



MEDICAL-X

ADVANCING SIMULATION

General Brochure
All products

medical-x.com



Introduction

MEDICAL-X

MEDICAL-X is a Dutch company based in the Netherlands, specialized in the design, development, manufacturing, marketing and distribution of simulation products for medical teaching and training.

Our mission is to provide healthcare professionals with simulation-based training solutions and cutting-edge technological simulators that are cost-effective and time-efficient to teach and train clinical skills without risk to actual human patients.





Table of Contents

Patient simulators	1
ADAM-X	2
Trauma Accessories ADAM-X	3
NENASim	4
Surgical Patient Simulator	7
Laparoscopic ADAM-X	8
Laparoscopic Simulators	10
LAP-X Box	11
LAP-X VR	11
LAP-X Hybrid	11
Task Trainers	12
IV Arm	13
IV Sleeve	14
Suture Pad	15
Suture Sleeve	15
Trauma Leg	16
Wound Packing Leg	16
Trauma Torso	17
Wound Packing Task Trainer	17
Blood Bleeding Pumps	18
Hemorrhage-X	19
Patient Simulator Suits	20
SYMSuit	21
Standalone Softwares	22
COMMAND-X Patient Monitor Software	23
Anesthesia Machine Simulator	24



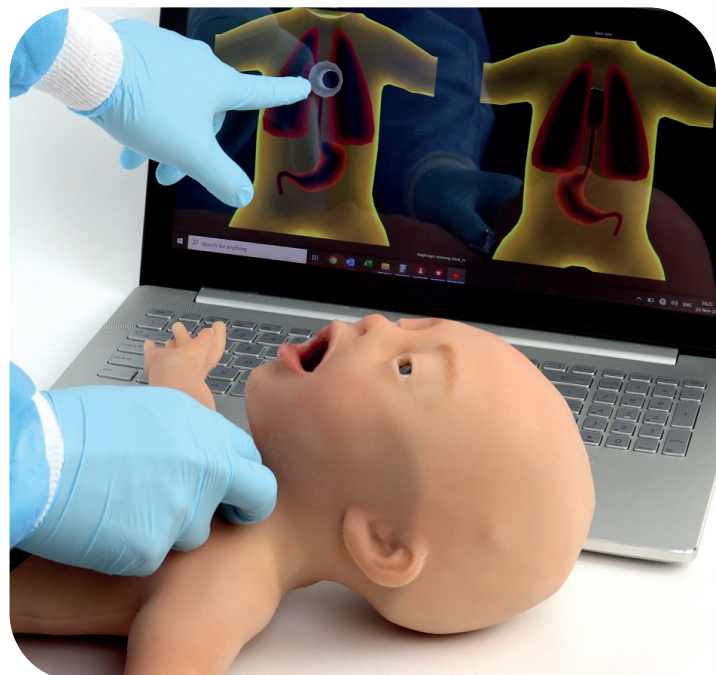
Patient Simulators

Discover the world's most realistic simulators.

With lifelike looks and features, our full-body patient simulators offer a high standard of realism, allowing learners to practice physical examination, invasive procedures, CPR, and countless clinical scenarios.



From babies to adults, our patient simulators fill the gap between theory and practice by immersing the learner in a realistic, dynamic, and complex setting without the fear of distressing the patient.





ADAM-X

ADAM-X is the most advanced and modern full-body adult patient simulator.

Faithful reproduction of a man’s anatomy and physiology, **ADAM-X** has distinctive and unique human characteristics, offering a fully immersive simulation experience.

With a wide range of features, **ADAM-X** is available in five degrees of fidelity: *Xtreme*, *Xpert*, *Xtra*, *Xcel*, and *Xact*. Customized solutions are also an option.

All the models are easy to clean and disinfect, durable, and suitable for training in any environment, from pre-hospital care to advanced life support, whether in a civilian or military setting.

Choose the **ADAM-X** that best suits your training goals and have the most realistic and life-like adult patient simulator in your simulation center.

ADAM-X Models Comparison Table

	Xtreme	Xpert	Xtra	Xcel	Xact
Faithful reproduction of a man’s anatomy	✓	✓	✓	✓	✓
Life-like looking with soft silicon skin	✓	✓	✓	✓	✓
Airway management with multiple devices	✓	✓	✓	✓	✓
Ventilation with bag-valve-mask	✓	✓	✓	✓	✓
Heart massage with realistic compression resistance	✓	✓	✓	✓	
Feedback on CPR quality	✓	✓	✓	✓	
Palpable pulses	✓	✓	✓		
Auscultation of heart, lungs, and bowel sounds	✓	✓	✓		
Spontaneous breathing	✓	✓			
Pneumothorax	✓	✓			
Pupillary reflex	✓				
Cyanosis, jaundice, redness, and paleness coloring the skin	✓				



Trauma Accessories ADAM-X

Our **optional trauma accessories** increase the realism of the scenario, transforming the simulated training into an immersive and memorable learning experience.

