



# OROPHARYNX CANCER


Employers Forum of Indiana  
November 20, 2019

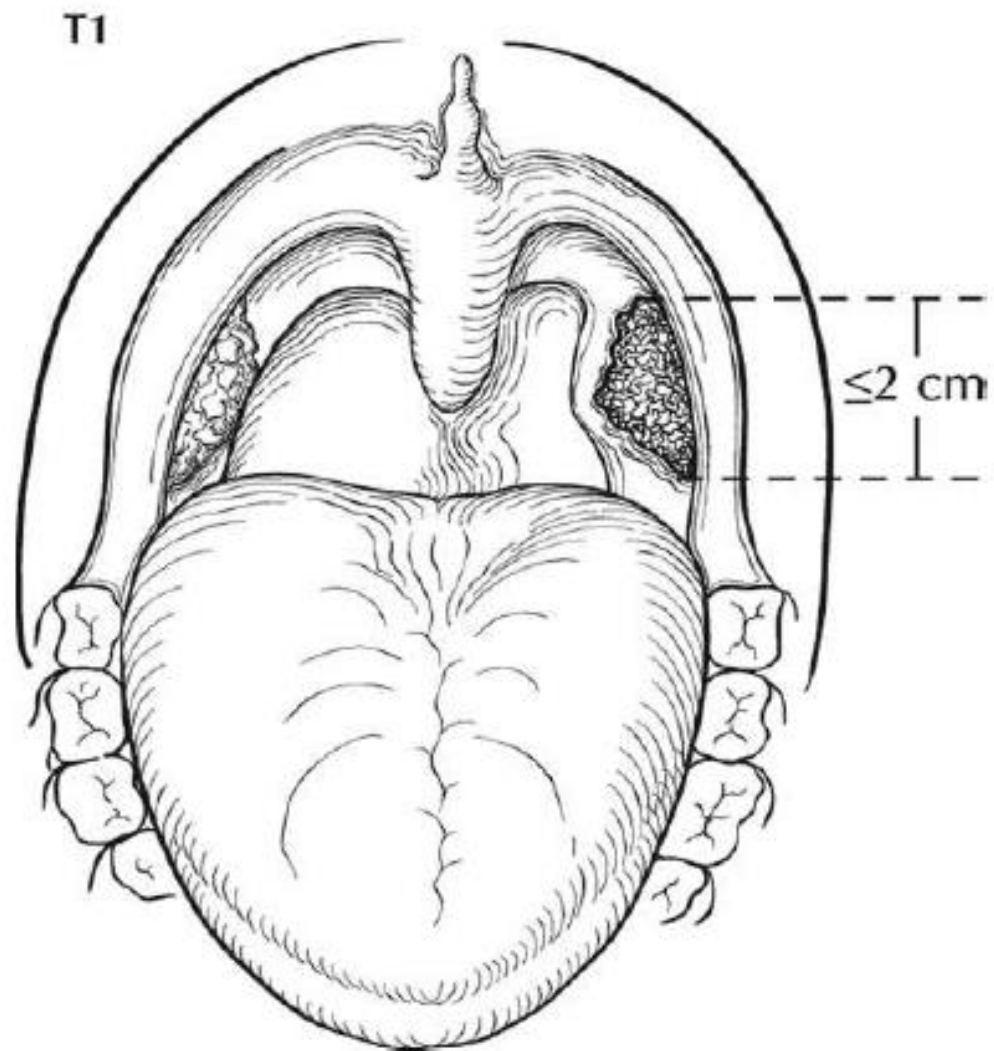


Michael W Sim, MD  
Head and Neck Oncology and Reconstruction  
Department of Otolaryngology-Head and Neck Surgery  
Indiana University School of Medicine

