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## Effectiveness of distraction techniques in reducing pain and anxiety during pediatric venipuncture

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### **Abstract**

Venipuncture is consistently identified as one of the most painful and feared experiences of hospitalized children, often resulting in traumatic memories and resistance to future procedures. Currently, standard practice for pediatric venipuncture involves physical restraint, either by another person or by utilizing a restrictive tool. This proposal will explore the efficacy of various distraction techniques in mitigating pain and anxiety experienced by pediatric patients undergoing venipuncture. Current research shows that procedural pain and anxiety can be significantly reduced by implementing distraction techniques such as bubble-blowing, deep breathing, audiovisual distraction, and immersive virtual reality. Effectiveness of each technique varies based on patient age, medical condition, and reason for hospitalization. Since interventions must be age- and diagnosis-appropriate, a cohort of patients with similar ages and diagnoses will be evaluated. To ensure accurate and objective information, the study will focus on pediatric patients aged 5-10 years who are able to articulate their pain and anxiety levels. Only medically stable patients who have no history of venipuncture will be considered in order to exclude those with previous traumatic experience. Patient reports of anxiety or fear before the procedure as well as pain during and after the procedure will be recorded using 10-item visual analog scales for each measure. The data will then be analyzed to determine which distraction techniques provide the most pain and anxiety relief. The proposal will be considered successful if distraction, compared with physical restraint, results in significantly lower levels of pain or anxiety.

*Keywords:* Pediatric venipuncture, distraction, bubble-blowing, deep-breathing, audiovisual distraction, immersive virtual reality, clinical holding, physical restraint, procedural pain, procedural anxiety