



Critical New Patient Pathways

Betsy Angélica Ruiz, MS-CCC, SLP
Parkland Health and Hospital



Parkland

Disclosure

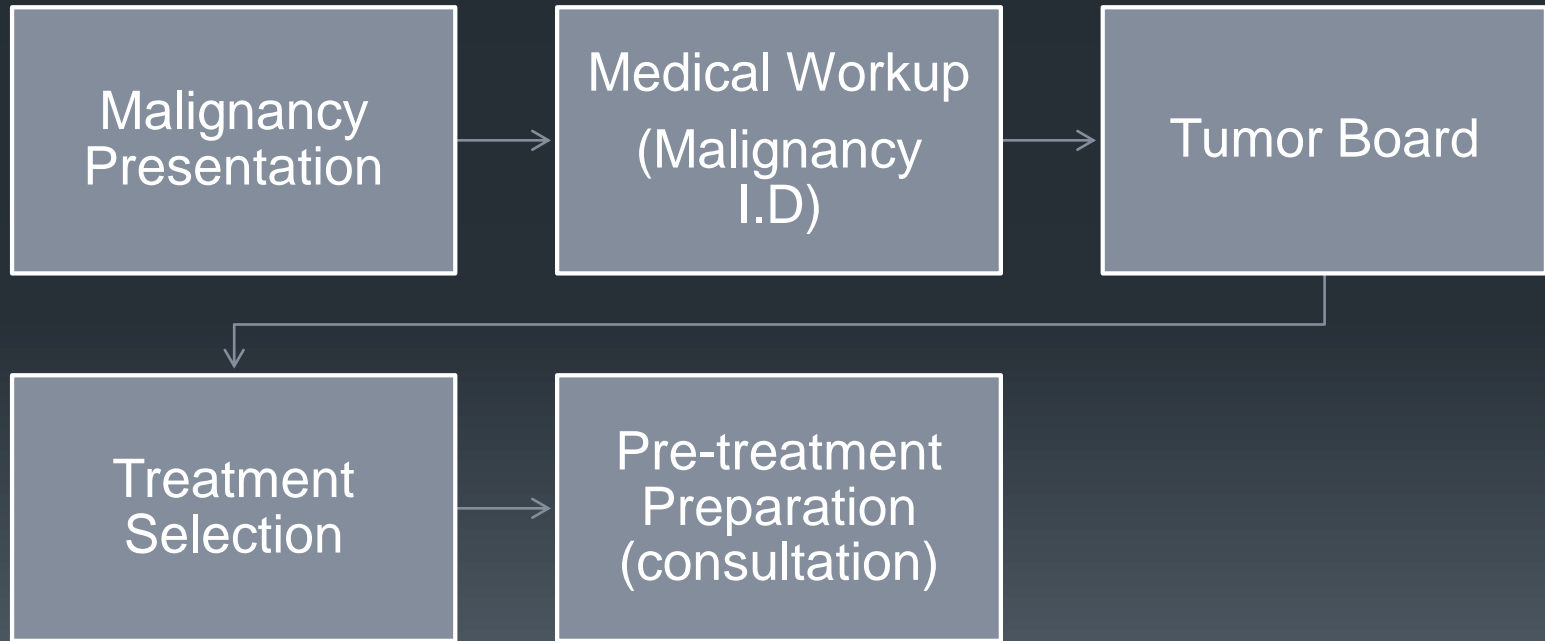




Objectives

- To Identify difference steps of pre-treatment pathway
- To identify role of different medical professionals who are part of the multidisciplinary team and pre-operative preparation period.
- Describe the role of the tumor board meeting with the establishment of care.
- Identify 3 general goals for a pre-operative counseling session with the SLP