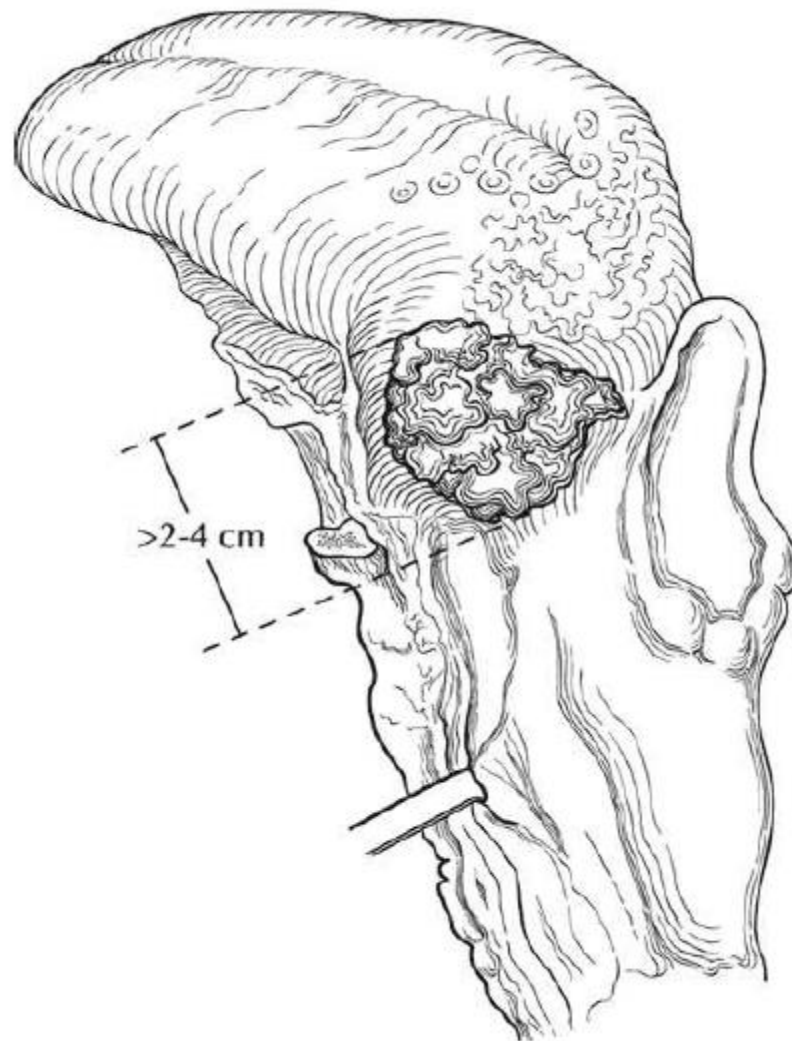


# Objectives

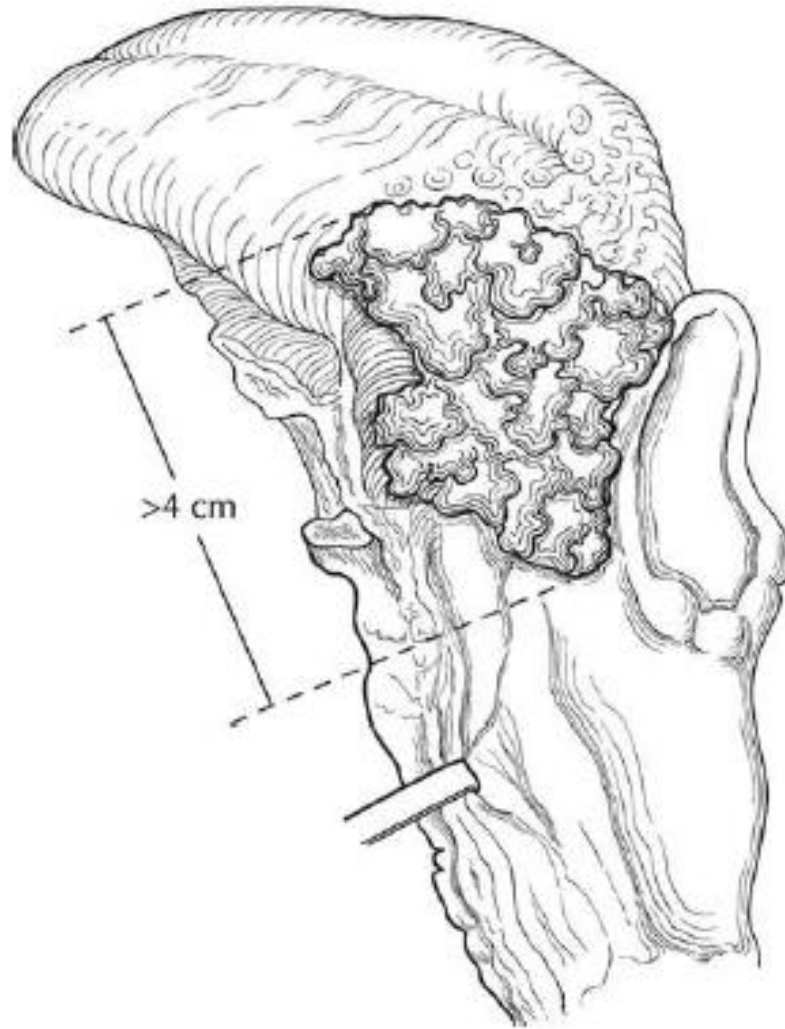
- Epidemiology of HPV+ oropharynx squamous cell carcinoma (OPSCC)
  - Prognosis of oropharynx cancer
  - Treatment options and outcomes
  - HPV Vaccine
- 