All the wounds can be personalized. Contact us to learn about all the possibilities and customized solutions offered.

Amputated leg



Amputated arm



Fractured leg



Gunshot leg



Burnt arm



Trauma arm laceration



Shrapnel wound chest



Gunshot chest





NENASim

NENASim is the world's most realistic neonatal simulator!

Available in three sizes and several degrees of fidelity, **NENASim** is the most innovative neonatal simulator available.

NENASim Infant

NENASim Infant is a faithful reproduction of a baby's anatomy and physiology. With a wide range of features,

NENASim Infant is available in five degrees of fidelity: *Xtreme, Xpert, Xtra, Xcel, and Xact*.

Customized solutions are also an option.

NENASim Infant is an effective tool for all kinds of neonatal care specialist training as advanced life support, intensive care, and several medical procedures.

Choose the **NENASim Infant** that best suits your training goals and have the most realistic and life-like baby patient simulator in your simulation center.

NENASim Newborn

Representation of a baby from 0 to 4 weeks old, **NENASim Newborn** is a realistic simulator planned to facilitate healthcare professionals' training in neonatal patient care.

NENASim Newborn offers an ideal solution for improving resuscitation team dynamics, as well as training emergency medical intervention and airway management.

NENASim Newborn is available in two degrees of fidelity: *Xcel and Xact*.





NENASim Premie

NENASim Premie is a realistic simulator designed for neonatal intensive care training.

Representation of a 27-week preterm baby, **NENASim Premie** is a valuable tool for training several medical procedures, preparing all healthcare professionals involved in the enormous responsibility of caring for such a sensitive and delicate patient.

NENASim Premie offers an ideal solution for improving resuscitation team dynamics and training emergency medical intervention, such as airway management, ventilation, and transportation.

NENASim Premie is available in two degrees of fidelity: *Xcel and Xact*.



NENASim Newborn and

Premie: Model Comparison Table

	Xcel	Xact
Faithful reproduction of a baby's anatomy	✓	✓
Life-like looking with soft silicon skin	✓	✓
Airway management with multiple devices	✓	
Ventilation with bag-valve-mask	✓	
Heart massage with realistic compression resistance	✓	



NENASim Infant Models Comparison Table

	Xtreme	Xpert	Xtra	Xcel	Xact
Faithful reproduction of a baby's anatomy	✓	✓	✓	✓	✓
Life-like looking with soft silicon skin	✓	✓	✓	✓	✓
Airway management with multiple devices	✓	✓	✓	✓	
Ventilation with bag-valve-mask	✓	✓	✓	✓	
Heart massage with realistic compression resistance	✓	✓	✓	✓	
Feedback on CPR quality	✓	✓	✓		
Vocal sounds: laughing, coughing, crying, hiccups, and more	✓	✓			
Palpable pulses	✓	✓			
Auscultation of heart, lungs, and bowel sounds	✓	✓			
Pupillary and Babinski reflexes	✓				
Cyanosis, jaundice, redness, and paleness coloring the skin	✓				



Surgical Patient Simulator

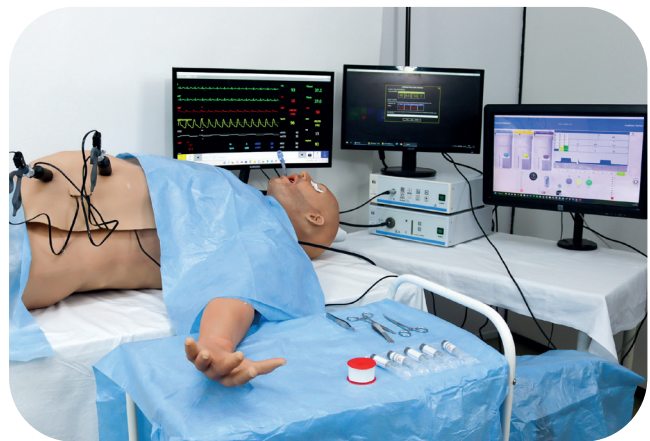
A full body surgical patient simulator that allows students to practice laparoscopic surgery scenarios.



Laparoscopic ADAM-X

Laparoscopic ADAM-X is a full-body surgical patient simulator. It has a specially designed abdomen for the insertion of trocars and laparoscopic instruments, allowing the students to practice their laparoscopic skills in two different ways:

1. By using a real laparoscopic device, ADAM's abdomen can be used as a traditional box trainer, with endless possibilities of exercises;
2. And using our laparoscopic surgical simulator LAP-X in Virtual Reality mode, students can practice several motor skills exercises, have a realistic experience in an anatomical environment, and practice actual surgical laparoscopic procedures.



In both modes, the students practice with real laparoscopic graspers, developing manual dexterity, hand-eye coordination, and laparoscopic depth perception. Besides training for minimally invasive surgery, the trainees have an entire high-fidelity patient simulator at their disposal to practice several other procedures, such as airway management, ventilation, auscultation, CPR, etc.

