

TASTE CHANGES IN PATIENTS AFTER TRANSORAL ROBOTIC SURGERY FOR HEAD AND NECK CANCER

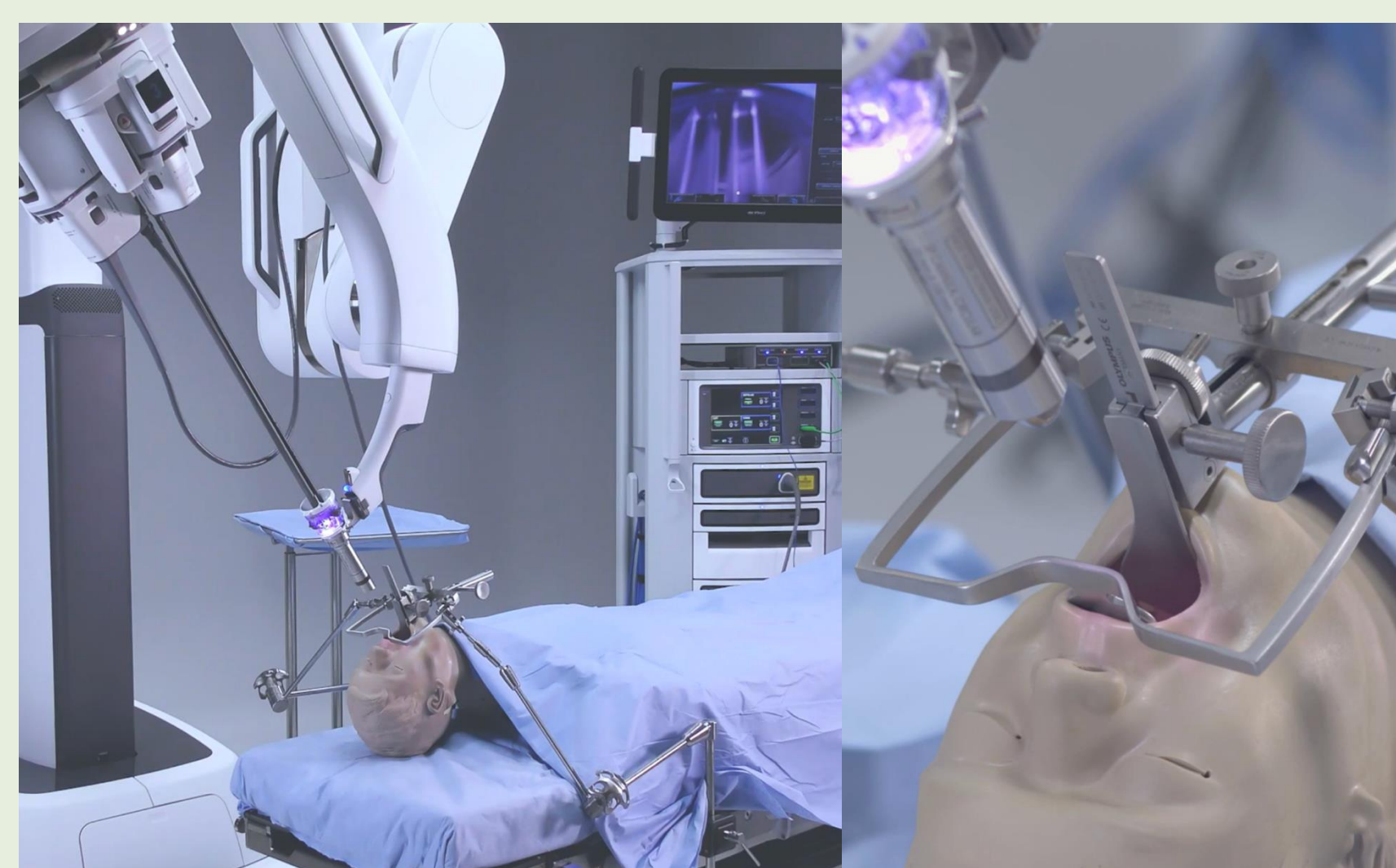
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BACKGROUND

