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## The effect of a virtual reality device (VRD, HypnoVR) on pain, anxiety scores and satisfaction during trans-perineal targeted and systemic prostate biopsies

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### Introduction:

- Patients undergoing trans-perineal prostate biopsies report moderate pain and patient anxiety predicts pain.
- HypnoVR software combines hypnotic techniques and immersive scope of virtual reality.
- Offer an immersive, multi-sensory experience in the treatment of pain, stress and anxiety.
- Proven clinical efficacy of reduced analgesic, reduced anxiety and better satisfaction in several indications, including paediatric surgery, orthopaedics and gynaecology.

### Objective:

- To assess the impact of a VRD during prostate biopsies in patient reported pain, anxiety and satisfaction.

### Patients & Methods:

- 78 patients were nonrandomly divided into two groups.
- The VRD was applied throughout the procedure in experimental group.
- Pain tolerability and treatment related anxiety were evaluated using visual analogue scale (VAS) and the state-anxiety-inventory (STAI) score.

### Results:

- There were no significant differences in baseline characteristics between two groups.
- Patients in VR group reported no difference in median pain score but better satisfaction although results are not statistically significant. (Table 1)
- Both groups reported “no or low anxiety” after the procedure. (Table 1)
- No adverse events were reported with VRD application.
- Patients in VR group with age <69, with larger prostate volume (>61.4 mm<sup>3</sup>) and patients without previous biopsy experience reported lower median pain score. (Table 2)



Table 1. Comparison of pain, anxiety and satisfaction between groups

	VR group (n = 39)	Control group (n = 39)	P value
Pain score (median)	4	4	0.89
STAI score (mean)	36.26	34.59	0.6
Satisfaction (median)	9	8	0.43

Table 2. Pain score stratified by variables, per group

Variable	Group	Pain score (median)	P value
Age <69	VR group	4	0.38
	Control group	6	
Prostate volume >61.4	VR group	4	0.51
	Control group	5	
Biopsy naïve	VR group	5	0.7
	Control group	6	

### Conclusion:

- The use of VRD in trans-perineal prostate biopsy is safe and satisfying.
- Younger Patients that are biopsy naïve reported a better pain score using the VRD.

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