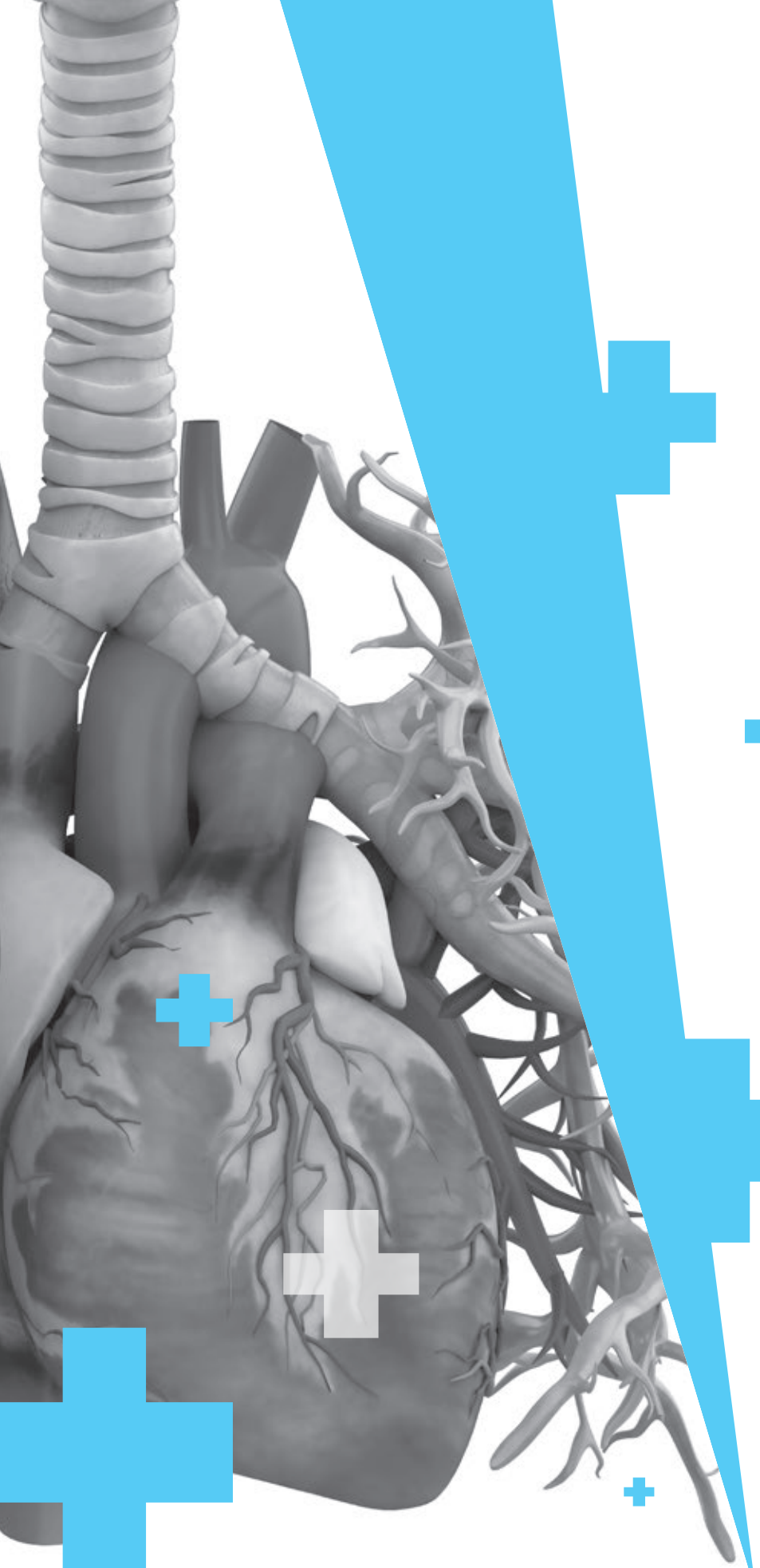


# Accurate

Learn. Practice. Improve.

HIGH FIDELITY SIMULATION
**FOR CLINICAL TRAINING**

Accurate
Learn. Practice. Improve.

HIGH FIDELITY SIMULATION
**FOR CLINICAL TRAINING**

| | | |
|---|---|---|
| **DRSIM™**<br>Interactive Clinical<br>Simulation Software | **TRANSFERSIM™**<br>Ultrasound Guided<br>Embryo Transfer Simulator | **NEWROSIM™**<br>Neurological<br>Virtual Simulator |
| **DRSIM VR™**<br>Virtual Reality<br>DRSIM Application | **TRANSFERSIM AR™**<br>Augmented Reality<br>TransferSym™ Application | **LUNGSIM™**<br>Mechanical Ventilation<br>Virtual Simulator |
| **PRECISO™**<br>Intra-Uterine<br>Device Simulator | **SONOHYSTEROSIM™**<br>High Fidelity<br>Sonohysterography Simulator | **BLOCKSIM™**<br>Ultrasound-Guided<br>Regional Anesthesia Simulator |
| **PICKUPSIM™**<br>Oocyte Pick-Up<br>High Fidelity Simulator | **I-REPORTING™**<br>Interactive Platform<br>for Reporting Training | **ECLSIM™**<br>Extracorporeal Life<br>Support Simulator |
| **IUSIM™**<br>Intrapartum Ultrasound<br>Simulator | **VAUSSIM™**<br>Versatile Advanced<br>Ultrasound Simulator | **PERFUSIONSIM™**<br>Task Trainer for NRP<br>and REBOA |

Accurate
Learn. Practice. Improve.

# HIGH FIDELITY SIMULATION FOR CLINICAL TRAINING

Accurate S.r.l. encompasses advanced skills in software engineering applied to educational models and biomedical engineering, along with a deep international experience of research and development of truly effective, hi-tech, educational models.

The analysis of educational needs, around which R&D focuses its main activities, is taken care of by a well-recognized, international scientific board.

The continuous presence at the prime international congresses in the panorama of medical education through publications and lectures demonstrates the strong alliance between the medical/scientific community and the significant amount of resources dedicated to technological researches.

**eLearning**
The adoption of superb technologies to web applications let learners use clinical simulation as a computer based activity.

**Advanced Medical Simulation**
In collaboration with international scientific boards, Accurate S.r.l. provides simulation courses all around the globe. The internal R&D allows the development of new simulation tools that are unique in the field of the medical education, providing increasing realism and the extension of this didactic methodology towards new therapeutic domains.

**Technical support**
Comprehensively we install, train, and provide support on all of our product line after the purchase.

## What makes us special

Accurate S.r.l. consists of a professional team with unique expertise on the international health scenario, capable of integrating scientific research, engineering design and implementation of innovative solutions in health and medical education.

## Accurate by numbers

**80** SIMULATION CENTERS

**70** SCIENTIFIC PUBBLICATIONS

**22** THERAPEUTIC AREAS

**8** PATENT & COPYRIGHTS

### CONSULTING
The broad medical simulation knowledge and the international expertise of the Accurate team allow the company to provide a 360° customer assistance for the developing and implementation of turnkey medical simulation centers.

### PROFESSIONAL TEAM
Our engineers will support the customer in selecting the most suitable simulation solutions for his center.
“Dynamism on finding solutions” and “Attention to the client needs” are the main features of our Team.

### EXPERIENCE
In addition to several scientific publications, the more than 80 simulation centers entirely designed and implemented by Accurate during the past 11 years, attest to the extensive expertise gained by our team, both our technical and scientific level.

Member of CISQ Federation
RINA
CERTIFIED MANAGEMENT SYSTEM
ISO 9001

Simula Hub
Learn. Practice. Improve.

**Learn about Simula Hub Courses**
Keep up to date on Simula Hub's practical course calendar for all healthcare professionals.

