Experts in medical education since 1950

ERLER ZIMMER

Item no.: IPT

Not to Miss any Moment of Possibility

VR-Emergency room Skills

Unrestricted Interdisciplinary Education
VR-Emergency room Skills

Experience the Improved & Convenient Interdisciplinary Education VR-Emergency room Skills

VR-Emergency room Skills is an interdisciplinary education simulator that allows multiple healthcare professionals to learnsevere trauma management techniques in a collaborative, multi-user environment.

To conduct collaborative simulation education, a significant amount of medical equipment and simulation facilities are required. Conducting interdisciplinary education presents numerous challenges, from gathering healthcare professionals of various specialties in one place to replicating necessary training scenarios. VR-Emergency room Skills was developed to address these difficulties and enhance patient safety while reducing the burden on healthcare teams.

VR-Emergency room Skills

Educational Content List

Preparation

Primary Survey

Secondary Survey

Interprofessional Collaboration

Medical Leadership Development

- Preparation (various medical equipment)
- Vital signs assessment
- Chest auscultation
- IV placement / fluid administration
- Intubation
- Log rolling
- Hemostasis
- C-Line insertion
- Foley catheter insertion
- Oxygen supply via wall
- Dressing
- Blood test
- FAST examination
- Confirmation of trauma series X-Ray

Includes over 50 diverse medical procedure training (continuously adding)

The First VR Simulator for Interprofessional Medical Training

Developed in collaboration with Ajou University Severance Trauma Center, Ewha Womans University Medical Center

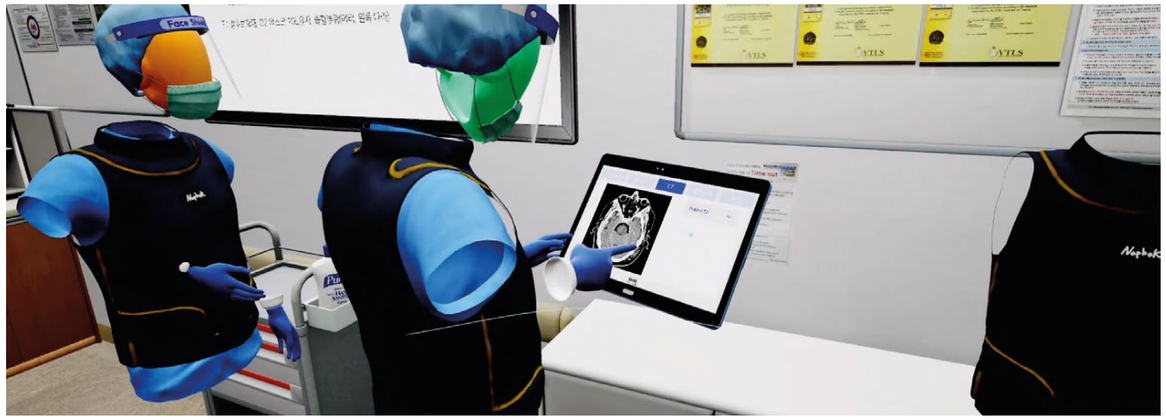
Interprofessional communication and role delegation training are vital in medical education. Effective communication among healthcare professionals is always important, but it becomes even more crucial in urgent situations, such as severe trauma management. That‘s why we have prioritized severe trauma management as our initial focus.

Drawing from the globally renowned ABCDE Primary Survey protocols, we visited Ajou University Hospital‘s Trauma Center to gain practical experience, to plan trauma patient management, and to incorporated these insights into our simulator. Recognizing the challenges of ensuring standardization and reliability within a single institution, we conducted evaluation and validation at Ewha Womans University Medical Center. We sought feedback from various stakeholders, including Ministry of Health and Welfare officials, as well as professors and medical professionals.

Following this process, VR-Emergency room Skills, built on a Bio Signal simulator, dynamically adjusts to treatment and offers over 50 treatments from the ABCDE Primary Survey, including ultrasound, X-ray, CT scans, and blood tests. It accommodates up to 10 healthcare professionals online, making it ideal for leader education and team training in medical and nursing schools, as well as hospitals.

