



MedVision



Leonardo Patient Simulator 成人患者模拟器

Training for Acute
Emergencies
应急训练 保持真实...



Leonardo 成人患者模拟器

Leonardo is a durable and easy-to-use adult patient simulator designed for high-quality simulation training in basic to advanced medical procedures, clinical team development and patient case management.

Extensive functionality, combined with the ability to use your own medical devices, will enable learners to fully immerse and challenge themselves as they put their individual and team skills to the test in time-critical emergency scenarios.

Leonardo是一款耐用且易于使用的成人患者模拟器，专为基础到高级医疗程序、临床团队开发和患者案例管理的高质量模拟培训而设计。

广泛的功能，结合使用您自己的医疗设备的能力，将使学习者充分沉浸和挑战自己，因为他们把他们的个人和团队技能的考验在时间紧迫的紧急情况下。

4 Patient Simulator 患者模拟器



- Realistic, Robust, Reliable
- Lifelike weight (150lbs/68kg) and height (5' 9ft/180cm)
- Tetherless connection (with up to 8 hours of battery life)
- Rechargeable, swappable battery
- Reliable supply of durable consumables
- Realistic, seamless skin, easy to clean

- 逼真、坚固耐用、可靠
- 逼真的体重（150磅/68公斤）和身高（5'9英尺/180厘米）
- 无线连接（电池寿命长达8小时）
- 可充电、可换电池
- 耐用消耗品有可靠供应
- 逼真、无缝、易清洁



Vital signs

- Pulse palpation (14 points)
- Monitor blood pressure

生命体征

- 脉搏触诊（14处）
- 监测血压



Auscultation

High-fidelity heart, lung (anterior & posterior) and bowel sounds with advanced controls

听诊

高保真心、肺（前、后）和肠鸣音，可实现高级别控制



Neurological Assessment

- Convulsions
- Programmable blinking
- Programmable pupils
- Pupillary light reflex

神经学评估

- 抽搐
- 可编程眨眼
- 可编程瞳孔
- 瞳孔对光反射



Upper respiratory tract intubation

- Head tilt, chin lift
- Jaw thrust
- Bag valve mask (BVM)
- Laryngoscope
- Orotracheal intubation
- ET tube

上呼吸道插管

- 抬头举颌法
- 双手托颌法
- 袋阀式面罩
- 喉镜
- 气管插管
- 气管内导管



Drug administration

- IV drug recognition, injected volume and speed recognition
- Pre-installed catheter
- Injection of fluids using an IV access port

药物注射

- 静脉药物识别、注射量和速度 识别
- 预置导管
- 通过静脉注射入口注射液体



Full joint mobility

Realistic scenarios with learning objectives for patient handling and transportation

全身关节活动度

提供患者处理和运送的真实场景，可供学习



CPR

- Chest compressions
- ECG Monitoring
- Defibrillation with a real device

心肺复苏术

- 胸外按压
- 心电监测
- 用真的设备除颤



Connectors

- Removable metal connectors in the manikin's body to apply defibrillation electrodes, ECG electrodes

连接器

- 提供人体模型中可拆卸的金属连接器，用于除颤电极、心电图电极



Available in several skin tones

多种肤色可供选择



Put Leonardo on a real ventilator
将Leonardo与真实的呼吸机相连

Mechanical ventilation with a real ventilator is a unique feature of Leonardo. Set compliance and resistance for a complete clinical case. Pressure / volume control, pressure support, APRV, PAV, HFOV, NIV, PEEP (5-20cm H₂O)

Leonardo的独特之处在于可借助真正的呼吸机实现机械通气。可为完整的临床病例设置用药依从性和耐药性。压力/体积控制、压力支持、气道压力释放通气、比例辅助通气、高频振荡通气、无创通气、呼气末正压通气 (5-20cm H₂O)

The only patient simulator to include comprehensive training in ventilation management

唯一一款包含通气管理综合培训的患者模拟器



Use your own ventilators

Leonardo 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, APRV, PAV, HFOV, NIV, PEEP (5-20cm H2O).