With our Command-X software*, you can control the manikin in real-time and design customized scenarios, adding complications to the procedures such as vital signs variations, cardiac arrest, and much more.

** also available as a standalone software see page: 23*



Anesthesia Machine Simulator

The Laparoscopic ADAM-X also comes with our new Anesthesia Machine Simulator*, an interactive simulation model of an anesthesia machine and ventilator.

Carefully designed to display the main features of an anesthesia machine, the simulator supports the most common ventilation modes in order to provide the students with an overview of the main ventilation parameters and prepare them for using real devices.

Combined with Command-X and our Patient Monitor, it's possible to gather the device training with clinical scenarios and patient's vital signs changes.



Laparoscopic ADAM-X offers much more than a laparoscopic training device; it gives you an entire surgical patient, allowing multidisciplinary training and developing the clinical reasoning of all involved.

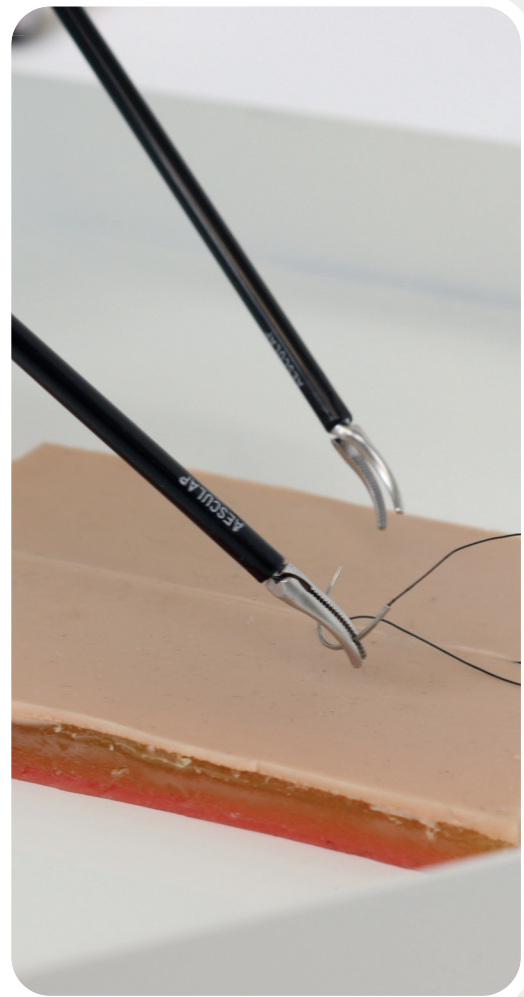
* also available as a standalone software see page: 24

Laparoscopic Simulators

Develop motor skills with endless possibilities of exercises.

LAP-X is a laparoscopic surgical simulator designed for medical students, surgical residents, surgical assistants and surgeons at all experience levels.

By practicing with real laparoscopic instruments, the trainees can develop manual dexterity, hand-eye coordination, and laparoscopic depth perception.





LAP-X

With **LAP-X**, trainees can practice standardized laparoscopic tasks repeatedly, improving their skills in a controlled environment and receiving instant performance feedback.

LAP-X is available in three models. All of them include realistic training-purpose laparoscopic graspers, giving authenticity and realism to the training:

LAP-X Box: With the Box Trainer, learners can familiarize themselves with the instruments and develop motor skills with endless possibilities of exercises. Includes a traditional Box Trainer and a recording software package.

LAP-X VR: Provides a validated package of 34 various virtual reality exercises divided into five curricula. It gives instant feedback on duration, path lengths, mistakes, and more. Also realistic experience in an anatomical environment to practice surgical procedures is available.

LAP-X Hybrid: The most complete laparoscopic simulator that combines the functionality of LAP-X Box and LAP-X VR.