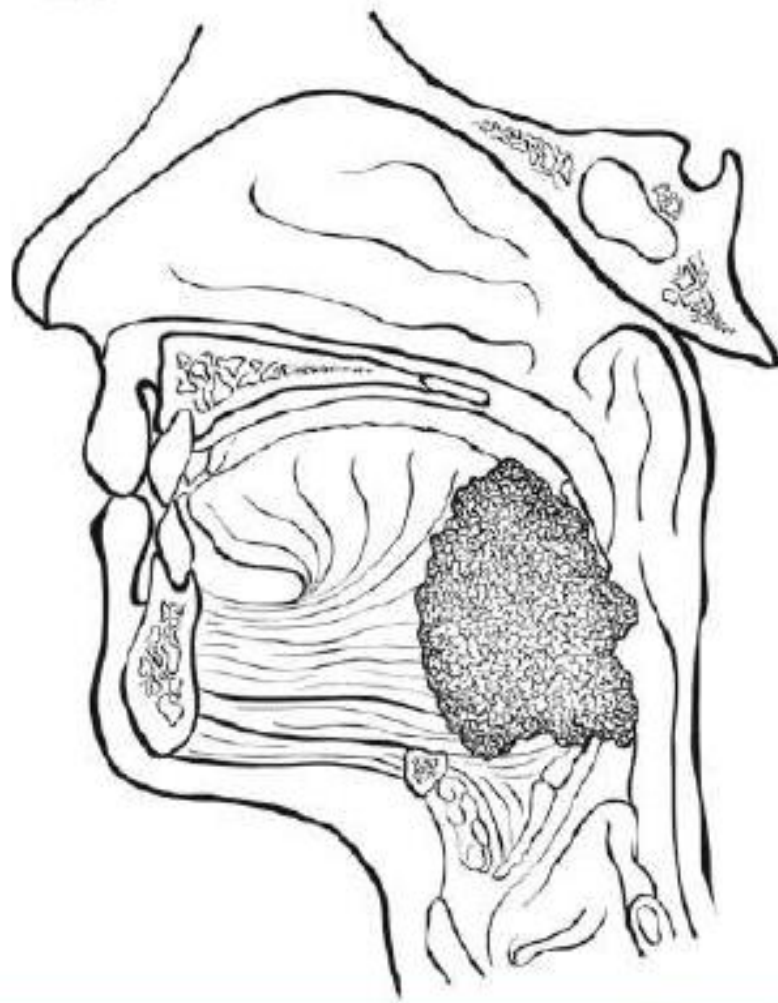
T2



T3




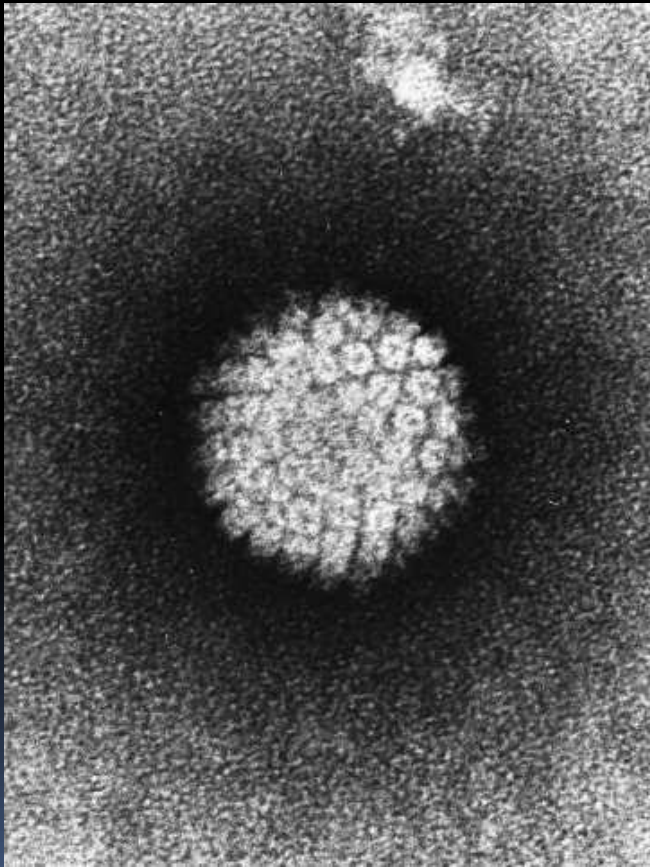
T4a





# Background

- Incidence of oropharynx cancer rising
    - Despite overall decline in head and neck cancer
    - Decreased smoking
    - Increased HPV+ disease
  - HPV+ OPSCC > cervical cancer by 2020
- 



- Double-stranded circular DNA virus
- Replicates exclusively in keratinocytes
- E6 and E7 viral oncogenes promoting cell growth by inactivation of p53 and pRb
- High risk subtypes 16 and 18




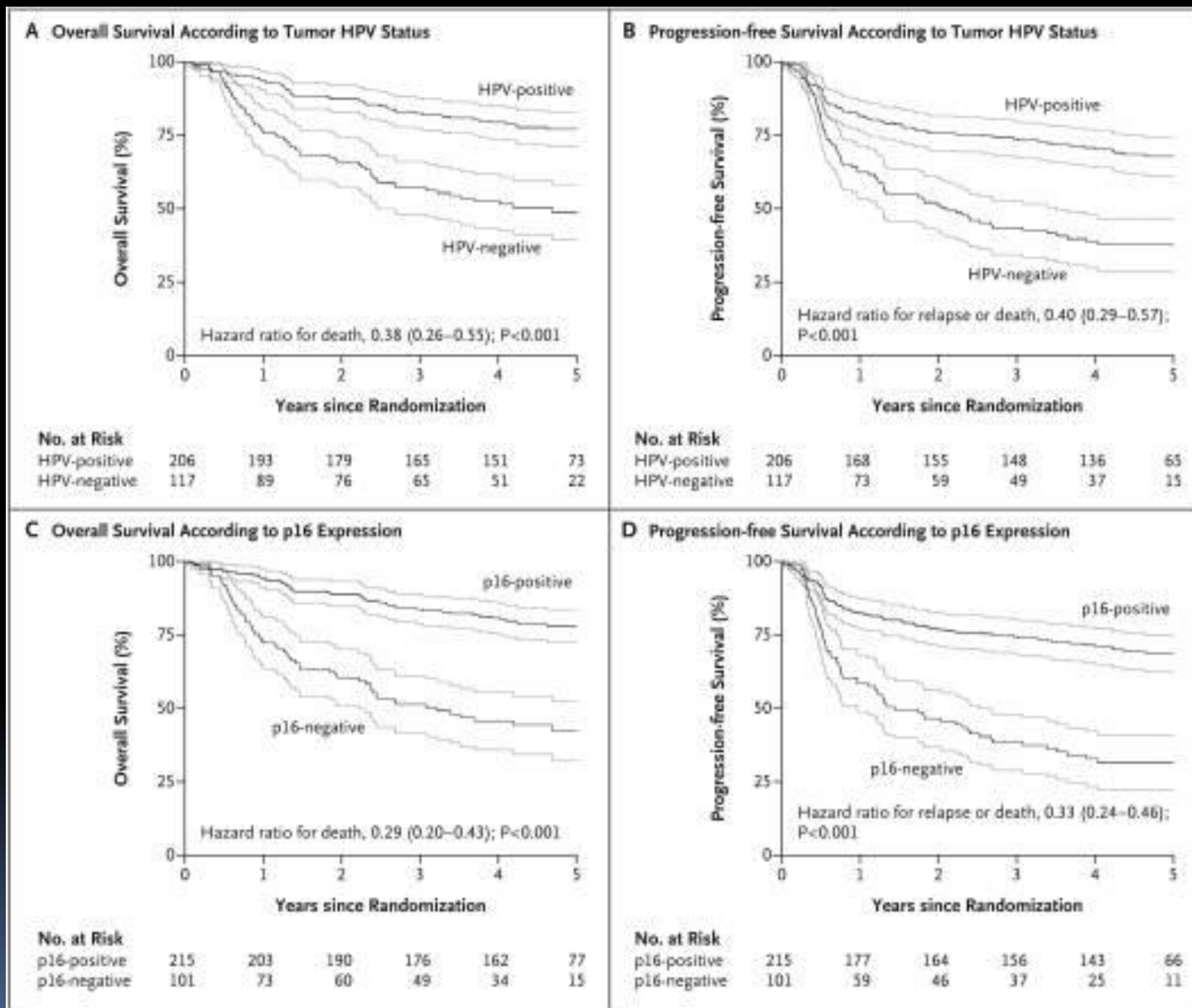
# HPV+ OPSCC

- HPV-16 causes 90% of HPV+ cancer
- Gillison et al. showed 26 or more vaginal sex partners or 6 or more oral sex partners dramatically increases risk; OR = 3.1 and OR 3.4 respectively
- Differing phenotypic and biological profile of HPV+ OPSCC
  - Better DFS and OS compared to HPV- disease



