



Assessment and comparison of physician-reported staging using the AJCC staging system in Head and Neck Cancer

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Background:

Head and neck cancers account for nearly 4% of all cancers in the United States. The staging of these cancers is important for physicians to analyze and treat the patients. Furthermore, the American Joint Committee on Cancer provides a comprehensive framework to guide physicians on staging these cancers. This study explores both the staging of Oral Cavity and Oropharyngeal cancers, as well as the AJCC editions utilized between three Oncology specialties--Head and Neck Surgery, Medical Oncology, and Radiation Oncology.

Methods:

A cohort of 100 Head and Neck cancer patients with either Oral Cavity or Oropharyngeal cancers were extracted from the EPIC electronic medical records system. The tumor stages and the edition of AJCC (7th edition or 8th edition) utilized by the three specialties. The analysis is still ongoing. Furthermore, the effect of the AJCC staging criteria on survival was determined.

Results:

Percentage	7th	8th	Not listed	Grand Total
Surgery	0.16	0.34	0.50	100
Medical Oncology	0.14	0.24	0.62	100
Radiation Oncology	0.11	0.27	0.62	100

Table 1. The percentage of the number of times the three oncology specialties list the type of edition used on the patient records.

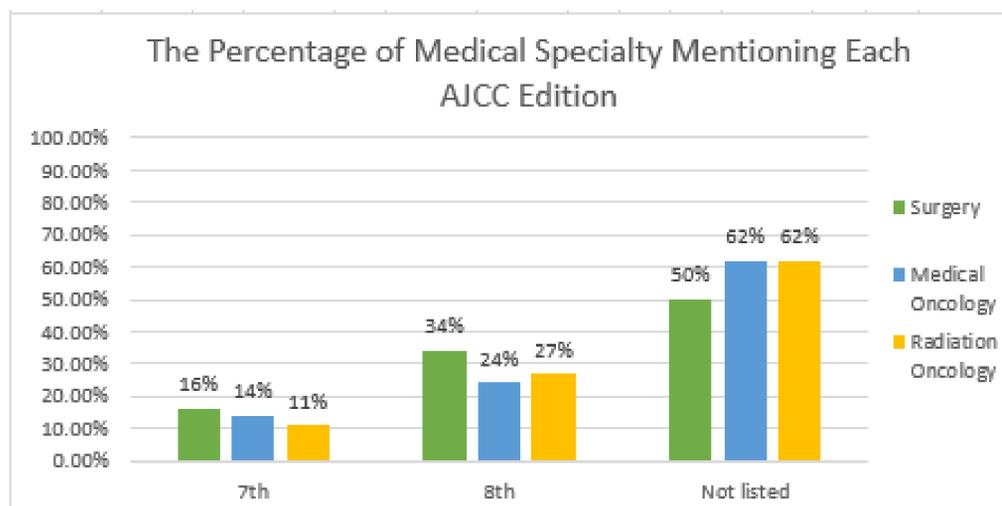
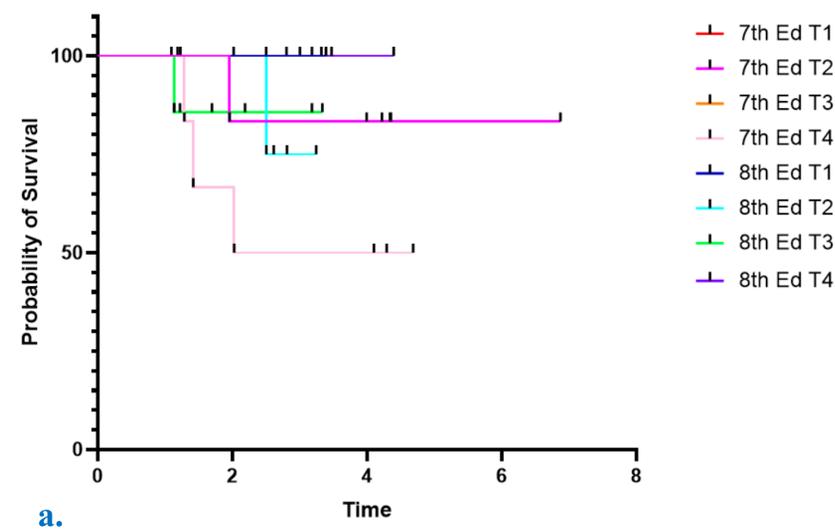