使用自备的呼吸机

Leonardo可与机构自己的真实机械呼吸机连接使用。我们的专有软件可为完整的临床病例设置用药依从性和耐药性。压力/体积控制、压力支持、气道压力释放通气、比例辅助通气、高频振荡通气、无创通气、呼气末正压通气（5-20cm H2O）

... or our virtual anesthesia machine

Our virtual ventilator can be used in conjunction with Leonardo or as a stand-alone training device. Trainees will learn the full functionality and application of ventilation equipment, including identifying criteria used to determine the need for mechanical ventilator support, commonly monitored ventilator settings, presence of artificial airways and prevention of complications, and weaning the patient from mechanical ventilation, including the nurse's role in this process.

...或者我们的虚拟麻醉机

我们的虚拟呼吸机既可与Leonardo连接使用，也可作为独立的训练设备。受训人员将学习呼吸设备的全部功能和应用，包括确定提供机械呼吸机支持的标准、呼吸机常用监测设置、是否需要人工气道、并发症的预防，以及让患者脱离机械通气（包括机械通气患者撤机时护士的职责）。

Let the software do the work... 让软件来发挥作用...

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!

我们模拟器平台的软件解决方案遵循一个简单的口头禅：搭建简单、可靠的模拟平台，实现讲师全方位需求！

Our intuitive software is so easy to use, you can run Leonardo on the fly and capture learning opportunities in the moment – all in a risk-free environment!

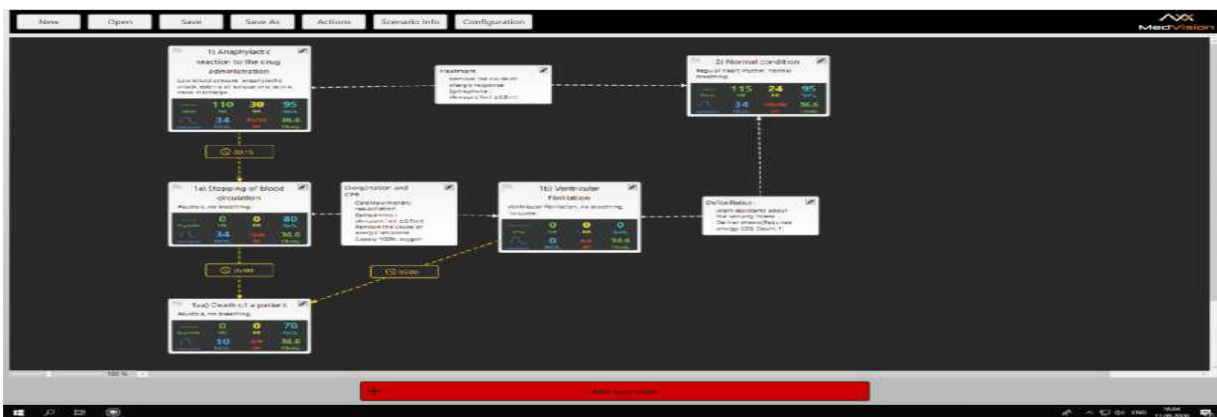
Alternatively, you can create your own scenarios to cover specific teaching points and learning objectives unique to your training programs

我们的软件设计直观，操作便捷，您可在无风险的环境中实时运行该模拟器，实时学习！

您也可自创场景，覆盖培训中特定的知识点和学习目标。

Leonardo's range of pre-programmed patient states and scenarios are also available to ease Leonardo your busy workload.

