

# Chesterfield Observer

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## It bleeds! Synthetic cadaver arrives in Chesterfield

ECPI University unveils new, lifelike teaching tool

By Jim McConnell

STAFF WRITER



Charles Hughes and Jacqueline Newman perform surgical procedures on a synthetic cadaver during a demonstration last week at ECPI University's Moorefield campus. Jim McConnell/Chesterfield Observer When it comes to preparing students for careers in medical-related fields, mannequins are so yesterday.

ECPI University's Medical Careers Institute last week held the first public demonstration of its anatomically correct, remarkably lifelike synthetic cadaver – a teaching tool that one official called a “game-changer” for the roughly 200 students currently enrolled at the Moorefield campus.

“The ‘visual’ is so important for our students,” said Kevin Tighe, president of the Medical Careers Institute at Moorefield. “I’d rather be able to see and touch something than look at it in a book. It just makes the experience so much more meaningful.”

According to Tighe, ECPI University is the only college in the Richmond area and one of two in the state – along with Tidewater Community College in Hampton Roads – to offer an advanced simulation mannequin.

The synthetic cadaver features a remarkably accurate representation of the human anatomy. It includes skin and fat, every bone, muscle and organ, functioning respiratory and circulatory systems and a full digestive tract.

It also has synthetic veins and arteries that will allow the cadaver to bleed if students make an errant incision.

Its blood pressure – yes, it even has blood pressure – is controlled by a pump remotely connected to a tablet using a SynDaver app.

An instructor can increase or decrease the synthetic mannequin's heart rate to simulate medical emergencies and evaluate students' response.

"It's an amazing tool," said Charles Hughes, program director of surgical technology, who conducted a demonstration last week.

ECPI University's Medical Careers Institute purchased the simulator for \$40,000 from SynDaver Labs, a Tampa, Fla.-based company founded 10 years ago to manufacture synthetic human body parts for the medical device industry.

Made from water, fibers and salts, the company's synthetic tissues are used in such diverse fields as surgical training, medical-device testing and ballistics testing.

Research into the synthetic cadaver started at the University of Florida in 1993. The earliest studies involved the manufacture of synthetic trachea models to replace live animals in the testing of airway devices.

The technology now is used to replace live animals, cadavers, and human patients in medical device studies, clinical training and surgical simulation.

As a teaching tool, it can be used for a variety of purposes, including basic suturing skills, central line and chest tube placement, breast surgery, liposuction, oral and nasal intubation, tracheotomy, and coronary angioplasty and stents.

"It's a confidence thing," said Jacqueline Newman, director of nursing at the Medical Careers Institute. "Once our students realize that they've seen and done it before, they'll be like, 'I've got this.'"

Hughes was introduced to SynDaver Labs' products during a conference three years ago when he was working for a college in Florida.

That school didn't have the budget to purchase a synthetic cadaver, but Hughes never gave up his interest in the technology after he moved to Virginia and began working for ECPI University.

Considering that such prestigious institutions as the Mayo Clinic also use the SynDaver simulator, he said that last week's demonstration was both a proud moment and a huge improvement over the "upgraded department store mannequin" formerly utilized by the Medical Careers Institute.

"When they go into an operating room, our students will be better prepared than students anywhere in the area," Hughes added. "We're really excited about that."