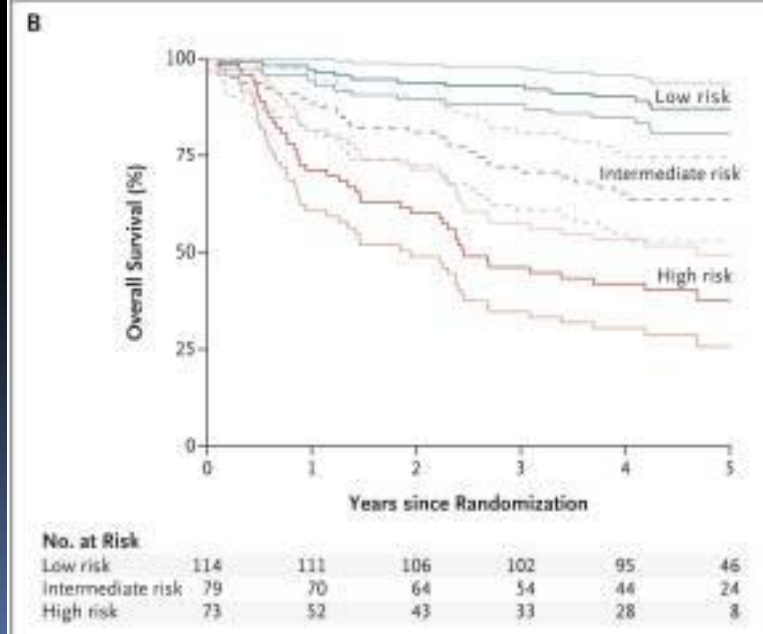
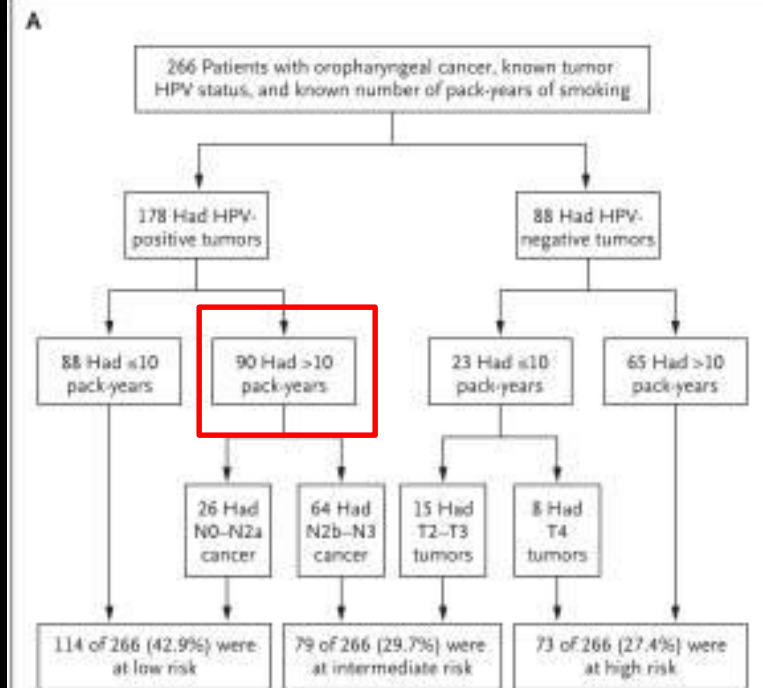
# Oncologic Outcomes

- Ang et al. Performed retrospective analysis of RTOG 0129
  - **Overall Survival of HPV (+) at 3 yrs: 82%**
  - Overall Survival of HPV (-) at 3 yrs: 57.1%
  - **Progression-free Survival in HPV (+): 73.7 %**
  - Progression-free Survival in HPV (-): 43.4%
  - **Locoregional recurrence in HPV (+): 13.6%**
  - Locoregional recurrence in HPV (-): 35.1%
- 



# Risk Stratification

- Smoking factor






# Treatment






# Non-Surgical Treatment

- Standard chemoradiation therapy is once daily XRT in fractions of 2 Gy/fx for a total dose of 70-74 Gy (7 weeks)
  - Concurrent Cisplatin
  - Salvage Neck Dissections for PET+ lymph nodes 3 months s/p treatment or clinically concerning neck masses
- 



# Toxicity

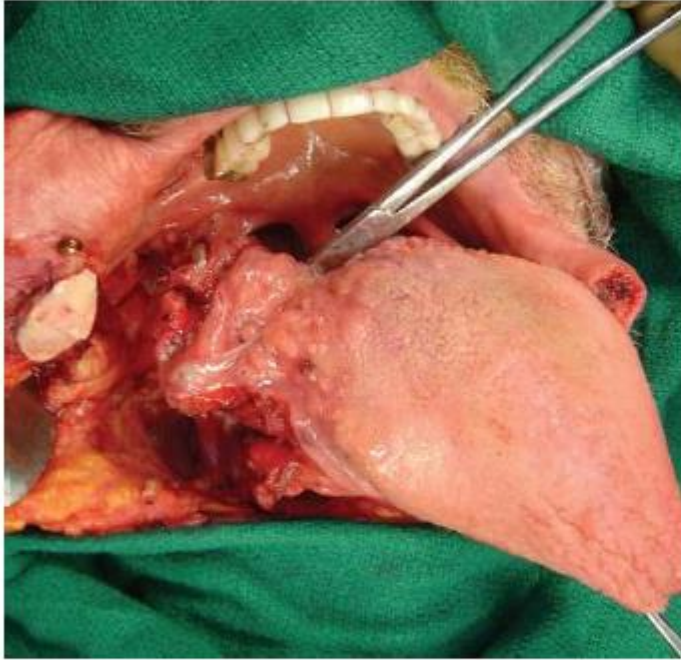
- Loss of Taste
  - Xerostomia
  - Need for Feeding Tubes/Dysphagia
  - Febrile Neutropenia
  - Radiation Dermatitis
  - Pain
- 