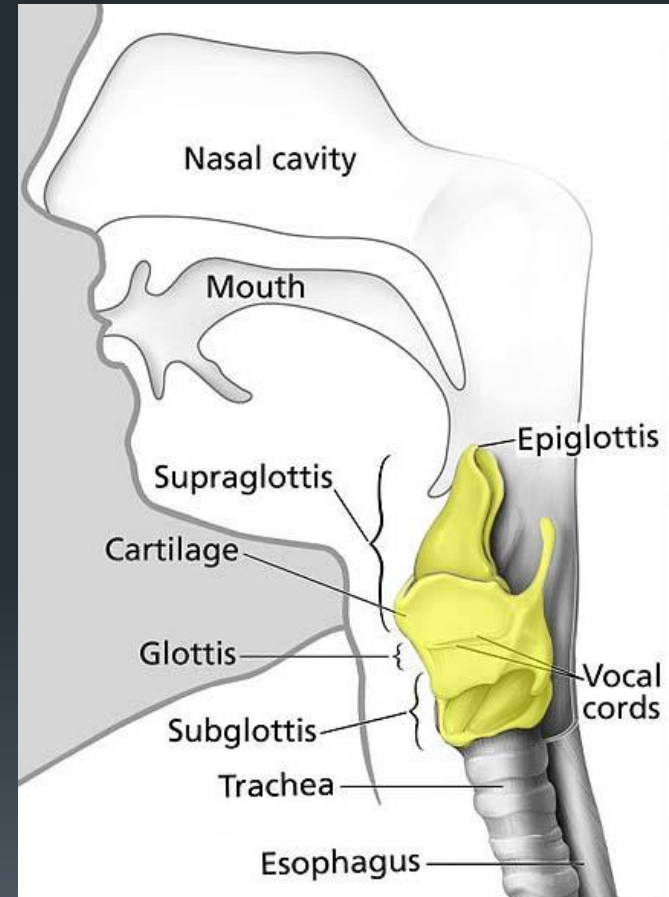
Pre-treatment Pathway



Anatomic Sites and Sub-sites

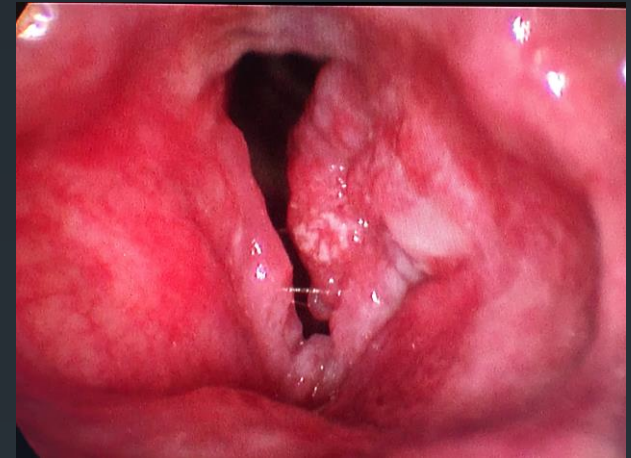


- Oral Cancer
- Nasal/Para nasal
- Pharynx
 - Nasal/pharynx
 - Oral/pharynx
 - Hypopharynx
- Laryngeal
 - Supra-glottis
 - Glottis
 - *Sub-glottis
- Neck
- Cutaneous Malignancy



Clinical Presentation

- Persistent and progressive hoarseness 3-12 months (**laryngeal**)
- Progressive worsening dyspnea (shortness of breath)- STRIDOR **urgent airway assessment**)-? TRACH? (**laryngeal/supra-glottic/hypo-pharyngeal**)
- Otolgia
- Odynophagia (**hypo-pharyngeal/supra-glottic**)
- Progressive Dysphagia (**supra-glottic/hypo-pharyngeal**)—G-TUBE? Needs swallow assessment
- Risk factors: tobacco use; alcohol use
- increase with upper airway secretions
- Weight loss
- Neck Pain



Clinical Presentation

- Recurrence of Cancer noted on a surveillance visit (1-5 year post treatment)
- Completed radiation treatment— yet persistent disease(Radiation resistant)
- Completed a conservative surgical resection (hemi-laryngectomy)—now with recurrence.
- Non-functional larynx (trach and g-tube dependent)
- Chronic aspiration (refractory to treatment)



Work-up

Clinical Exam:

- **Fiber-optic Laryngoscopy** (+/strobe)
- Biopsy

Operating Room:

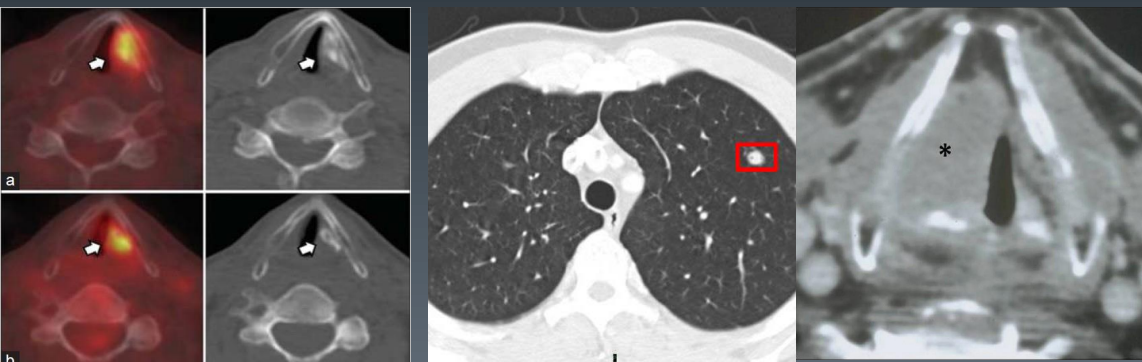
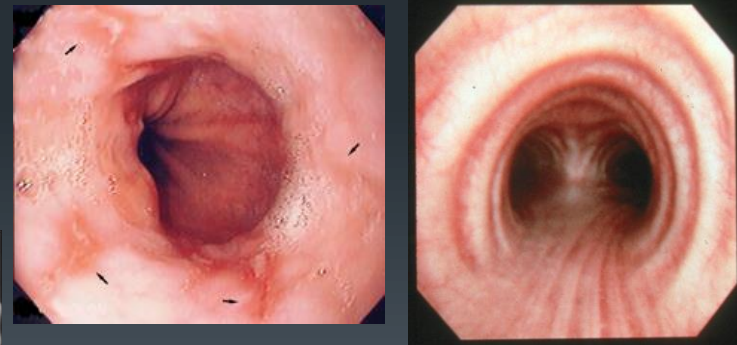
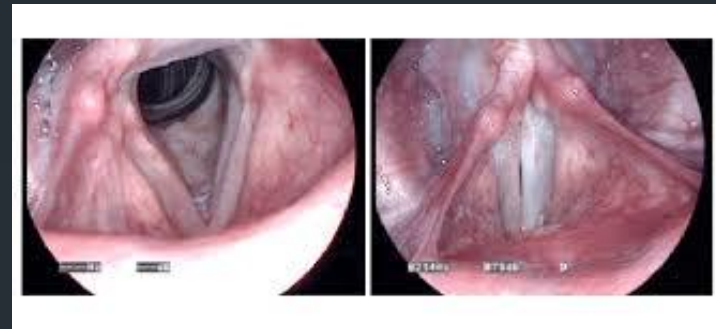
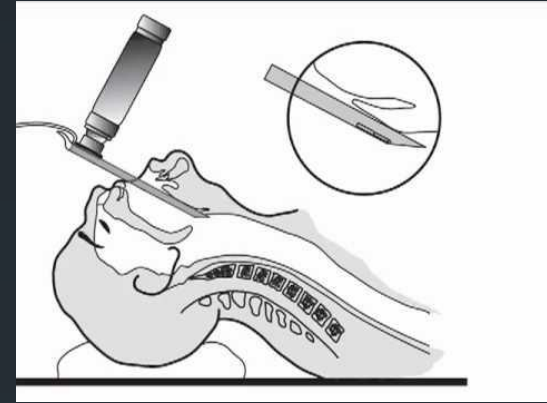
- **Diagnostic Laryngoscopy (DL) & Pan Endoscopy & Biopsy**