# RESEARCH, INNOVATION, AND ADVANCED TRAINING CENTER **FOR CLINICAL RISK MANAGEMENT**

**Simula Hub**
**Multifunctional and Flexible Facilities**

The first centre for research, innovation, and advanced training completely dedicated to reducing clinical risk and increasing the quality of care.

A total area of more than 1000 sqm² reproduces the layout and functionality of a real hospital with innovative state-of-the-art fittings and experimental high-tech equipment.

**1k** Square Metres of **Work Area**

**5** **Advanced Simulation** Rooms

**1** **Immersive Simulation** Room

**3** **Plenary Meeting Rooms**

## More than 30 Skill Station on Specific Procedures in over 20 Therapeutic Areas

Simula Hub features dedicated Technical Skills rooms where trainees have access to hands-on training stations on specific procedures ranging from interventional cardiology and mechanical ventilation to coordination techniques for laparoscopic surgery. There are also dedicated virtual and augmented reality environments available for immersive training activities.

**Mobile and Transferable Control Rooms**
Innovative, flexible, and transferable to meet every simulation need.

**Touch Tables**
for group exercises with microsimulation software.

**Virtual and Augmented Reality Rooms**
for immersive training activities with high sensory engagement.

**An Innovative Audio-Video System**
allows for the creation of advanced Team Scenarios for highly realistic dynamics.

FOR FURTHER INFORMATION

# PRECISO™

Intra-Uterine Device Simulator

**PRECISO™** is an advanced simulator for intrauterine device (IUD) insertion.
The correct placement of this medical device is, in fact, essential for a secure contraception and women's safety. This procedure is usually considered "blind" (i.e. without the use of an ultrasound machine) for many clinicians and often this attitude brings to badly positioned IUDs with consequent discomfort for the woman, risk in some cases of uterine perforation and/or bleeding and high costs associated with the incorrect procedure.
**PRECISO™** is the only simulator in the world that allows users to acquire the necessary skills to learn how to correctly insert real IUD in total safety and to use ultrasound images from real patients to check the positioning of the intrauterine device.
**PRECISO™** is equipped with a simulated transvaginal probe and it provides real ultrasound images after the IUD placement. The user is also able to measure the uterus length using a real hysterometer as well as perform all the steps for a correct IUD placement. Uterus' length can vary depending on the clinical case selected from the instructor. The uterus can be anteverted as well as retroverted depending on the scenario.

**The PRECISO™ includes:**

- Qty 1 Anatomically accurate female lower torso and base unit
- Qty 1 IUD Sensorized Insert
- Qty 1 IUD Simulated transvaginal probe
- Qty 1 Hysterometer
- Qty 1 Speculum
- Qty 1 Portable Light
- Qty 1 Laptop with pre-installed PRECISO software
- Qty 1 LCD 21,5" monitor
- Qty 1 Soft Transport Box
- user manual
- installation support and remote training
- lifetime free software updates and upgrades
- 1 year hardware warranty

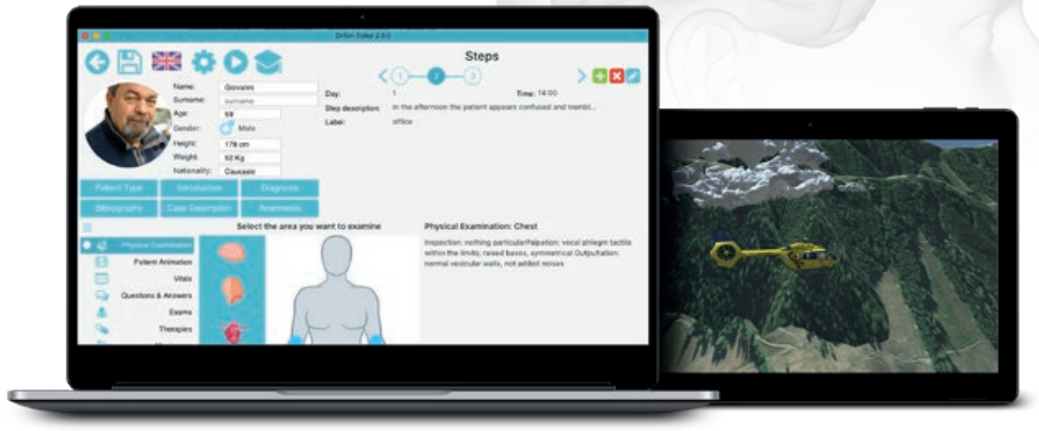
**1 YEAR WARRANTY**

CE CERTIFIED

*Clinical use disclaimer: PRECISO™ is licensed for use for educational purposes only. PRECISO™ is not intended for clinical use.*

# DRSIM™

Interactive Clinical Simulation Software



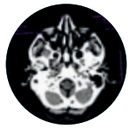

**DRSIM™** is an interactive clinical simulation software for e-learning and telesimulation.

**DRSIM™ Editor** allows editing and implementing new scenarios, which may be used for eLearning and telesimulation.

## MAIN TECHNICAL FEATURES

**Realistic Scene**
3D rendering of the Clinical Scenario

**Interactivity**
Choice of examinations, therapies, operations, etc.



**Multimedia Content**
Images, Videos of Real Examinations

**Editor**
Integral Editing of the Scenario

**Custom Contents**
Inserting your own multimedia content

**Diversified Settings**
ICU patient room, emergency room, outdoor, car crash and at home scenarios, etc.

**Report**
Final report of the execution of the case

**SCORM Compatibility**
Integration with LMS platforms

**Different types of patients**
Man / woman, child, adult, senior

**Editable Cases**
Powerful editing system

**eLearning and telesimulation**
The ability to use it on the web.

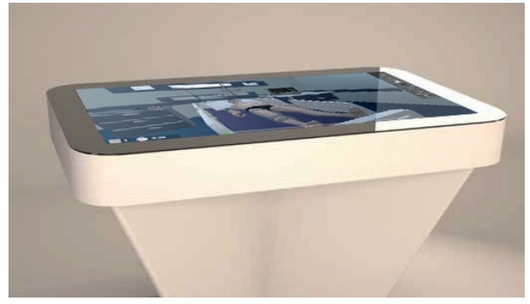
**Flexibility**
Use clinical cases online.

**DRSIM™ Editor** provides a powerful editing system that allows the user to create clinical cases from scratch or to modify and expand existing clinical cases.

**DRSIM™ Editor** allows the user to save the clinical scenario in an archive file (compatible with SCORM standard) ready for distribution on the e-learning platform, or a simple web server, in order to efficiently combine a highly interactive learning environment, the use in an e-learning context for remote training and the independence of customization and extension.

Clinical cases have an integrated view of the specific environment in which the patient is located and of the clinical scenario, an area with the patient's monitor where traces and values of physiological parameters are displayed, a set of tools that the doctor can use and access to medical records, examinations and drugs.

**DRSIM™** is now available with default settings/environments (like an ICU patient room, an emergency room, an outdoor "car crash" and "at home" living room and bedroom scenarios) and advanced settings/environments (like an ambulance, an helicopter and a medical office).



DRSIM allows the user to choose between multiple types of patients: man/woman, senior/adult/pediatric/baby/neonate, regular/obese). It is possible to manage the virtual patient interactively. Meanwhile, the user can examine the pathophysiological responses arising from his diagnostic and therapeutic choices in real time.

**A virtual DRSIM™ clinical case sharing platform is available for all the user.** From this platform they can download clinical cases created from other institutions as well as upload their own scenarios for the DRSIM community.

