VR Simulations Improve Maternal Outcomes

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AGENDA

Introductions
Strategic Alliances
Blended Learning
Simulation Evolved and Overview
VR as one of the newest modalities
Q&A
Relias and Health Scholars Partnership Extends Blended Learning

RELIAS
Best-in-class Obstetrics performance solution
Healthcare industry expertise and consulting

HEALTH SCHOLARS
Best-in-class VR sim development for healthcare education
Industry expertise in VR tech applications and healthcare

CUSTOMER BENEFITS
Provides a multi-modal blended learning approach for increased engagement and applied knowledge in perinatal patient safety

• Test critical thinking, fluid reasoning and response under pressure in addition to knowledge
• Receive immediate feedback – simulation is voice command and response
• Learn from mistakes in a safe environment including individualized session coaching and reports
Simulations Have Evolved

Simulation has a long history in medical education for physicians and nurses.

- Ancient clay and stone models have been found across the world and were used to demonstrate clinical features of various diseases.
- A more modern simulator was developed in Paris that was modeled from a deceased mother and neonate to teach midwives delivery techniques in the 1700s.
- The use of dead animals were used in surgery technique and improvements.
- In the 1960s the idea of creating a mannequin to conduct chest compressions and breathing evolved to a toy maker creating the first Resusci-Anne®.
- In 1968, Harvey® was created by a cardiologist to replicate any heart condition to teach cardiac assessment skills.
- “Task” and “diagnostic” were mainstream for medical education and evolved to be more lifelike over time.
- In the 80’s and 90’s, as the capabilities of computers evolved, new technologies such as virtual reality, augmented reality, and mixed reality have been incorporated into simulation.

Simulation Overview

- Simulation offers the clinical staff with unique learning opportunities to improve communication and teamwork.
- Learning experiences within medical simulation can be customized to accommodate a wide range of learners from novice to expert.
- Medical simulation provides freedom to make and learn from mistakes.
- Medical simulation provides improved opportunities for feedback and evaluation.
Low fidelity Simulation
Train the Trainer Model
Virtual Reality

In a recent study, VR simulations were found to be an effective tool for upskilling and developing highly sought-after soft skills.

Specifically, the study found that:

• VR learners completed training four times faster than classroom learners, and one-and-a-half times faster than e-learners.

• Those who use VR simulations were 275 percent more confident to act on what they learned after training.

• VR learners were 3.75 times more emotionally connected and engaged to their content than classroom learners.

Benefits to VR Simulation

• Immersive and Engaging Learning Experiences

• Safe, Risk-Free Environment

• Data Collection and Reporting

• Asynchronous training is more convenient

• VR Simulation training is more cost effective
Assessment-Driven Education and Analytics Platform

*Reinforced with Health Scholars VR*

**RELIAS OB SOLUTION**

Assessment-based personalized learning path

**HEALTH SCHOLARS**

- Reinforce knowledge in specific emergency scenarios
- Promote better retention of information
- Meet simulation requirements*

**BETTER OUTCOMES**

Identify improvement areas for individual clinicians and groups
VR simulations for clinicians to practice protocol-based care scenarios and hone critical skills including Teamwork, Communication, Critical-thinking, and Decision-making.

Immersive  Scalable  Measurable
<table>
<thead>
<tr>
<th>Labor &amp; Delivery Scenario Name</th>
<th>Duration</th>
<th>Overview/Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Obstetric Hemorrhage</td>
<td>15-25 mins</td>
<td>• Identify/manage the first 3 stages of Obstetric Hemorrhage in accordance with ACOG/CMQCC.</td>
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</tbody>
</table>
| 2. Obstetric Emergencies:     | 8-10 mins (each) | • Maternal Code: Identify/manage an obstetric patient that has decompensated and is in cardiac arrest.  
• Hypertensive Crisis: Identify and manage a hypertensive patient that leads to an eclamptic seizure.  
• Maternal sepsis: Recognize and manage an obstetric patient in sepsis including the administration of broad-spectrum antibiotics. |
| a. Maternal Code              |               |                                                                                   |
| b. Hypertensive Crisis        |               |                                                                                   |
| c. Maternal Sepsis            |               |                                                                                   |
| 3. Shoulder Dystocia          | 8-10 mins     | • Manage births and complications associated with the presentation of shoulder dystocia. |
A learner is provided a Readiness Report and score for each VR scenario along with an in-app debrief to review opportunities to improve and areas of focus.
Obstetric Hemorrhage Video Excerpt
Obstetric Hemorrhage

• Voice Controlled
• Configurable based on CMQCC and ACOG Guidelines
• 15-25 minutes to complete

Objectives

• Demonstrate effective teamwork and communication.
• Demonstrate timely and accurate intervention.
• Demonstrate the effective use of a checklist or protocol.
• In accordance with ACOG and CMQCC guidelines.
Obstetric Emergencies

1. Maternal Code (8-10 min)
2. Hypertension (8-10 min)
3. Sepsis (8-10 min)

Objectives

• Instruct team members on how to perform effective chest compressions during cardiopulmonary resuscitation and recognize when they are not being performed properly.
• Recognize the need to properly position the patient and bed to perform high-quality CPR.
• Ensure supportive airway management of the patient in cardiac arrest.
• Instruct team members to perform manual left uterine displacement during cardiopulmonary resuscitation and when to perform it.
• Initiate timely perimortem cesarean section within 4 minutes of recognized cardiac arrest and delivery of baby by 5 minutes.
• Communicate effectively with a multidisciplinary team of anesthesiologists, obstetricians and nurses during patient management.
Shoulder Dystocia

- Voice Controlled
- 8-10 minutes to complete

Objectives

- Demonstrate early recognition and communication of diagnosis of shoulder dystocia.
- Demonstrate appropriate order and correct use of maneuvers to resolve shoulder dystocia (ALARMER or HELPERR).
- Recognize and demonstrate the correct procedure for McRoberts’s maneuver.
- Recognize and demonstrate the correct procedure for suprapubic pressure.
- Recognize and demonstrate the correct procedure for Wood’s corkscrew maneuver.
- Recognize and demonstrate the correct procedure for delivery of posterior arm maneuver.
- Recognize and demonstrate the correct procedure for delivering the baby on hands and knee.
Questions?

Please use the Q&A widget to submit questions.
THANK YOU