Imaging:

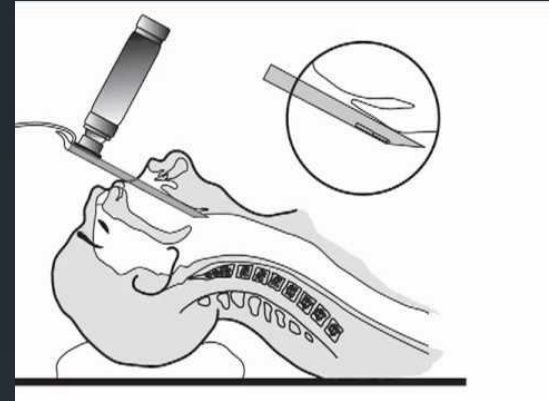
- **CT neck (+contrast)/CT chest**
- **PET SCAN** (done prior to biopsy if possible)

Laboratory Testing (Pre-surgical planning & chemo)

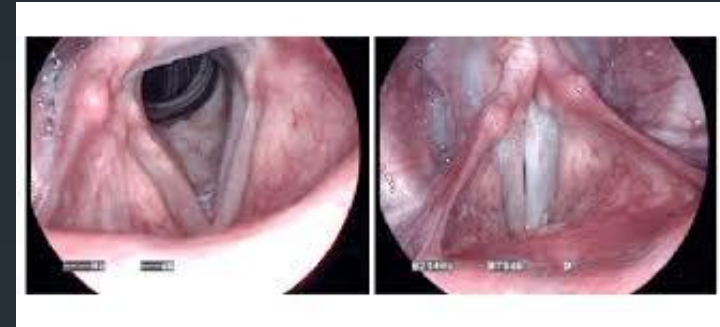
- CBC (hemoglobin)
- Albumin/Pre-albumin
- Kidney (Creatinine)
- HIV/HEP C



DL +Pan-Endo

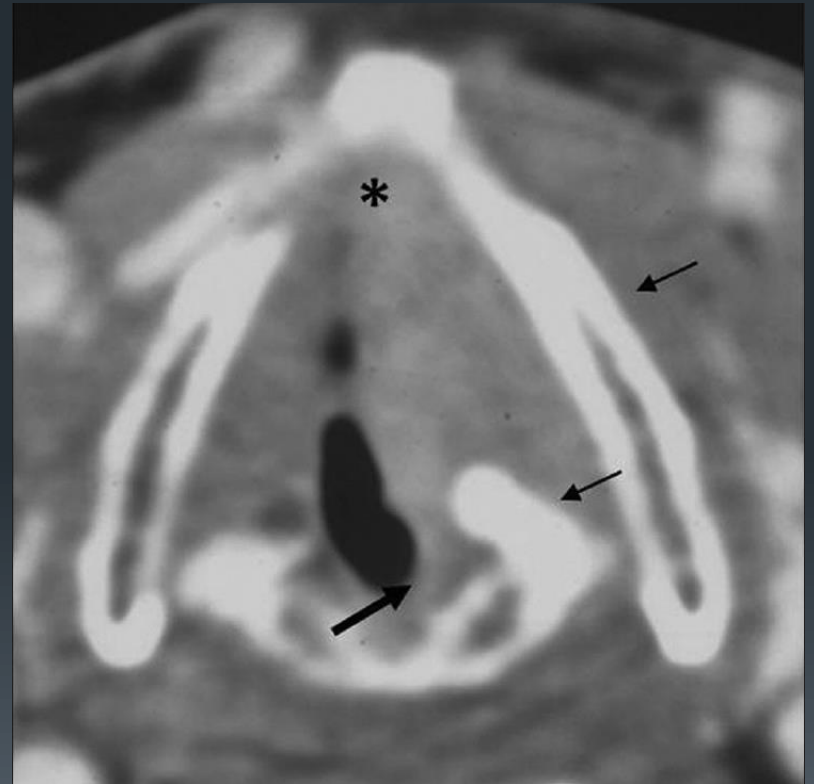


- Laryngoscopy/Esophagoscopy/bronchoscopy
- Determine Esophageal & Post-cricoid involvement
- Palpate Crico-arytenoid Joint for mobility (fixed-?T3)
- Palpate thickness/volume/Depth of invasion (DOI)



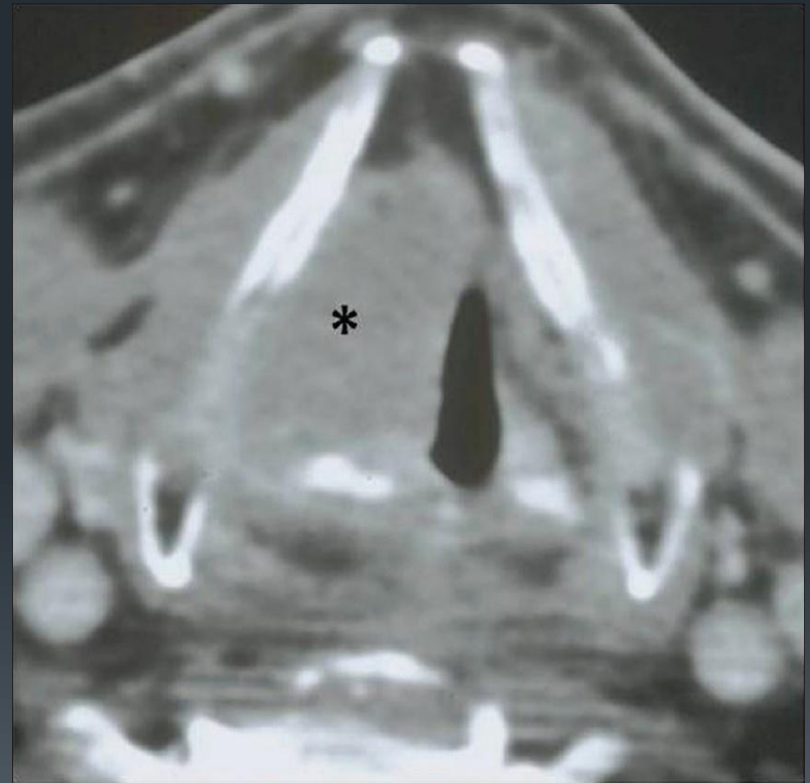
CT neck (+ contrast)

