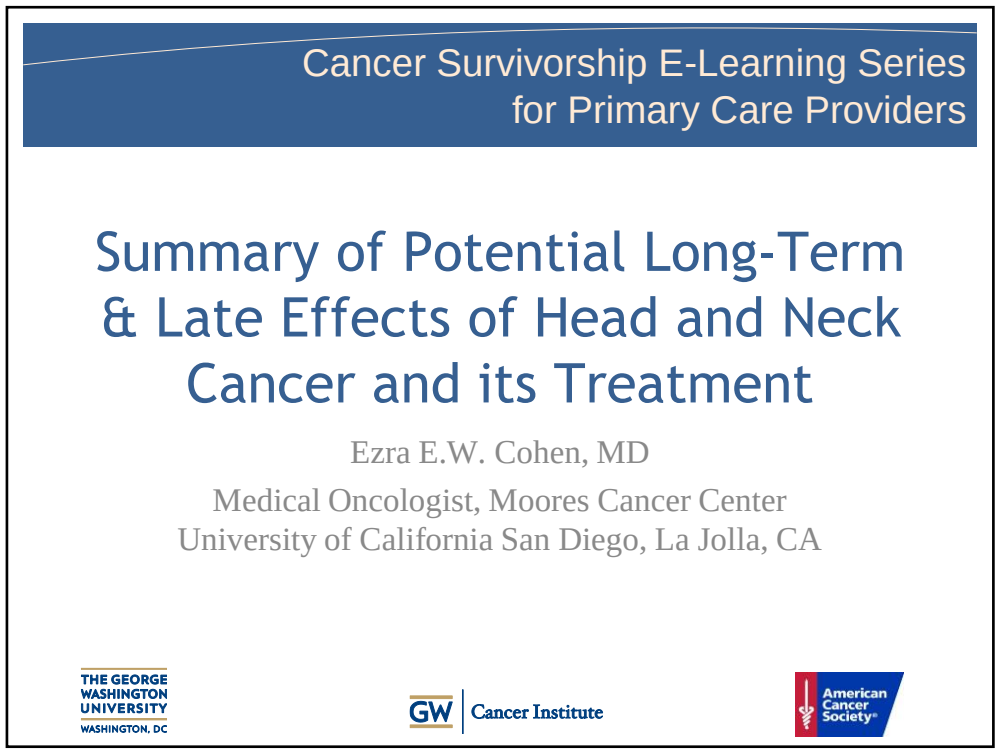
GW Cancer Center TAP




Hello and welcome to a presentation on: A Summary of Potential Long-Term and Late Effects of Head and Neck Cancer and its Treatment.

We are pleased to offer this educational session through the National Cancer Survivorship Resource Center, a collaboration between the American Cancer Society and the GW Cancer Institute, and the Centers for Disease Control and Prevention, funded by a five-year cooperative agreement from the Centers for Disease Control and Prevention.

## Disclosures

This work was supported by Cooperative Agreement #5U55DP003054 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention. No industry funding was used to support this work.

