

INTRODUCTION

Background

- Cervical cancer has moved up to become the 3rd most common cancer death among young women in the U.S.
- Providing anesthetic care for GYN brachytherapy is beneficial for optimal treatment & patient comfort since it requires immobility & analgesia for a prolonged period of time.
- Current guidelines from the ABS & ASA do not specify a preferred anesthesia approach nor type of anesthesia modality for GYN brachytherapy applicator placement.

Objective

Determine the optimal deep sedation & analgesia for patients receiving hybrid intracavitary/interstitial high-dose rate (HDR) brachytherapy with GYN cancers, as a non-OR procedure (with no room for an anesthesia machine), employing monitored anesthesia care (MAC) with a deep sedation technique using the jaw elevation device (JED).

METHODOLOGY

Retrospective data from anesthesia records (2019-2022)

- Lithotomy position, head/neck on the JED, CO₂ filter line, O₂ at 2 L/min, pulse ox, ECG, B.P. cuff
- Meds administered: sedation (midazolam), analgesia (fentanyl), antiemetics, propofol/dexmedetomidine infusion. Younger pts: given a bolus (or several) of ketamine
- Near-end of procedure: IV acetaminophen/ketorolac
- Recovery room for 2 hrs → post-procedural eval.

RESULTS

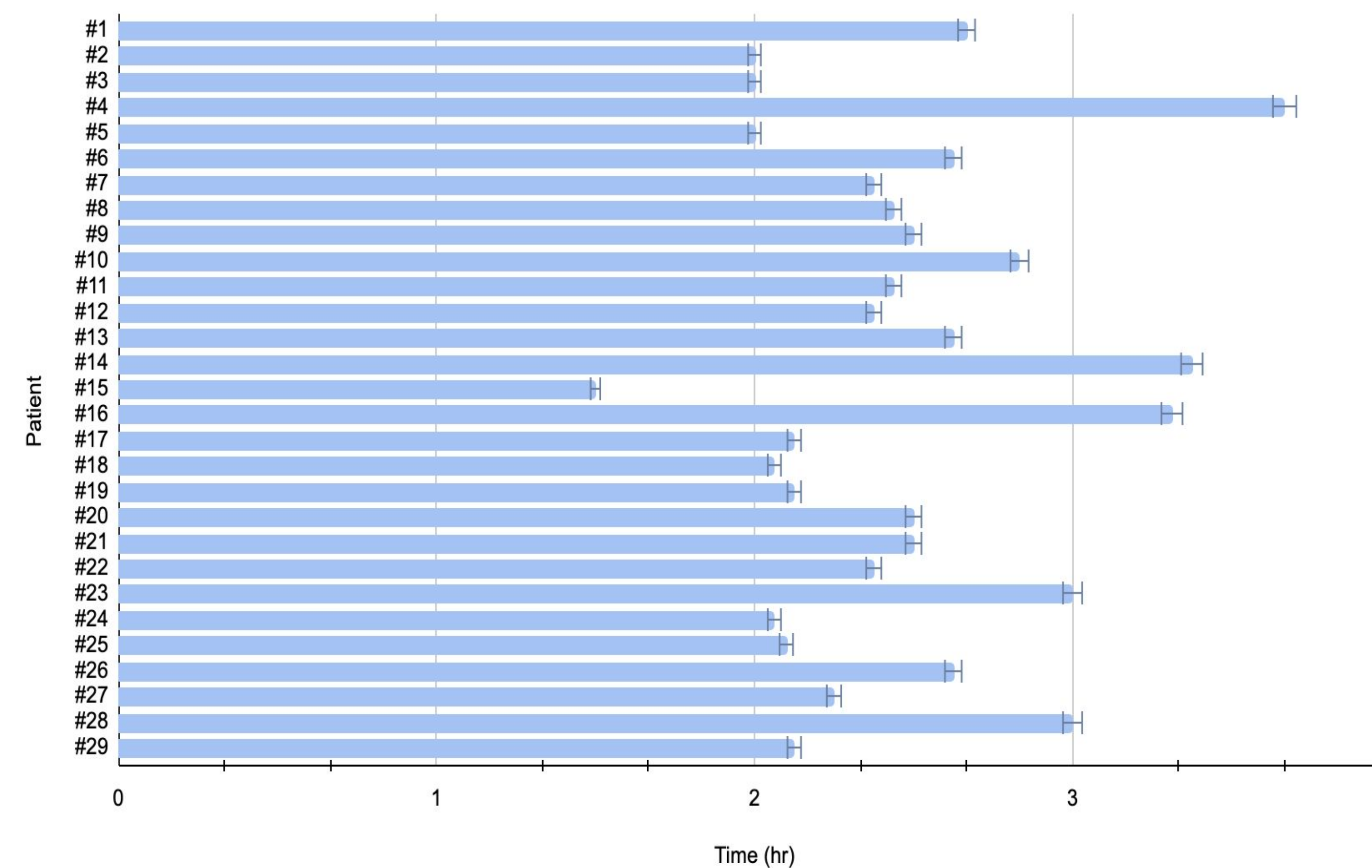
Table 1. Patient characteristics

Variables	No. (%) (n = 29)
Age (years)	
<45	9 (31.03)
45-59	7 (24.14)
60-70	7 (24.14)
>70	6 (20.69)
Mean ± SD: 55.66 ± 15.27 Range: 30-84 .	
ASA classification	
II	12 (41.38)
III	17 (58.62)
BMI (kg/m²)	
Underweight (< 18.5)	2 (6.90)
Normal (18.5-24.9)	4 (14.00)
Overweight-severe (25-39.9)	19 (65.50)
Morbid obesity (≥ 40)	4 (14.00)
Mean ± SD: 31.26 ± 11.72 Range: 16.5 - 70.6	
Primary site	
Cervix	24 (82.76)
Vaginal	2 (6.90)
Uterine	3 (10.34)

Table 2. Most frequently used IV drug doses

Drug and dose	Mean dose	SD
Midazolam (mg)	1.833	0.245
Propofol (mg)	544.093	116.61
Fentanyl (µg)	85.431	16.096
Ketamine (mg)	29.901	13.194
Dexmedetomidine (µg)	74.456	69.712
Acetaminophen (mg)	91.954	242.929