- Analyze key anatomical structures: **Laryngeal cartilages** (thyroid; cricoid; arytenoid)/**Laryngeal Ventricular Complex**/Anterior & Posterior **Commissure**/Paraglottic Space/Pre-Epiglottic Space



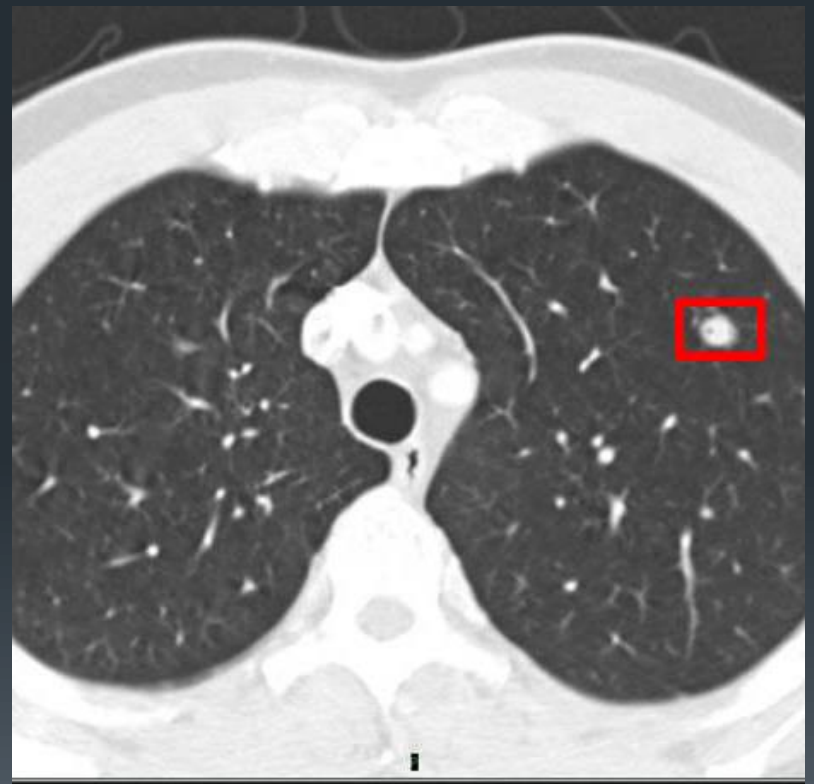
CT neck (+ contrast)

- Important for T-staging; sizing tumor volume and staging nodal disease.
- A recurrent cancer may be discovered on a surveillance scan. Caution must be used on post treatment scans after CRT to rule out recurrence/residual tissue vs. changes post RT treatment.



CT chest + contrast

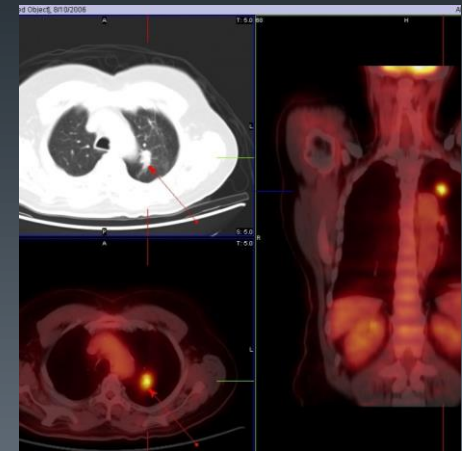
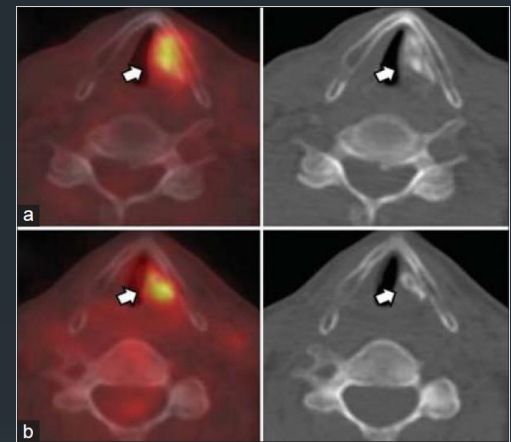
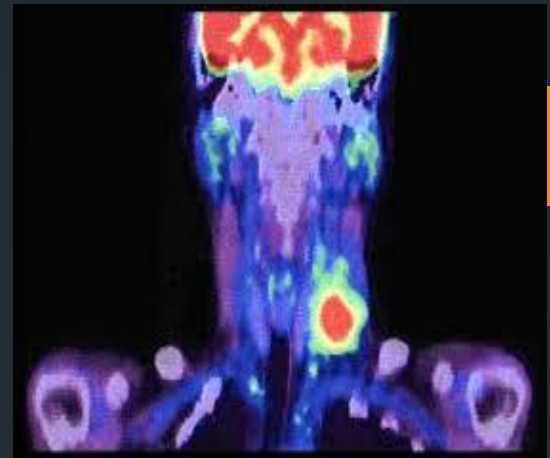
- Analyze to identify lung nodules consistent with metastatic disease.
- If 1 node is identified—maybe resectable (M1-disease)
- presence of multiple nodes would change treatment course to “systemic” therapy or chemo-therapy with more palliative intent.