**DRSIM™ Editor includes:**

- DRSIM case including a USB stick with DRSIM software, lifetime floating license key and user manual
- Installation support and remote training
- Lifetime free access to the DRSIM Academy (the virtual DRSIM clinical case sharing platform)
- Lifetime free software updates and upgrades

*Minimum System Requirements for the PC: Intel Core i-5 - RAM: 16 GB - Operating system: Windows 10 Pro (64 bit) / Mac OSX 10.14 - SSD (Solid State Drive): 128 GB - Dedicated graphic card - RAM: 2 GB - Internet active connection*

# DRSIM VR™

Virtual Reality DRSIM Application

**DRSIM VR™** represents a unique opportunity to create and experience your own clinical cases in a virtual reality live mode.

**DRSIM VR™** Is able to display on META QUEST 2 headset in VR mode, all the DRSIM cases created by the instructor using the DRSIM Editor application. The user will be able to have a more immersive experience of the clinical cases as well as the possibility to be fully involved in the scenario. The user will be able to run through several outdoor, indoor and in-hospital environments while he will be asked to treat different kind of patients that will be showed live in front of him.
**DRSIM VR™** is an add-on application for DRSIM that can be used on your META QUEST 2 headset.

*Clinical use disclaimer: DRSIM VR™ is licensed for use for educational purposes only. DRSIM VR™ is not intended for clinical use.*



FOR FURTHER INFORMATION

# ECLSIM™

Extracorporeal Life Support Simulator

**User-Friendly Interface**

Simple, fast and effective user interaction with the simulator.

**Mobility**

View the instructor interface on any device with an internet browser.

**ECLSIM™** is a unique screen-based simulator that allows the user to train on advanced scenario involving extracorporeal membrane oxygenation and extracorporeal life support.

**ECLSIM™** includes multi-functional browser-based user and instructor interfaces able to replicate heart-lung support systems for cardiopulmonary support. The trainee can develop the ability to interpret heart-lung support system parameters, formulate diagnoses and adapt the treatment to patients requiring respiratory and / or circulatory support. Furthermore, it allows the instructors to simulate several scenarios, for example, respiratory failure with cardiac impairment or circulatory failure with respiratory impairment, resuscitation, bridge to transplant as well as oxygenator failure, inlet or outlet obstruction, fresh gas disconnection or massive blood loss.

**ECLSIM™** is composed by a realistic user interface with integrated controls that simulate a real heart-lung support systems for cardiopulmonary support and by an instructor interface where he can easily change the ECMO machine parameters and enable adverse events on a user-friendly interface, in order to simulate different scenarios and follow the user's actions while the simulation is running. The instructor interface has got two simulation modalities: Automatic and Manual.

• **The automatic mode** enables the use of a validated mathematical model that is able to realistically correlate parameters among each other. For example, the modification of the RPM (revolutions per minute) value changes the flow rate and consequently the pressures and so on.

• **In manual mode**, relationships between parameters are disabled.The user interface displays alarm messages, system parameters (like arterial pressure, venous pressure, flow, SvO2, etc.) and the user is able to mainly change the “revolutions per minute” like in the real device. It also displays gas blender variables in order to simulate the possibility to vary the oxygenation of the blood during the scenario. The instructor is able to change the value of system parameters in order to simulate several scenarios and follow the user actions during the simulation.

**ECLSIM™, Screen Based Extracorporeal Life Support Simulator, includes:**

- ECLSIM™ software, lifetime license key and user manual sent by e-mail
- Installation support and remote training
- Lifetime free software updates and upgrades

*Minimum System Requirements for the PC:*
*Display: 15' - Display Resolution: 1024 x 768*
*CPU: Intel Core i-5 - RAM: 8 GB*
*Operating system: Windows 10 Pro (64 bit)*
*Language: English - HD: 128 GB*

# PICKUPSIM™

**Ovocyte Pick-Up**
**High Fidelity Simulator**

### High Fidelity

All the provided exercises reproduce **real clinical cases**.

### Haptic Feedback

Haptic feedback system to let the user experience the **follicle wall resistence.**

### Echographic Monitoring

Real time visualization by a simulated ultrasound monitor.

**PICKUPSIM™** is an innovative, high fidelity system for the simulation of the human ovum collection procedure in the context of assisted human reproduction. The simulator includes an haptic feedback system and a virtual ultrasound monitor.

**PICKUPSIM™** enables hands-on procedural training and permits, thanks to its haptic feedback, simulation of the resistance to penetration of the soft tissues traversed by the ovum aspiration needle, in particular the ovarian surface and the ovarian follicle.

**MAIN TECHNICAL FEATURES**

- Haptic feedback
- Simulation of the deformation imposed by the needle on the soft tissues
- Simulation of follicle emptying and re-filling
- Scenarios based on real clinical images
- Automatic scoring system
- Summaries for learners and instructors, containing metrics on duration and cases completed

### Ultrasound monitoring includes:

- Monitoring of the procedure by a simulated ultrasound monitor
- Real time simulation of emptying and re-filling of the follicles

### Permitted movements and ultrasound monitoring

- Needle movements are allowed both in the forward and in the backward direction
- It is possible to move the ultrasound probe in the sagittal plane and to observe a coherent and real-time modification of the scene (allowing the user to investigate the volume of the follicles and to choose the proper entry plane for the needle)
- It is possible to rotate the ultrasound probe and to get a transverse view (in order to allow the user to investigate blood vessels and to differentiate vessels from follicles)
- Simulated aspiration of follicles driven by a foot pedal pump
- Possibility to puncture the vessels (arteries or veins)
- It is possible to fill the test tube with the follicular fluid
- As an advanced setting, the user can also modify the physics of the environment and modify the visibility of the needle in order to create more challenging scenarios

### Exercise and Simulations

The user can practice and develop competency using simulation scenarios based on real clinical images.

The scenarios available take into account:

- The proper movements to reach the target follicles
- The proper suction and washing timing
- The avoidance of critical anatomical structures
- At the end of the procedure, an indicative global score will be given to the user based on his performance

### Control

The intuitive control software runs on instructor PC.

### External LCD Display

The external virtual monitor is able to display real ultrasound images.

### The PICKUPSIM™ includes:

- PICKUPSIM™ main white box including a real pick-up needle and a simulated transvaginal ultrasound probe
- 1 Simulated aspiration pump pedal
- Laptop PC with pre-installed PICKUPSIM™ software (7 clinical cases)
- LCD 21,5" monitor
- IP67 certified and waterproof transport case for the main white box
- User manual
- Installation support and remote training
- Lifetime free software updates and upgrades

### Advanced Clinical Case Package *(Optional PKS03):*

New advanced clinical case package that includes 3 extra cases regarding hyperstimulation, endometriosis, lateral follicle distribution.

**1 YEAR WARRANTY**

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*PICKUPSIM™ is a product from Accurate, a company blending international experience, scientific research, engineering and development of truly effective hi-tech educational solutions in the medical field. (Patent Number 1412785).*

*Clinical use disclaimer: PICKUPSIM™ is licensed for use for educational purposes only. PICKUPSIM™ is not intended for clinical use.*

# IUSIM™

Intrapartum
Ultrasound Simulator

### Editor

Easily create your own simulation clinical case.

### Measurements

Measure head perineum distance and angle of progression, predict operative vaginal delivery.

### High Fidelity

A realistic ultrasound probe will be able to recreate the most lifelike intrapartum scenarios.

**IUSIM™** is a unique and advanced Intrapartum Sonography Simulator developed by the Accurate R&D team with the scientific contribution of Tullio Ghi, Full Professor of obstetrics and gynecology at the University of Parma, Italy. **IUSIM™** allows the user to evaluate the labor progress, measure head perineum distance and angle of progression, predict operative vaginal delivery and understand normal and abnormal labor through ultrasound images.

**The intrapartum sonography** enables the objective measurement of birth progress and provides a more scientific basis for assessing labor: the correct use of ultrasound is of crucial importance in performing a safe operative delivery.

