

Introduction: Applications for VR

- Reduce perioperative anxiety in pediatric patients, pain during wound care in burn patients, and cancer-related symptoms during chemotherapy infusions
- Decrease the use of analgesics and sedatives during adductor canal catheter placement all while also being associated with improvement in procedure-related pain
- Intraoperative use during upper limb surgery under regional anesthesia with increase in patient satisfaction and decrease in anxiety and intraoperative hemodynamic changes

- **Aim:** Assess if VR is feasible to implement in our outpatient surgery regional block patients and determine the barriers from a patient perspective.

Study design

- IRB approval 63889 for prospective, non-randomized, single-center trial
- Location: Redwood City Outpatient Surgical Center
- Inclusion criteria: Age 18+, receiving preoperative regional block
- Large language model to identify themes from qualitative responses

Results & Discussion

- According to the Patients
 - With VR: improved satisfaction and decreased pain during block
 - Key pros to VR: soothing, distracting
 - Key cons to VR: fogging with mask, uncertainty, lack of awareness
- Limitations: small sample, not randomized, 45% attrition rate
- Areas for further research:
 - Addressing the negative themes:
 - Trialing multiple size headsets
 - Trialing different virtual reality scenes
 - Development of educational materials for patients and staff to facilitate utilization of virtual reality in the perioperative setting.

Key Result: Value of emerging technology - Oculus Go virtual reality headsets were obtained from the **Stanford Chariot Program** (<https://chariot.stanford.edu>) and pre-loaded with the **Nature Treks VR** application. **Secure GPT LLM** for analysis of patient's qualitative responses.