PET Scan

A positron emission tomography (PET) scan

- uses a special dye with radioactive tracers that illuminate chemical/hyper metabolic activity of organs
May include infection or inflammation and certain types of lymphoid tissue.
- Often used compared to CT
- Useful to find Metastatic disease
- Useful in finding other unknown “primary” tumors
- Must be carefully interpreted to avoid “false” positive findings of non-cancerous things.
- Do BEFORE biopsy- biopsy sites will “light” up on PET



Laboratory Testing

Important for pre-surgical planning and needed by the Hemo/Onc team for chemo-therapy planning.

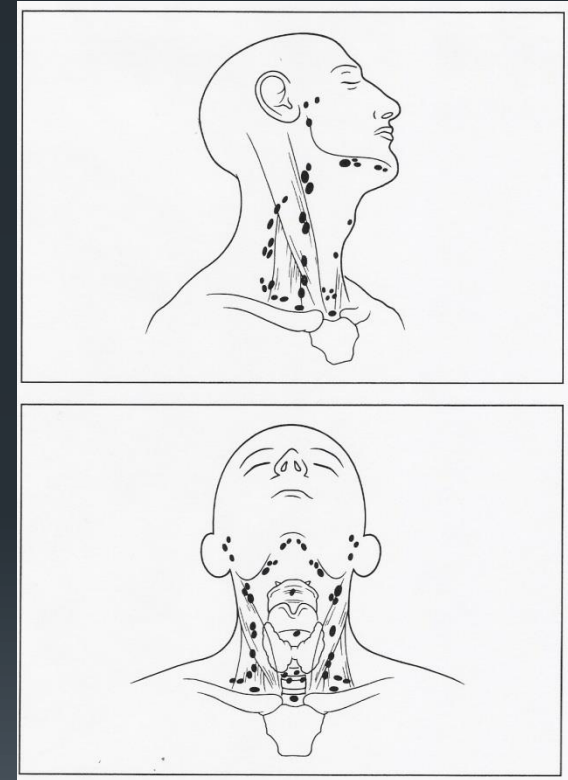
- Complete blood count (CBC): hemoglobin; red vs white blood cells)
- Basic Metabolic Panel (BMP): glucose; electrolyte; kidney
- Liver Function Tests (LFTs)
- Coagulation Function (Coags)
- Pre-Albumin/Albumin (nutrition labs)
- Thyroid Stimulating Hormone (TSH)
- Hep C/ HIV

Tumor staging

- Most common universal staging system: American Joint Committee on Cancer (AJCC) International Union for Cancer Control (UICC): **TNM** system **New guidelines came out this year! (HR-HPV algorithm; ENE-nodal disease; NMSC H&N category)
- Based on 3 clinical features and clinical categories are assigned: TNM – **T**umor; **N**odes; **M**etastasis
- Categories are collected and combined in a process called **stage grouping** to assign an overall **stage**
- **Stage** is determined when cancer is 1st diagnosed and doesn't change (Stage II that metastasizes later vs. Stage IV)

Universal Tumor staging TNM

- ◎ 3 basic clinical features:
 - the size; dept of invasion; structures involved (in centimeters) of the primary **tumor (T)**
 - the presence, number, size, and spread (unilateral or bilateral) to the regional lymph **nodes (N)**
 - presence or absence of distant **metastasis (M)**



T-staging for Laryngeal and Supraglottic tumors (negative for HR-HPV)



Glottic SCC

- TIS –Carcinoma in situ
- T1 Tumor limited to vocal cord with normal mobility (may involve anterior and posterior commissure (2 cm or less))
- T1A limited to one TVF
- T1B involving Both TVF
- T2 Tumor extension to supra and or subglottic with impaired vocal cord mobility (<2 cm but not more than 4 cm)
- T3 Tumor limited to the larynx, with **vocal cord fixation** and or invasion of **paraglottic space** and or inner cortex of thyroid cartilage (<4cm)
- T4A: **Tumor invading through the thyroid cartilage** and or other extralaryngeal tissues (trachea, cervical soft tissue, deep extrinsic muscle of tongue, strap muscles, thyroid, esophagus)
- T4 B: tumor invading prevertebral space, encasing carotid artery, or invading mediastinal structures

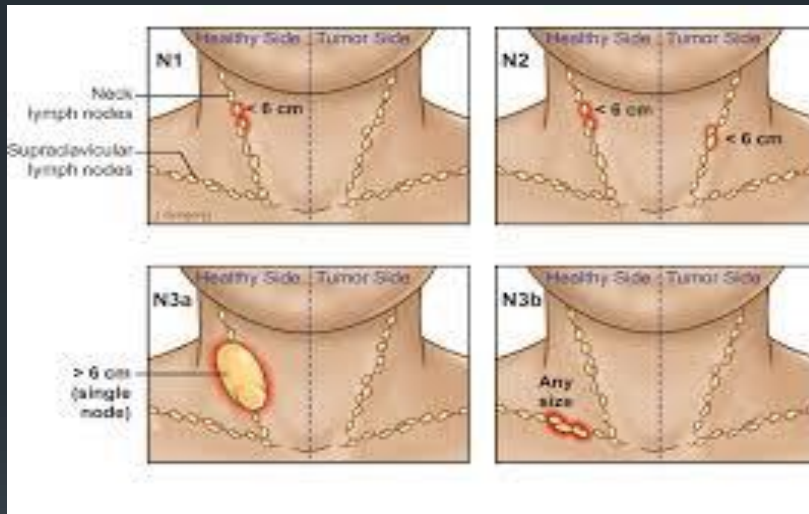
Supraglottic SCC

- T1-tumor confined to one supraglottic subsite with normal vocal cord mobility
- T2-Tumor invades mucosa in more than one supraglottic subsite, without TVF fixation
- T3-Tumor limited to larynx, with TVF fixation and or **invasion of post cricoid area or pre-epiglottic space**
- T4A **Tumor invading through thyroid cartilage** and or other extralaryngeal structures (trachea, cervical soft tissues, strap muscles, thyroid, esophagus)
- T4B Unresectable: tumor invading prevertebral space, encasing carotid artery, or invading mediastinal structures