### Powerful Tools

**The IUSIM™** software and its high-fidelity realistic ultrasound probe will be able to recreate the most lifelike intrapartum images.
A user-friendly interface will allow the instructor to independently create, using a powerful editor, a customized and exclusive casebook of real ultrasound images, videos and volumes.

### Practice for Perfection

**IUSIM™** includes a childbirth manikin, one ultrasound curvilinear probe, RFID sensors and several clinical cases from basic to advanced level.

Simulation-based training reduces medical error, enhances clinical outcomes, and reduces the cost of clinical care. **IUSIM™** will be your practice for perfection.

**1 YEAR WARRANTY**

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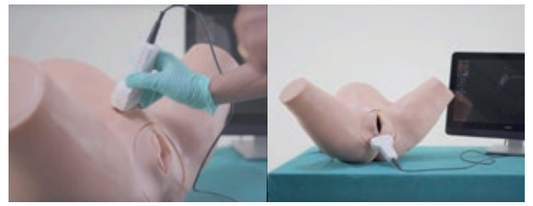


## FEATURES

### The IUSIM™ package includes:

- Sensorized Childbirth Training Torso including an anatomically accurate pelvis and full-term neonate with placenta and umbilical cord
- Simulated Ultrasound Convex Probe
- 5-pack RFID tags
- USB stick including IUSIM software, lifetime license key, casebooks and user manual
- Intrapartum 1 module including n° 8 Intrapartum cases
- Intrapartum 2 module including n° 8 Intrapartum cases
- Customized Carton Box
- Installation support and remote training
- Lifetime free software updates and upgrades
- 1 year hardware warranty

*Minimum System Requirements for the PC: Display: 15' - Display Resolution: 1920 x 1080 - CPU: Intel Core i-5 - RAM: 8 GB - Operating system: Windows 10 Pro (64 bit) - Language: English - SSD (Solid State Drive): 128 GB - Dedicated graphic card RAM: 2 GB - USB ports: 1 - HDMI ports: 1*

### Some Childbirth Torso Technical Features:

- Realistic Palpable Anatomy
- Realistic Fetal Presentation
- Removable Abdomen
- Breech Deliveries
- Forcep Assisted Delivery
- Smooth, Supple Neonate Skin
- Realistic Umbilical Cord
- Placental Delivery
- Placental and Umbilical Complications

### Optional Clinical Case Package

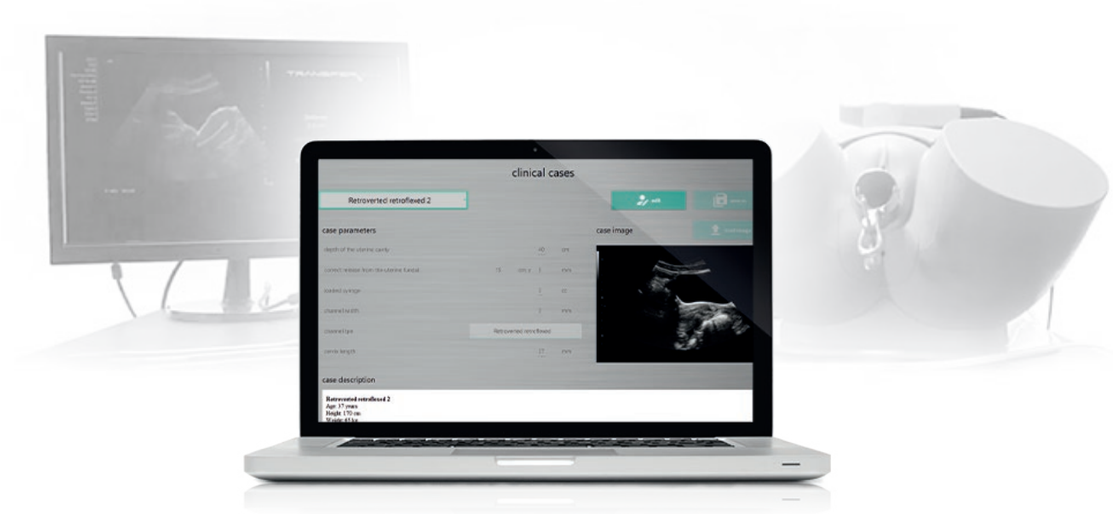
***(Optional OB/GYN PPH1):***

New optional clinical case package including 8 postpartum haemorrhage and 2 shoulder dystocia scenarios.

*IUSIM™ is a product from Accurate, a company blending international experience, scientific research, engineering and development of truly effective hi-tech educational solutions in the medical field.*
*Clinical use disclaimer: IUSIM™ is licensed for use for educational purposes only. IUSIM™ is not intended for clinical use.*

# TRANSFERSIM™

Ultrasound Guided Embryo Transfer Simulator



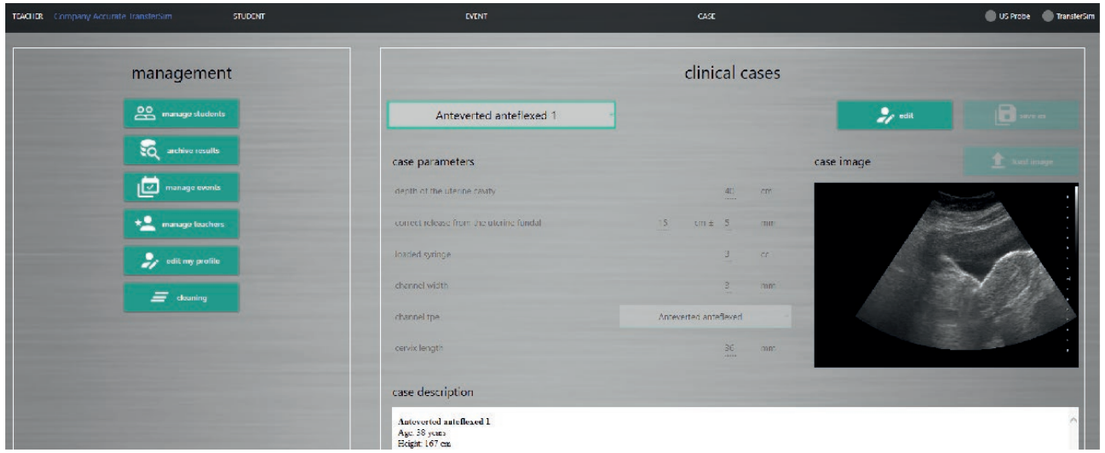

**High Fidelity**
All the provided exercises reproduce **real clinical cases**.

**User-Friendly Interface**
Simple, fast and effective user interaction with the simulator.

**Transvaginal Ultrasonography**
Real time visualization of the procedure by a simulated ultrasound monitor.

**TRANSFERSIM™** is an innovative, high fidelity virtual simulator designed for training clinicians in the psychomotor and clinical skills associated with the Ultrasound Guided Embryo Transfer procedure.
**TRANSFERSIM™** software includes 11 different clinical cases, based on real clinical images.
**TRANSFERSIM™** is able to automatically and mechanically simulate 4 different positions of the uterus (anteverted-anteflexed, anteverted-retroflexed, retroverted-anteflexed, retroverted-retroflexed) as well as difficult passages through the cervical canal.

**TRANSFERSIM™** is the most efficient simulator currently available. TransferSim will produce and save, for each student, a report showing all simulation parameters (distance from the fundus of the uterus at release instant, simulation timing and total catheter touches of the uterine fundus).




