# Arthur

## Patient Simulator

## Training for Acute Pediatric Emergencies

MedVision

# Preparing for Pediatric Emergencies

# Arthur

When caring for a young child, communication skills are as critical as the technical skills required to manage pediatric emergencies.

**Arthur** has been designed to support those working in child health to effectively communicate, assess, diagnose and treat young patients in a diverse range of critical scenarios and in a variety of clinical settings.

- Realistic airway
- Real mechanical ventilator compatibility
- Real devices can be used for ECG, pulse monitoring, defibrillation and BP monitoring
- Cricothyrotomy, needle decompression of tension pneumothorax
- CPR with comprehensive performance assessment

Arthur represents a 5-8 year old boy that simulates a wide range of conditions. From a healthy, talking child to being unresponsive with no vital signs, Arthur provides meaningful learning experiences through his extensive range of features.

## Basic to advanced patient examinations

From pulse checks and SpO2 monitoring to checking pupillary light reflexes for neurological assessment, Arthur allows for a complete patient examination.

## Interactive eyes

• Blinking: open, half-open or closed
• Pupillary responses: normal or absent response

## Resuscitation Scenarios

Realistic chest compressions: rate, depth, hands placement and ventilation volume. Arthur's activity log will capture all aspects of performance to ensure compliance with Guidelines.

## Drug Administration

• IV drug recognition, injected volume and speed recognition
• Pre-installed catheter

## Integrating ALS into Emergency Scenarios

Incorporating essential skills including dicult airway, IV administration, IO infusions, intubation and hypoxia.
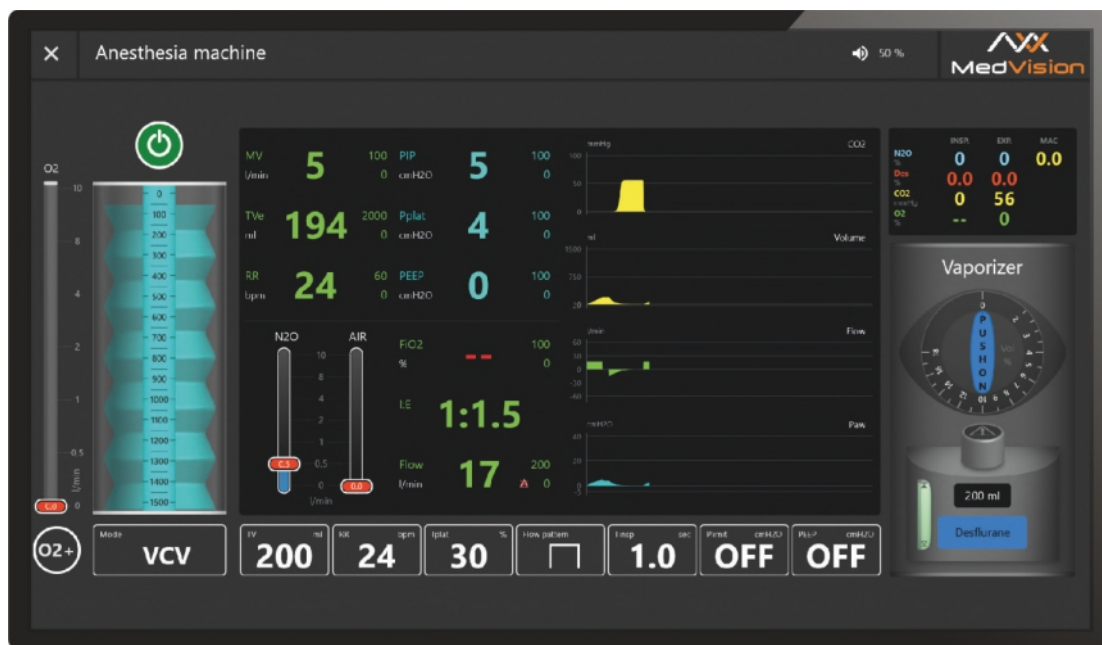
Available in several skin tones

- A range of respiratory complications
- Realistic unilateral and bilateral chest rise and fall
- Spontaneous breathing
- Mechanical ventilation supporting real devices or
  our proprietory virtual anesthesia machine
- Programmable lung resistance and compliance
- Heart, lung (posterior & anterior) and bowel sounds

# The only patient simulator to include comprehensive training in ventilation management



## Use your own ventilators

Arthur can be used with your institution's own real mechanical ventilators. Our propriety software makes it possible to set compliance and resistance for a complete clinical case. Pressure / volume control, pressure support.