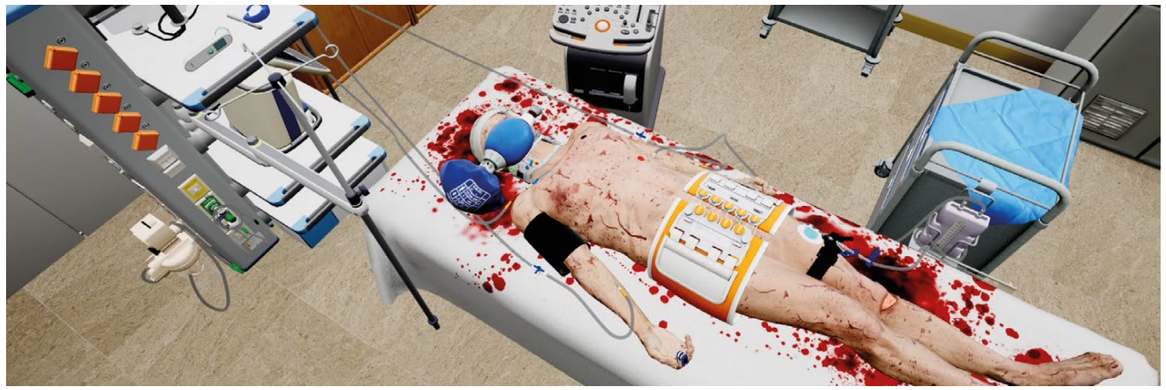
Realistic Training with Active Simulation Scenario from Prep to Surgery Transfer

Multidisciplinary education program with simulation environments mirroring real trauma care settings and clinical scenarios.



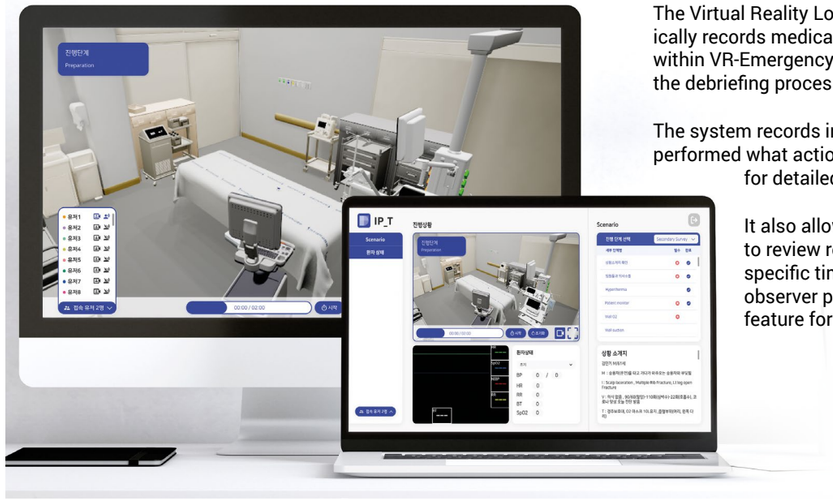
VR-Emergency room Skills offers an interactive simulation in a digital twin environment mirroring real clinical settings. It covers the entire process from pre-transfer preparation in the trauma care room to transferring the emergency patient to the operating room. Multiple users engage in real-time decision-making, medical assessments, and procedures via live voice chat. Administrators manage and supervise the simulation in real-time using a control console, introducing scenarios and providing guidance.

VR-Emergency room Skills‘s education content, rooted in ABCDE Primary Survey, is developed to reflect real trauma care at Ajou University Hospital‘s Trauma Center. These simulations, standardized and clinically accurate, greatly enhance learners‘ clinical skills.



Convenient multidisciplinary collaborative education

Debriefing via Virtual Reality Logging System



The Virtual Reality Logging System automatically records medical procedures performed within VR-Emergency room Skills, facilitating the debriefing process.

The system records in real-time which user performed what action at what time, allowing for detailed debriefing and review.

It also allows individual participants to review recorded videos at their specific time, and supports an observer perspective debriefing feature for video analysis.

