

Percutaneous Endoscopic Gastrostomy vs. Nasogastric Feeding for Early Nutrition in Oral Cancer: A Retrospective Cohort Study

Hamdan Ahmed Pasha¹, Fatima Syed Amanullah², Muhammad Shahzaib Arshad¹, Ainulakbar Mughal¹, Saadia Sattar³, Syed Akbar Abbas¹, Mohammad Sohail Awan¹, Shabbir Akhtar¹

1. Section of Otolaryngology-Head and Neck Surgery, Department of Surgery, Aga Khan University, Karachi 74800, Pakistan

2. Aga Khan University, Karachi 74800, Pakistan

3. Department of Medicine, Aga Khan University, Karachi 74800, Pakistan

Introduction

- Head and neck cancers impair oral intake through tumor- and treatment-related effects.
- Malnutrition worsens recovery, immunity, and survival.¹**
- Enteral feeding is used when oral intake is inadequate, most often with NG or PEG tubes.
- NG is simple but associated with sinusitis, reflux, aspiration.^{2,3}
- PEG is durable but linked to infections, fistulae, dislodgement.⁴
- Evidence comparing NG vs PEG is inconsistent.
- Objective: Compare postoperative weight loss outcomes and factors influencing tube choice.**

Methods and Materials

- Design: Retrospective cohort study, 2017–2022
- Setting: Aga Khan University Hospital
- Population: **71 oral SCC patients; NG=34, PEG=37.**
- Inclusion: Adults ≥ 18 , surgical resection \pm free flap, postoperative enteral feeding.
- Exclusion: Recurrent disease, non-oral cancers, loss to follow-up.
- Data: Demographics, comorbidities, tumor site, grade, stage, weights at baseline and 1, 3, 6 months.
- Analysis: Chi-square/Fisher's test for categorical variables.
- Paired t-tests for temporal weight loss
- Significance set at $p < 0.05$.

References

- Davies M. Nutritional screening and assessment in cancer-associated malnutrition. *Eur J Oncol Nurs.* 2005;9 Suppl 2:S64-73. 10.1016/j.ejon.2005.09.005
- Means K. Nasogastric Tubes. 2022. p. 195-7. 10.1016/B978-0-323-79007-9.00042-8
- Desmond P, Raman R, Idikura J. Effect of nasogastric tubes on the nose and maxillary sinus. *Crit Care Med.* 1991;19(4):509-11. 10.1097/0000000000000009
- Cady J. Nutritional support during radiotherapy for head and neck cancer: the role of prophylactic feeding tube placement. *Clin J Oncol Nurs.* 2007;11(6):875-80. 10.1188/07.CJON.875-880

Post-Operative Time (months)	Mean Weight Loss (kg)		<i>p</i> -value
	NG Tube	PEG Tube	
1	3.91	4.96	0.43
3	4.93	7.51	0.10
6	6.67	9.60	0.19

Table 1. Mean postoperative weight loss at 1, 3, and 6 months by feeding type. No significant differences between NG and PEG.