# Severe Late Toxicity After Concurrent Chemoradiation

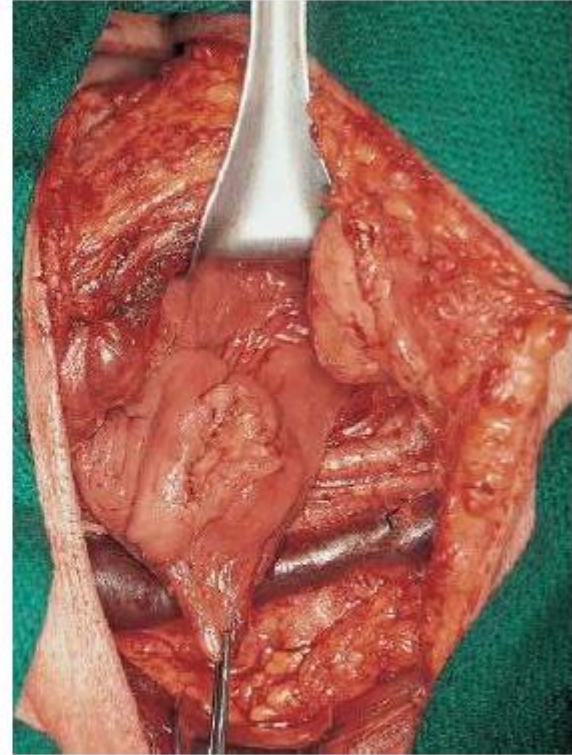
- Machtay et al. reviewed RTOG Analysis of 3 trials
- **43% of assessable patients had a severe late toxicity**
- **35% in patients with OPSCC**
- Older age (odds ratio 1.05 per year;  $P = .001$ )
- Advanced T stage (odds ratio, 3.07;  $P = .0036$ )
- Larynx/hypopharynx primary site (odds ratio, 4.17;  $P = .0041$ )
- Neck dissection after CRT (odds ratio, 2.39;  $P = .018$ )