Figure 1. Pain scores, satisfaction scores, and sedation doses

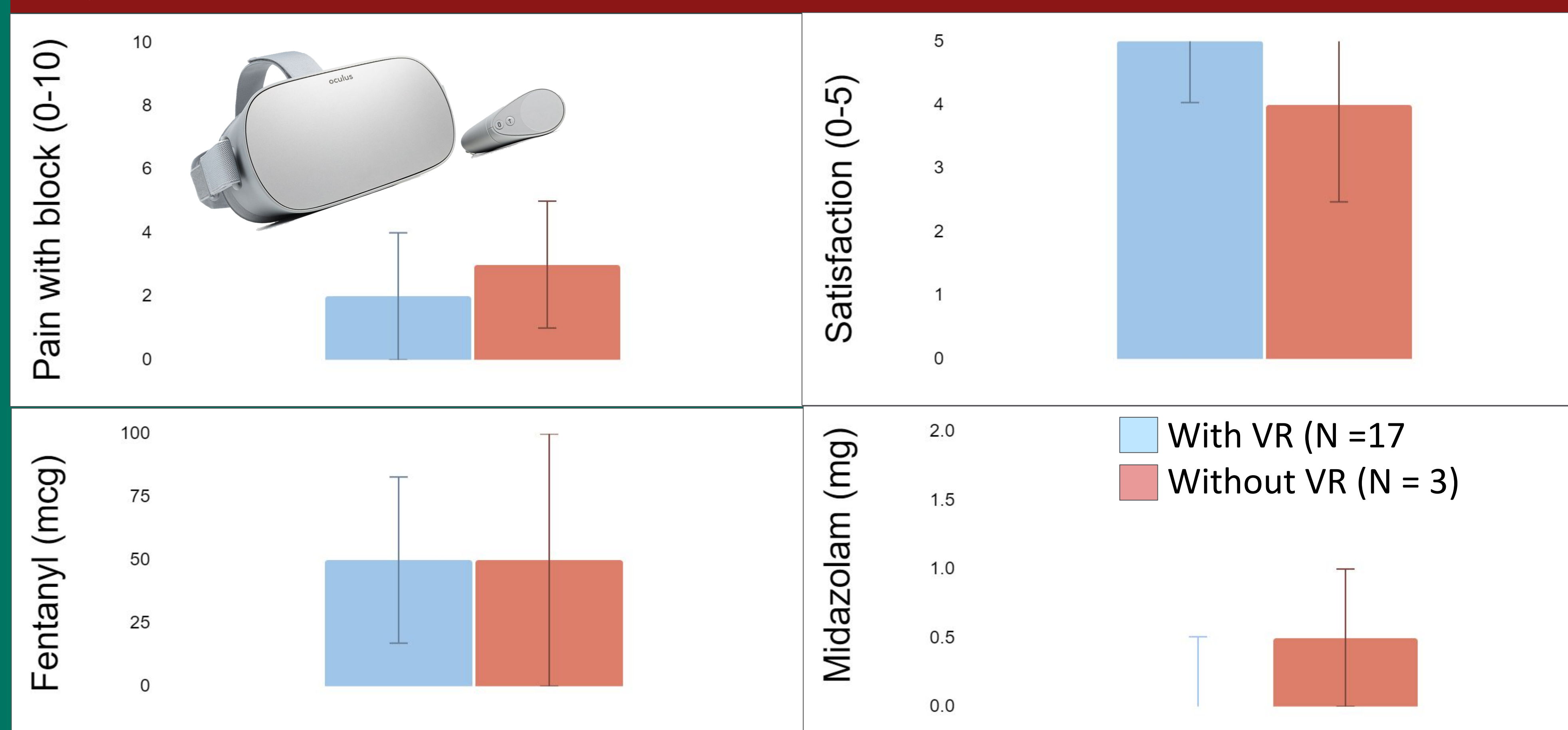


Table 1: Themes extracted from patient's qualitative responses

Qualitative Questions	Keywords
What did you like MOST about the VR experience?	• Distraction • Relaxation/Reduced Anxiety • Blocking out Reality
What did you like LEAST about the VR experience?	• Comfort/Usability of the VR goggles • Visual experience unreality • Less interaction with care team
If you declined to use VR, what were your main reasons?	• Motion sickness • Anxiety/Control • Desire interaction with care team

Sample population

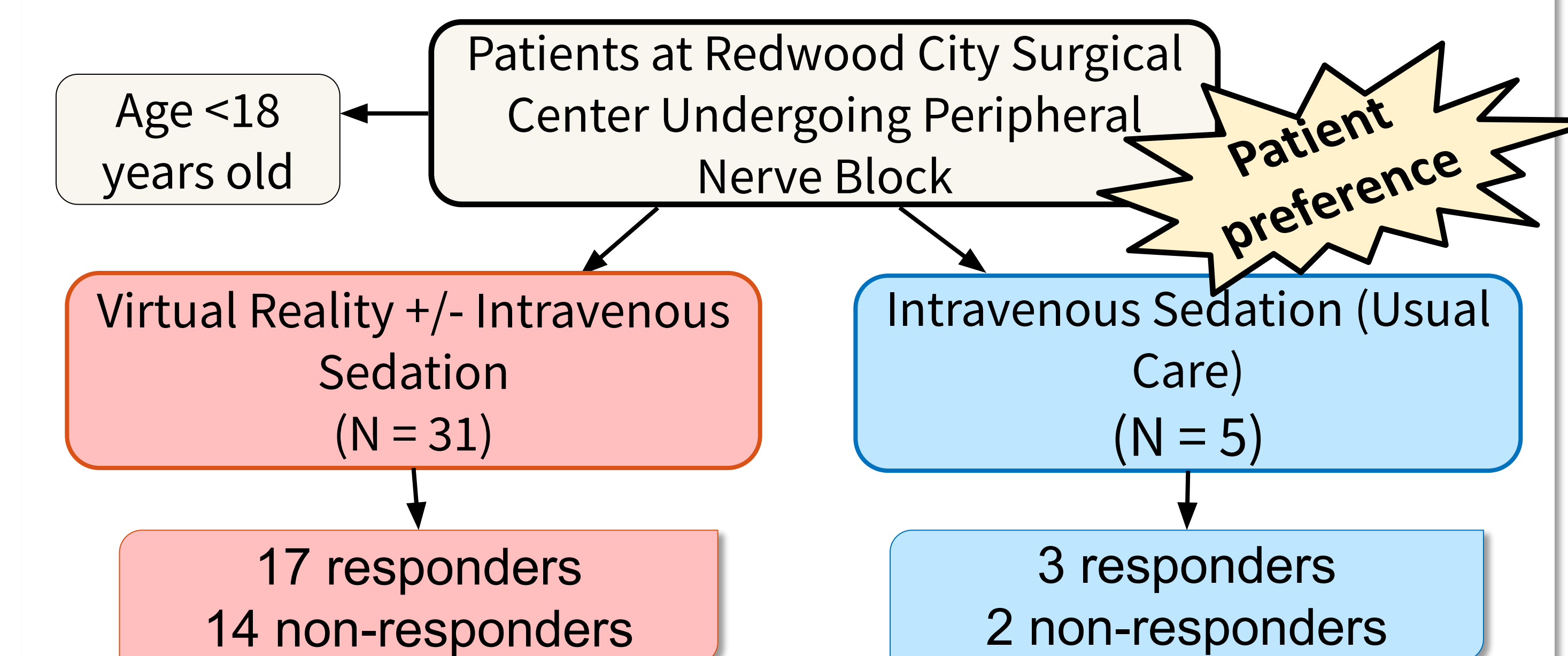


Table 2: Patient characteristics (survey completed)

Patient Characteristics	VR +/- IV Sedation N=17	IV Sedation alone N=3
Age (years)	55.2	31.67
Gender (% female)	80%	100%
Highest Education Level	1/5 undergrad 4/5 graduate	1/3 high school 1/3 undergrad 1/3 graduate

References

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3. Alaterre C, Duceau B, Sung Tsai E, et al. Virtual Reality for PEripheral Regional Anesthesia (VR-PERLA Study). J Clin Med. 2020;9(1):E215. doi:10.3390/jcm9010215
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