## ... or our virtual anesthesia machine

Our virtual ventilator can be used in conjunction with Arthur or as a stand-alone training device. Trainees will learn the full functionality and application of ventilation equipment.

# Pediatric scenarios to challenge clinical decision-making and team performance

Arthur supports real-life pediatric emergency scenarios in a safe and realistic inter-disciplinary team environment. The instructor can create a diverse range of scenarios where learning to communicate effectively and respond as a team are essential to impact patient outcomes.

# Let the software do the work...

The software solutions behind our simulator platforms follow a simple mantra: make it easy, make it reliable and make it do whatever the instructor wants!

The easy-to-use software of Arthur's Instructor Tablet allows scenarios to be created on the fly capturing unique learning moments as the scenario unfolds.

Alternatively, you can create and standardize your own set of patient cases to meet specific learning objectives required within your programs.
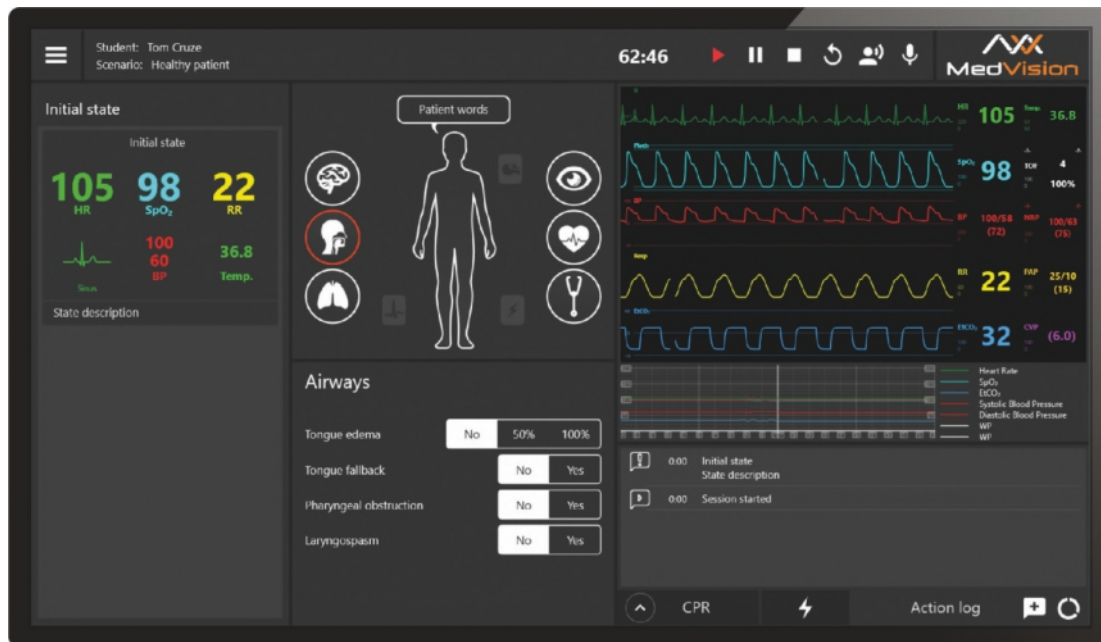
Arthur also comes with a range of pre-programmed patient states and scenarios of typical pediatric cases that will help to get your simulation programs up and running quickly.



## Scenario Builder

Creating scenarios has never been this easy! Highly flexible in its operation, our scenario builder software allows you to create simple to more complex patient cases through its touchscreen 'drag and drop' capability.

Drop in, Slide to Sequence and Easy Adjustment of patient events and physiological parameters, make it possible to fully customize your programs for trainees to acquire the required competencies.
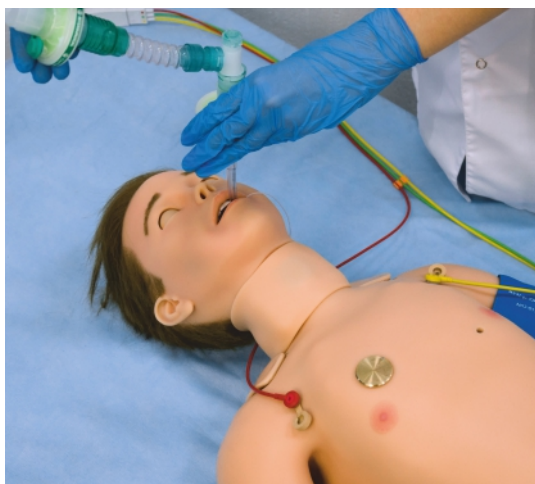
# Instructor Tablet