Nodal Disease

+/-ENE

(external nodal extension)



- N0 - No regional lymph node metastasis
- N1- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- N2 - Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension and ENE-positive; or more than 3 cm but not more than 6 cm in greatest dimension and ENE-negative; or metastases in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension and ENE-negative; or metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension, ENE-negative
- N2 a- Metastasis in a single ipsilateral or contralateral lymph node 3 cm or less in greatest dimension and ENE-positive; or metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension and ENE-negative
- N2b- Metastasis in a single ipsilateral or contralateral lymph node 3 cm or less in greatest dimension and ENE-positive; or metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension and ENE-negative
- N2c--Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension and ENE-negative
- N3 - Metastasis in a lymph node more than 6 cm in greatest dimension and ENE-negative; or metastasis in a single ipsilateral lymph node more than 3 cm in greatest dimension and ENE-positive; or metastasis in multiple ipsilateral, contralateral, or bilateral lymph nodes, with any ENE-positive
- N3a- Metastasis in a lymph node more than 6 cm in greatest dimension and ENE-negative
- N3b- Metastasis in a single ipsilateral node more than 3 cm in greatest dimension and ENE-positive; or metastasis in multiple ipsilateral, contralateral, or bilateral lymph nodes, with any ENE-positive

Staging based on TNM

Stage 0:	Tis, NO, MO
Stage I:	T1, NO, MO
Stage II:	T2, NO, MO
Stage III:	T3, NO, MO
	T1, N1, MO
	T2, N1, MO
	T3, N1, MO
Stage IVA:	T4, NO, MO
	T4, N1, MO
	T, N2, MO
Stage IVB:	T, N3, MO
Stage IVC:	T, N MI

Tumor Board

- A multi-disciplinary meeting involving Otolaryngologist, Radiation Oncologist, Hematology/Oncologist, Radiologist, Pathologist, Oncology RN, ENT Mid-level Practitioner, Palliative Care MD: SLP
- Presentation of patient cases with available T-staging; Imaging; Pathology reports and functioning status.
- Establishing agreement across disciplines on plan for type and timing of treatment for curative intent; loco-regional control and palliation (if needed)
- Tumor boards allow for implementation of clinical practice guidelines and may help capture cases for clinical trials. (2)





Tumor Board

- Otolaryngologist:
- Radiation Oncologist:
- Hematology/Oncologist:
- Radiologist:
- Pathologist:
- Palliative Care MD:
- Oncology RN/ENT mid-level:
- Auxillary Staff: attendance—SLP/RD/PA/NP

SLP: Role depends on facility— **mostly educational for SLP**

in some cases is an education opportunity to facilitate decision and timing of treatment (swallow rehab; current dysphagia status) and or assist with providing input on functional status.

**** Input on swallow functioning may help drive surgical vs non-surgical treatment as it contributes to overall functional status.*



Tumor Board

- Cases presented:

- 1) New cancer case
- 2) Recurrent cancer case
- 3) Treatment failure case
- 4) Re-presentation of post-surgical case with complex tumors with high risk histopathological features.

**High risk features include:

ENE—*extra nodular extension*

LVI—*Lympho-vascular spread*

PNI—*Perineural Invasion*

Tumor Board Documentation

Head & Neck Tumor Conference

Tumor Stage: T3N0M0

Tumor Histology: SCCa

Tumor Site/Subsite: Laryngx, Supraglottis, L AE Fold

Tumor Status: New

Prior Treatment + dates:

Biopsy: 6/17/15

Definitive treatment: none

Case Presentation and Findings:

Abraham Lincoln is a 58 year old male patient 50py smoker 6 pack per day; daily EtOH who presents with increasing dyspnea and noisy breathing as well as dysphagia and odynophagia and dysphonia. This has been progressive for the past three months and has accelerated in the past week. His PCP treated with abx thinking it might be an infection. He kept worsening so self-referred to an ENT near where he lives in Corsicana. This individual scoped him, told him he likely has throat cancer, and told him to come to Parkland. CT neck and chest were performed showing large soft tissue laryngeal mass and cervical LAD. Scope found exophytic bulky mass of laryngeal surface of epiglottis and L > R AE fold with obstruction of glottis. Fixed L arytenoid. Taken to OR 6/17/15 for trach and biopsies. Path returned and patient was counseled prior to discharge on his options. He has agreed to meet with radiation oncology to further discuss his options.

CT neck 6/17/15

-Irregular ulcerated enhancing mass involves the left false vocal cord, left aryepiglottic fold, left aspect of the inferior epiglottis, pre-epiglottic fat, and right false vocal cord

-Irregular enhancement extends to left true vocal cord suggesting involvement

CT Chest 6/17/15

- Indeterminate 2 mm right lower lobe nodule.

- Given patient history, short interval follow-up imaging in 3-6 months can be obtained to document stability.