Graph 1. Brachytherapy procedure duration average per patient



Graph 2. Patient percentage receiving various brachytherapy sessions

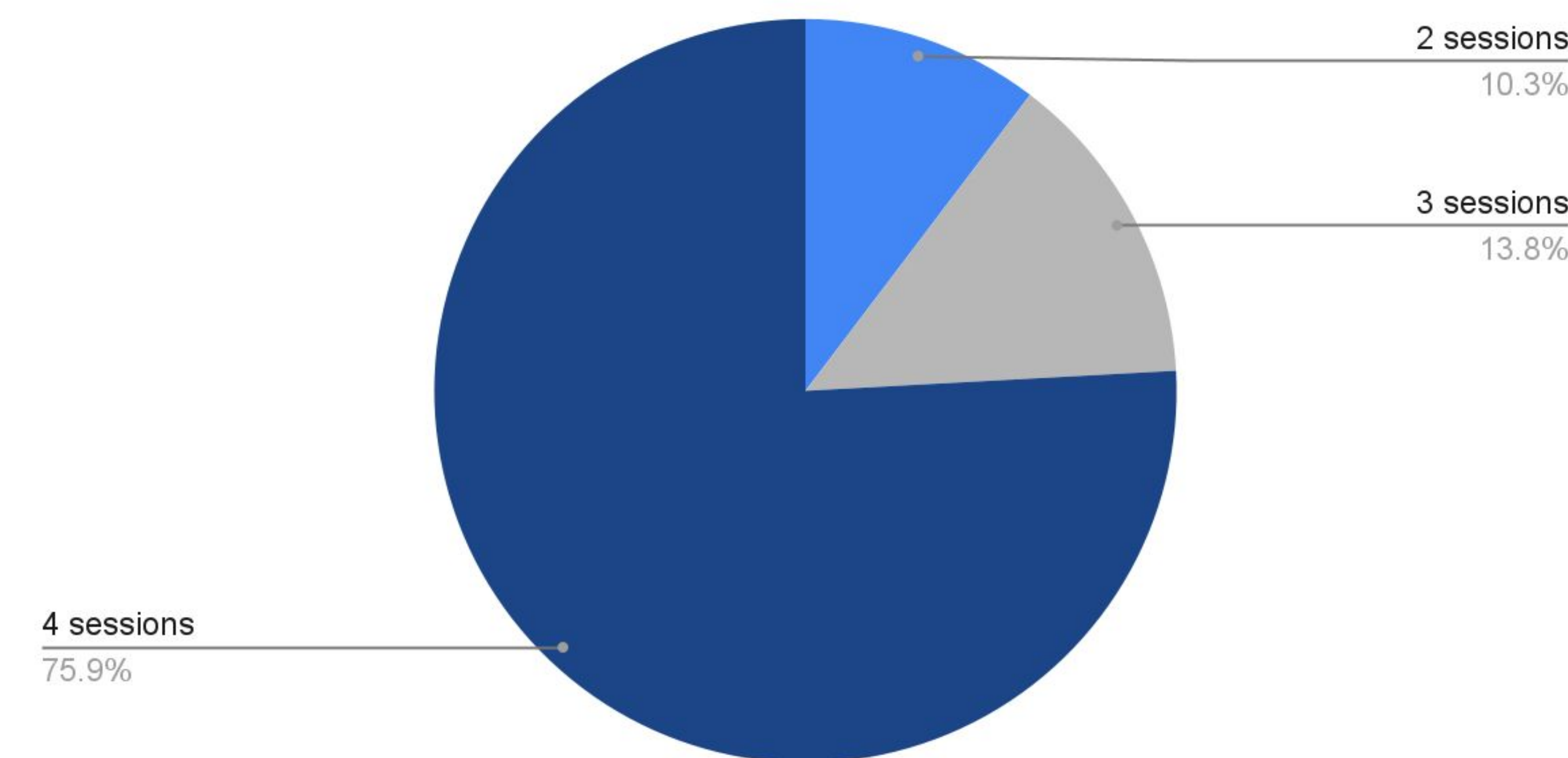
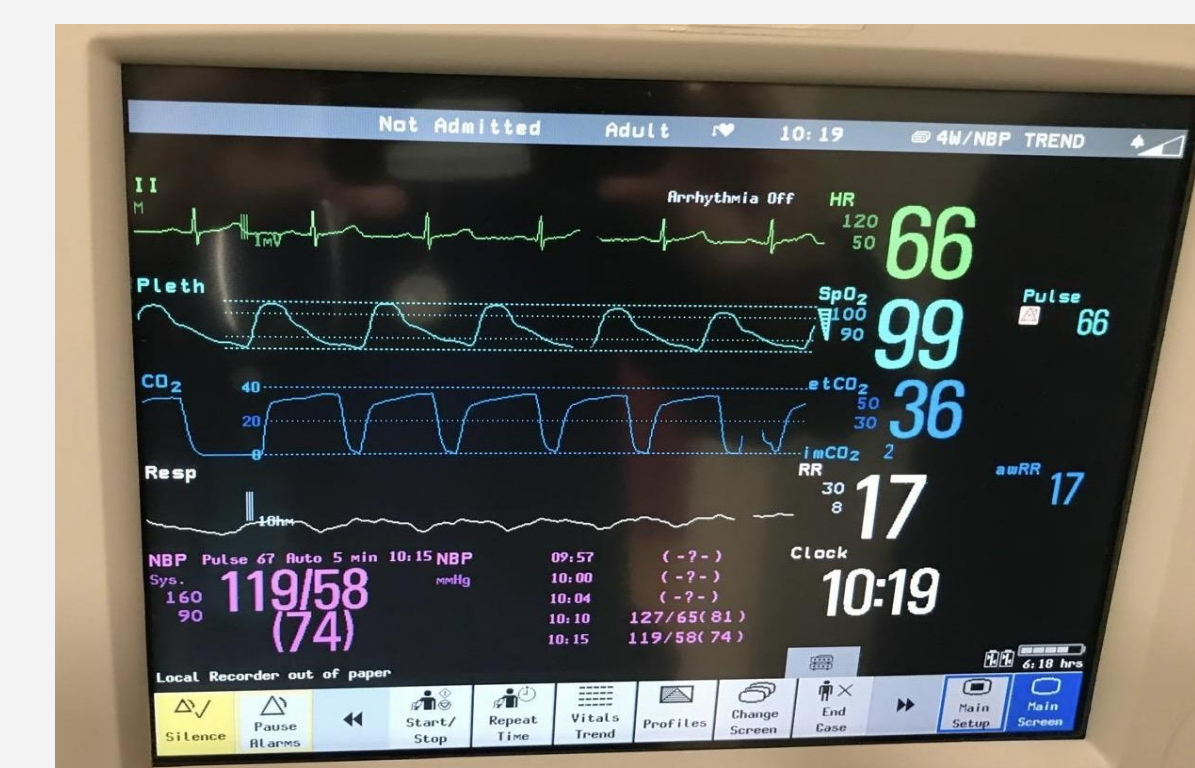


Fig 1. Jaw elevation device (JED) showing patient positioning during deep sedation.



