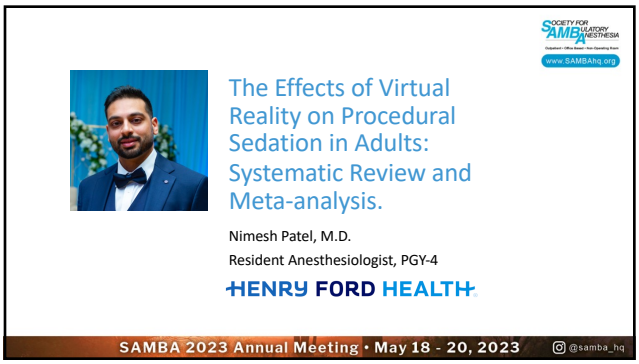
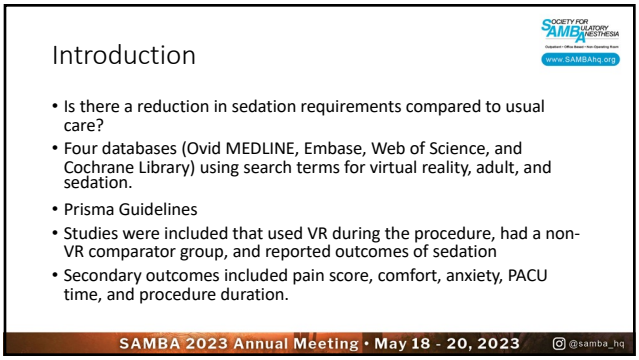

www.SAMBAhq.org
The Effects of Virtual Reality on Procedural Sedation in Adults: Systematic Review and Meta-analysis.
Nimesh Patel, M.D.
Resident Anesthesiologist, PGY-4
HENRY FORD HEALTH
SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

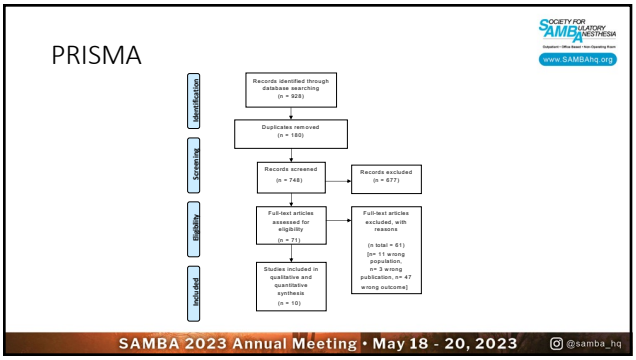
1


Virtual Reality in Healthcare
• Medical Training
• Treatment of Patients
• Physical Therapy
• Addiction
• Pain Management
GUIDED MEDITATION VR
SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

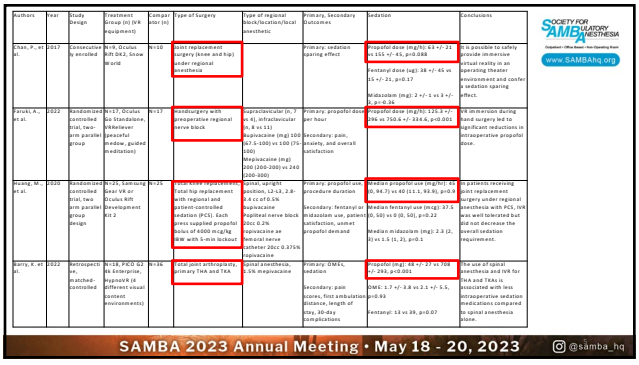
2


Introduction
• Is there a reduction in sedation requirements compared to usual care?
• Four databases (Ovid MEDLINE, Embase, Web of Science, and Cochrane Library) using search terms for virtual reality, adult, and sedation.
• Prisma Guidelines
• Studies were included that used VR during the procedure, had a non-VR comparator group, and reported outcomes of sedation
• Secondary outcomes included pain score, comfort, anxiety, PACU time, and procedure duration.
SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

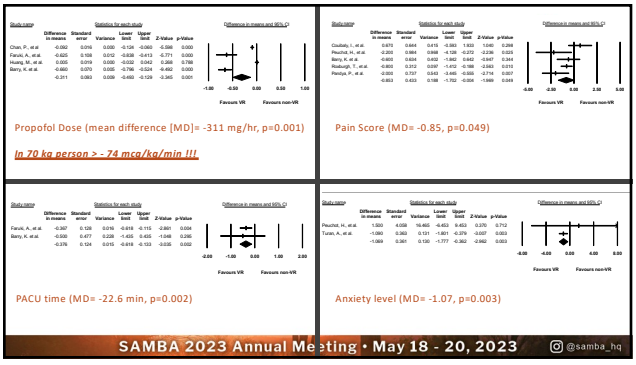
3


PRISMA
Identification
Screening
Eligibility
Included
Records identified through database searching (n = 928)
Duplicates removed (n = 180)
Records screened (n = 748)
Records excluded (n = 677)
Full-text articles assessed for eligibility (n = 71)
Full-text articles excluded, with reasons (n total = 61) [n= 11 wrong population, n= 3 wrong publication, n= 47 wrong outcome]
Studies included in qualitative and quantitative synthesis (n = 10)
SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

4


SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

5


Propofol Dose (mean difference [MD]= -311 mg/hr, p=0.001)
In 70 kg person > - 74 mcg/kg/min !!!
Pain Score (MD= -0.85, p=0.049)
PACU time (MD= -22.6 min, p=0.002)
Anxiety level (MD= -1.07, p=0.003)
SAMBA 2023 Annual Meeting • May 18 - 20, 2023
@samba_hq

6

| Outcomes | MD | CI | P-value | N |
|---|---|---|---|---|
| **Procedure Length** | **0.3 min** | **-4.86 to 4.32** | **0.91** | **7** |
| Fentanyl amount | 0.01 mcg | -11.1 to 11.09 | 0.99 | 6 |
| Midazolam amount | 0.3 mg | -0.47 to 1.06 | 0.44 | 3 |
| Comfort | 0.29 points | -1.71 to 2.3 | 0.77 | 3 |



7

## Conclusion

- VR can reduce anxiety, pain, and the need for sedation during and after surgery.
- Continued research and development are needed to optimize the technology and fully understand its potential benefits.
- VR has the potential to revolutionize the field of anesthesia and improve patient outcomes.



8