Disturbances in taste (**dysgeusia**) and smell (**dysosmia**) are common among patients undergoing treatment for head and neck cancer. These sensory changes **can impair appetite, nutrition, and overall quality of life.**



90%

Patients undergoing treatment for head and neck cancer report changes in taste or smell during or after therapy

Of the approximate 90% of patients who experience changes in taste or smell, **roughly 30% report that these alterations become permanent.** While prior studies have primarily attributed dysgeusia and dysosmia to chemotherapy and radiation, **the contribution of surgery- particularly transoral robotic surgery (TORS)- remains less well understood.**

This study aims to clarify the role of TORS in these sensory changes, particularly among the 25% of head and neck cancer patients who undergo surgery alone without adjuvant therapy. Anecdotal reports of persistent postoperative taste loss underscore the need for prospective evaluation.

PRIMARY AIMS

Aim 1:

Characterize presence, severity, and duration of taste and olfactory changes following TORS

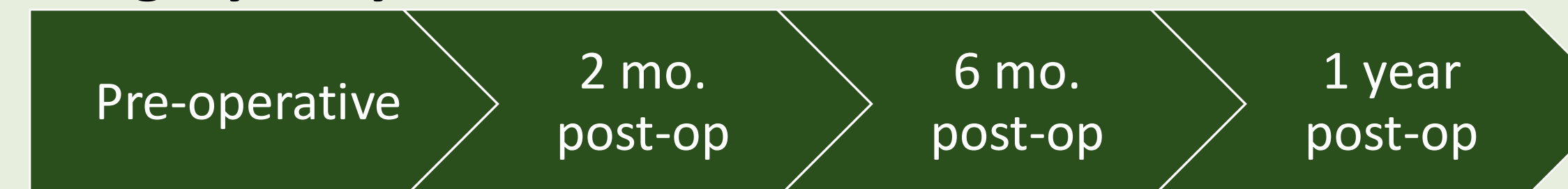
Aim 2:

Identify patient groups who could be at an increased risk for prolonged, severe changes in taste and olfaction

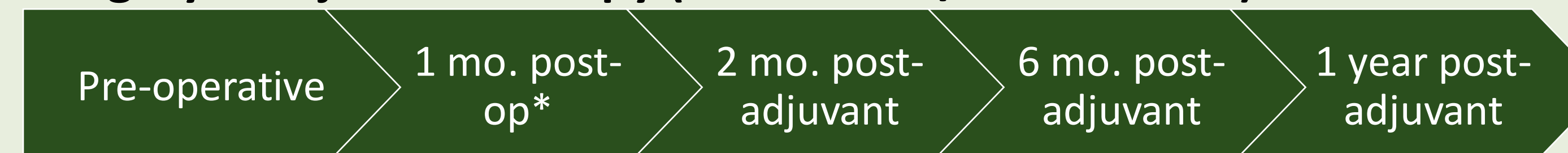
METHODS

This is an **ongoing prospective observational study** conducted at DHMC. Eligible participants are **adults (≥18 years) undergoing TORS.** **100 participants** will be followed for **one year** and assigned to one of two arms based on treatment course:

Surgery Only Arm



Surgery + Adjuvant Therapy (Chemo and/or Radiation)



*Pre adjuvant therapy

The following standardized tools are used to assess patients' taste and smell function **at each study visit.**