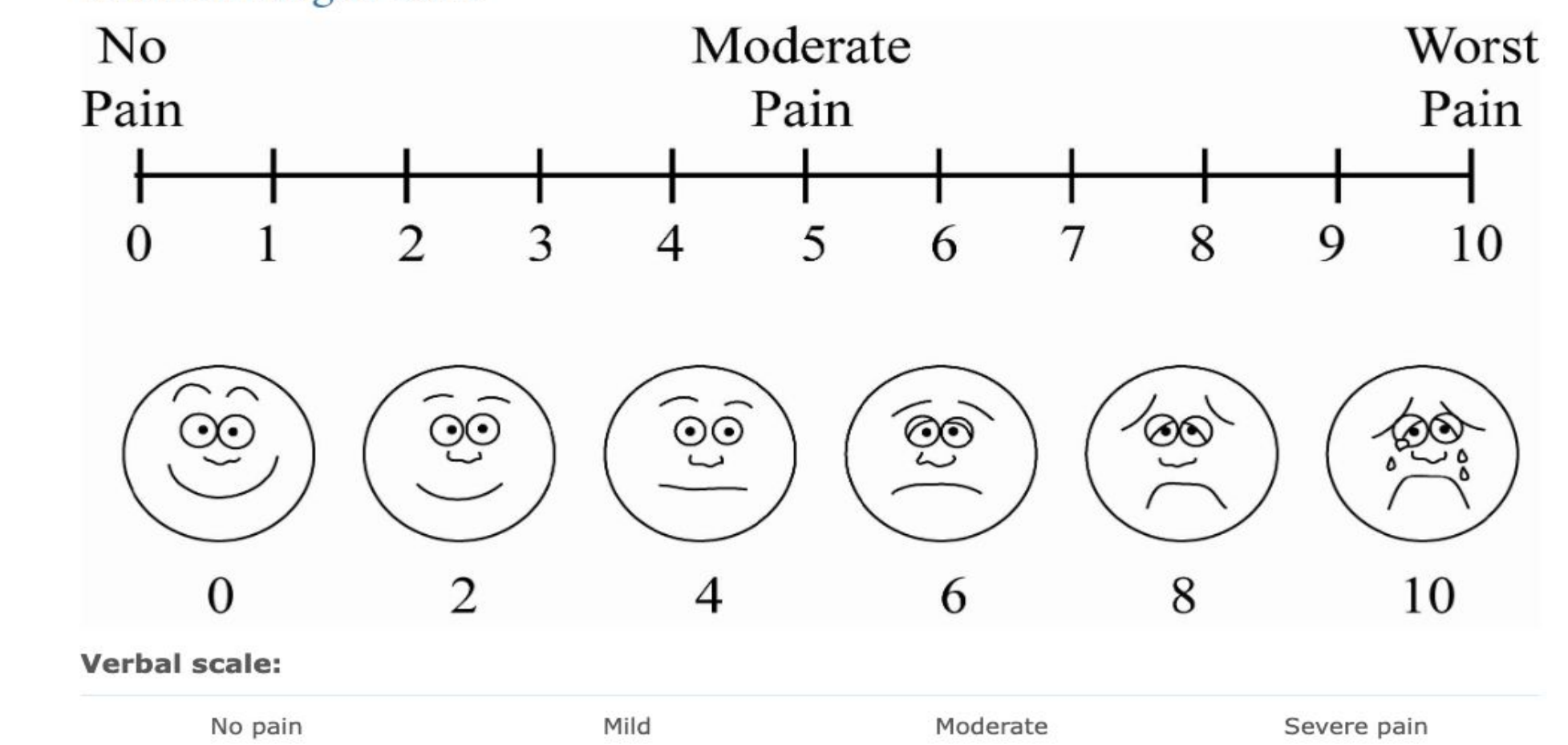
Fig 2. Continuous monitoring of vital signs and capnography.



2-hr post-procedural evaluation → Discharge home

- Awake, alert, spontaneous breathing, hemodynamically stable, no anesthetic complications nor POVN
- 8 (27.6%)** of 29 patients reported a higher pain status in session 1 and/or 2.

Visual Analogue Scale



CONCLUSIONS

- Brachytherapy presents the anesthesiology team with unique challenges, different from the surgical patients in the OR.
- Adequate conditions include complete staffing, technical equipment, application of the right technique with experienced anesthesia teams is critical for both the patient and the radiation oncologists.
- Our study suggest that this deep sedation & analgesia technique using MAC with the JED offers safe/effective pain control for undergoing brachytherapy for GYN malignancies, with minimal or no post-procedural complications, and allows for outpatient, same-day home discharge.
- Further research is required in this area in order to optimize analgesia in this patient population.

REFERENCES

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