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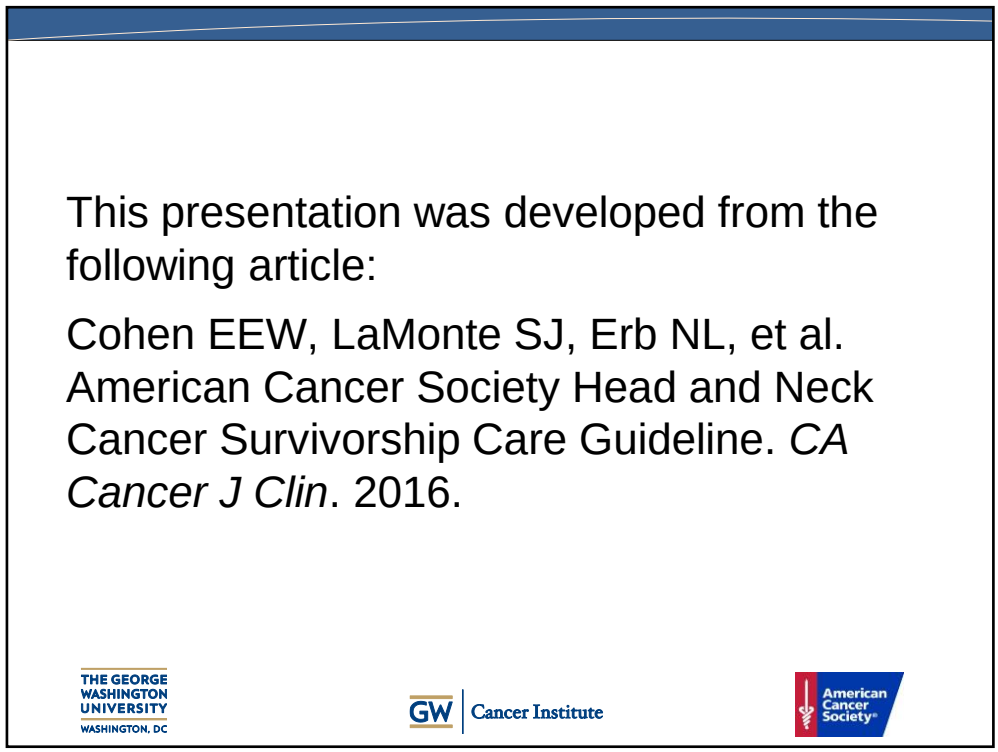
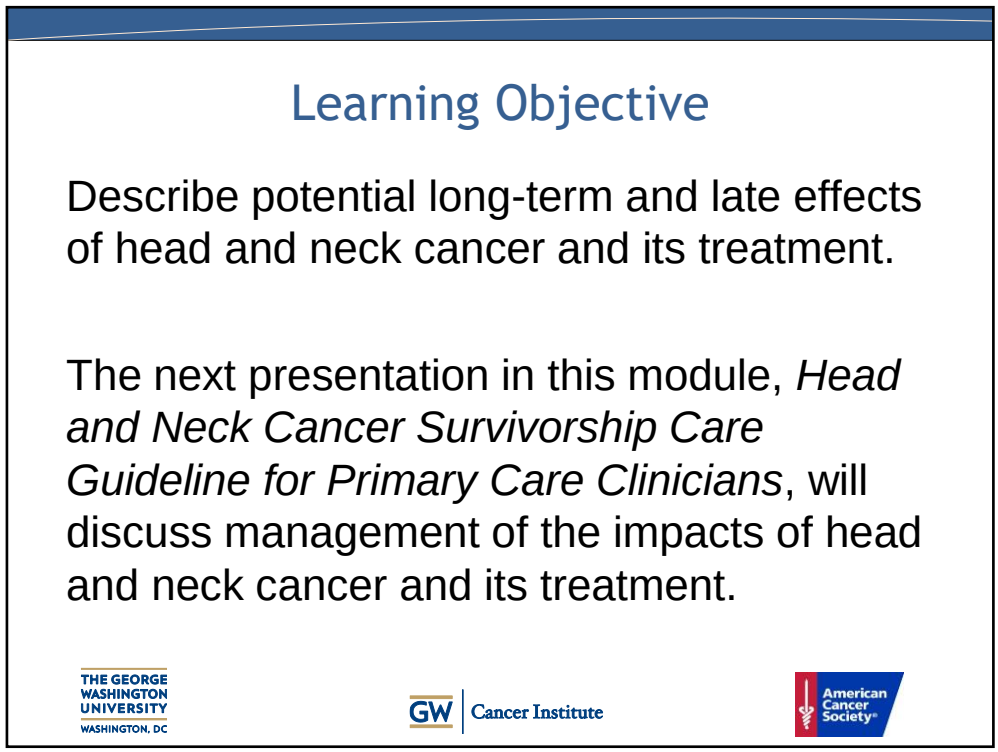