Tumor Board recommendation:

- primary XRT vs. surgery

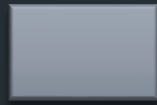
- dental referral placed

- radiation oncology referral placed

- if he decides on surgery, TL, BLND, +/- TEP

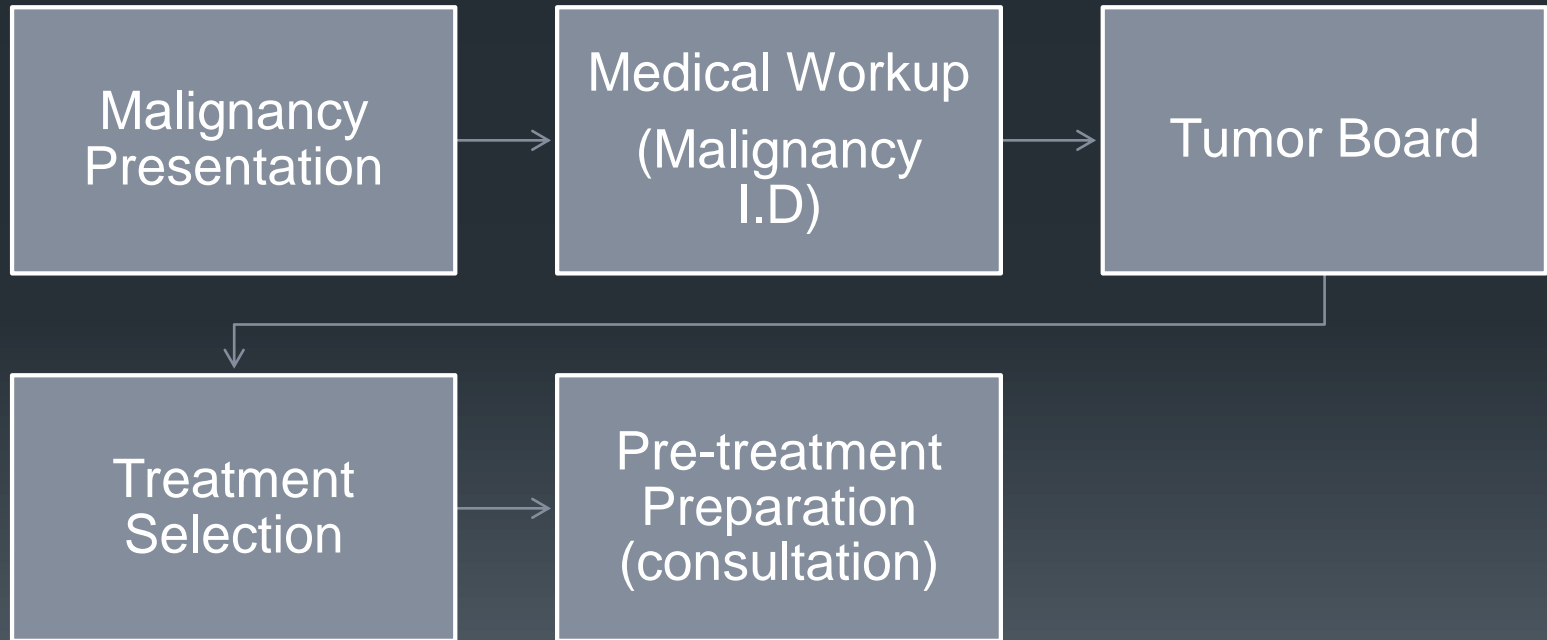
T3N2bMo supra-glottis (thin)

- video



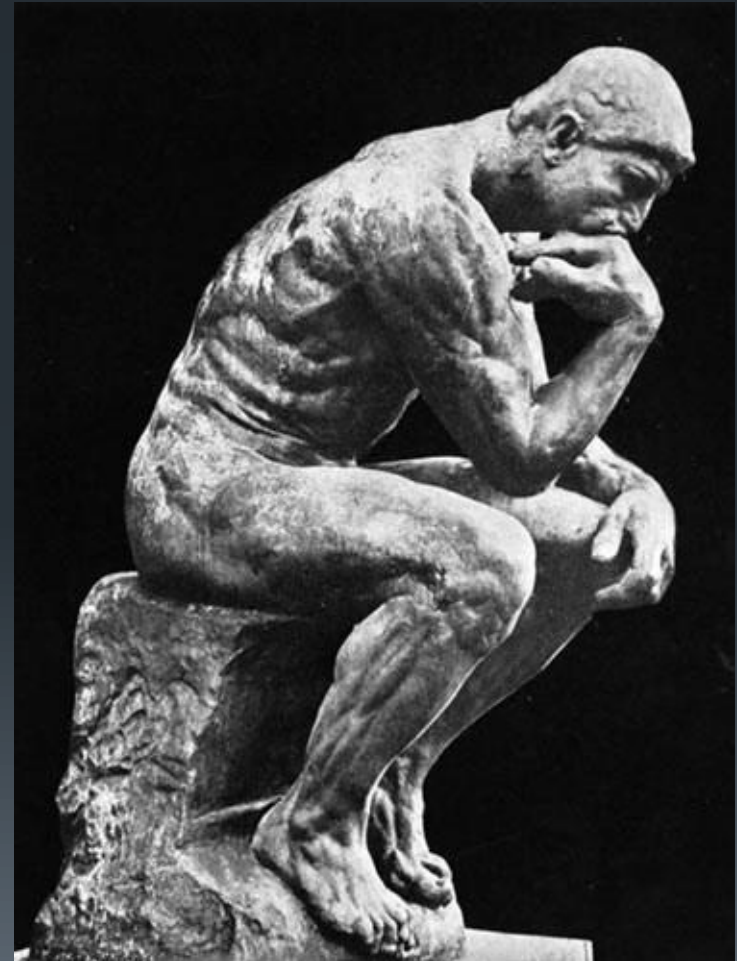
- Video

Pre-treatment Pathway



Present Plan to the Patient

- Patient/family educated on the proposed tumor board plan
- Patient may want non-surgical vs. surgical option.
- Educate patient on risk/benefits and realities of treatment.
- Patient always has a right to choose to treat or not!