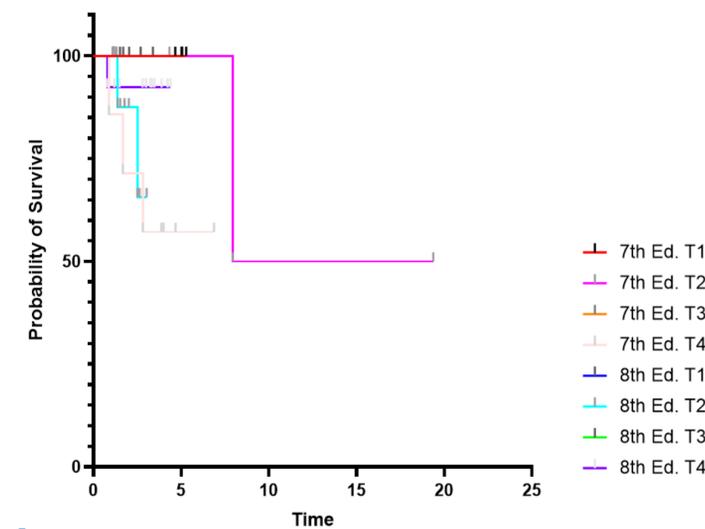
Figure 1. This graph shows the amount times each oncology specialty annotated the edition for each patient's first visit.

Survival rate of 7th vs. 8th edition tumor staging (Med Onc)



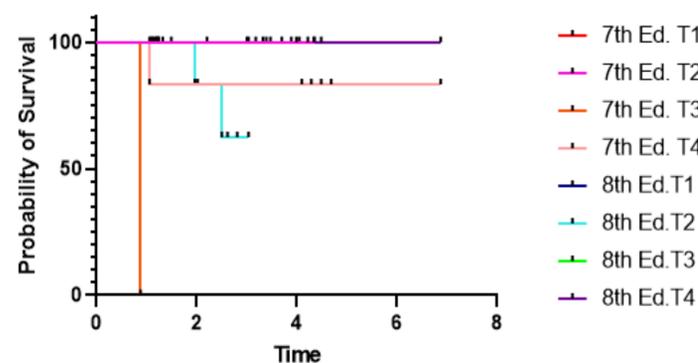
a.

Survival rate of 7th vs. 8th edition tumor staging (Surgeon)



b.

Survival rate of 7th vs 8th edition tumor staging (Rad Onc)



c.

Figure 3abc. These survival curve graphs allow us to visualize the rate over survival over time when staged with 7th versus the 8th edition of AJCC. Figure a. Shows the survival rate for Medical Oncology tumor staging. Figure b. Shows the survival rate for the Head and Neck Surgeon tumor staging. Figure c. Shows the survival rate for the Radiation Oncologist tumor staging.

	Not listed	T1	T2	T3	T4
Surgery	7	20	40	11	22
Medical Oncology	22	17	34	12	15
Radiation Oncology	8	18	40	14	20

Table 2: The amount of head and neck cancer patients' staged by the three types of oncology specialties.

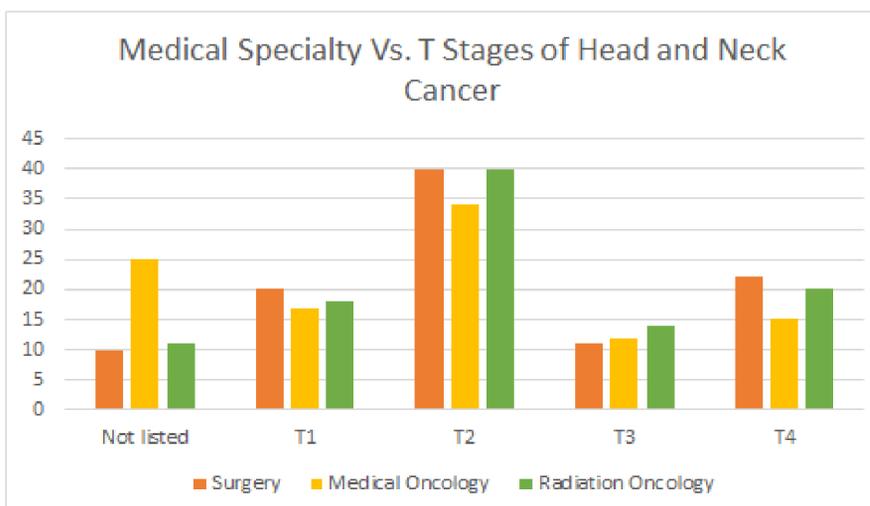


Figure 2. This graph shows the result of the T stages mentioned by the three oncology specialties.

Conclusions:

This work demonstrates the frequency of the staging data inputted by the physicians. Ongoing efforts to assess the survival of the patients diagnosed with the 7th versus 8th edition AJCC are underway. The long-term goal of this work is to create an automated method for oncologists across specialties to consistently stage head and neck cancers. A few of the limitations of our study include our small sample size, as we utilized a cohort of 100 patients. Another was that not all of the physicians documented which AJCC edition they used for staging.

References:

Head and neck cancers. National Cancer Institute.(n.d.). <https://www.cancer.gov/types/head-and-neck/head-neck-fact-sheet>.