way down to where the switches are, and what they control."

The company is working with a number of medical suppliers on hardware components and plans to expand these options to give end users more flexibility in customizing their training packages.

AeroMed Dynamics was formed in late 2024, but development of the cabin crew simulator began two years earlier after the team spotted a gap in the market. While pilots have long had access to flight simulators — and firefighters and long-haul truckers have their own training tools — transport nurses have had relatively few options, Jessica said.

She acknowledged that the company itself has little direct background in the air medical industry. For years, the team focused on manufacturing various training units and systems before transitioning into full-sized products aimed at what they saw as an untouched market.

To help bridge that gap, AeroMed Dynamics invited several Tier 1 operators to participate in prototype development and leaned on a group of consultants with decades of air medical experience. While not involved in day-to-day manufacturing, these advisers played an integral role in shaping the simulator's design and refinement.

Building on that input, the company started with a clean-sheet design and refined it through multiple iterations. The current simulator — version 6.0 — reflects a series of R&D trials that ultimately produced a model meeting their standards.



The company envisions the simulator being used for both initial and recurrent training at high schools, colleges, hospitals, and within active HEMS operations across the United States, with plans to expand overseas in the future.

Jessica noted that while no formal institutes or organizations have reviewed the product, AeroMed brought in personnel from across air medicine and operations to guide its design, functionality, and prototype testing. Feedback so far, she said, suggests the simulator meets — and in some cases exceeds — training expectations.

The prototype was modeled on the H145, given its prevalence in the U.S. HEMS market, but designs for other commonly used helicopters are also in the works. All would share the same chassis as the current simulator. Truxton said the unit is fully modular, with segments small enough to fit through a standard 36-inch (91-centimeter) doorway for classroom installation.

Powered by a standard three-pronged outlet, the simulator can be reconfigured for search-and-rescue or law enforcement training using the same base unit. In a safe, low-stakes classroom setting, cabin crews can practice everything from patient loading and in-flight procedures to unloading. The pod can also replicate turbulence, bird strikes, and other external factors that might affect life-saving care.

Optional features include operational oxygen and suction, a ventilator, a smoke injection system, and other add-ons designed to replicate every element of a HEMS flight. Truxton noted the simu-

lator can even introduce distractions like smoke, odors, high-decibel noise, and variable lighting to prepare trainees for real-world conditions — all while parked safely on the ground.

The perceived benefits mirror those in other disciplines: greater safety, infinite repeatability, cost savings, and improved aircraft availability by reducing reliance on in-flight training. Instead of practicing in a \$30 million helicopter thousands of feet in the air, trainees can work in a classroom where instructors pause, correct, and restart exercises as needed. The controlled environment helps build muscle memory and spatial awareness, while still exposing crews to the vibrations and distractions that prepare them physically and mentally.

AeroMed Dynamics will exhibit the simulator at the EMS World Expo 2025 in Indianapolis, Indiana, from Oct. 20 to 24, and at AMTC 2025 in Omaha, Nebraska, from Oct. 27 to 29. A fully functioning training unit will be on display for attendees to touch, explore, and experience.

Jessica said the simulator is now market-ready and available in several configurable packages. Each unit is custom-built to match a training center's needs, with the current business model focused on direct sales — though that approach may evolve as industry demand shifts. ✦



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