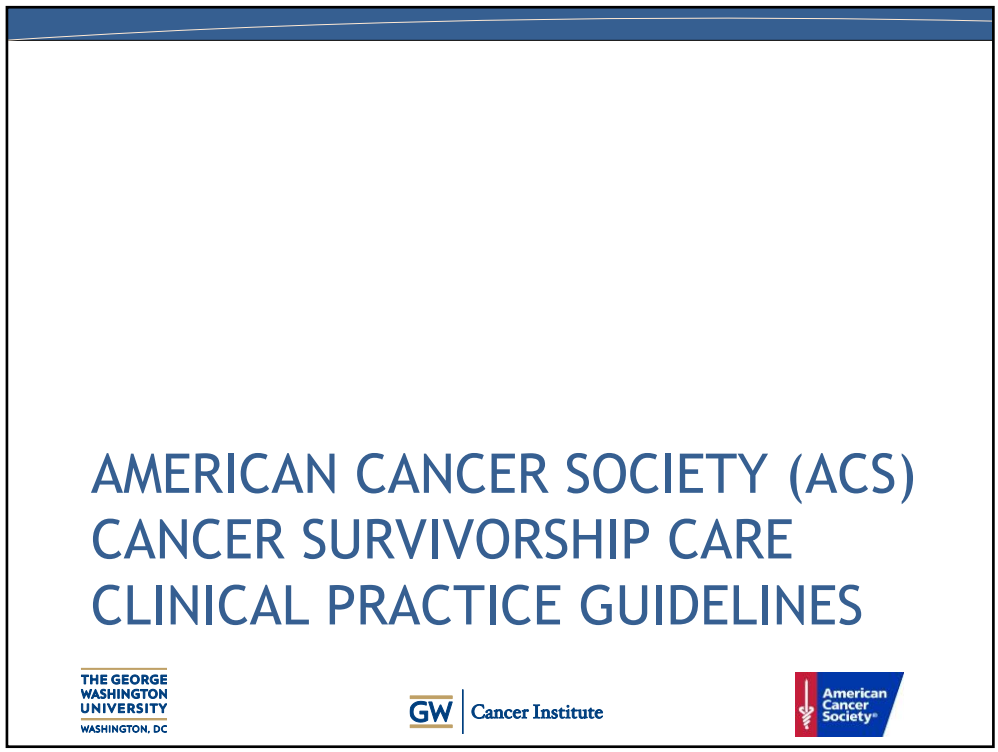

This presentation was developed from the American Cancer Society Head and Neck Cancer Survivorship Care Guideline cited here. I would now like to turn the session over to our presenter: Dr. Ezra Cohen, lead author of the guideline.



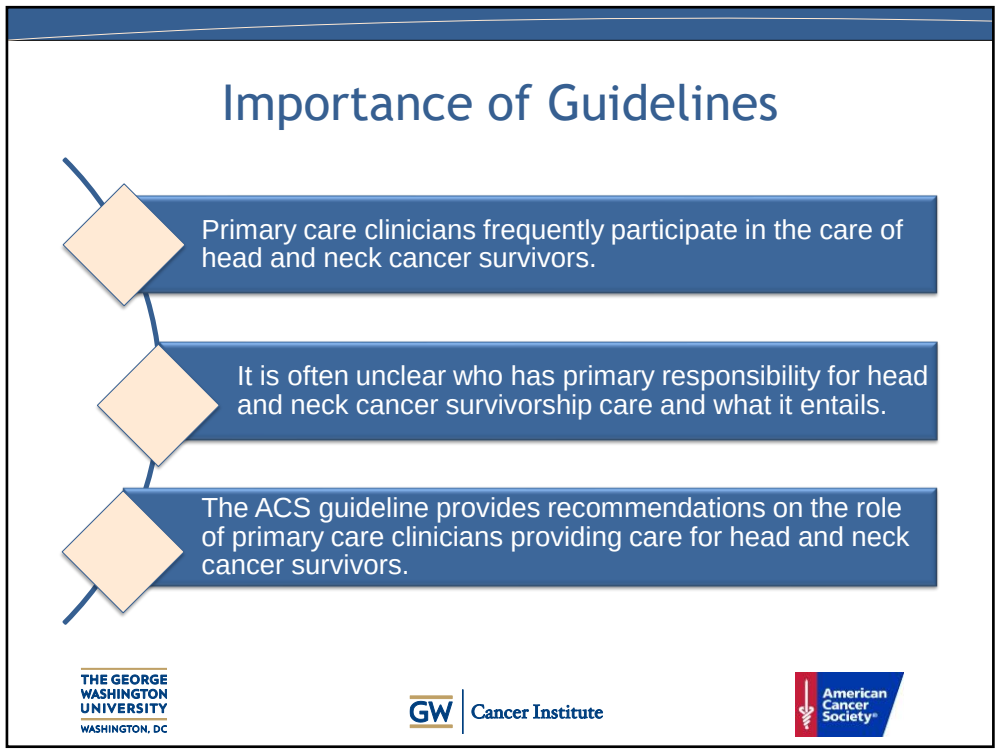

After completing this lesson, you will be able to:

Describe potential long-term and late effects of head and neck cancer and its treatment.

