



# A Prospective Evaluation of Dysphagia after Transoral Robotic Surgery for Squamous Cell Carcinoma of the Oropharynx

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## ABSTRACT

### OBJECTIVES:

Dysphagia is common in the perioperative period after transoral robotic surgery (TORS) and has been inadequately characterized. Our primary objective in this study is to prospectively characterize short-term swallowing outcomes after TORS for OPSCC.

### METHODS:

Patients undergoing TORS for OPSCC were prospectively enrolled into this study between the dates of 6/20/2014 and 11/30/2015. Exclusion criteria were a history of previous TORS, repeat TORS within one month after enrollment, TORS for non-malignancy, a procedure on a non-oropharyngeal aerodigestive subsite, a contraindication to swallowing evaluation, or incomplete data. The Eating Assessment Tool 10 (EAT-10), a 10-item validated questionnaire measuring swallowing quality of life, was administered on post-operative day (POD) 1, POD 7, and POD 30.

### RESULTS:

The mean EAT-10 score (0-40) on POD 1 was 21.5 (range 0 - 37), on POD 7 was 27.5 (range 14 - 45), and on POD 30 was 12.3 (range 1 - 33). EAT-10 scores were worse at POD 7 (p=0.002) and better on POD 30 (p<0.001) as compared with initial evaluation. At 1 month 5/34 (14.3%) patients had normal EAT-10 scores. Mean weights (lbs) decreased significantly over the month (204.6 vs. 194.7, p<0.001).

### CONCLUSION:

Most patients who undergo TORS experience dysphagia for at least the first month after surgery. Dysphagia will worsen by post-operative day 7 then improve but likely not resolve by one month. Swallowing evaluation and therapy should be considered routine in this cohort of patients.

## INTRODUCTION

Transoral robotic surgery (TORS) for oropharyngeal squamous cell carcinoma (OPSCC) has been associated with improved long-term dysphagia quality of life as compared to chemoradiation. Nevertheless, dysphagia is common in the perioperative period and has been inadequately characterized. Our primary objective in this study is to characterize short-term swallowing outcomes after TORS for OPSCC in a prospective manner in an attempt to improve post-operative outcomes.

## METHODS AND MATERIALS

### Study type:

Prospective cohort

### Inclusion criteria:

-Patients undergoing TORS for OPSCC were enrolled into this study between the dates of 6/20/2014 and 11/30/2015.

### Exclusion criteria:

-A history of previous TORS  
-Repeat TORS within one month after enrollment  
-TORS for non-malignancy  
-A procedure on a non-oropharyngeal aerodigestive subsite  
-A contraindication to swallowing evaluation

### Study details:

Patients were evaluated by a Speech-Language Pathologist postoperatively for diet recommendations and swallow strengthening exercises. The Eating Assessment Tool 10 (EAT-10), a 10-item validated questionnaire measuring swallowing quality of life, was administered on post-operative day (POD) 1, POD 7, and POD 30. A score > 3 is considered to be indicative of swallowing dysfunction. Medical records were queried for demographics, clinical history, staging, intraoperative factors and postoperative course.

