

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

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## Introduction

- Head and neck cancers impair oral intake through tumor- and treatment-related effects.
- **Malnutrition worsens recovery, immunity, and survival.**<sup>1</sup>
- 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.<sup>2,3</sup>
- PEG is durable but linked to infections, fistulae, dislodgement.<sup>4</sup>
- Evidence comparing NG vs PEG is inconsistent.
- **Objective: Compare postoperative weight loss outcomes and factors influencing tube choice.**

## Methods and Materials

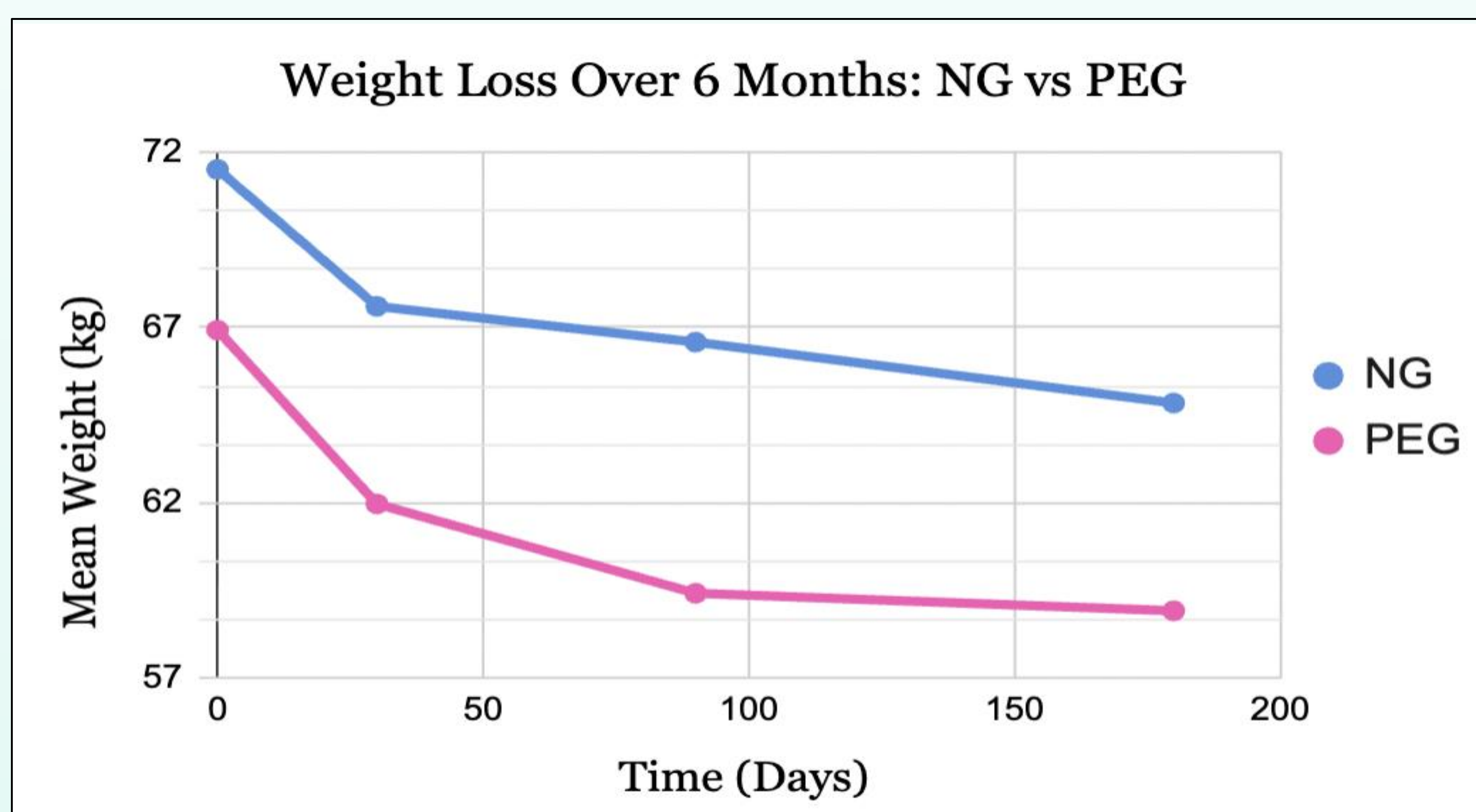
- Design: Retrospective cohort study, 2017–2022
- Setting: Aga Khan University Hospital
- Population: **71 oral SCC patients; NG=34, PEG=37.**
- Inclusion: Adults ≥18, surgical resection ± free flap, postoperative enteral feeding.
- Exclusion: Recurrent disease, non-oral cancers, loss to follow-up.
- 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