**The TRANSFERSIM™ includes:**

- Anatomically accurate female lower torso and base unit
- Sensorized Abdominal Insert
- Transfersim Sensorized Insert
- Simulated convex probe
- Syringe
- Speculum
- Portable Light
- Real Embryo Transfer Catheter
- Laptop with pre-installed TransferSim software (11 clinical cases)
- LCD 21,5" monitor
- Soft Transport Box
- User manual
- Installation support and remote training
- Lifetime free software updates and upgrades

*TRANSFERSIM™ is a product from Accurate, a company blending international experience, scientific research, engineering and development of truly effective hi-tech educational solutions in the medical field. Patents: 102017000059635, 102017000059639 and 102017000059643.*

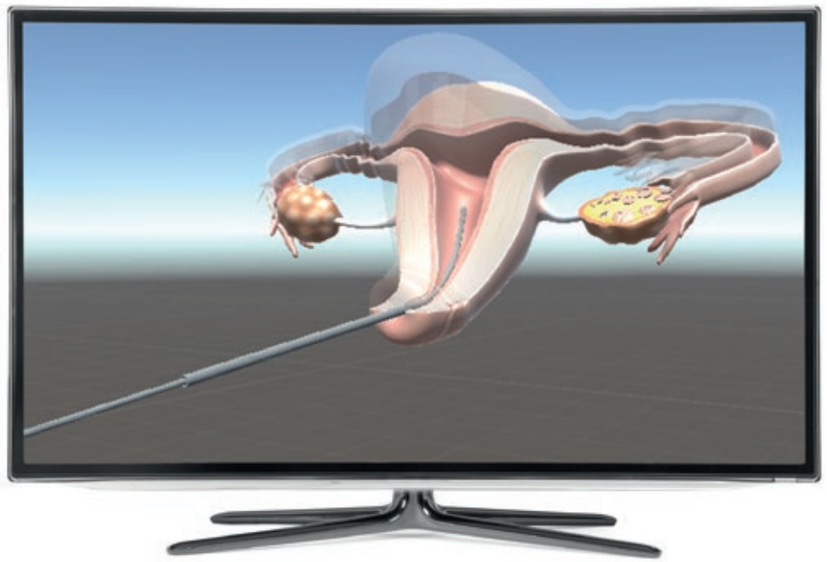
*Clinical use disclaimer: TRANSFERSIM™ is licensed for use for educational purposes only. TRANSFERSIM™ is not intended for clinical use.*

**1 YEAR WARRANTY**

CE CERTIFIED

# TRANSFERSIM AR™

Augmented Reality Transfersim Application



## TRANSFERSIM AUGMENTED REALITY

A three dimensional way to perform
your embryo transfer!

**TRANSFERSIM AR™** is able to display on Microsoft HoloLens the anatomy of the uterus as well as the movement in real time of the cathethers inside the same uterus.
The user can visualize the physical release of the embryo inside the uterus and the correlation between the structures during the procedure (for example, in case the user touches uterine fundus). It develops a better and augmented understanding of cathether handling.

**TRANSFERSIM AR™** is an add-on software for **TRANSFERSIM™** that can be used on your Microsoft HoloLens.

*TRANSFERSIM AR™ is a product from Accurate, a company blending international experience, scientific research, engineering and development of truly effective hi-tech educational solutions in the medical field.*

*Clinical use disclaimer: TRANSFERSIM AR™ is licensed for use for educational purposes only. TRANSFERSIM AR™ is not intended for clinical use.*

FOR FURTHER INFORMATION

# SONOHYSTEROSIM™

High Fidelity Sonohysterography Simulator

**SONOHYSTEROSIM™** is an innovative, high fidelity simulator designed for training clinicians to the Sonohysterography. This procedure provides enhanced endometrial visualization during standard transvaginal ultrasonography and is a relatively safe procedure for the evaluation of endometrial pathology. It can be used to evaluate patients with abnormal vaginal bleeding or infertility.
**SONOHYSTEROSIM™** offers real-time imaging of the endometrium during standard transvaginal ultrasonography, shows a potential abnormalities for which further imaging is required, defines a routine for transvaginal imaging of the uterus during saline infusion.

**SONOHYSTEROSIM™** allows the user to interactively train on the sonohysterography procedure during the completion of 7 different clinical case studies available with questions and answers.
**SONOHYSTEROSIM™** provides real clinical images before and after the saline infusion as well as the possibility for the instructor to save metrics and data of the learner's performance.

**1 YEAR WARRANTY**

CE CERTIFIED

**The SONOHYSTEROSIM™ includes:**

- Anatomically accurate female lower torso and base unit
- Abdominal Insert
- SONOHYSTEROSIM Sensorized Insert
- Simulated transvaginal probe
- Syringe
- Real Sonohysterography Catheter
- Speculum
- Portable Light
- Laptop with pre-installed SONOHYSTEROSIM software (7 clinical cases)
- LCD 21,5″ monitor
- Soft Transport Box
- User manual
- Installation support and remote training
- Lifetime free software updates and upgrades
- 1 year hardware warranty

*Clinical use disclaimer: SONOHYSTEROSIM™ is licensed for use for educational purposes only. SONOHYSTEROSIM™ is not intended for clinical use. Accurate srl patent.*

*Clinical use disclaimer: SONOHYSTEROSIM™ is licensed for use for educational purposes only. SONOHYSTEROSIM™ is not intended for clinical use. Accurate srl Patent: 102018000006822*

# VAUSSIM™

Versatile Advanced
Ultrasound Simulator

**Versatility**
Transform every patient simulator into an Advanced Ultrasound Simulator.

**Editor**
Easily design your own casebook in order to create your exclusive and unique Simulator.

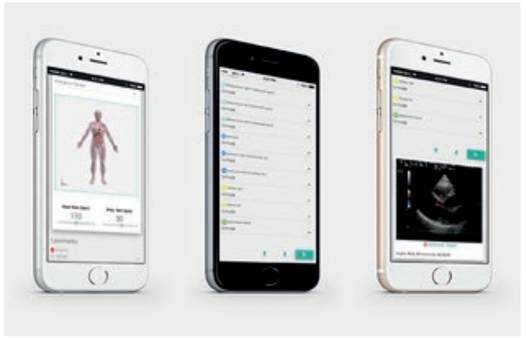
**Multimedia Content**
Display images, videos and volumes without restriction.

**Mobility**
View the instructor interface on any device with an internet browser.

**VAUSSIM™** is a Versatile Advanced Ultrasound Simulator, designed to make diagnostic medical sonography anywhere... anytime! The **VAUSSIM™** ultrasound simulator, thanks to a network of high-fidelity sensors, provides to the skin of any simulator or manikin ultrasound images also in a mobile settings. This simulator allows the instructor to independently create, through the use of a powerful editor, a customized and exclusive casebook of real ultrasound images/videos/volumes without any additional cost.

Thanks to innovative technology, the simulator allows changing the pathological ultrasound status of the patient as well as his heart rate and respiratory rate, in real time during the scenarios.

**VAUSSIM™** is also completely independent and not sensitive to magnetic field rumors and guarantees continuous functioning despite the transportation and movement of the patient.