LAP-X Hybrid = LAP-X VR + LAP-X BOX



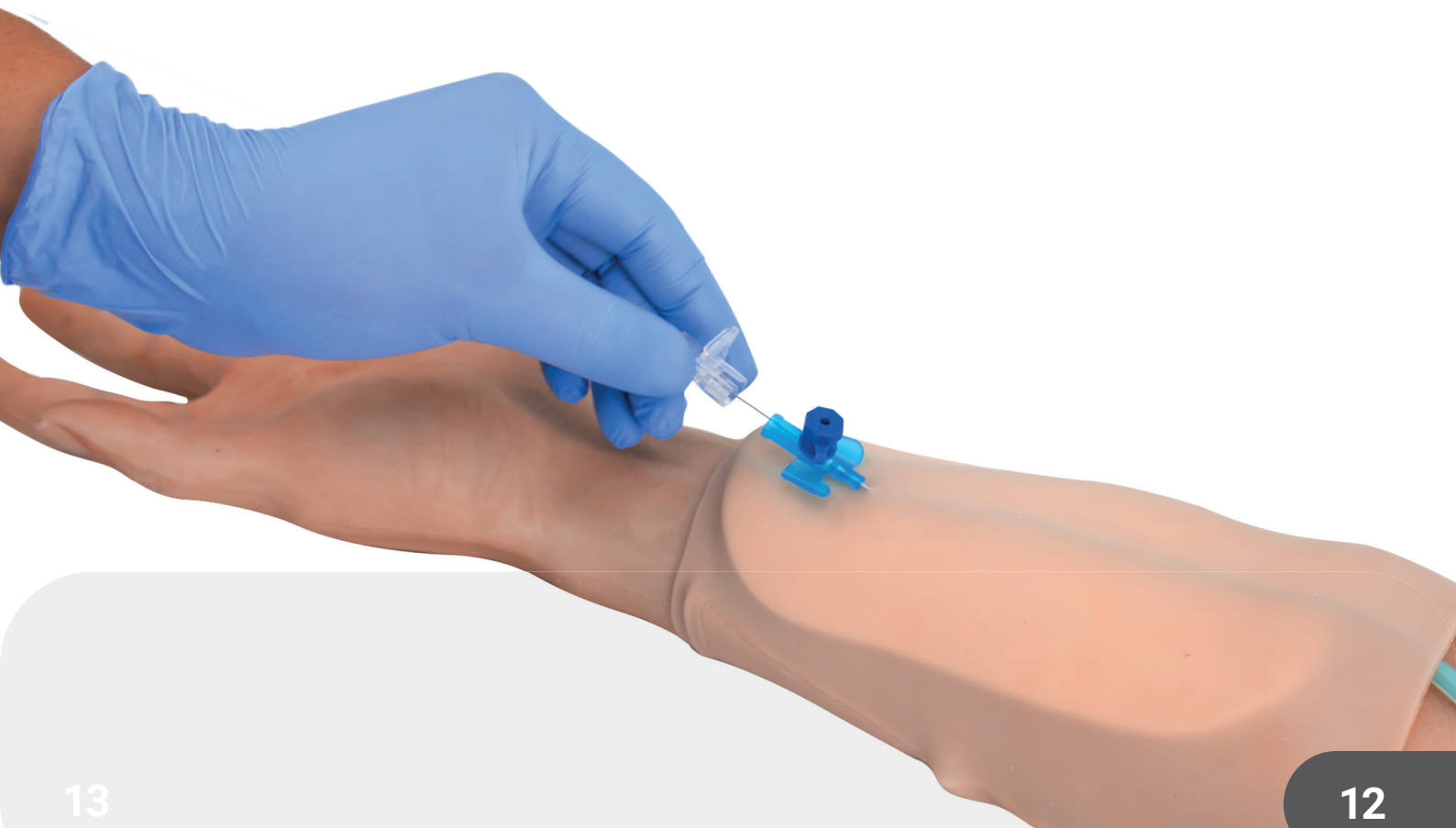


Task Trainers

The best way to train your medical skills.

Repeated training has a crucial influence on the learning curve of a student's clinical procedural skill acquisition.

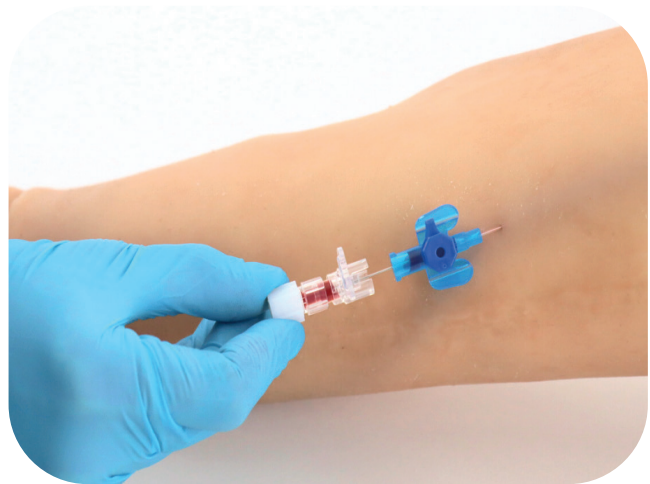
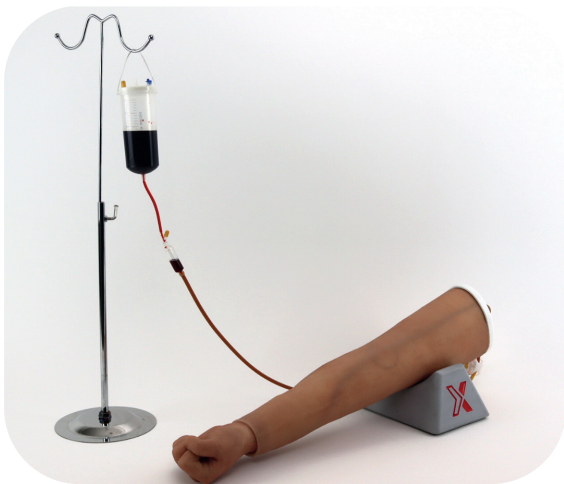
MEDICAL-X offers a wide range of task trainers to complement traditional education, developing and improving the confidence and proficiency of healthcare professionals.