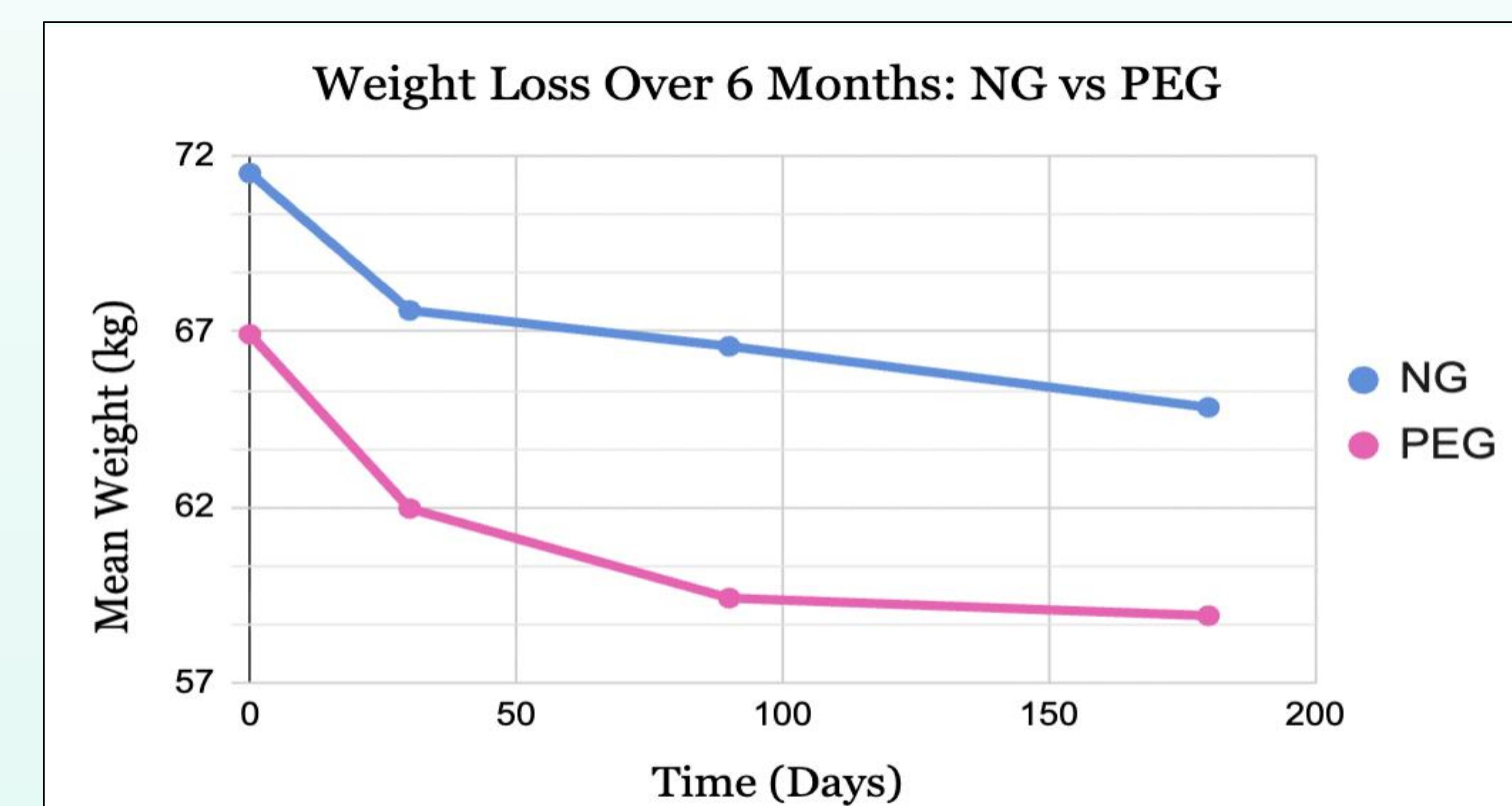


Figure 1. Postoperative weight loss trends over 6 months by feeding type. Both groups show an initial decline then stabilization.