# Traditional Surgery



Mandibulotomy

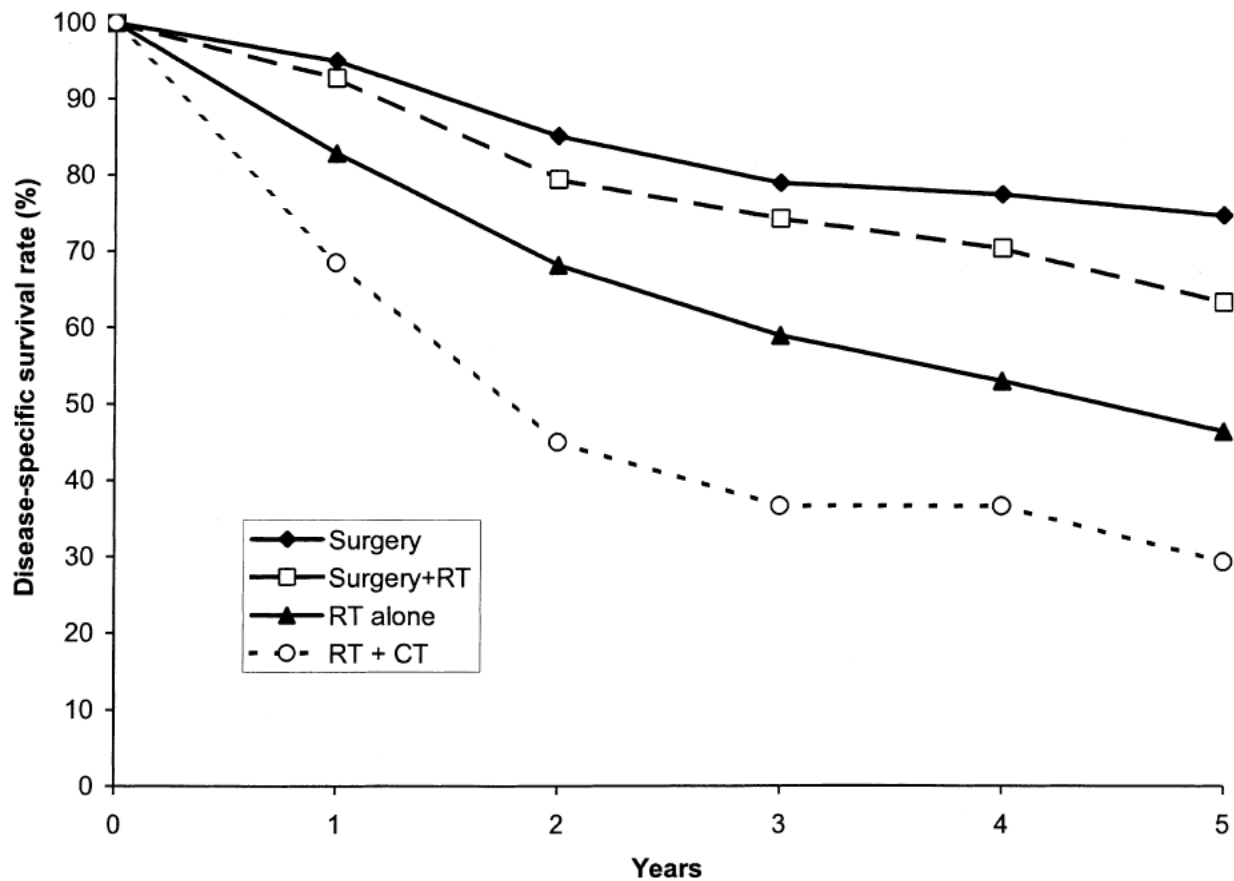


Pharyngotomy

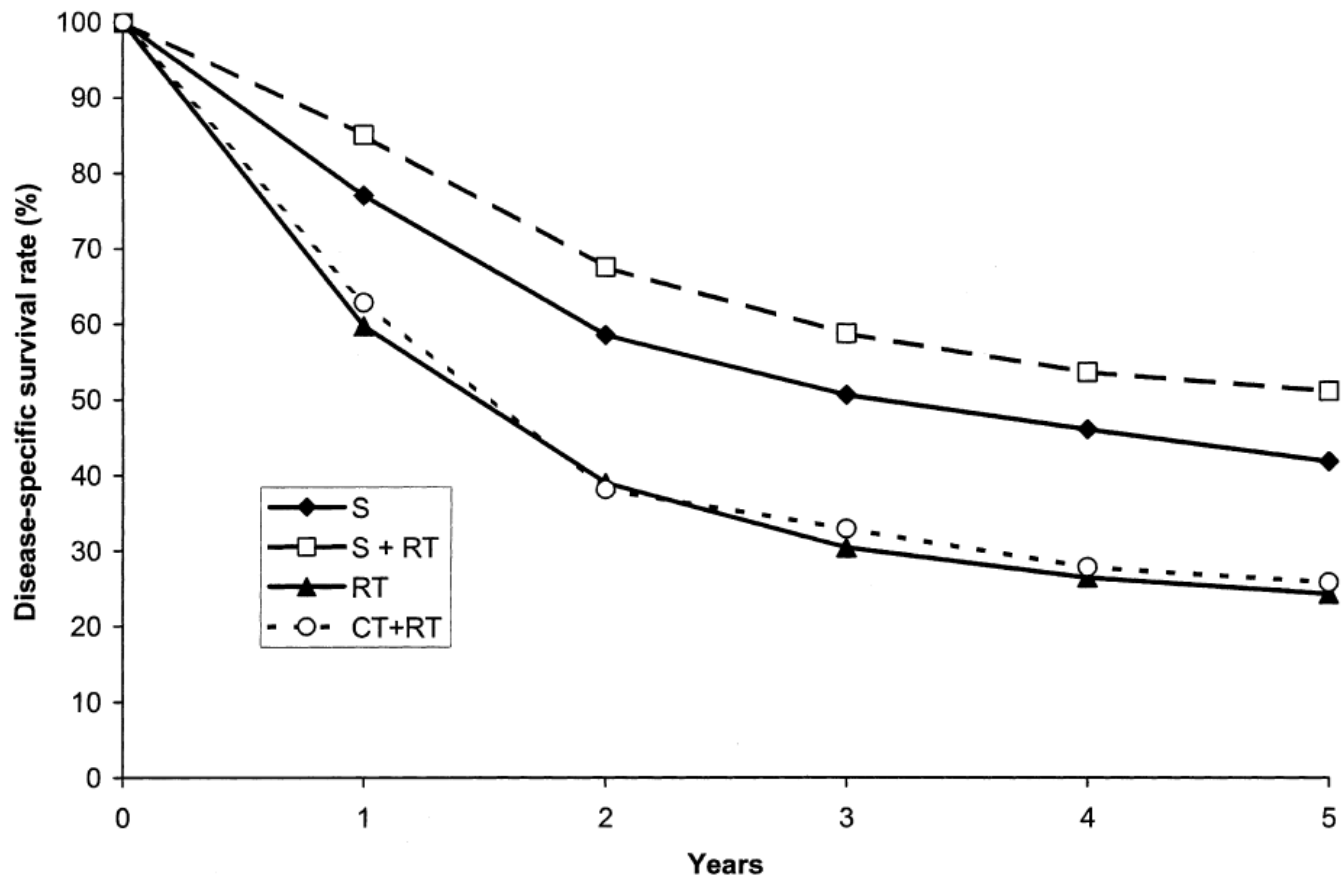


# Superior Oncologic Outcomes with Upfront Surgery

- Head & Neck 2004
- 16,188 cases from the National Cancer Data Base
- Early-stage disease, surgery with or without XRT had higher survival than irradiation alone
- Advanced-stage disease, surgery with irradiation had the highest survival



Five-year disease-specific survival by treatment for early-stage (I-II) base of tongue SCC



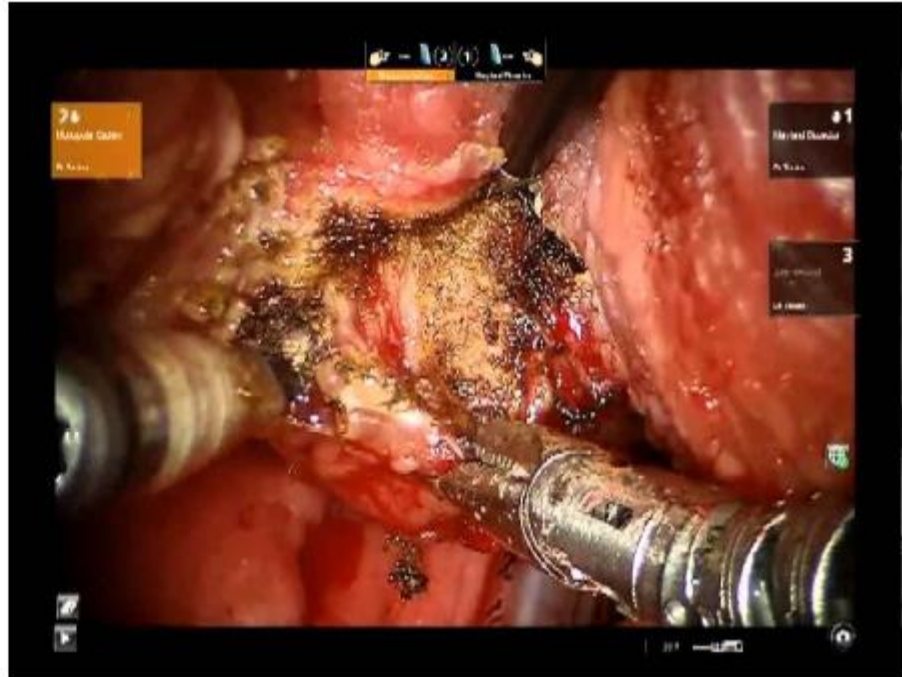
Five-year disease-specific survival by treatment for advanced-stage (III–IV) base of tongue SCC