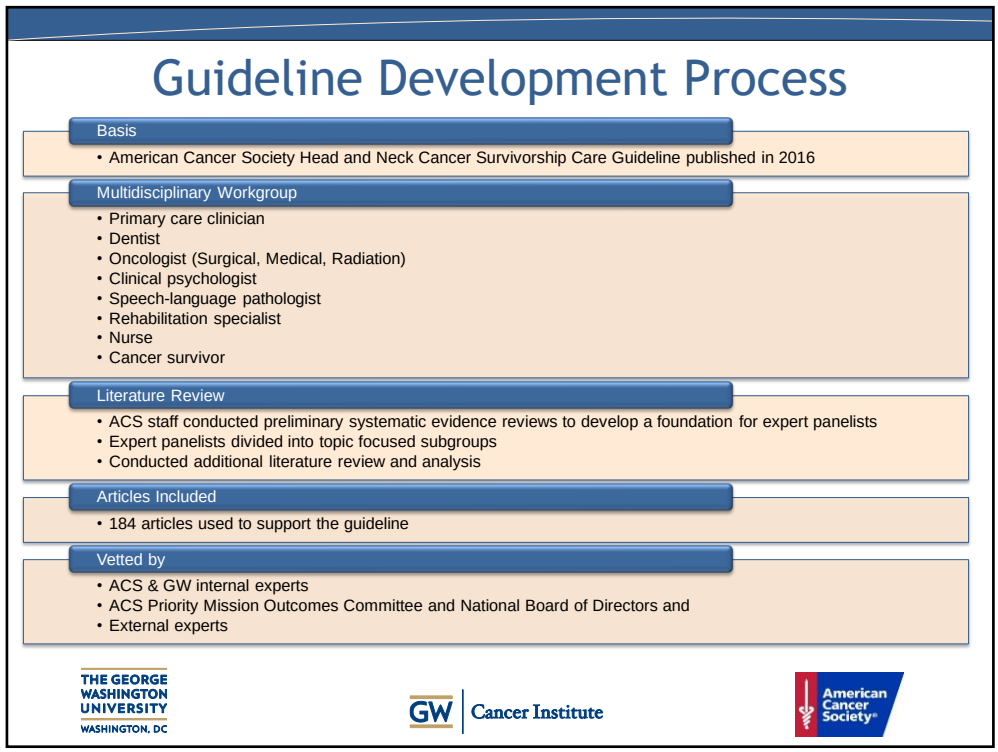
The next presentation in this module, Head and Neck Cancer Survivorship Care Guideline for Primary Care Clinicians, will discuss management of the impacts of head and neck cancer and its treatment.




Let's begin by discussing the importance of the American Cancer Society Cancer Survivorship Care Clinical Practice Guidelines and the process for their development.




Primary care clinicians frequently participate in the care of head and neck cancer survivors. It is often unclear who has primary responsibility for head and neck cancer survivorship care and what it entails. The ACS guideline provides recommendations on the role of primary care clinicians providing care for head and neck cancer survivors.




The guideline recommendations featured in this module are from the American Cancer Society Head and Neck Cancer Survivorship Care Guideline published in 2016.

The guideline panel represented a diverse workgroup of clinicians, including a primary care clinician, dentist, oncologist (surgical, medical, and radiation), clinical psychologist, speech-language pathologist, rehabilitation specialist, nurse, and a cancer survivor to both avoid the appearance of professional conflicts and use a multidisciplinary approach to creating a comprehensive guideline representative of the essential elements of high quality clinical follow-up care.

ACS staff conducted preliminary systematic evidence reviews to develop a foundation for expert panelists. Expert panelists were divided into topic focused subgroups and conducted additional literature review and analysis to serve as the basis for all guideline recommendations.