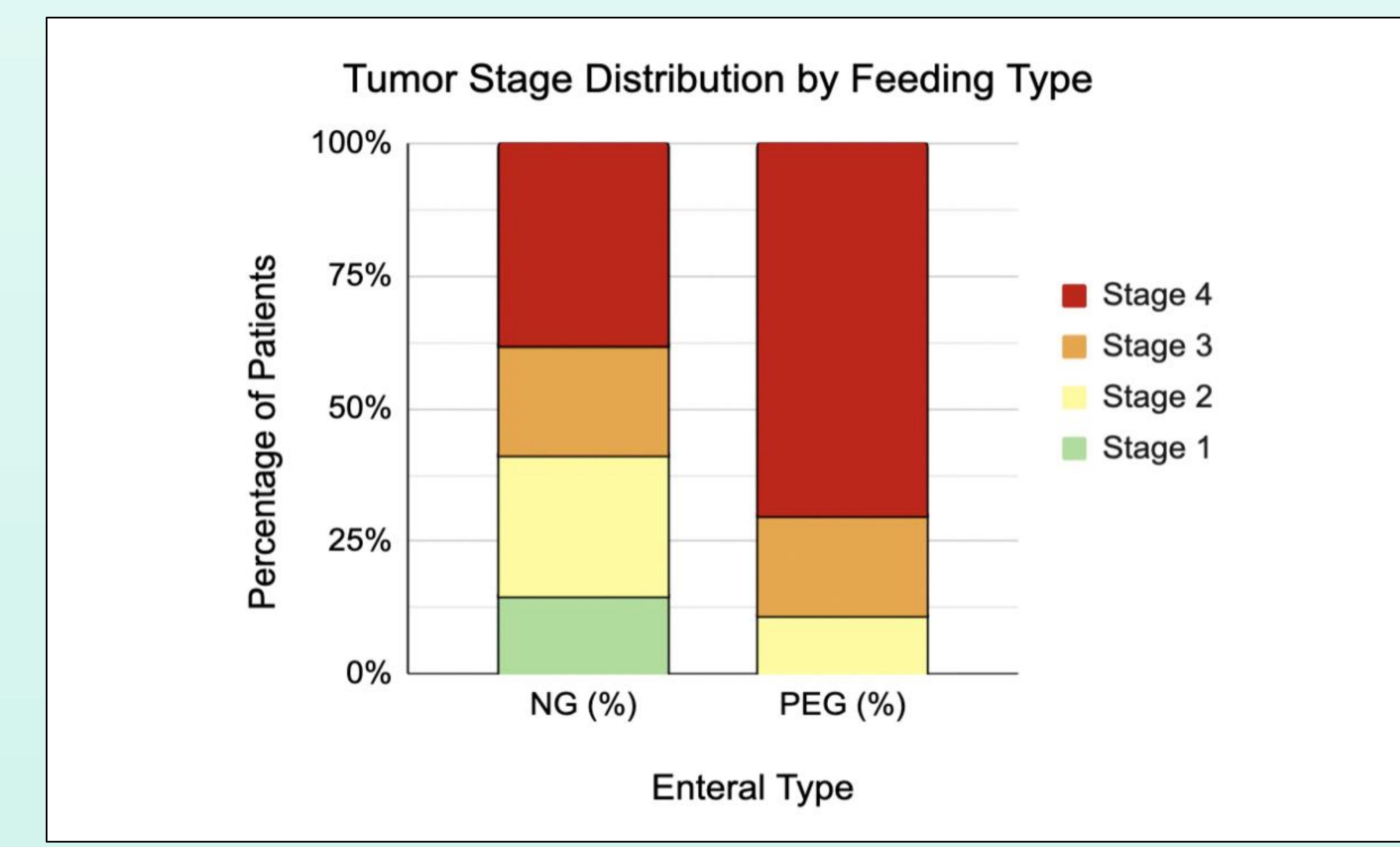


Figure 2. Tumor stage distribution by feeding type. PEG mostly used for advanced-stage disease.

Results

- PEG use strongly associated with advanced-stage disease (Stage III-IV, $p=0.01$).
- PEG patients more likely to undergo free flap reconstruction (68% vs 47%).
- PEG patients showed greater mean and critical weight loss, though not statistically significant.**
- Critical weight loss more common in PEG (57% vs 32% at 6 months).
- 20% of NG patients ultimately converted to PEG within 3 months

Discussion

- PEG placement strongly associated with advanced stage disease.
- Weight loss patterns similar across groups: sharp early decline then stabilization.
- Possible explanation: advanced disease burden and bypass of oral phase digestion.
- Findings align with some studies but contrast others reporting PEG benefit.
- NG may be adequate for early-stage disease; PEG should be individualized for advanced cases.

Conclusions

- PEG more often used in advanced oral cancer.
- No significant difference in weight loss compared with NG
- Critical weight loss remained high in PEG patients.
- Choice of enteral feeding should be tailored to stage, expected recovery, and patient needs.**
- Further prospective studies required to develop evidence-based nutrition guidelines.