# Transoral Robotic Surgery



Increased  
Range of motion



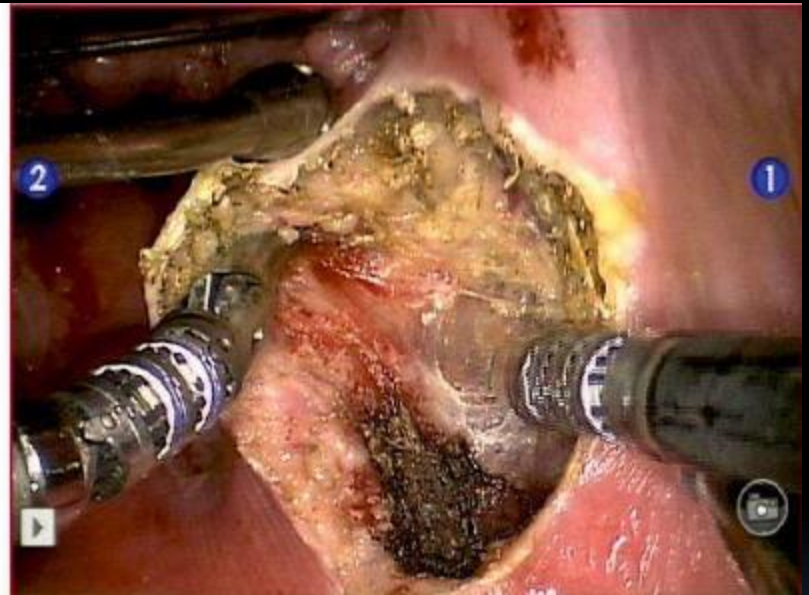
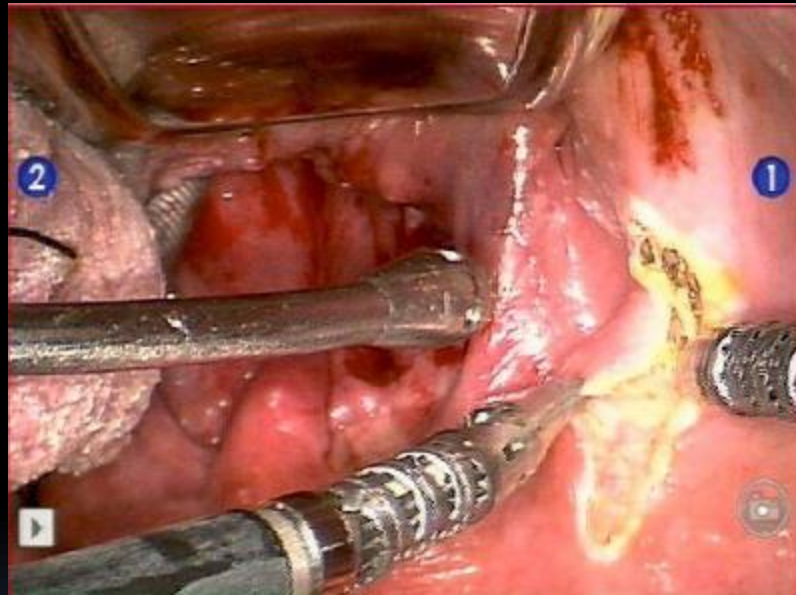
Improved access and magnification



# Early Stage Disease

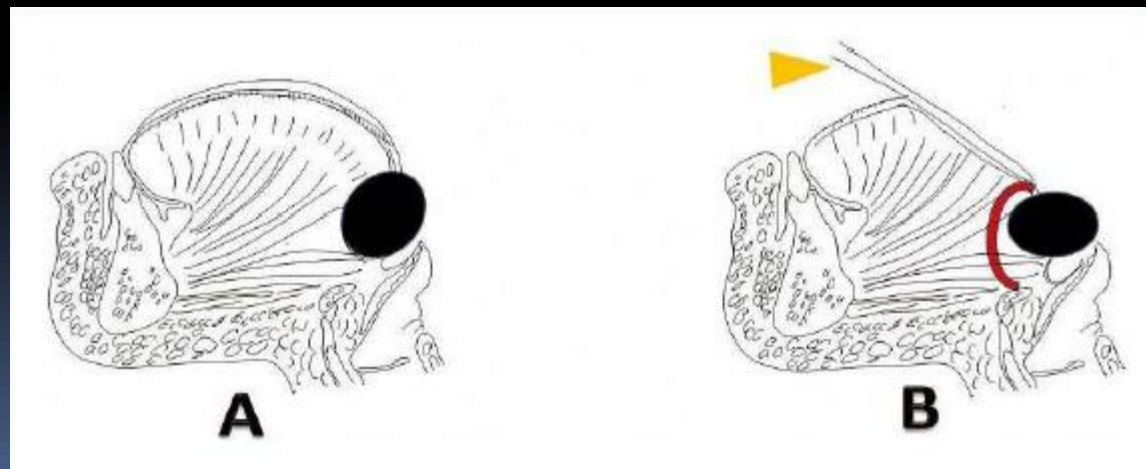
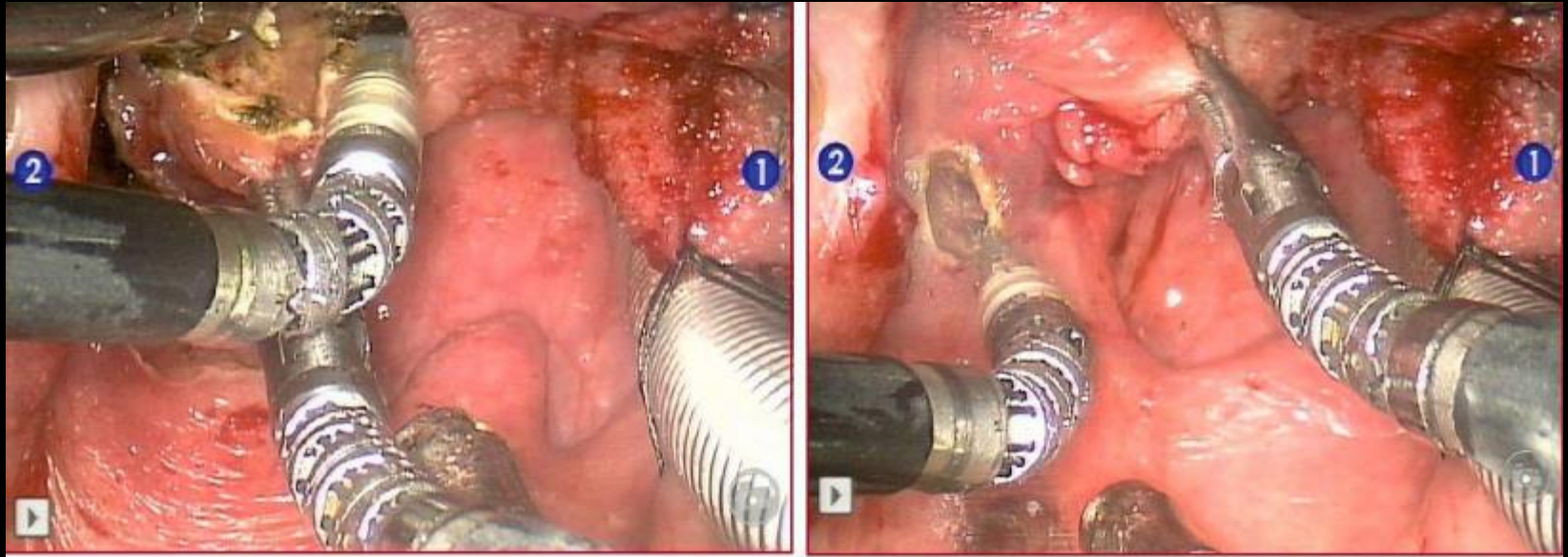
- T<sub>1-2</sub> N<sub>0-1</sub>
- Generally good outcomes no matter the modality
- Goal: achieve optimum oncologic outcomes while minimizing acute and late toxicities
- Modern XRT techniques, severe late toxicity is decreasing
- Patient and tumor factors determine surgical vs. non-surgical approach