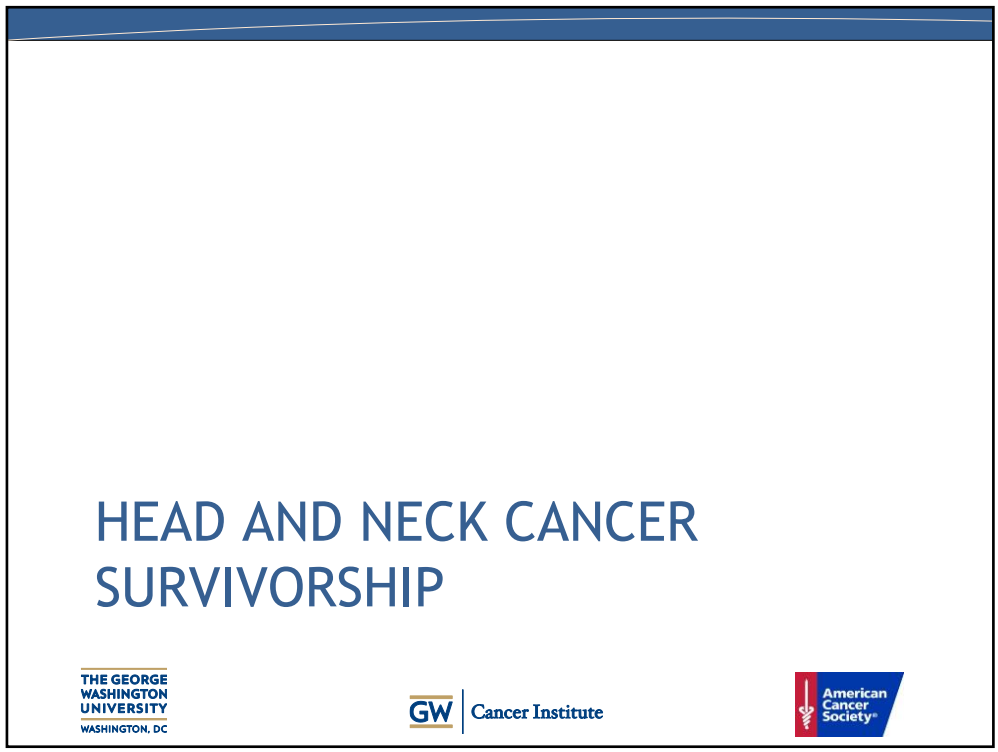
Where applicable, existing guidelines for health promotion, screening, surveillance, psychosocial care, and long-term and late effects were leveraged.

Of the 2,081 articles identified in the search, 349 articles met inclusion criteria for the literature review. 184 articles were used to support the guideline and were included in

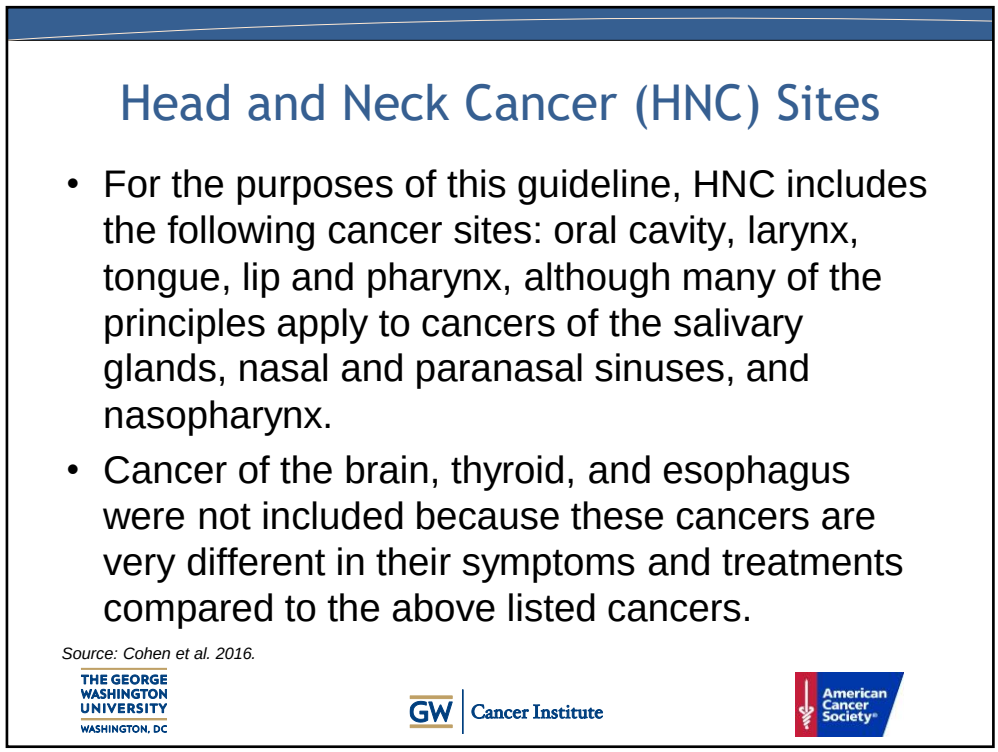
the guideline as the evidence base.