## PACKAGES

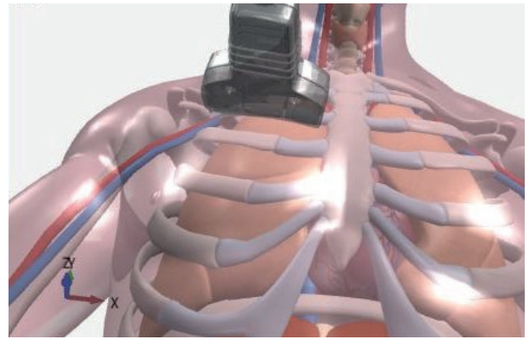
**The VAUSSIM™ package includes:**

- 3 Simulated Ultrasound Probes (1 linear, 1 convex, 1 phase array)
- Reference System Module
- 20-pack RFID tags
- USB stick including VAUSSIM software, lifetime license key, casebooks and user manual
- Emergency 1 module including n° 8 Emergency cases
- Emergency Covid 1 module including n° 1 COVID scenario
- IP67 certified and waterproof transport case
- Installation support and remote training
- Lifetime free software updates and upgrades

**VAUSSIM™ optionals:**

- Abdominal1 Module (8 cases)
- Pleural1 Module (8 cases)
- Cardiac1 Module (8 cases)
- Intrapartum1 Module (8 Intrapartum cases)
- Intrapartum2 Module (8 Intrapartum cases)
- OB/GYN PPH Module (15 cases - 10 scenarios)
- Pediatric1 Module (8 cases)
- Neural1 Module (8 cases)
- Venous Pathologies of Lower Extremities (9 cases)

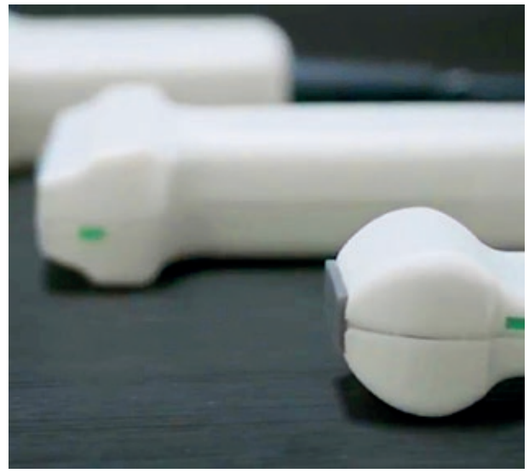
*Minimum System Requirements for the PC:*
*Display: 15' - Display Resolution: 1920 x 1080*
*CPU: Intel Core i-5 - RAM: 8 GB*
*Operating system: Windows 10 Pro (64 bit)*
*Language: English - SSD (Solid State Drive): 128 GB*
*Dedicated graphic card RAM: 2 GB*
*USB ports: preferred 4 (minimal 2) - HDMI ports: 1*



*VAUSSIM™ is a patended product from Accurate, a company blending international experience, scientifi c research, engineering and development of truly eff ective hi-tech educational solutions in the medical field (patent number 102017000016345).*
*Clinical use disclaimer: VAUSSIM™ is licensed for use for educational purposes only. VAUSSIM™ is not intended for clinical use.*

**1 YEAR WARRANTY**

CE CERTIFIED



# VAUSSIM OB/GYN PPH1 MODULE

OB/GYN VAUSSIM Software Module

The **VAUSSIM OB/GYN MODULE** allows to train in gynecologic and obstetrical ultrasonography during post-partum hemoorhage and shoulder distocia using your own VAUSSIM platform.

This new module enlarges the VAUSSIM application into the gynecology field: during high-fidelity simulations for manging shoulder dystocia and postpartum hemorrhage, now the user is able to have an ultrasound view of the procedure and significantly increase his confidence in managing these complications.

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**The VAUPPH1 Module includes the following clinical cases:**

- Empty Uterus
- Blood Clots
- Curetage Clots
- Isthmus Clot
- Paracervical hematoma
- Intraabdominal Haemorrhage
- Retained Placenta
- Tamponade Balloon Inserton
- Tamponade Balloon Control
- Retained Cotyledon
- Curetage of Retained Cotyledon
- Blood no Remnants in Cavity
- Manual Removal Placenta
- Shoulder Dystocia
- Shoulder Dystocia Lef Back

FOR FURTHER INFORMATION

# I-REPORTING™

Interactive Platform
For Reporting Training

**Flexible**

The number of exercises or exams to take for each session can be decided by the instructor.

**Automatic**

Once the user submits the answers, the system presents the automatic correction.

**Web Based**

I-REPORTING™ is a Web Application, so it is always available on the web with no need for extra software.

1. Each user, either a learner or an instructor, logs in with his username and password and decides on which courses operate.
2. The number of exercises or exams to take for each session can be selected by the instructor.
3. Once the user submits the answers, the system displays the automatic correction.
4. At the end of the session, it is possible to see the overall rating of the participants or the individual user.

The **I-REPORTING™** platform enables interactive reporting of Blood Gas Analysis (BGA) results and Electrocardiograms (ECGs) in a simple, interactive and automatic way. The platform is based on Moodle, a computing environment internationally used for e-learning courses management.

**I-REPORTING™ includes:**

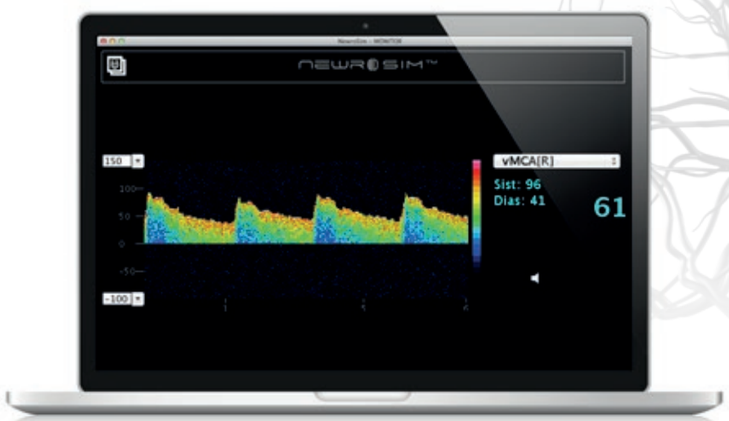
- I-REPORTING™ software installed by Accurate on the customer's moodle server
- User manual
- Installation support and remote training
- Lifetime free software updates and upgrades

**FREE DEMO**

Register to our Demo Platform
for a free i-Reporting trial here:
**http://ireporting.accuratesolutions.eu/#demo**

# NEWROSIM™

Neurological Virtual Simulator




**Powerful**

The user is able to modify the value of the cardiovascular variables.

**High Fidelity**

The mathematical model accurately reproduces the hemodynamics of the intracranial cerebral vessels.

**User Friendly Interface**

User interaction with the mathematical model is simple, fast and effective.

**NEWROSIM™** is a neurological model-driven computer-based simulator. It allows the dynamic visualization and interaction of blood-flow velocities in different cerebral districts in order to enable the evaluation of the cerebral perfusion level of the patient, as well as the development of several clinical scenarios in Neurology.

**NEWROSIM™** allows the user to monitor the cerebrovascular variables, useful for the evaluation of the cerebral perfusion level in pathological conditions, but difficult to control in regular clinical practice. The user can modify the value of the cardiovascular variables as the arterial pressure, the heart rate and the arterial CO2 partial pressure, or act on the cerebral circle condition adding stenosis or occlusions at the different levels of the brain.

Moreover, it's possible to simulate an impaired condition of the autoregulation as well as the CO2 reactivity so to allow the simulation of many scenarios with different levels of the regulatory mechanisms.

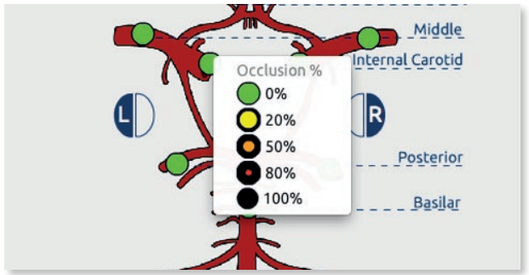
The mathematical model driving **NEWROSIM™** permits to reproduce the hemodynamics of the intracranial cerebral vessels, taking into account the presence of any interhemispheric compensation concerning the morphology of the Circle of Willis (e.g. through the anterior and posteriors communicating arteries).
Thanks to the user-friendly interface, the user interaction with the mathematical model is simple, fast and effective.