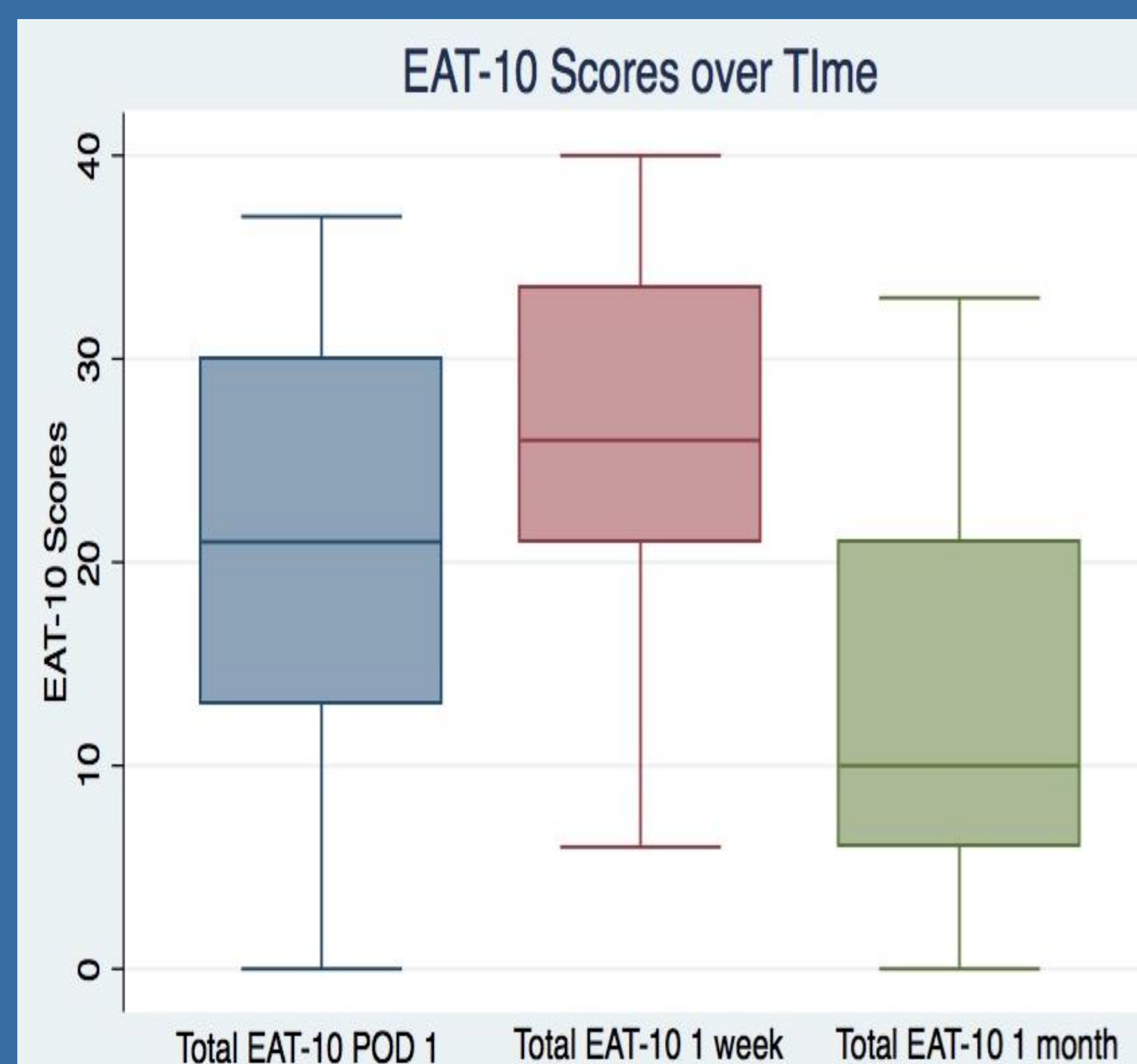
### Statistical analysis:

Statistical analysis was performed using STATA IC 13.1 (College Station TX). A paired T-test was used to compare EAT-10 scores between POD 1 and POD 7 and POD 30 as well as change in weight over time.