Prior to publication, all draft cancer survivorship care guideline recommendations were vetted by internal experts, the ACS Priority Mission Outcomes Committee and National Board of Directors, and relevant external experts.

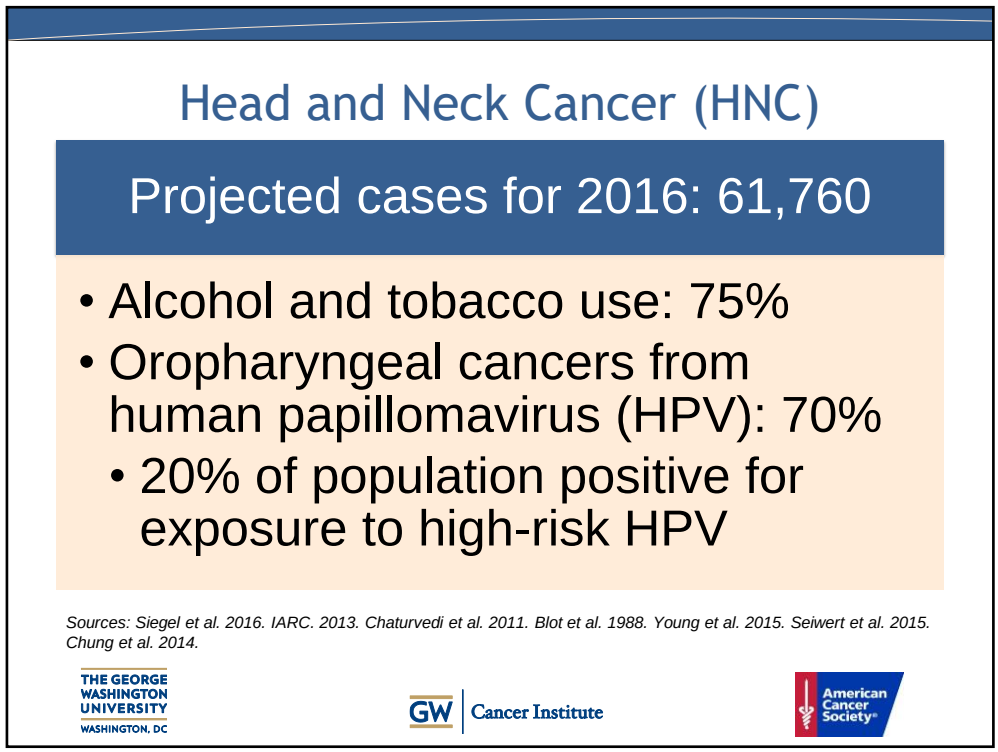
Moving forward, ACS survivorship care guidelines will be updated every 5 years and as new research is available to support revision.




I'd like to now provide you with an overview of head and neck cancer, including statistics and treatment modalities.



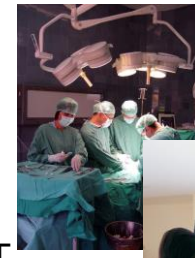

For the purposes of this guideline, HNC includes the following cancer sites: oral cavity, larynx, tongue, lip and pharynx, although many of the principles apply to cancers of the salivary glands, nasal and paranasal sinuses, and nasopharynx. Cancer of the brain, thyroid, and esophagus were not included because these cancers are very different in their symptoms and treatments compared to the above listed cancers.