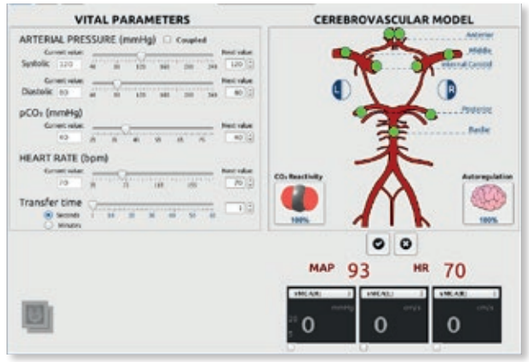
### Many are pathological scenarios:

- Stenosis/occlusion of the internal carotid arteries and of the basilar artery
- Stenosis/occlusion of the middle, posterior and anterior cerebral arteries
- Impairment or total absence of the cerebral regulatory mechanisms following ictus, head injury or other pathological cerebral situations
- Evaluation of the cerebral status after variation of the cardiovascular variables of the patient

### All these features makes NEWROSIM™:

- A perfect support for teaching, hence the user can practice and self-evaluate on several clinical scenarios. NEWROSIM™ can be used both in plenary rooms by teachers/instructors and on personal computers by students/learners
- An impressive new complementary tool for the clinical simulation field, since it integrates and completes an area not covered by the patient simulators on the market today. Thanks to the possibility to interact with some of these simulators, **NEWROSIM™** allows the development of new clinical simulation scenarios in the neurological field as well as the introduction of the Transcranial Doppler in those sessions.




### NEWROSIM™ can be used:

- As a stand-alone software, allowing the representation of pathological situations and the monitoring of the cerebral perfusion level in the different cerebral districts, according to the variation in the cardiovascular parameters, which are directly controlled by the user
- During clinical simulation scenarios, thanks to the possibility to display Transcranial Doppler images

*System Requirements*
*Display: 15' - Display Resolution: 1440 x 900 - CPU: Intel Core i-5 - RAM: 8 GB - Operating system: Windows 10 Pro (64 bit) / Mac OSX 10.14 - Language: English - HD: 128 GB - Network connection between Instructor and Monitor PC*

*NEWROSIM™ is designed by Accurate, which works both on the development and the integration of this application with the existing full scale simulators through the creation of specific communication protocols.*
*Application : 0001402823*
*Clinical Use Disclaimer: NEWROSIM™ is licensed for use for educational purposes only. NEWROSIM™ is not intended for clinical use.*

**FREE DEMO**

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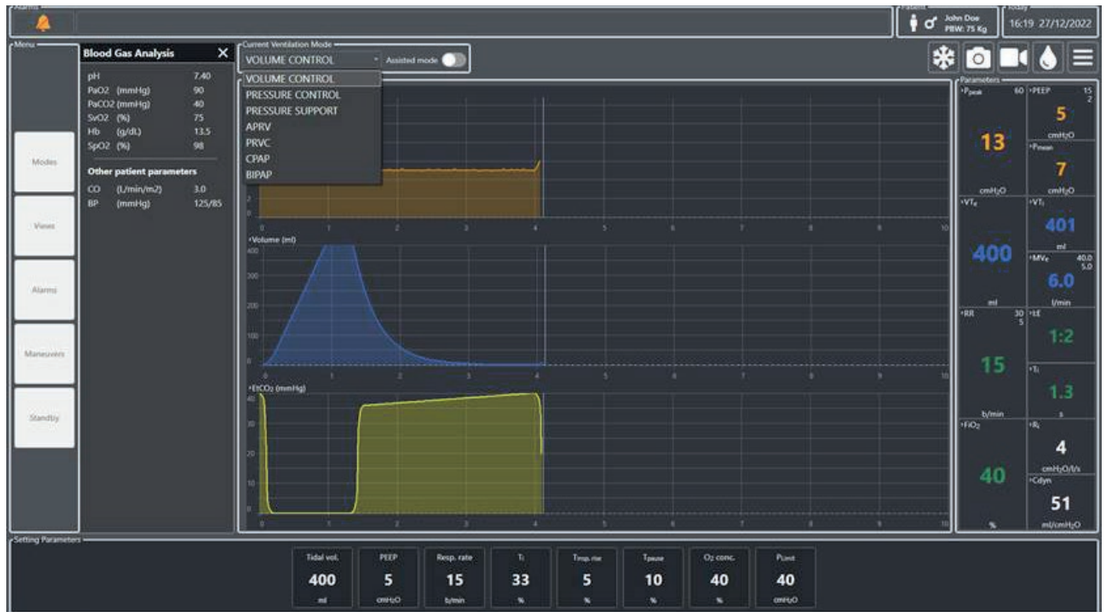
**http://NEWROSIM.accuratesolutions.eu/#demo**

# LUNGSIM™

Mechanical Ventilator Simulator




**Compatibility**

The first mechanical ventilator simulator that can be connected to patient simulators.

**User-Friendly Interface**

Simple, fast and effective user interaction with the adult, pediatric and neonatal patient simulators.

**Mobility**

View the instructor interface on any device with an internet browser.

**LUNGSIM™** is a unique and immersive mechanical ventilator simulator that is able to be interfaced **with your human patient simulator**. This **model driven** software allows the user to be self-trained on the respiratory mechanisms (**standalone mode**) as well as to create advanced simulation scenarios on different patients with pulmonary diseases or acute respiratory failures when wirelessly linked to an adult, pediatric o neonatal patient simulator (**sync mode**).
**LUNGSIM™** incorporates real-time changes in vital signs, ventilatory parameters and more. Users can be trained on define ventilator data, formulate diagnoses and make changes to best treat pathological patients. It allows instructors to simulate several patient conditions as for example chronic obstructive pulmonary diseases or acute respiratory distress syndromes simply changing patient parameters and ventilator values.
This software is composed by a realistic “learner interface” with integrated controls that simulate a real ventilator and a friendly browser based “instructor interface” that can be used on PC, tablet, smartphone connected via local network to the learner interface and allows to use **LUNGSIM™** during advanced simulation scenarios. The user interface incorporates built-in validated layouts in order to simulate different ventilators and situations. It allows the learner to display loops and choose among several different ventilation modes:

• **Volume Control**: through this ventilation mode the user can define the tidal volume administered to the patient. The airway pressure results from the compliance of the lungs, airways resistances and the inhaled volume.

• **Pressure Control**: using this ventilation mode the user can define the inspiratory pressure which is administered to the patient’s lungs.

• **Pressure Support**: using this assisted ventilation mode, that is patient-triggered (by pressure or airflow), the user can set the ventilator simulator to provide assistance when the patient makes a breathing effort. In this ventilation mode the trigger threshold represents a critical setting: an incorrect value of this parameter can produce the so called "missed triggering phenomenon".

• **APRV**: this ventilation mode is a form of CPAP which utilises releases of the high pressure level to a low pressure level intermittently and so it allows the administration of inverse ratio ventilation. In this modality, the patient has the freedom to make unassisted spontaneous breaths.

• **PRVC** (Pressure Regulated Volume Control): is a mode of mechanical ventilation that combines volume and pressure control ventilation. PRVC is an appropriate mode of ventilation for patients who require a specific tidal volume (VT) with the lowest effective pressure, such as those with acute respiratory distress syndrome (ARDS). In this mode, the ventilator delivers a volume-controlled breath. Using the plateau pressure from the previous delivered breath, the ventilator delivers the next breath. This allows the lowest delivery pressure, which is the target VT. In this manner, the PRVC mode may help prevent volutrauma and barotrauma.

