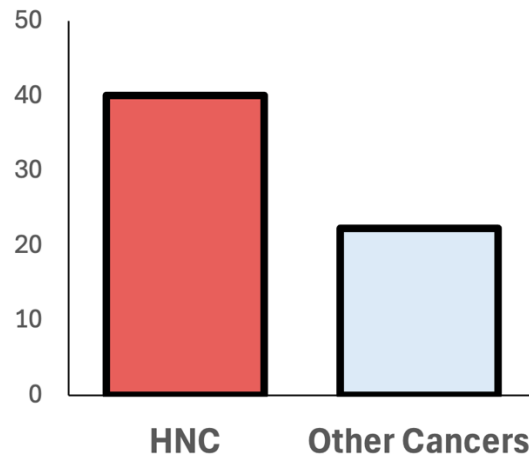


# Association of Preoperative Depression and Clinical Outcomes After Head and Neck Free Flap Reconstruction

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# Depression in Head and Neck Cancer

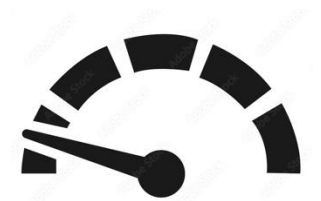
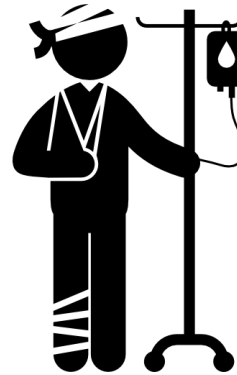
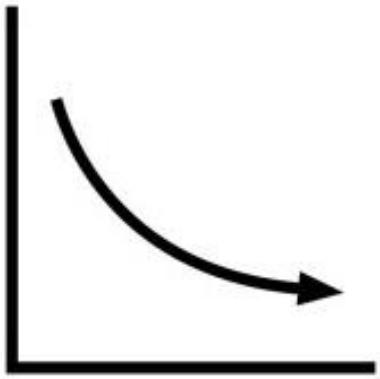


Depression is prevalent in 40.1% of head and neck cancer (HNC) patients.<sup>1</sup>



Up to 22% of HNC patients had unrecognized depression/anxiety at the time of surgery.<sup>2</sup>

# Depression in Head and Neck Cancer



# Objective

To investigate the association between preoperative depression and clinical outcomes after free flap surgery for head and neck cancer.

# Methods

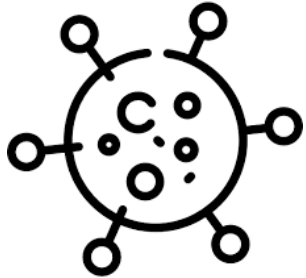
- **Single-institution retrospective cohort study**
- **Inclusion criteria:** Patients with head and neck cancer who underwent a free flap procedure between January 2019-December 2023
  - Identified via CPT codes for free flap surgery and neck dissection
  - Patients who underwent free flaps for oncologic tumor resection or other related indications (tissue radionecrosis, afunctional larynx, etc. were included)
- **Data Collection**
  - Patient clinical and demographic data
  - Psychiatric history and medication use
  - Postoperative outcomes (adjuvant treatment, length of stay (LOS), discharge disposition, 30-day readmission, date of death or last known follow up)

# Methods

- **Primary Outcome:** Overall survival (OS)
- **Secondary Outcomes:** Length of stay (LOS), discharge disposition (home vs. rehabilitation or skilled nursing facility), 30-day readmission, postoperative radiotherapy (PORT) delay
- **Statistical Analysis:**
  - Three cohorts: primary resection, salvage surgery, and other
  - Survival outcomes assessed using Kaplan-Meier analysis and multivariate Cox proportional hazards models controlling for age, sex, and CCI
  - Secondary outcomes assessed using multivariate linear and logistic regression models

