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# Advancing CPR Training with Virtual Reality: A Review

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**Abstract.** This literature review assesses the effectiveness of virtual reality (VR) serious games in cardiopulmonary resuscitation training, focusing on its impact on skill acquisition, confidence, and knowledge retention.

**Keywords.** virtual reality, serious games, cardiopulmonary resuscitation training, healthcare education, immersive learning.

## 1. Introduction

Serious games (SGs) are games with practical applications in military, management, education, and healthcare. VR serious games, specifically designed for CPR training, use immersive technology to enhance skill acquisition and boost learner confidence [1-4]. This review explores the potential of VR simulations and immediate feedback in CPR training.

## 2. Methods

Google Scholar and MEDLINE databases were utilized to review literature on the effectiveness of virtual reality in cardiopulmonary resuscitation training, focusing on the acquisition of skills and retention of knowledge.

## 3. Results

Virtual reality CPR training is effective in improving skills and knowledge, boosting self-efficacy and confidence [5,6]. It provides immersive, interactive experiences, accurate feedback, and enhances collaboration [7-9]. VR training is flexible, convenient,

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and personalizes scenarios for diverse contexts. It also offers remote education and collaboration opportunities, promoting peer learning and knowledge exchange [2,4,8].

## 4. Discussion

VR technology is transforming CPR training, offering immersive experiences, improved skills acquisition, and enhanced knowledge retention. However, challenges like costs, technical intricacy, and expert participation need to be addressed. Further research is needed to explore scalability and align VR simulations with educational objectives.

## 5. Conclusion

Virtual reality technology in CPR training offers immersive, interactive learning, but challenges like high costs and expert participation need to be addressed for widespread adoption and improved patient outcomes.

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