

# Radiomics outcome prediction in Oropharyngeal cancer

## Description

This study describes a subset of the [HNSCC](#) collection on TCIA.

There is an unmet need for integrating quantitative imaging biomarkers into current risk stratification tools and to explore the correlation between radiomics features –alone or in combination with clinical prognosticators- and tumor outcome. Clinical meta-data and matched baseline contrast-enhanced computed tomography (CECT) scans were used to build a cohort of 495 oropharyngeal cancer (OPC) patients treated between 2005 and 2012. Expert radiation oncologists manually segmented primary and nodal disease gross volumes (GTVp & GTVn). Structures were named per the American Association of Physicists in Medicine (AAPM) TG-263 recommendations, then retrieved in RT-STRUCT format. Matched patient, disease, treatment and outcomes data were obtained. Radiomics analysis was performed using an open-source institutionally-developed software that runs on Matlab platform.

A related dataset is here: **Data from Head and Neck Cancer CT Atlas**. DOI: [10.7937/K9/TCIA.2017.umz8dv6s](https://doi.org/10.7937/K9/TCIA.2017.umz8dv6s)

## Acknowledgements:

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## Data Access

### Data Access

Click the **Download** button to save a ".tcia" manifest file to your computer, which you must open with the [NBIA Data Retriever](#)

Data Type	Download all or Query/Filter
Images and Radiation Therapy Structures (DICOM, 51.6 GB)	
Clinical Data (CSV, 79kB)	

Please contact [help@cancerimagingarchive.net](mailto:help@cancerimagingarchive.net) with any questions regarding usage.

## Detailed Description

### Detailed Description

Image Statistics	
Modalities	CT, RTSTRUCT
Number of Patients	412
Number of Studies	412
Number of Series	814
Number of Images	104,558
Images Size (GB)	51.6

## Methods

Diagnostic contrast-enhanced computed tomography (CECT) Digital Imaging and Communications in Medicine (DICOM) files prior to any active intervention were collected for 495 OPC patients treated at our institution between 2005 and 2012. Expert radiation oncologists manually segmented primary and nodal disease gross volumes (GTVp & GTVn). Structures were named per the American Association of Physicists in Medicine (AAPM) TG-263 recommendations, then retrieved in RT-STRUCT format. Matched patient, disease, treatment and outcomes data were obtained. Radiomics analysis was performed using an open-source institutionally-developed software that runs on Matlab platform. Links to these can be found in the related publication.

## Citations & Data Usage Policy

### Citations & Data Usage Policy

Users of this data must abide by the [TCIA Data Usage Policy](#) and the [Creative Commons Attribution 3.0 Unported License](#) under which it has been published. Attribution should include references to the following citations:

**Data Citation**

Elhalawani H, White AL, Zafereo J, Wong AJ, Berends JE, AboHashem S, Williams B, Aymard JM, Kanwar A, Perni S, Mulder S, Rock CD, Grossberg A, Mohamed A, Gunn GB, Frank SJ, Rosenthal DI, Garden AS, Fuller CD; M.D. Anderson Cancer Center Head and Neck Quantitative Imaging Working Group (2018). **Radiomics outcome prediction in Oropharyngeal cancer** [Dataset]. The Cancer Imaging Archive. DOI: [10.7937/TCIA.2020.2vx6-fy46](https://doi.org/10.7937/TCIA.2020.2vx6-fy46)

**Publication Citation**

Elhalawani, H., Mohamed, A., White, A. *et al.* **Matched computed tomography segmentation and demographic data for oropharyngeal cancer radiomics challenges.** *Sci Data* 4, 170077 (2017). DOI: [10.1038/sdata.2017.77](https://doi.org/10.1038/sdata.2017.77)

**TCIA Citation**

Clark K, Vendt B, Smith K, Freymann J, Kirby J, Koppel P, Moore S, Phillips S, Maffitt D, Pringle M, Tarbox L, Prior F. **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, *Journal of Digital Imaging*, Volume 26, Number 6, December, 2013, pp 1045-1057. DOI: [10.1007/s10278-013-9622-7](https://doi.org/10.1007/s10278-013-9622-7)


In addition to the dataset citation above, please be sure to cite the following if you utilize these data in your research:

### Other Publications Using This Data

TCIA maintains [a list of publications](#) that leverage TCIA data. If you have a manuscript you'd like to add please [contact the TCIA Helpdesk](#).

**Versions**

**Version 1 (Current): 2020/03/31**

Data Type	Download all or Query/Filter
Images - 814 series (DICOM, 51.6 GB)	
Clinical Data (CSV, 79 kB)	