Leonardo多预编程的病人状态和场景范围也可以缓解你繁忙的工作。



Scenario Builder

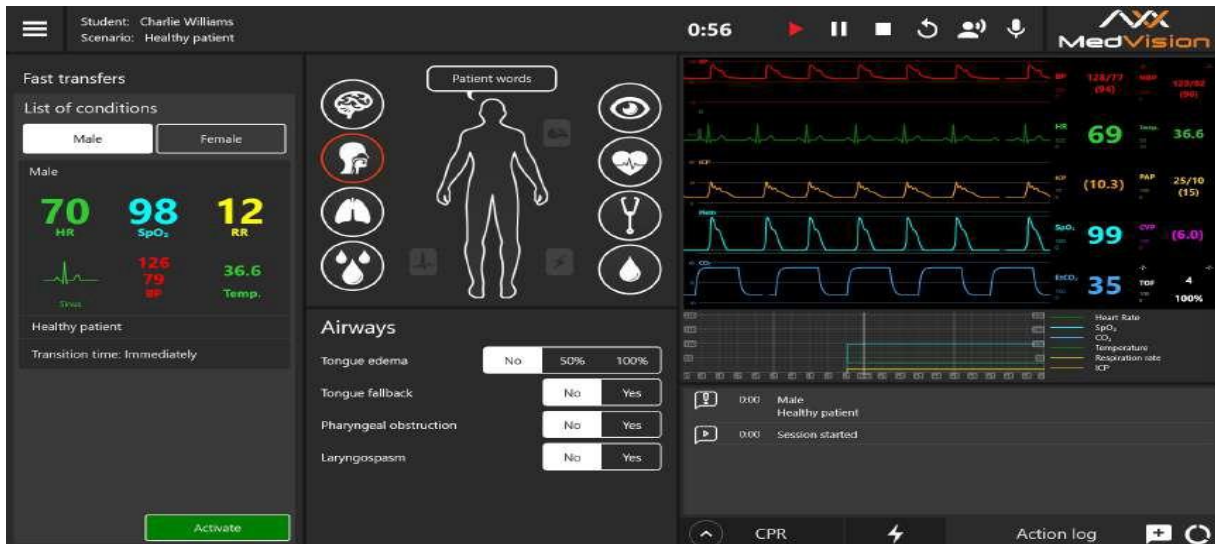
Creating scenarios has never been this easy! Highly flexible in its operation, our scenario builder software allows you to create simple to more complex patient cases through its touchscreen 'drag and drop' capability.

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.

场景构建器

创建场景从来没有这么容易！我们的场景构建器软件操作灵活，通过触摸屏的“拖放”功能，您可以创建从简单到复杂的患者病例。

添加、滑动并轻松调整患者事件和生理参数的顺序，可由您为受训者自定义设置项目，让其掌握所需的技能。



Instructor Tablet

Our Instructor Tablet with its quality touch screen makes navigation between windows and menus a totally seamless experience.

讲师平板

我们的讲师平板，配有高分辨率触摸屏，提供导航窗口和菜单之间无缝切换的用户体验。

当然，它具备讲师平板电脑的所有功能：自动和手动场景模式；轻松选择患者状态和主题；与患者监护仪同步生命体征；通过滑块控制实现对患者病情的细微变化.....但用户界面的直观设计才是该平板的一大特色。从‘选取-播放’到运行复杂的场景，真的就是这么简单。



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

场景..自创场景或实时运行



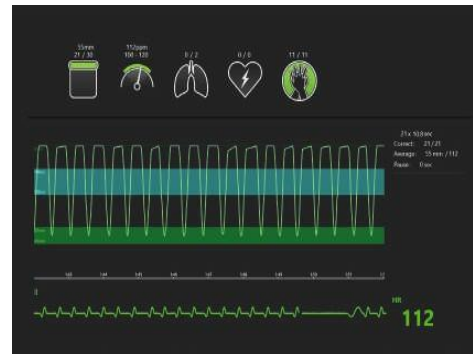
Patient Monitor

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.