There will be an estimated 61,760 head and neck cancer cases in the US in 2016. 75% of those cases are estimated to be from tobacco and alcohol use. Specifically for oropharyngeal cancers, 70% will result from HPV. HPV-related HNC is different from tobacco-related HNC in molecular alterations, clinical presentation and prognosis. 20% of the population is positive for exposure to high-risk HPV.

## Types of Treatment for HNC

- Surgery
  - Neck dissection
  - Laryngectomy
- Radiation (RT)
  - Intensity-modulated RT
  - Mediastinal RT
- Chemotherapy



*Source: Pfister et al. 2015.*

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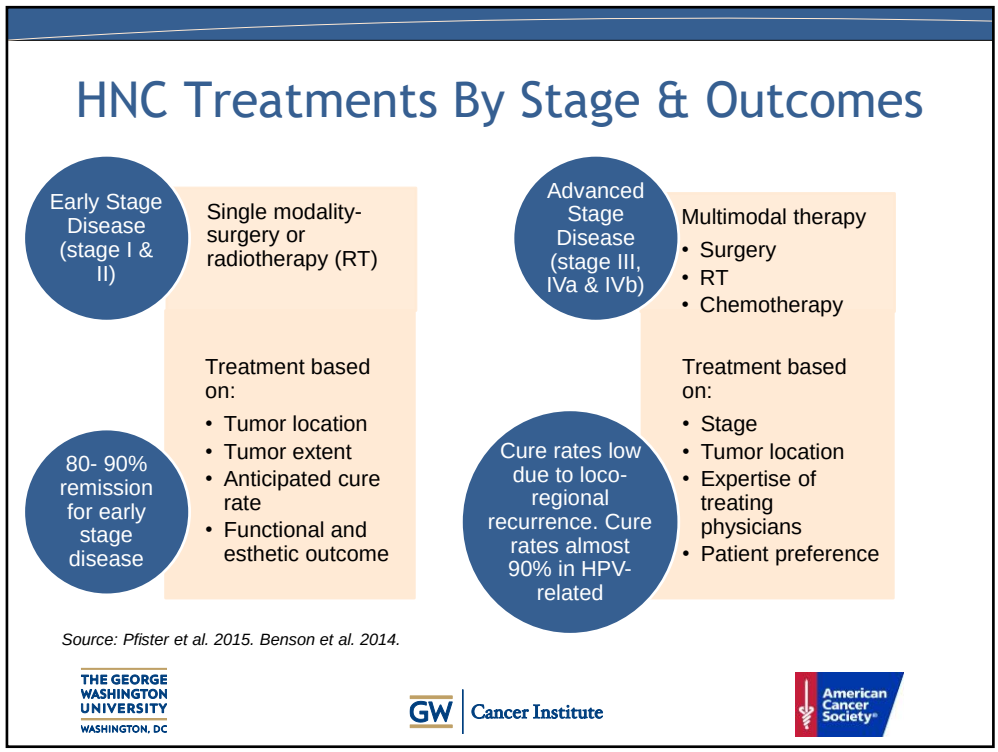
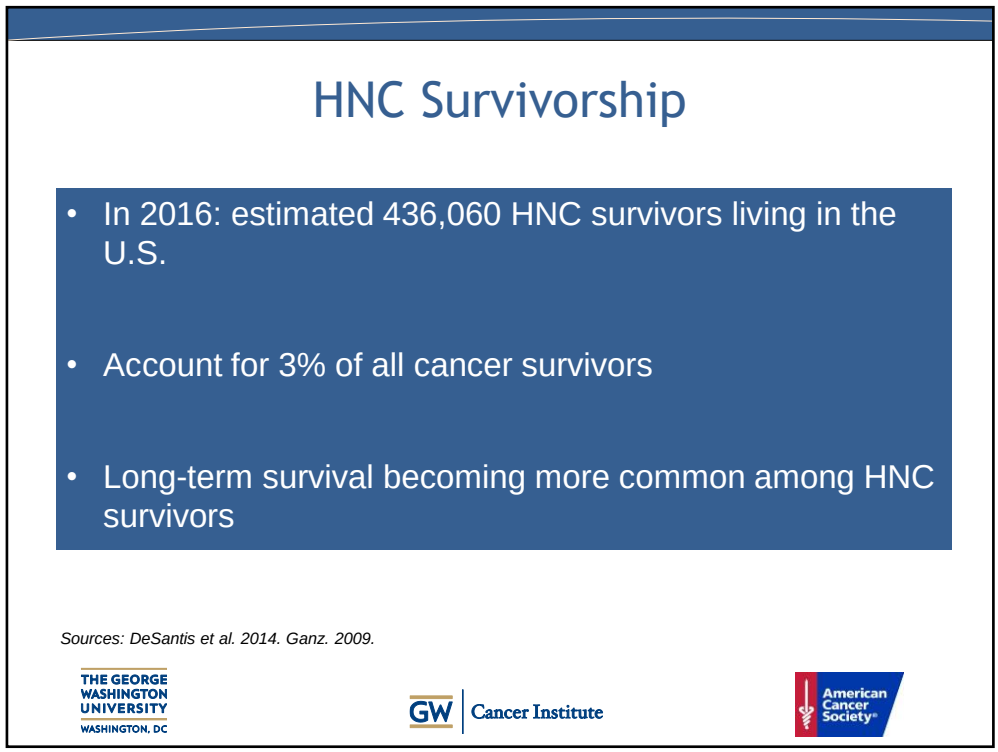
Head and neck cancers are treated with surgery, such as neck dissection or laryngectomy, radiation therapy including intensity-modulated or mediastinal radiation therapies, and/or chemotherapy.