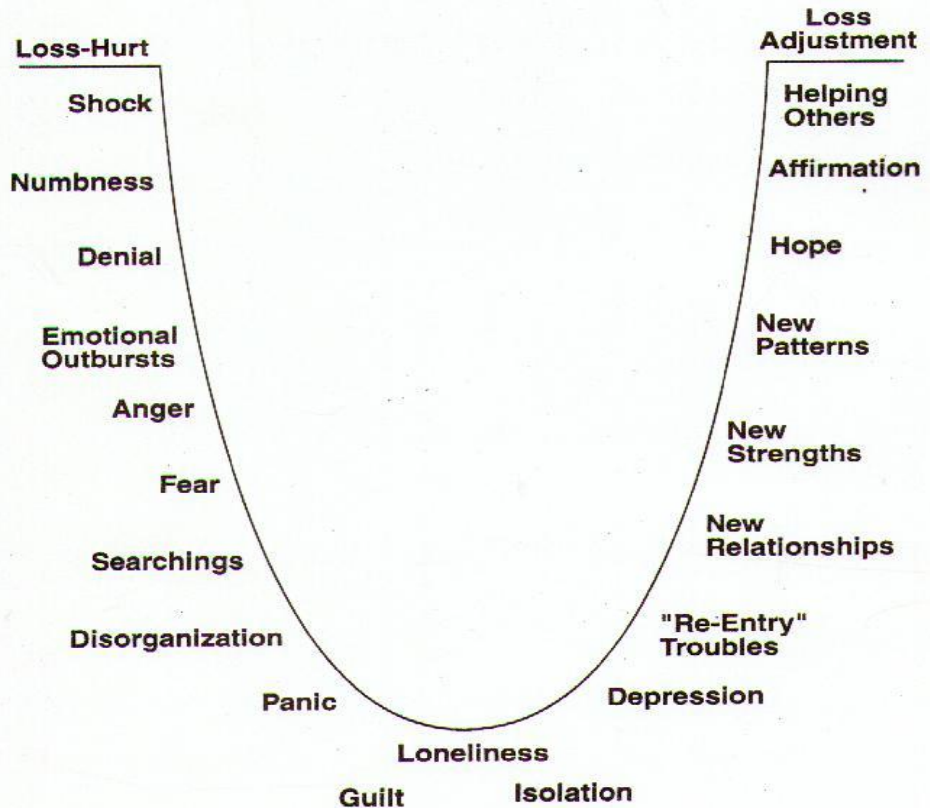


Protocol for Grief?



*by D. Antonia Truesdale
www.themidnightorange.com*

STAGES OF GRIEF







Pre-treatment/Pre-op Team

Dental Referral

Why?

- Irradiation immediately puts the patient with head and neck cancer at high risk for treatment-related complications including dry mouth (xerostomia), oral infections, oral muscle fibrosis, and jawbone destruction (osteoradionecrosis).
- Attention is needed to unaddressed periodontal issues and unresolved dental needs before immunosuppression begins.
- comprehensive oral/dental assessment
- dental treatment and prophylaxis (fluoride therapy) attention to unaddressed periodontal issues and unresolved dental needs before immunosuppression begins.
- Dental extraction of any un restorable, abscessed, or periodontally diseased teeth in the field of radiation therapy



Head and Neck Radiation Oncologist



- Educated patient on non-surgical options for definitive treatment of tumor if appropriate.
- Educated patient on need for post-operative role of Radiation therapy; recommended regimen and risk factors.
- Discuss standing treatment protocol (6 weeks; daily) vs. Clinical trial options.
- Discuss expectations for prognosis and radiation treatment effects (toxicities).
- Timing: standard 6 week treatment window for definitive vs. post-op.



Registered Dietician Referral (RD)

- Testing and evaluation for nutritional shortcomings or areas of risk
- A discussion about planning and the setting of nutritional goals
- Simple, practical tips and advice to help patients achieve their nutritional needs on a daily basis
- Advice on ways to deal with weight loss, fatigue, and nausea brought on by illness or treatment side effects
- Personalized guidelines based on the patients biological needs and unique circumstances
- Plans for families or caregivers in support of the patient's nutritional needs
- Recipes, lists of foods, dietary supplements, and vitamins
- oncology dietitian specializes in helping cancer patients and their caregivers develop a plan for good nutrition. By achieving good overall health, proper nutrition can help reduce the risk of cancer, keep patients healthier during treatment, and combat side effects and illness.
- Assist with management of non-oral nutrition (when appropriate) if feeding tube is already present or if placement of feeding tube is anticipated.



Speech Language Pathologist

- Evaluate current verbal and written communication skills home situation and new learning skills.
- Assess general understanding of upcoming surgery and emotional state. Offer option for Laryngectomy visitor
- Review post-anatomy changes impacting voicing; swallowing and new neck breather status (visual aid)
- Review discuss expectations for timing and events related to inpatient hospitalization and SLP role (acute care)
- Review life-style changes, neck breather status and timing for return to daily living.
- Demonstrate options for alaryngeal communication options and initiate electro-larynx training if patient willing.
- Demonstrate TEP voicing technique (video) sample prostheses (demo model) and discuss SLP role with TEP management.
- Educate and train regarding role of HME system
- Offer support, encouragement and education as needed



Speech Language Pathologist

Clinical issues involved in Salvage Laryngectomy

Prolonged NPO period

Possibility of primary vs. secondary TEP procedure

Potential for more complex reconstruction required with

Post-operative HME protocol and importance of pursuing HME system

References

1. Joshi Varsha M, Wadhwa Vineet, Mukherji Suresh K. **Imaging in laryngeal cancers**. Indian journal of radiology and imaging. Year : 2012 | Volume: 22 | Issue Number: 3 | Page: 209-226
2. [El Saghir NS](#), [Keating NL](#), [Carlson RW](#), [Khoury KE](#), [Fallowfield L](#). **Tumor boards: optimizing the structure and improving efficiency of multidisciplinary management of patients with cancer worldwide**. Am Soc Clin Oncol Educ Book. 2014:e461-6. doi: 10.14694/EdBook_AM.2014.34.e461.