• **CPAP** (Continuous positive airway pressure): it is a type of positive airway pressure ventilation that is used to deliver a set pressure to the airways that is maintained throughout the respiratory cycle, during both inspiration and expiration

• **BiPAP:** Bilevel positive airway pressure ventilation is a noninvasive technique used to provide ventilatory support to a spontaneously, but insufficiently, breathing patient using a facemask or nasal mask. With this mode of ventilation, BiPAP cycles between two levels of continuous positive airway pressure

The learner interface allows also the user to directly change the ventilation settings (as the Positive End-Expiratory Pressure, the Respiratory Rate or the Tidal Volume etc.) and to see on the virtual ventilator monitor several output parameters updating in real time (like Fraction of Inspired Oxygen, Insp : Esp Ratio, Expiratory Minute Volume, Inspiratory Minute Volume, Drive Pressure Value, etc.) and waveforms (like Pressure, Volume, Flow, Esophageal Pressure, Transpulmonary Pressure curves, EtCO2 curve and all types of loops etc.). The user can also perform inspiratory/expiratory hold maneuvers as well as take screenshots of the ventilator screen, freeze the tracings and make measurements.

The instructor is able to change the value of the parameters like the Lung Compliance, Thorax Compliance, Resistances, Respiratory Muscle Effort etc, that describe the patient, set the esophageal pressure and generate a completely customized non-linear compliance. On the instructor interface new BGA (Blood Gas Analysis) parameters can be modified by the instructor and sent to the learner.
Through his interface, the instructor also have the possibility to save and load pathology presets – like the different steps of a COVID-19 typical scenario – or to simulate common complications that can typically occur during a real ventilation scenario – like, for example, presence of water in the endotracheal tube, leaks in the tube or in the patient's lungs, presence of a mucus plug, or the presence of a bent tube. A set of pre-programmed and validated clinical cases is already present for COPD (Chronic obstructive pulmonary disease), Fibrosis, COVID-19, ARDS (Acute Respiratory Distress Syndrome) and Pneumonia.

**LUNGSIM™ allows the user to train on the use of a mechanical ventilator without the need to have or buy a real mechanical ventilator.**

**LUNGSIM™ includes:**

- LUNGSIM case including a USB stick with LUNGSIM software, lifetime license key and user manual
- Installation support and remote training
- Lifetime free software updates and upgrades

*Minimum System Requirements for the PC:*
*Display: 15' - Display Resolution: 1920 x 1080*
*CPU: Intel Core i-5 - RAM: 16 GB*
*Operating system: Windows 10 Pro (64 bit)*
*Language: English - SSD (Solid State Drive): 128 GB*
*Dedicated graphic card RAM: 2 GB*

*LUNGSIM™ is a product from Accurate, a company blending international experience, scientific research, engineering and development of truly effective hi-tech educational solutions in the medical field.*

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# PERFUSIONSIM™

**Task Trainer for NRP and REBOA**

Task Trainer for Normothermic Regional Perfusion (NPR) in Donation after Circulatory Death (DCD), Organ Transplantation and Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA)

This task trainer allows the placement of an adult venous and arterial cannulae for NPR in DCD donors as well as for VA-ECMO in cardiac arrest and refractory cardiogenic shock patients. The puncture and cannulation can be performed using real devices on the two vessel insert (right femoral puncture site). The replaceable two vessel puncture insert allows multiple access attempts as well as an ultrasound-guided access and cutdown.

The internal anatomy includes the vertebral column, the ribs, the kidneys, the liver, the diaphragm, the lungs and the heart. The heart is composed by a trasparent myocardial wall that allows the learner to evaluate the position of the cannulae tip inside the right atrium.

**The PERFUSIONSIM™ includes:**

- Full-size adult torso mannequin in opaque white with removable chest
- 1 Internal Anatomy Set (spine, ribs, kidneys, liver, diaphragm, lungs and heart)
- 1 Two Vessels Puncture Insert (set of 2, one already installed on the mannequin)
- Bag for the arterial simulated blood collection
- Manual pump for loading simulated blood in the femoral vein
- Transport box
- User manual
- Remote training
- 1 year hardware warranty

**1 YEAR WARRANTY**

# BLOCKSIM™

**Ultrasound-Guided**
**Regional Anesthesia Simulator**

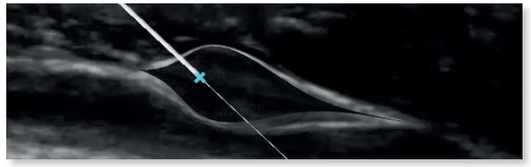
**High Fidelity**
Real clinical cases.

**User-Friendly Interface**
Simple, fast and effective user interaction with the simulator.

**Echographic Monitoring**
Real time visualization by a simulated ultrasound monitor.

**BLOCKSIM™** is an innovative, high fidelity system for the simulation of ultrasound-guided interfascial plane blocks and peripheral nerve blocks for regional anesthesia.

**BLOCKSIM™** has been designed in order to meet the training needs in the field of ultrasound guided regional anesthesia allowing the visualization of the anatomy of the region of interest, giving information about the needle pathway to the target and testing the user ability to identify the structures. This simulator allows the visualization of the needle tip as it is passing through the tissues, the confirmation of the alignment with the desired path and a continual visualization of local anesthetic solution delivery to optimize local anesthetic distribution. The simulator is equipped with very realistic ultra-durable tissue inserts, including traditional anatomical landmarks and fascia layers that provide precise tactile feedback to the user while he is inserting the needle as well as the feel of the typical fascial "pops".
The **BLOCKSIM™** is composed by a lightweight, compact and easy to store black box equipped with high fidelity sensors that allows the positioning of the desired tissue insert based on the requests of the clinical case selected. The main black box also connects with a simulated linear ultrasound probe and a real regional anaesthesia single shot needle that can be freely moved in different directions allowing the user to investigate the target and to choose the proper entry plane for the needle.
Simulated injections of the local anaesthetic driven by a real syringe are also allowed as well as the visualization of local anaesthetic solution delivery to ensure its proper distribution around the target.



Thanks to the **BLOCKSIM™** software, the user can practice and develop competency using scenarios based on real clinical images. The available 3 modules for a total of 21 different clinical cases take into account the proper movements to reach the target, the avoidance of unintended structures, the time to finish the procedure and the disposition of the local anaesthetic injected.

At the end of the procedure, for each clinical case, a global score is provided to the learner based on his performance. **BLOCKSIM™** represents the new generation of regional anaesthesia simulators since it allows the use of real needles, the puncture of extremely realistic tissue inserts and the inflation of the anaesthetic fluid without generating needle tracks or damages.

## The BLOCKSIM™ includes:

- 1 BLOCKSIM™ sensorized main black box
- 1 Simulated Ultrasound Linear Probe
- 1 Sensorized Needle Holder
- 1 Real regional anaesthesia single shot needle
- 1 Syringe
- Tissue Inserts depending on the configuration (see below)
- Laptop PC with pre-installed BLOCKSIM™ software module/modules
- LCD 21,5" monitor
- IP67 certified and waterproof transport case for the BLOCKSIM™ devices and the Laptop PC
- User manual
- Installation support and remote training
- Lifetime free software updates and upgrades
- 1 year hardware warranty

**Depending on the chosen configuration, it also includes:**

### BLOCKSIM™ FASCIA MODULE
(9 clinical cases)

- 1 General Tissue Insert (PAD A) for TAP, QLB and lumbar blocks
- 1 Pectoralis Tissue Insert (PAD B) for parasternal, PECs I, PECs II, erector spinae plane (ESP) and serratus plane blocks
- 1 Spinal Tissue Insert (PAD C) for the paravertebral block

### BLOCKSIM™ NERVE MODULE
(9 clinical cases)

- 1 General Tissue Insert (PAD A) for axillary, adductor canal, femoral nerve, sacral plexus, subgluteal sciatic and popliteal sciatic nerve blocks
- 1 Neck Tissue Insert (PAD D) infraclavicular, interscalene brachial plexus and supraclavicular blocks

### BLOCKSIM™ HIP MODULE
(3 clinical cases)

- 1 General Tissue Insert (PAD A) for infrainguinal fascia iliaca, PENG and suprainguinal fascia iliaca blocks

1 YEAR WARRANTY

CE CERTIFIED

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Accurate

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