# TORS Radical Tonsillectomy





# TORS BOT Resection





# Prevention

# HPV Vaccination

**MEDPAGE TODAY®**

[Home](#) [Specialties](#) [CME/CE](#) [Health Policy](#) [Meetings](#) [Practice Mgmt](#) [Videos](#) [Opinion](#) [Condition Centers](#) [Careers](#) [S](#)

[ers' Screen Time Tied to  
ture Irregularities](#) [Despite Court Ruling, CMS  
Presses on with 340B Programs  
Cuts](#) [CME/CE  
Severe Energy Restriction Diet  
Proves Effective for Obese  
Postmenopausal Women](#) [Study: Fecal Transplants Cut  
Sepsis Risk in Patients With C.  
Diff](#)

**L NEWS**

**OB/Gyn > Cervical Cancer**

## FDA OKs HPV Vaccine for Adults Up to Age 45

— Previously approved for individuals ages 9 to 26 years

by Ian Ingram, Deputy Managing Editor, MedPage  
Today  
October 07, 2018


WASHINGTON -- The FDA expanded the approval of Gardasil 9, the human papillomavirus (HPV) vaccine, to include men and women ages 27 to 45, the [agency](#) announced Friday.

**Related Ar**

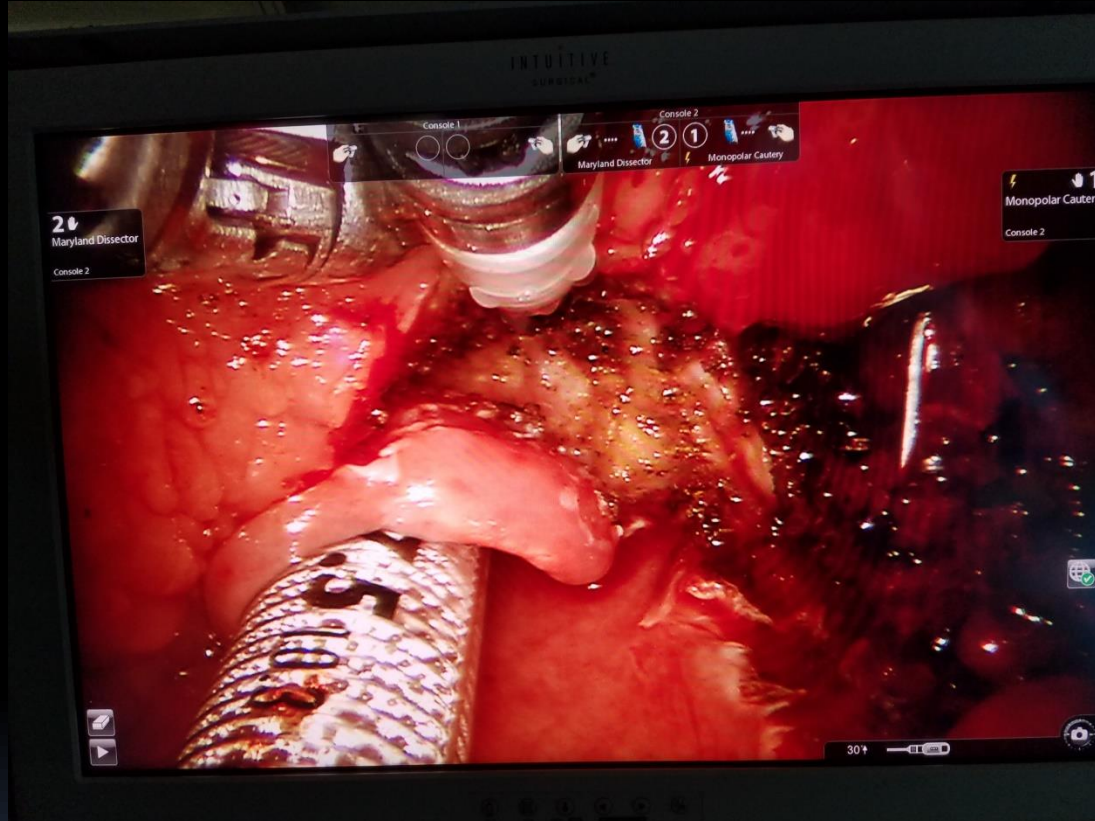
[Art Thera  
Therapy f](#)



# Case


- 54 yo M presented with biopsy proven HPV+ SCC of right BOT
    - Clinically staged at T2 N2c Mo stage IVa
    - TB discussion
    - Concern for ECS on CT
    - Patient desired upfront surgery, TORS and bilateral neck dissections
- 

# Case





# Case

- Final path
    - Negative margins
    - No adverse features
    - Contralateral neck negative
    - 3 positive ipsilateral nodes
    - No ECS
  - Discharged POD#4
    - Soft diet without feeding tube
    - All drains removed
- 





# Conclusions

- HPV+ OPSCC patients are younger, healthier, nonsmokers
  - Late toxicities from chemoXRT may be avoided or reduced with surgery
  - HPV vaccination is for cancer prevention
- 