IV ARM

The MEDICAL-X's **IV Arm** is the most realistic and faithful arm simulator for practicing peripheral intravenous cannulation and blood sampling.

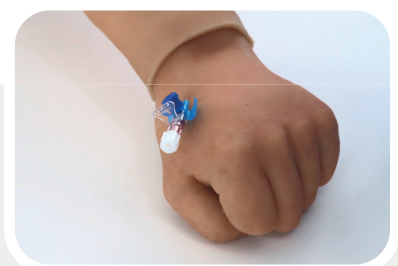
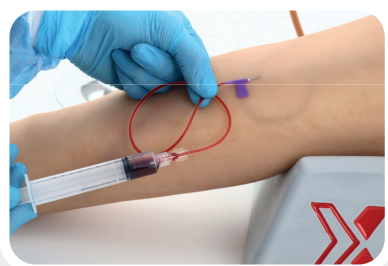


With an accurate venous system of the upper limb and several underlying palpable veins, the **IV Arm** also has a soft silicone coat that reproduces the feeling of touching and puncturing the human skin, increasing the realism of your training.

An add-on deltoid is available to perform intramuscular and subcutaneous injections, completing the training session.

Multiple sites for venipuncture:

- Basilic Vein
- Cephalic Vein
- Antecubital Vein
- Dorsal Metacarpal Veins



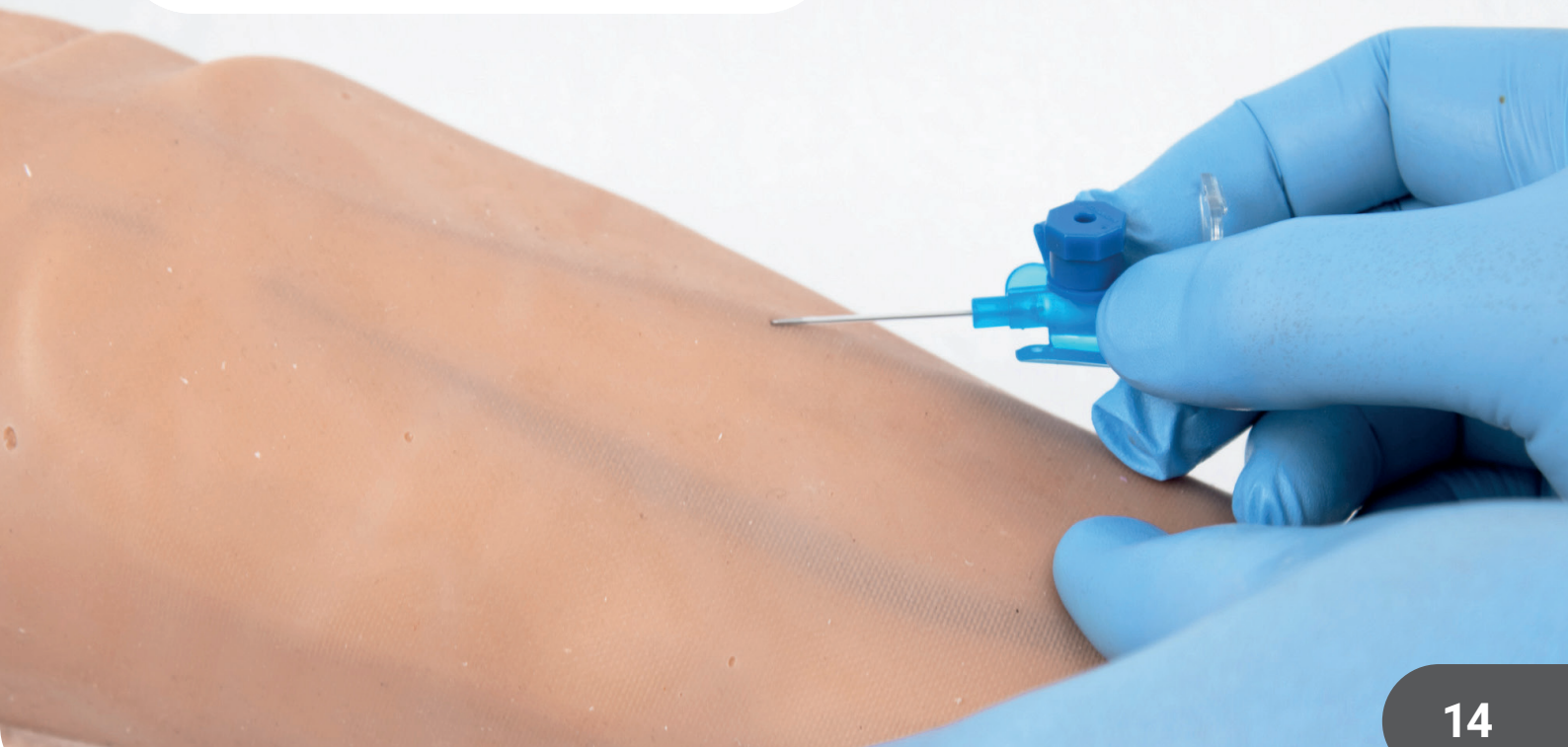
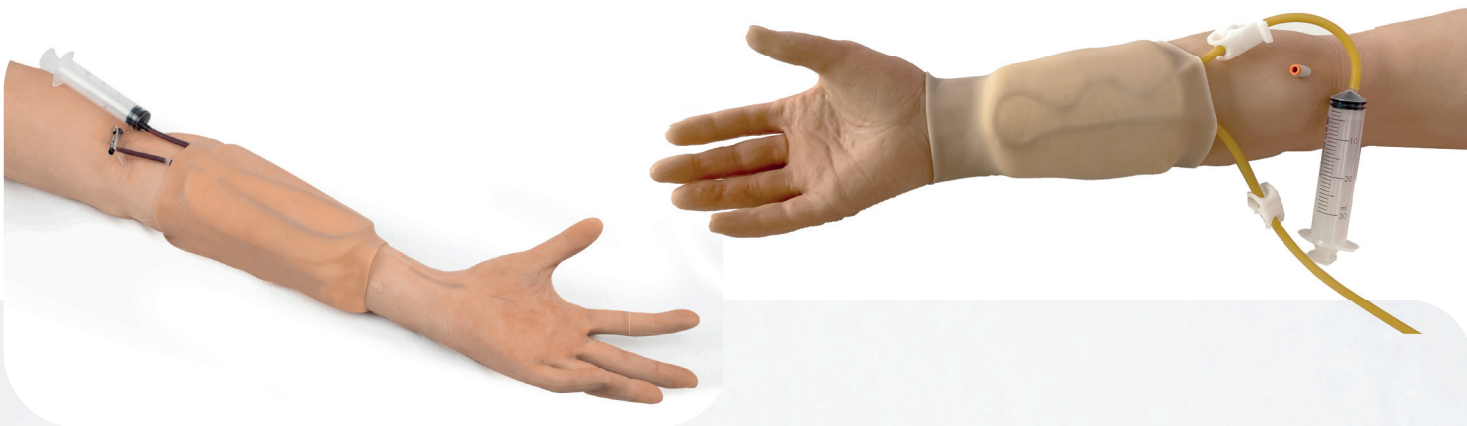