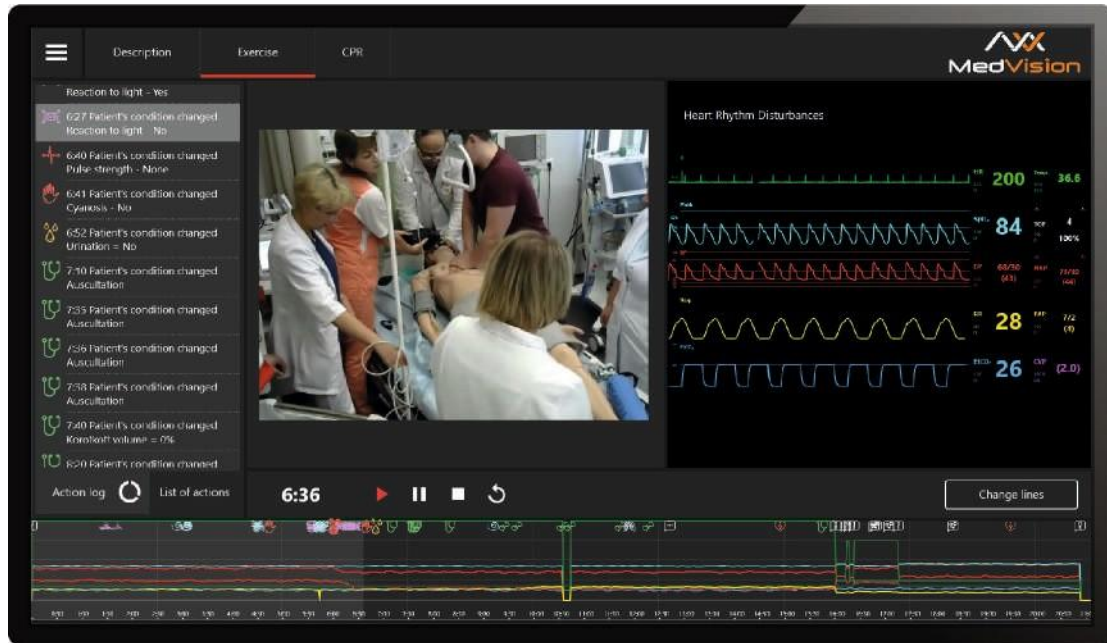
患者监护仪

我们的触摸屏患者监视仪会显示患者的生命体征，其外观和功能特性与真实的监视器无异。

该仪器支持自定义设置，操作者可轻松选择和显示最符合患者临床情形的生命体征。

我们的患者监护仪的一项全新功能是实时显示心肺复苏术的性能指标，可在心脏骤停的情况下使用。对心肺复苏术质量的反馈：按压速率、按压深度、释放和通气符合临床指南规定。

虚拟手动除颤器也可用于心脏骤停和复律。



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.

复盘查看器

复盘可以说是模拟练习中最重要的元素，因此我们要认真了解复盘查看器中的各项功能。

我们的复盘软件为教师提供了前所未有的操作环境。无论您是从开始回顾课程，还是跳转到有时间戳的事件，您都可以轻松找到并获取模拟中有意义的时刻，并且有完整的患者数据，以确保最佳的学习效果。

只要按一下按钮，您就可轻松获取心肺复苏术的性能指标。

集成的行动日志记录着所有受训人员对操作记录和表现数据。

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

Leonardo的行动日志 (Action Log) 可获取真实场景中的性能数据，支持高质量复盘和反思学习

Features

Airway

- Realistic airway
- Supraglottic airway device support
- Combitube, LMA
- Retrograde intubation
- Fiberoptic intubation
- Head and jaw mobility
- Orotracheal and nasotracheal intubation
- Laryngeal mask airway insertion
- Pulmonary aspiration
- Cricoid pressure
- Surgical cricothyrotomy
- Needle cricothyrotomy
- Pneumothorax and hydrothorax
- Positive pressure ventilation
- Dynamic airway resistance
- Airways obstruction
- Esophageal Intubation
- Feeding tube insertion
- Bag valve mask (BVM)
- Cyanosis and acrocyanosis
- Chest rise and fall
- Bilateral bronchi resistance
- Tracheotomy
- Intubation tube real-time tracking
- Lockjaw
- Tongue swelling
- Laryngospasm
- Pharyngeal obstruction
- Cannot intubate / Can ventilate
- Cannot intubate / Cannot ventilate
- Trismus

Breathing

- Spontaneous breathing
- Programmable respiratory patterns
- Programmable diaphragmatic excursions

- Mechanical ventilation (A/C, PCV, PSV)
- PEEP (up to 40 cm H2O)
- Variable compliance
- Variable bronchi resistance
- Audible needle decompression with realistic feedback

Auscultation

- High-fidelity heart, lung, and bowel sounds
- Independent normal /abnormal heart sounds at Mitral, Aortic, Pulmonary, Tricuspid valve and **Erb's point**
- 4 sites for abdominal murmurs: normal / abnormal
- Korotkoff sounds auscultation while monitoring blood pressure
- Programmable bilateral chest rise and fall

Neurology

- Convulsions
- Programmable blinking
- Programmable pupils

Circulation

- Rich library of ECG rhythms
- HR 0 - 200
- Real ECG electrodes
- Accurate landmarks for chest compression performance point finding
- Chest compressions
- Defibrillation, cardioversion and cardiac pacing using real devices
- Correct paddle placement
- Defibrillation in manual and automatic modes
- High quality CPR affects the HR and ECG

