Larynx Cancer

INITIAL EVALUATION

- Confirm outside pathology
- History
  - Chief complaint
  - History of present illness and previous treatment
- Past medical history including but not limited to:
  - Social history (including tobacco and alcohol use)
  - Previous radiation therapy – head and neck, thoracic, breast (for previous primary or benign diagnosis)
- Physical examination
  - Full head and neck examination
  - Fiberoptic exam
  - Videostroboscopy (optional)
  - General medical examination
- Stage T and N (AJCC)
- Imaging studies
  - CT head and neck with contrast¹ or MRI with contrast
  - Consider PET-CT scan for stage III/IV
  - Modified barium swallow/esophagoscopy
  - Chest imaging (PET-CT preferred, but CT chest with contrast acceptable)
- Lifestyle risk assessment²

CONSULTATIONS

- If no biopsy/pathology, consider examination under anesthesia (EUA), direct laryngoscopy (DL), biopsy, esophagoscopy
- Radiation Oncology
- Thoracic/Head and Neck Medical Oncology (THNMO) for patients with stage III or IV
- Dental Oncology for dentulous patients except those receiving narrow field radiation
- Speech Pathology for all patients and videostroboscopy, if indicated
- Consider esophagoscopy or barium swallow
- Perioperative Evaluation and Management (POEM)
- Plastic Surgery for patients who will require major reconstruction (pharyngeal reconstruction)
- Nutritional assessment
- Smoking cessation for active smokers only

PRE-TREATMENT EVALUATION

- Patient information presented at multidisciplinary planning conference

¹ CT is tailored to oncologic imaging: high-resolution, bone and soft tissue window, 90-100s contrast delay for optimal opacification of mucosa and soft tissues
² See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

Note: Consider Clinical Trials as treatment options for eligible patients.

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Severe dysplasia/carcinoma in situ

Primary tumor most T1-2, any N

Glottic

Primary tumor most T3, any N

Primary tumor T4 disease, any N

Severe dysplasia/carcinoma in situ

Primary tumor most T1-2, any N

Glottic

Primary tumor most T3, any N

Primary tumor T4 disease, any N

1. Primary tumors requiring total laryngectomy not amenable to partial surgery
2. Total laryngectomy to be considered for patients with significant pretreatment laryngopharyngeal dysfunction or are medically unable to tolerate organ preservation therapy

Note: Consider Clinical Trials as treatment options for eligible patients.

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**EVALUATION**

Supraglottic node negative

- Primary tumor most T1-2, N0

Primary tumor
- T3, N0
- Selected T4³, N0

Primary tumor T4, N0

**PRIMARY TREATMENT**

- Definitive radiation
  - Total laryngectomy and neck dissection(s) as indicated, and ipsilateral thyroidectomy
  - Consider primary TEP

- Consider induction chemotherapy
- Concurrent chemoradiation

- Total laryngectomy and neck dissection(s), as indicated, and ipsilateral thyroidectomy
- Consider primary TEP

**ADJUVANT TREATMENT**

- Radiation therapy
- Consider chemoradiation²

**SURVEILLANCE**

- Yes → Pathologic N1?
  - No → Observe

- Yes → Pathologic N1?
  - No → Neck dissection(s)

- Yes → Laryngectomy and neck dissection(s), as clinically indicated

- No → Neutral response at primary site?

1 Pathological risk features include:
- Primary pathology
  - Any T1 or T2 with perineural invasion or lymphovascular invasion
  - Any T3 or T4
- Regional pathology
  - Multiple lymph nodes (any N2, N3)

2 Pathological risk factors for addition of chemotherapy include:
- Positive margins (re-excision to clear margins is preferred)
- Extracapsular extension

3 Low-volume base-of-tongue involvement

4 Primary tumors requiring total laryngectomy not amenable to partial surgery

5 Total laryngectomy to be considered for patients with significant pretreatment laryngopharyngeal dysfunction or are medically unable to tolerate organ preservation therapy

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Note: Consider Clinical Trials as treatment options for eligible patients.

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Note: Consider Clinical Trials as treatment options for eligible patients.

EVALUATION

Supraglottic node positive

Primary tumor
- T1-2, N+ and
- Selected T3 (not requiring total laryngectomy)

Primary tumor
- Most T3, N+2 or
- Selected T42

Primary tumor T4, N+

1 Pathological risk factors for addition of chemotherapy include:
   - Positive margins (re-excision to clear margins is preferred)
   - Extracapsular extension
2 Low-volume base-of-tongue involvement
3 Total laryngectomy to be considered for patients with significant pretreatment laryngopharyngeal dysfunction or are medically unable to tolerate organ preservation therapy

TREATMENT

Concurrent chemoradiation1

Complete response at primary site?

- Total laryngectomy1 and neck dissection(s) as indicated, and ipsilateral thyroidectomy
- Consider primary TEP

Complete response at primary site?

- Consider induction chemotherapy
- Concurrent chemoradiation

Radical surgery as clinically indicated

Pathological risk factors for addition of chemotherapy include:
- Any T1 or T2 with perineural invasion or lymphovascular invasion
- Any T3 or T4
- Multiple lymph nodes (any N2, N3)

SURVEILLANCE

Complete response of nodal disease?

Yes

N1 (initial stage)

Observe

Neck dissection

No

Salvage surgery as clinically indicated

Radiation therapy

Yes

Observation

Neck dissection

No

Supportive care

THNMO consult (optional) for chemoprevention trials

Note: Study the algorithm carefully and consider the context of individual clinical circumstances to determine a patient’s care.

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Department of Clinical Effectiveness V8
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CLINICAL PRESENTATION

Recurrence or persistent disease

- Restage
  - CT head and neck with contrast
  - CT chest or PET-CT to evaluate for distant metastatic disease

Presence of distant metastatic disease?

- Yes: Consider systemic therapy/phase I clinical trial
  - Palliative care as clinically indicated

Primary treatment chemoradiation?

- Yes: Is recurrence resectable?
  - Yes: Consider salvage surgery, as clinically indicated
  - No: Consider chemotherapy and radiation therapy
- No: Is recurrence resectable?
  - Yes: Consider systemic therapy
  - Clinical trial
  - Palliative care, as clinically indicated
  - Consider salvage surgery, as clinically indicated
  - Consider postoperative chemotherapy and radiation therapy
  - Consider chemotherapy and radiation therapy

Surveillance (see Page 6)

Note: Consider Clinical Trials as treatment options for eligible patients.

1 CT is tailored to oncologic imaging: high-resolution, bone and soft tissue window, 90-100s contrast delay for optimal opacification of mucosa and soft tissues
2 Pathological risk factors should be taken into consideration when making concurrent treatment decisions
# Larynx Cancer Surveillance

<table>
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<tr>
<th>Total years for surveillance</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tr>
<td>Frequency of surveillance by month</td>
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<td>9</td>
<td>12</td>
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<tr>
<td>Head and neck history and physical exam including flexible laryngoscopy</td>
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<td>x</td>
<td>x</td>
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<tr>
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<td>Thyroid function</td>
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<td>x</td>
<td>x</td>
<td>x</td>
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</table>

¹ For T1 glottic cancers, initial post treatment CT may not be indicated
SUGGESTED READINGS


This practice algorithm is based on majority expert opinion of the Head and Neck Center Faculty at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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