IV Sleeve

This wearable **IV Sleeve** provides real-life venipuncture training and can be safely used on standardized patients or manikins.

The **IV Sleeve** offers a realistic vein simulation that allows users to perform peripheral intravenous cannulation and blood sampling.

Made with a soft silicone coating, the **IV Sleeve** reproduces the feeling of touching human skin.





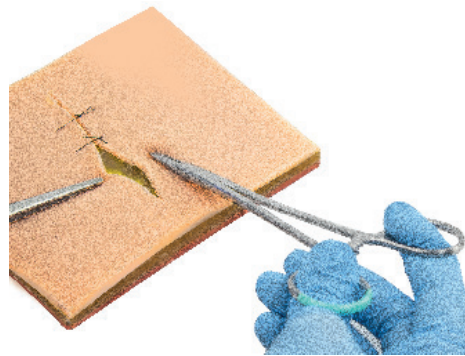
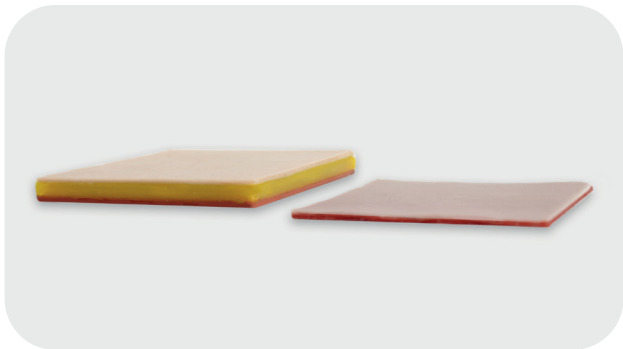
Suture Pad

Practice surgical incisions and improve your suturing techniques with the **Suture Pad**.

The **Suture Pad** is available in two different models:

2 Layers: Epidermis/Dermis and Muscle tissue

3 Layers: Epidermis/Dermis, Subcutaneous, and Muscle tissue

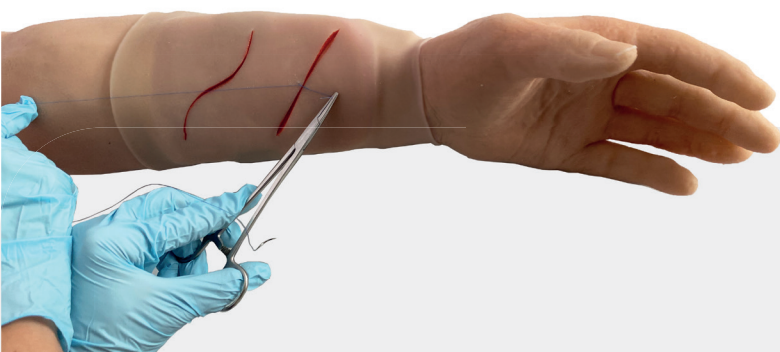


Suture Sleeve

This wearable **Suture Sleeve** provides real-life suture training and can be safely used on standardized patients or manikins.