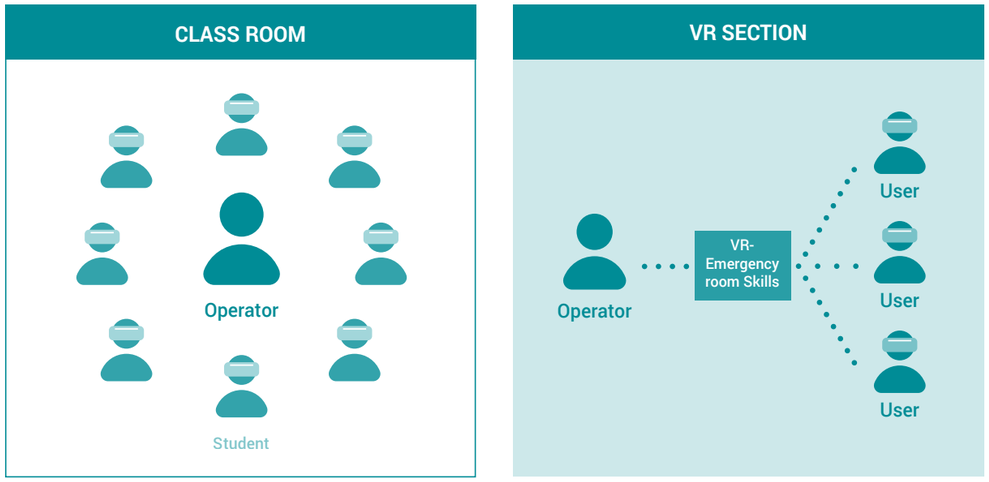
Suggestions for VR-Emergency room Skills Education

VR-Emergency room Skills Education Case Studies in Diverse Healthcare Settings

One of the advantages of using VR simulators for education is that it requires minimal space. With approximately 2.5 square meters of space per VR simulator, practical training can be conducted in existing labs or classrooms, eliminating the need for additional trauma rooms or facilities for simulation.

Even in situations with space constraints or remote participants, healthcare professionals from various fields can engage in real-time simulation learning in a virtual space using internet-based live voice chat.

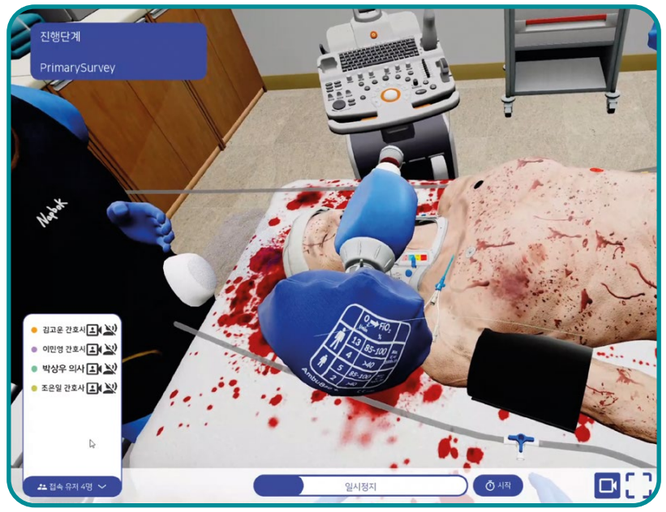
〈 Examples of operations 〉



Suggestions for VR-Emergency room Skills Education

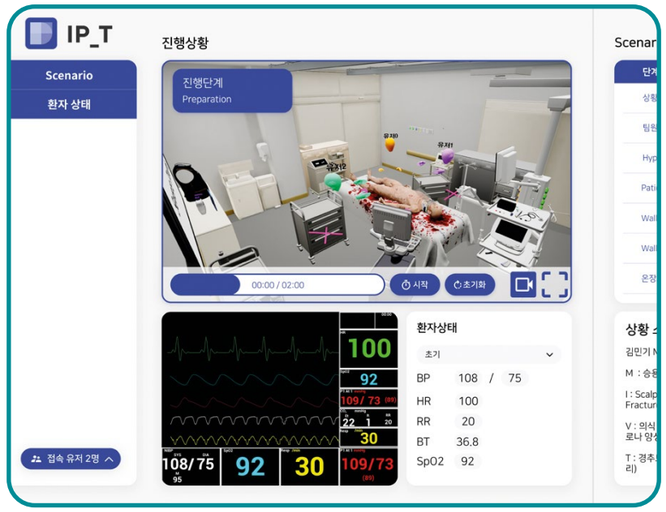
Multi-user

Multiple users can connect simultaneously to experience on-site situations and practical training.



Detailed graphics/Digital twin

Offering high-quality graphics and a lifelike digital twin for a truly immersive practical experience.



Active Simulation Algorithm

The operator can input vital signs to create practice environments matching real-life scenarios.

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