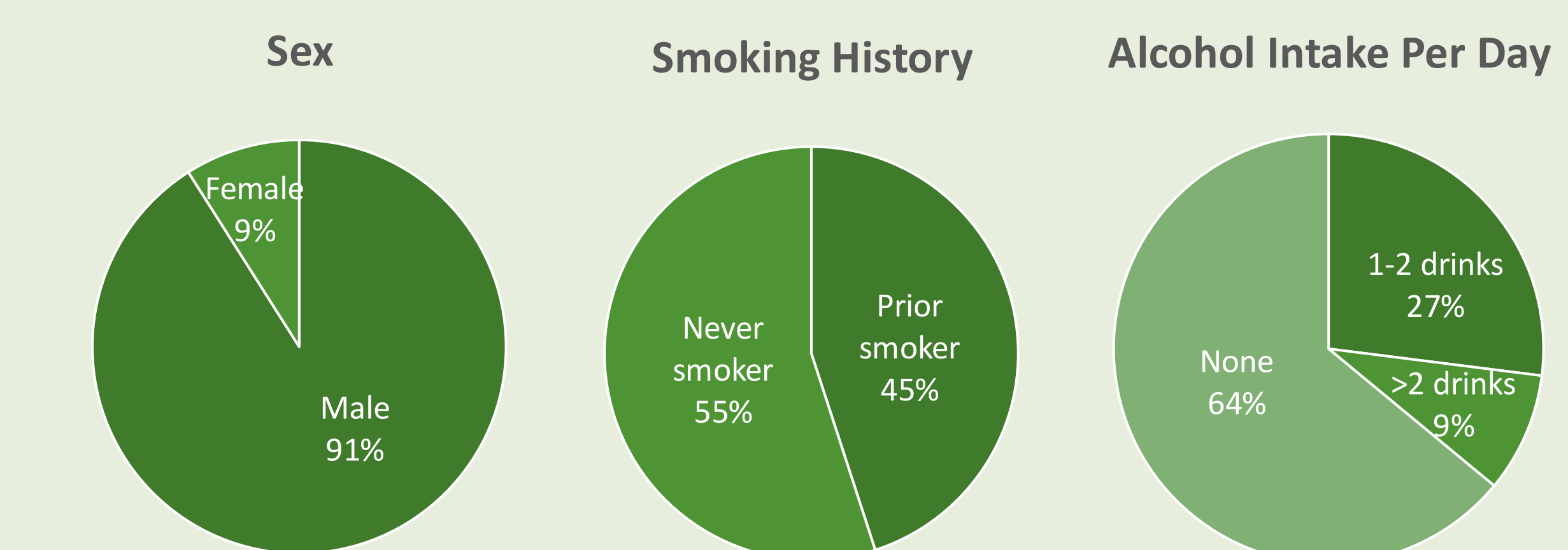
Olfactory Function Testing ODOFIN Sniffin' Sticks Screening 12 	Gustatory Testing ODOFIN Taste Test 50 	Surveys ✓ Composite Validated Chemosensory Survey Tool ✓ MD Anderson Dysphagia Inventory (MDADI)
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Intraoperative variables are collected during surgery and **chart review** is performed to **explore potential contributors** to postoperative taste changes. These factors will be analyzed in relation to gustatory outcomes as the dataset expands.

 Duration of surgery and retractor placement	 Glossopharyngeal Nerve Management Left alone, covered, or sacrificed	 Intubation Type • Nasal • Oral	 Chart review Demographics, comorbidities, path report, etc.
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RESULTS AND DISCUSSION

At this stage, **current participants have completed baseline pre-operative testing**, with longitudinal follow-up ongoing. The graphics below summarize the **demographics** of the current study cohort (n = 11).



The current cohort reflects typical demographic characteristics of head and neck cancer patients, though limited diversity and small sample size restrict broader generalization. **Potential contributors** to postoperative taste changes include **glossopharyngeal nerve manipulation, surgical duration, retractor pressure and positioning, cautery level,** and the effects of adjuvant therapy.

Limitations

- Patients differ in surgical extent and adjuvant therapies, introducing variability that may complicate comparisons.
- Lack of preoperative variability data on taste and smell baseline across individuals
- Homogeneous patient demographics limit assessment of broader population effects

Future Directions

As recruitment progresses, the team aims to evaluate longitudinal recovery trajectories and **correlate objective taste and smell scores with surgical variables.** Findings may inform **preoperative counseling, intraoperative nerve preservation strategies, and postoperative rehabilitation** for patients undergoing TORS.