Replication of an injured forearm with realistic lacerations, this trainer allows users to develop and improve their suturing techniques.

Made with a soft silicone coating, the **Suture Sleeve** reproduces the feeling of touching human skin.





Trauma Leg

Practice first aid measures and manage a major hemorrhage with the **Trauma Leg**. The trainer represents an injured leg with laceration, bullet entry, and bullet exit wounds.

The bleeding system enables the flow of blood from the wounds. You can apply direct pressure, pack the wound with gauze, place a pressure dressing, and apply the tourniquet to really stop the bleeding.

Made with a soft silicone coating, the **Trauma Leg** reproduces the feeling of touching the human skin.

The **Trauma Leg** is compatible with the Hemorrhage-X1 and Hemorrhage-X3..



Wound Packing Leg

Practice first aid measures with the **Wound Packing Leg**. The trainer represents an injured leg with laceration, bullet entry, and bullet exit wounds.

You can learn and practice the techniques of applying direct pressure, packing the wound with gauze, placing a pressure dressing, and using the tourniquet on the injured leg.

Made with a soft silicone coating, the **Wound Packing Leg** reproduces the feeling of touching the human skin.





Trauma Torso

Practice first aid measures and traumatic wound treatment with the **Trauma Torso!** The trainer represents a realistic injured torso with laceration, avulsion, and gunshot wounds.

The torso features a faithful anatomical representation of the bone structure and soft tissues. A bleeding system enables the torso to bleed realistically from the wounds.

The **Trauma Torso** is compatible with the Hemorrhage-X1 and Hemorrhage-X3.



Wound Packing Task Trainer

The **Wound Packing Task Trainer** is specially developed to teach the bleeding control technique of packing a deep wound with gauze. The product consists of a realistic deep avulsion wound connected to a tube that delivers actual bleeding, enhancing the training realism.

Compact and easy to use, the **Wound Packing Task Trainer** comes in a case, making it easy to store and transport. Made with a soft silicone coating, it reproduces the feeling of touching human skin.

The **Wound Packing Task Trainer** is compatible with the Hemorrhage-X1 and Hemorrhage-X3.





Blood Bleeding Pumps

Realistic bleeding for your trauma scenarios!





HEMORRHAGE-X

HEMORRHAGE-X is a blood pump that delivers realistic bleeding to your trauma scenarios, enhancing the realism of the training.

Portable and easy to use, **HEMORRHAGE-X** is available in two different models: **HEMORRHAGE-X1**, with one output; and **HEMORRHAGE-X3**, with three outputs.



The tutor can control several bleeding parameters using a smartphone, tablet, or laptop with the **HEMORRHAGE-X** App. When using the **HEMORRHAGE-X1**, a device's direct control is also available.

Compatible with all our trauma accessories, **HEMORRHAGE-X** makes the training an even more immersive and memorable experience.

- Arterial and venous bleeding
- Regulate the bleeding flow and the pulse rate
- Sensors detect pressure applied
- One or three outputs with independent flows
- Remote control by a web application





Patient Simulator Suits

Practice invasive procedures on a real person!





SYMSuit

SYMSuit is a hybrid patient simulator.

Composed of a suit and seven wearables task trainers, it is an ideal solution for medical and nurse training in both hard and soft skills, improving their professional behavior.

SYMSuit allows the training of advanced technical skills on a real person instead of using a manikin, which encourages the students to be respectful and empathetic with the patients, and enhances their communication and social skills.

The students can experience what it is like to be a patient, become aware of one's actions through reflection, receive feedback from the patient, and experience role-play scenario simulation training.

SYMSuit suits you better!