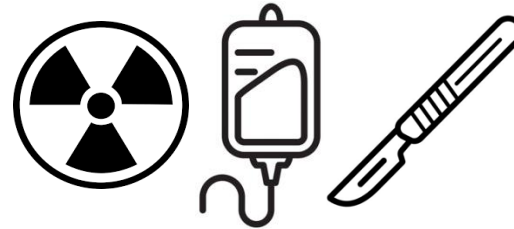
# Results

**645 patients** with  
HNC who underwent  
free flap procedures



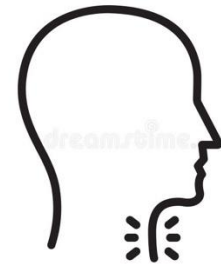
**389 (60%)**

Primary Resection



**208 (32%)**

Salvage Surgery



**48 (8%)**

Other Indications

# Results

**158 patients (25%)** with preoperative depression

**160 patients (25%)** with preoperative anxiety

\*identified using ICD-9 and ICD-10 codes

**142 patients (22%) on preoperative antidepressants**

90 patients on SSRIs

30 patients on SNRIs

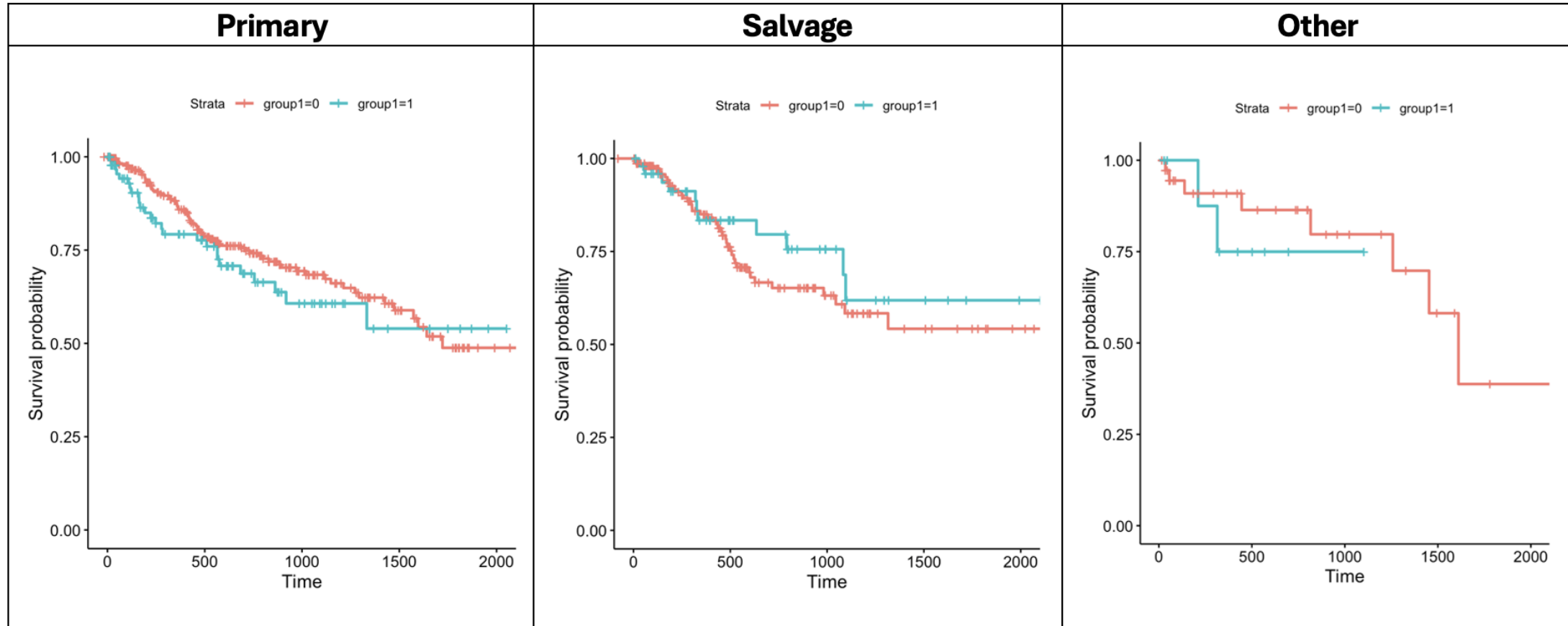
13 patients on tricyclic antidepressants

28 patients on atypical antidepressants

Inpatient psychiatry consulted for **32 patients**

129 patients prescribed an antidepressant inpatient,  
including 12 previously not treated for depression.

# Results – Survival Analysis



# Results – Clinical Outcomes

	Length of Stay (coef [95% CI])	Discharge Disposition (OR [95% CI])	30-Day Readmissions OR [95% CI]	PORT Delay OR [95% CI]
<b>Depression</b>				
<b>Preop Depression</b>				
<b>N</b>	1 [ref]	1 [ref]	1 [ref]	1 [ref]
<b>Y</b>	0.93 (-0.14-2.00)	1.66 (0.98-2.78)	0.82 (0.49-1.34)	0.65 (0.31-1.40)
<b>Depression +/- any Antidepressant</b>				
<b>N</b>	1 [ref]	1 [ref]	1 [ref]	1 [ref]
<b>Y</b>	0.46 (-0.54-1.47)	1.54 (0.93-2.53)	0.63 (0.39-1.01)	<b>0.48 (0.23-0.99)**</b>
<b>Any preop antidepressant</b>				
<b>N</b>	1 [ref]	1 [ref]	1 [ref]	1 [ref]
<b>Y</b>	0.69 (-0.41-1.79)	<b>1.82 (1.07-3.06)**</b>	0.76 (0.45-1.26)	0.49 (0.23-1.10)
<b>Covariates (using Preop Depression Diagnosis)</b>				
<b>Age</b>	0.00 (-0.04-0.04)	<b>1.08 (1.05-1.10)**</b>	1.01 (0.99-1.03)	0.98 (0.94-1.03)
<b>Sex</b>				
<b>Male</b>	1 [ref]	1 [ref]	1 [ref]	1 [ref]
<b>Female</b>	0.29 (-0.70-1.29)	1.02 (0.61-1.67)	1.18 (0.76-1.82)	2.41 (1.04-6.35)
<b>CCI</b>	0.12 (-0.08-0.33)	1.03 (0.93-1.13)	1.01 (0.92-1.10)	1.12 (0.93-1.40)

# Are we adequately studying depression in HNC patients?

**8.9%-25.4%** in studies investigating depression in HNC patients, compared to:

**40.1%** estimated rate of depression in HNC patients

Depression is variably defined:

## Screening Measures

- PHQ-9
- HDRS
- BDI
- CES-D
- HAS

## Retrospective Studies

- ICD-9 and ICD-10 codes
- CPT codes

# Conclusions

1. Preoperative depression was present in 25% of our patients.
2. Our study did not find significant associations between preoperative depression and clinical outcomes in HNC.
3. Depression is likely not being adequately captured; further study is needed to better characterize depression in the HNC patient population.

# Thank you!

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