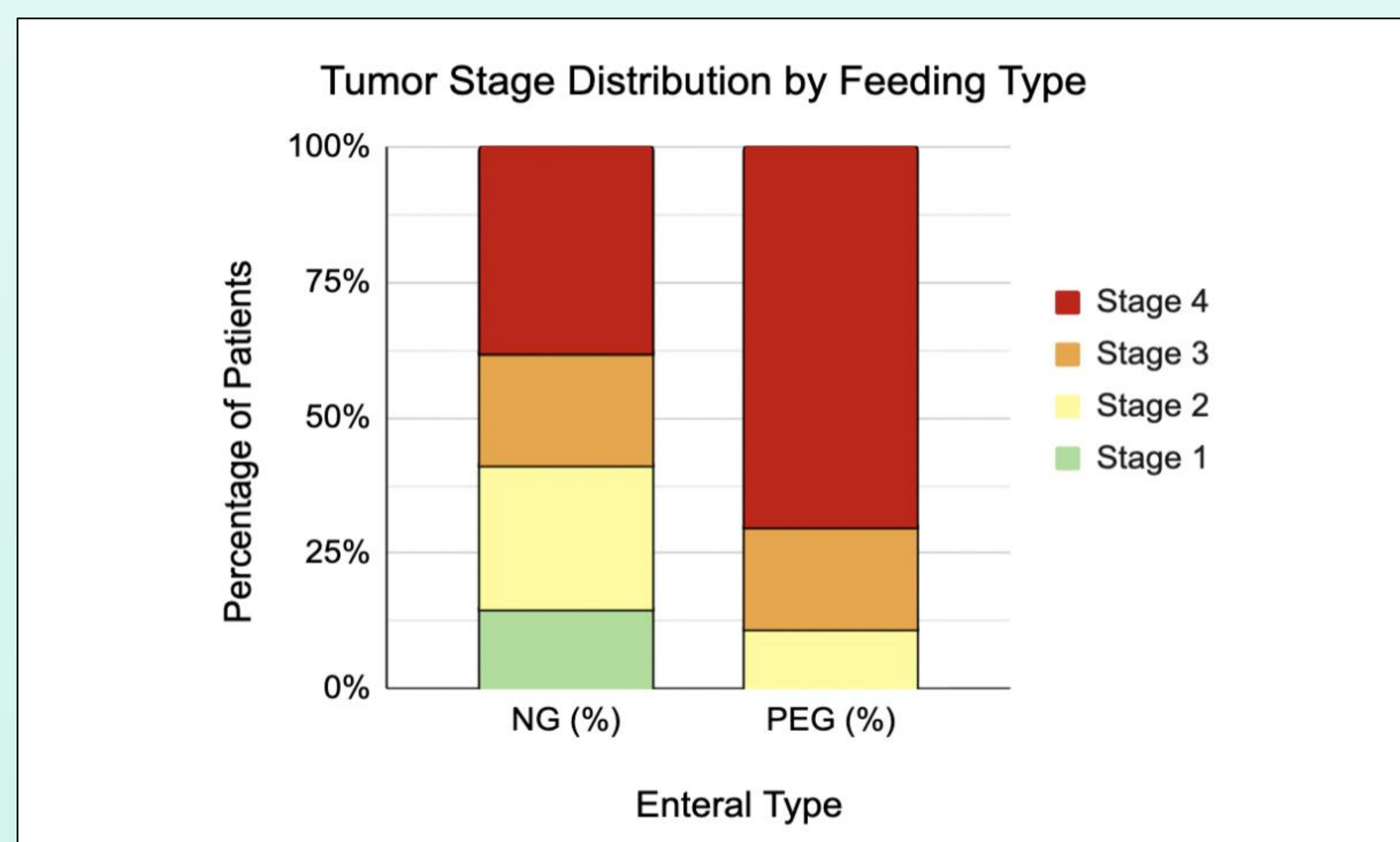
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Post-Operative Time (months)	Mean Weight Loss (kg)		p-value
	NG Tube	PEG Tube	
1	3.91	4.96	0.43
3	4.93	7.51	0.10
6	6.67	9.60	0.19

**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.