SYM Abdomen Simulator
Multi Skills Trainer



SYM Thigh Simulator
Wound Care & Injection
Trainer



SYM Wound Simulator
Wound Care Trainer



SYM Decubitus
Ulcer Simulator
Wound Care
Trainer



SYM Female Genital
Simulator
Multi-Task Trainer



SYM Buttock Simulator
Injection Trainer



SYM Male Genital
Simulator
Multi-Task Trainer





Standalone Softwares

Command-X Patient Monitor Software & Anesthesia Machine Simulator





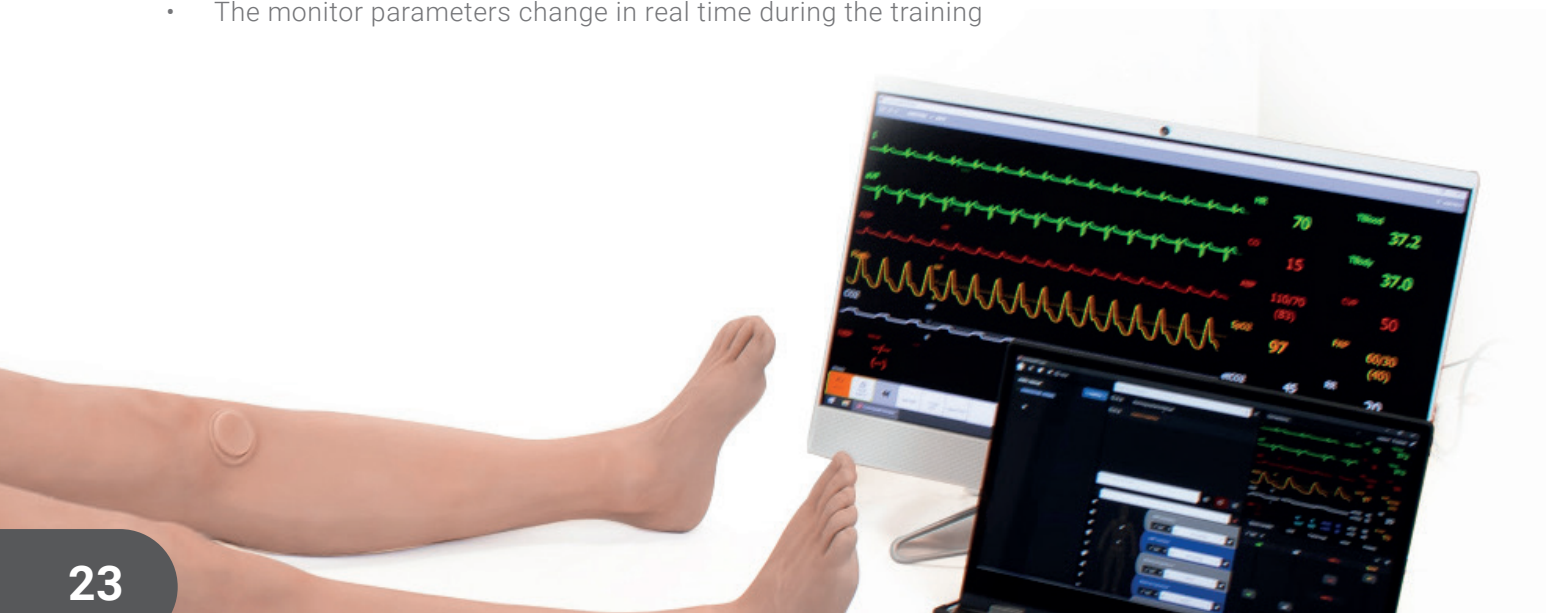
COMMAND-X Patient Monitor Software

COMMAND-X is our patient monitor software specially designed to help students to familiarize themselves with monitor systems and improve their clinical reasoning skills through remote simulation training.



The instructor can run different clinical scenarios and modify the patient's parameters while the students observe the changes and work on differential diagnoses and treatments.

- Intuitive and easy-to-use interface
- The students can join the session remotely using a personal server
- 14 preset and validated scenarios
- Scenario Editor to create your own completely customizable scenarios
- The training session can be recorded to provide a detailed debriefing experience
- The monitor parameters change in real time during the training

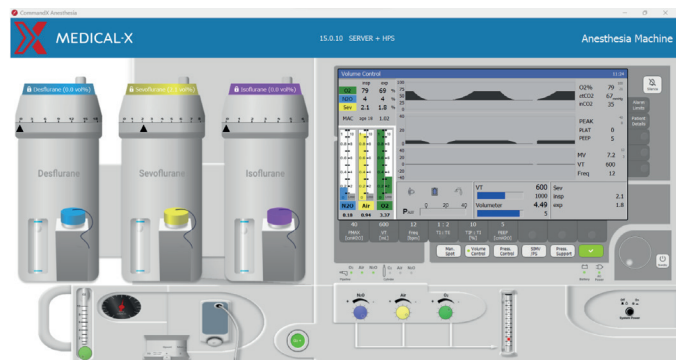




Anesthesia Machine Simulator

The **Anesthesia Machine Simulator** is an interactive simulation model of an anesthesia machine and ventilator for medical training purposes.

It was carefully designed to display the main features of an anesthesia machine, preparing learners for using real devices.



The **Anesthesia Machine Simulator** supports the most common ventilation modes in order to provide the students with an overview of the main ventilation parameters:

- Manual/Spontaneous ventilation
- Volume-controlled ventilation
- Pressure-controlled ventilation
- Synchronized intermittent mandatory ventilation
- Pressure Support

Combined with Command-X and our Patient Monitor, it's possible to gather the device training with clinical scenarios and patient's vital signs changes.



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to discover more



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