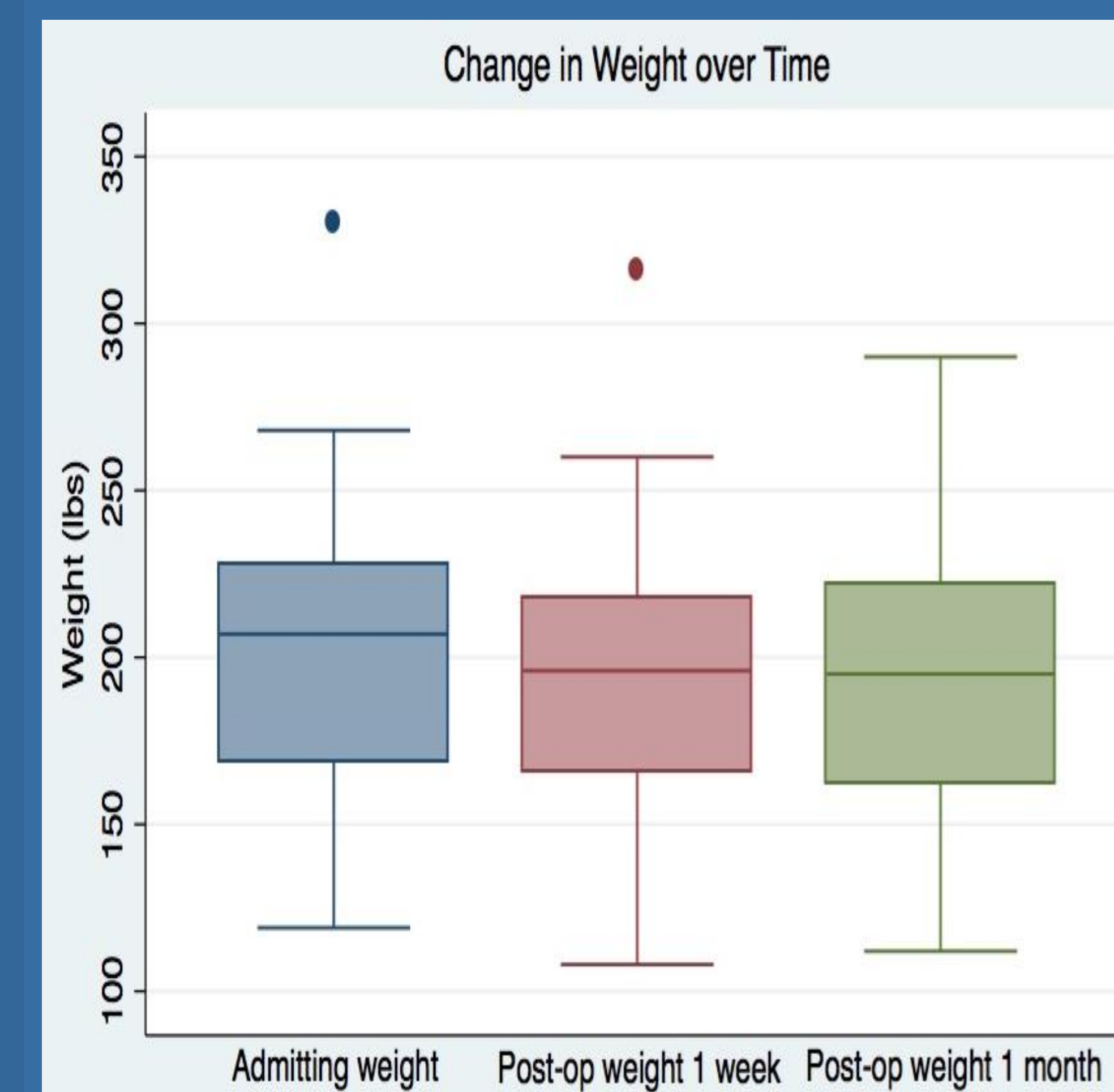
## RESULTS

Age, years (mean (range))	58.5 (43 - 74)
Sex (M : F)	36 : 9
Tobacco status	
-Never	18 / 45 (40.0%)
-Former	14 / 45 (31.1%)
-Current	13 / 45 (28.9%)
History of radiation	3 / 45 (6.7%)
Self-reported preoperative dysphagia	6 / 45 (13.3%)
Primary TORS	
-Radical tonsillectomy	27 / 45 (60.0%)
-BOT resection	18 / 45 (40.0%)
T-stage	
X	4 / 45 (8.9%)
1	19 / 45 (42.2%)
2	19 / 45 (42.2%)
3	3 / 45 (6.7%)
HPV positive	44 / 45 (97.8%)
Neck dissection	
-None	8 / 45 (17.8%)
-Concurrent	34 / 45 (75.6%)
-Staged	3 / 45 (6.7%)
Local flap reconstruction	27 / 45 (61.4%)

Table I: Baseline characteristics of included patients



	POD 1	1 week	1 month
EAT-10	21.4	27.5	12.3
P-value (compared with POD 1)	---	0.002	<0.001



	POD 0	1 week	1 month
Weight (lbs)	204.6	196.0	194.7
P-value (compared with POD 0)	---	<0.001	<0.001

## CONCLUSIONS

Most patients who undergo TORS experience dysphagia for at least the first month after surgery. Patients can be counseled that dysphagia will worsen by post-operative day 7 then improve but likely not resolve by one month. Swallowing evaluation and therapy should be considered routine in this cohort of patients.

## CONTACT

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