

## COMPANY PROFILE

SIMULAIDS | INNOVATION IN MEDICAL TRAINING AIDS BY ALISON BUTLER

# REAL LIFE TRAINING

Simulaids is improving the Skills of First Responders and Healthcare Professionals with Innovative and Realistic Training Tools

If you have ever taken a CPR or first aid class there is a good chance you have come into contact with a product made by Simulaids in Saugerties, Ulster County, NY. As a division of Nasco Healthcare, Simulaids manufactures healthcare training aids, such as CPR manikins, patient simulators and trauma moulage products. From the early days of making simulated wounds in a basement to today's lifelike STAT Manikins, the story of Simulaids is one of vision, collaboration and innovation.



Adam Sauer assembles and tests Stat patient simulator.



## Company History

In 1963 Kevin Sweeney, a first responder, member of the Woodstock Fire Department and a founding member of the Woodstock Rescue Squad began making products to imitate wounds in his basement. The company was given a military contract to produce moulage kits he assembled for battlefield training. With that first contract Simulaids was born and Sweeney quickly expanded the company's products to include CPR manikins and "Rescue Randy" a dummy for firefighter training drills.

From these humble beginnings, Simulaids grew to 60 employees by 2006. At this point it became clear that the company needed a larger, more modern facility and, with the help of the Ulster County IDA moved from Woodstock to Saugerties. In the new 83,000 square-foot facility there was plenty of room to expand and that is exactly what Simulaids did. Today the company employs more than 120 people.

In 1999, Sweeney sold the company and most recently it was acquired by Nasco Healthcare, a company that provides training products for variety of educational subject areas, farmers and ranchers, and industry. Their products are distributed in all 50 states and they have customers in over 180 countries. "Being part of the Nasco family of products gives us real depth," Explains Jack

McNeff, VP Nasco Healthcare, "the wide range of products and the distribution channels and sales force are a strength that allows us to reach more customers and potential customers."

## The Products and Process

The patient simulators are lifelike manikins that interface with an iPad enabling an instructor to select predefined scenarios or develop scenarios that focus on key issues that are important in the training. There are a variety of patient stats that can be altered to provide a reactive environment for students. One example is the SMART Mom, an obstetrical training simulator that is focused on the two primary challenges in OB deliveries – Post-Partum Hemorrhage (PPH) and Shoulder Dystocia. According to the Simulaids catalog, this model also exhibits a wide range of other birthing

irregularities and allows students the assessment of typical patient status which include 10 pulse points that are continuously active, pupil response and size, blood pressure, heart and lung sounds, spontaneous respirations, and 5-lead monitoring capabilities with defibrillation and pacing. "This is a huge improvement from having an instructor just read off a list of patient stats and symptoms. The person training



Louis Vaccaro inspects and packages intubation trainers.



Tim Talmadge demonstrates the unique and innovative CNC machining used.

is now able to actually participate in the situation as it is unfolding,” explains McNeff.

The simulators come in a wide range of patient types, from babies and mothers to the newest model, Next Generation Geri, which simulates the challenges of working with geriatric patients. To be able to create such a lifelike end product requires attention to detail and quality. Using liquid plastic and silicon design molds, the skin and structural components are made. The electronic components are manufactured off-site through a supplier, to specifications designated by Simulaids engineers and then integrated into the product during assembly. Lung systems are manufactured and heat sealed on-site. Throughout this process quality checks are ongoing as parts (limbs, torsos, and heads) are sub-assembled. Some final products are only a torso, or leg, or arm, but all these sub-assemblies come together for the patient simulators. McNeff points out that, “Almost the entire product is assembled from domestically purchased and manufactured parts and by the time a SMART Mom or Next Generation Geri is complete they will have undergone at least 4 or 5 quality control checks.”

While Simulaids' products may have become more technologically advanced, more lifelike and more interactive, the company still holds the contract for wound training from the military just like in the early days and the CPR manikins are still their biggest seller. The National Guard uses Simulaids' wound kits for their medical simulation training. There are trauma treatment kits for every calamity possible, from burns and open bone fractures to the weapons of mass destruction kit which covers chemical, biological, radiological, nuclear, and explosive trauma scenarios.

The CPR manikins have evolved through the years too. Manikins are available with a CPR recorder that uses Wi-Fi to provide detailed information regarding the execution of CPR compressions and ventilation. The CPR manikins come in every combination of age, gender and race possible (for a manikin at least) including Casper the CPR Dog. There are also the very basic CPR manikins, “Brad”, available for under \$100 making this life saving skill training affordable for many communities and organizations.

Beyond CPR, Simulaids manufactures manikins that provide life-like stats and responses for a variety of medical training situations. There is a musculoskeletal ultrasound training model for joint injections of the knee. A catheterization simulator for both genders is

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Sotos Coutсарou paints moulages. Simulaids' Extreme Trauma leg/foot pictured.

another product, as well as arms and hands to practice venipuncture and injections. One of the original products is Rescue Randy, a life size weighted manikin that can be used in practicing extrications and other rescue scenarios. Of course, various wounds can be applied to Rescue Randy as well to further the realism of a training situation.

**The People**

The Simulaids workforce is made up of a diversity of skills. Everything from cutting and gluing silicone, to using a CNC machine to drill and route silicone and rubber parts, electrical and mechanical engineers and of course customer service and sales representatives. Many employees start in one position and work their way up through the ranks to more complex positions.

Jack McNeff, VP Nasco Healthcare, explains that several of the employees at Simulaids are also first responders themselves and therefore know, firsthand, the importance of the products they produce. "Some of our employees have been here for more than 20 years, longer than I've been here," said McNeff. "We have a great knowledge base here."

Given that such a large number of employees are involved in safety programs such as EMS and Fire & Rescue outside of work, it is no wonder that safety is a priority in the workplace as well. Safety awards are distributed monthly to all employees. "We have a great safety program and have now gone well over a full year



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without a lost time accident,” explains McNeff.

The fact that many of Simulaids employees use their products in the field may be why they have stayed at the cutting edge in medical training devices. Over the last decade, in addition to making wounds so stunningly accurate you could lose your lunch looking through the catalog and CPR Manikins that are as diverse as you can imagine (there are even dog CPR manikins), Simulaids has turned out a line of patient simulators for more advanced medical training.

### The Future

As technology continues to advance, the realism of Simulaids products will continue to improve. The early patient simulators worked off of PalmPilot's and today's models use iPad's, so as the tools available allow, the engineers and innovators at Simulaids will continue to evolve their products to provide the most realistic training tool possible.

Simulaids is constantly innovating and looking to add features and make the training experience better and more affordable. “Our customers are not shy about giving an opinion or letting us (or our distributors) know what we could do to improve a product,” explains McNeff. In fact the company recently hired a new Corporate Vice President of Research and Development to work with the engineers and product managers on the continuous innovations the industry requires.

The customer base for Simulaids products varies from fire departments and community groups, to CPR instructors and the military to colleges and medical schools. Their products are sold by distributors all over the world in almost every country. The ability

to experience a medical trauma case without putting a real person's life in jeopardy is a valuable teaching tool. As Simulaids' products continue to improve in realism and affordability, they also allow more and more people the training and experience to perform lifesaving skills thus making this world a safer and better place.



Patricia Stockman, Human Resource Manager and Heather Stine, Controller.

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