- Training defibrillation, cardioversion and cardiac pacing support
- 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
- Manual configuration of CPR protocols
- Printable detailed CPR assessment

Vascular access

- Intravenous injections (preinstalled catheter)
- Intraosseous access (tibia)

Other features

- Sounds: crying, screaming, coughing, moaning
- Speech (preloaded phrases or instructor's microphone)
- Teeth, soft cheeks and gums
- Pre-installed themes, scenarios, programs
- Realistic bone structure, palpable ribs, kneecaps and many more
- Secretion: sweat, tears, bleeding
- Urine output
- Available in several skin tones
- Trauma Modules available, including wounds and amputations

特点

气道

- 逼真的气道
- 声门上气道装置
- 复合管气道、喉罩气道
- 逆行气管插管
- 纤维支气管镜插管
- 头颌活动度
- 经气管和鼻气管插管
- 喉罩气道插入术
- 肺吸入
- 环状软骨压迫法
- 外科环甲膜切开术
- 穿刺环甲膜切开术
- 气胸和胸腔积水
- 正压通气
- 动态气道压力下气道阻力
- 气道阻塞
- 食管插管
- 喂食管插管
- 袋阀式面罩
- 紫绀和手足发绀
- 胸部起伏
- 双侧支气管阻力
- 气管切开术
- 插管实时跟踪
- 破伤风
- 舌肿胀
- 喉痉挛
- 喉管阻塞
- 无法插管/能通气
- 无法插管/不能通气
- 牙关紧闭

呼吸

- 自主呼吸
- 可编程呼吸模式
- 可编程膈肌偏移
- 机械通气（辅助/控制通气、压力控制通气、压力支持通气）
- 呼气末正压通气（至40cm H₂O）
- 药物依从性可变
- 支气管阻力可变
- 有声针刺减压，真实反馈

听诊

- 高保真心、肺、肠鸣音
- 二尖瓣、主动脉瓣、肺动脉、三尖瓣和主动脉瓣第二听诊区独立正常/异常心音
- 4个腹部杂音听诊部位：正常/异常
- 柯氏音法测量血压
- 可编程双侧胸部起伏

神经病学

- 抽搐
- 可编程眨眼
- 可编程瞳孔

循环

- 丰富的心电节律库
- 心率 0-200
- 真实的心电电极
- 确定有效胸外按压的精确标志点
- 胸外按压
- 使用真实设备进行心脏除颤、复律和起搏
- 电极板正确放置
- 手动和自动模式下的心脏除颤
- 高质量心肺复苏术影响心率和心电图
- 心脏除颤、复律和起搏支持训练
- 发绀
- 可变脉冲强度与活动日志

心肺复苏术

- 逼真的胸外按压
- 自动记录活动日志，显示所有用户操作
- 深度、频率、手放置评估和日志
- 通气量
- 手动配置心肺复苏方案
- 可打印详细记录的心肺复苏评估

血管通路

- 静脉注射（预装导管）
- 骨髓通路（筋骨）

其他

- 声音：哭，尖叫，咳嗽，呻吟
- 语音（预装短语讲师的麦克风）
- 牙齿，柔软的脸颊和牙龈
- 预先安装的主题、场景的程序
- 逼真的骨骼结构，可以触摸到肋骨，膝盖骨等等
- 分泌：汗水，泪水，出血
- 尿量
- 几种肤色可选
- 可提供创伤模块，包括伤口和截肢



服务

我们知道您在教育项目上做出了巨大的投资，因此我们设计了充分的服务解决方案，从选择正确的模拟器到将其完全集成到您的模拟项目中，我们在每一个步骤都提供了帮助。

无论是产品安装、预防性维护、故障排除还是维修，我们的团队都将帮助您优化模拟器的全部功能，帮助您高效地实现项目的目标。

有关我们服务方案的进一步信息，请联系您的区域代表。



联系我们

请发送电子邮件与当地区域代表联系：

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作为一家国际公司，**MedVision**一直致力于通过模拟促进医疗保健领域的优质教育发展。我们利用创新设计和尖端技术打造各种模拟器，包括成人、儿童、新生儿和手术模拟器。欲了解更多关于我们产品的信息，请联系您当地的区域代表。

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