Our Instructor Tablet with its quality touch screen makes navigation between windows and menus a totally seamless experience.
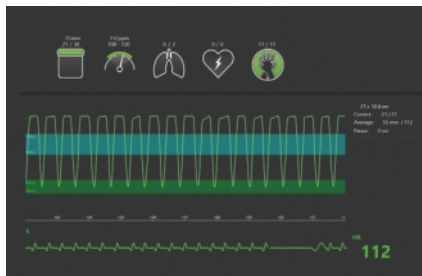
Of course, it has all the functionality you would expect from an instructor tablet: automated and manual scenario modes; easy selection of patient states and themes; synchronized vital signs with the patient monitor; slider controls for nuanced changes to the patient's condition... but it's the intuitiveness of the user interface that is the real game-changer here. From 'pick-up-and-play' to running complex scenarios, it really is that simple.



Scenarios... create your own or run on the fly

# Patient Monitor







Our touchscreen patient monitor displays vital signs with a familiar look and functionality typical of its real counterparts.

It is fully customizable and the operator can simply select and display vital signs most appropriate to the patient's clinical case.

A novel feature of our patient monitor is the real-time CPR performance display, which can be employed during cardiac arrest scenarios. Feedback on the quality of CPR: rate, depth, release and ventilation supports compliance with Guidelines.

A virtual manual defibrillator is also available for cardiac arrest and cardioversion events.

# Debrief Viewer



The debrief is arguably the most important element of the simulation exercise, which is why we have put careful attention to the features within our Debrief Viewer.

Our debrief software provides the instructor with unprecedented flexibility in its operation. Whether you review the session from start to finish or jump to time-stamped events, we have made it easy to find and access meaningful moments within the simulation with full patient data to ensure the best possible learning outcomes.

CPR performance metrics are also available at the touch of a button.

The integrated action log captures all trainee records and performance data.

Arthur's Action Log captures performance data from the scenario to allow for a quality debrief and reflective learning.

# Features

## Airway

- Realistic airway
- Supraglottic airway device support
- Head and jaw mobility
- Orotracheal and nasotracheal intubation
- Laryngeal mask airway insertion
- Intubation sensor
- Pulmonary aspiration
- Cricoid pressure
- Positive pressure ventilation
- Dynamic airway resistance
- Neck hyperextension
- Airways obstruction
- Esophageal Intubation
- Feeding tube insertion
- Bag valve mask (BVM)
- Cyanosis and acrocyanosis
- Chest rise and fall
- Bilateral lung resistance

## Breathing

- Spontaneous breathing
- Respiratory rate is synchronized with vital parameters on the bedside monitor
- Programmable respiratory patterns
- Mechanical ventilation
- PEEP (up to 20cm H2O)
- Airways synced to the respiratory rate
- Variable compliance
- Variable bronchi resistance
- Needle decompression with realistic feedback

## Auscultation

- High-fidelity heart, lung, and bowel sounds
- Korotkoff sounds auscultation while monitoring blood pressure
- Programmable bilateral chest rise and fall, synced with breathing

## Neurology

- Convulsions
- Programmable blinking
- Programmable pupils

## Circulation

- Rich library of ECG rhythms
- HR0-320
- Real ECG electrodes
- Accurate landmarks for chest compression performance point finding
- Chest compression
- Defibrillation, cardioversion and cardiac pacing using real devices
- Correct paddle placement
- Defibrillation in manual and automatic modes
- Successful compressions are registered and affect the HR and ECG
- Defibrillation, cardioversion and cardiac pacing using real devices
- Cyanosis
- Variable pulse strength with activity log

## CPR

- Realistic chest compressions
- Automatic activity log, displaying all user actions
- Depth, frequency, hands placement assessment and log
- Ventilation volume
- Printable detailed CPR assessment

## Vascular access

- Intravenous injections with automatic drugs recognition (pre-installed catheter)
- Intraosseous access (tibia, bilateral)

## Other features

- Vocal sounds
- Speech (preloaded phrases or instructor's microphone)
- Pre-installed themes, scenarios, programs
- Realistic bone structure, palpable ribs

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## Sales Enquiries:

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