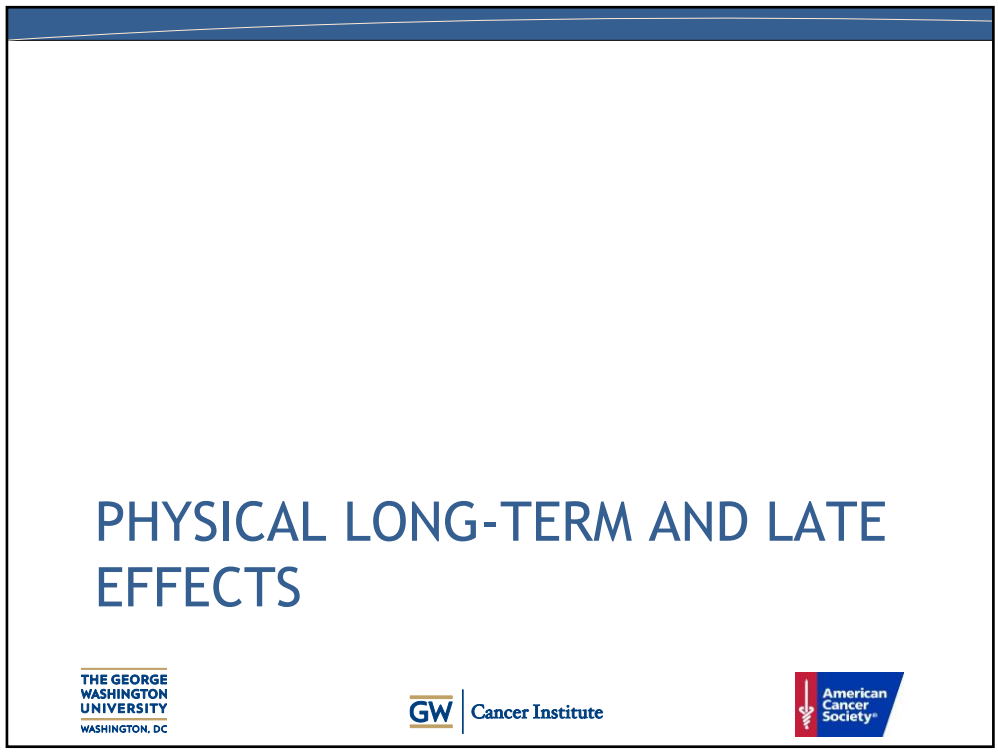

For early stage disease, surgery or radiotherapy are usually the course of treatment. Advanced stage disease usually requires some combination of surgery, radiotherapy or chemotherapy.



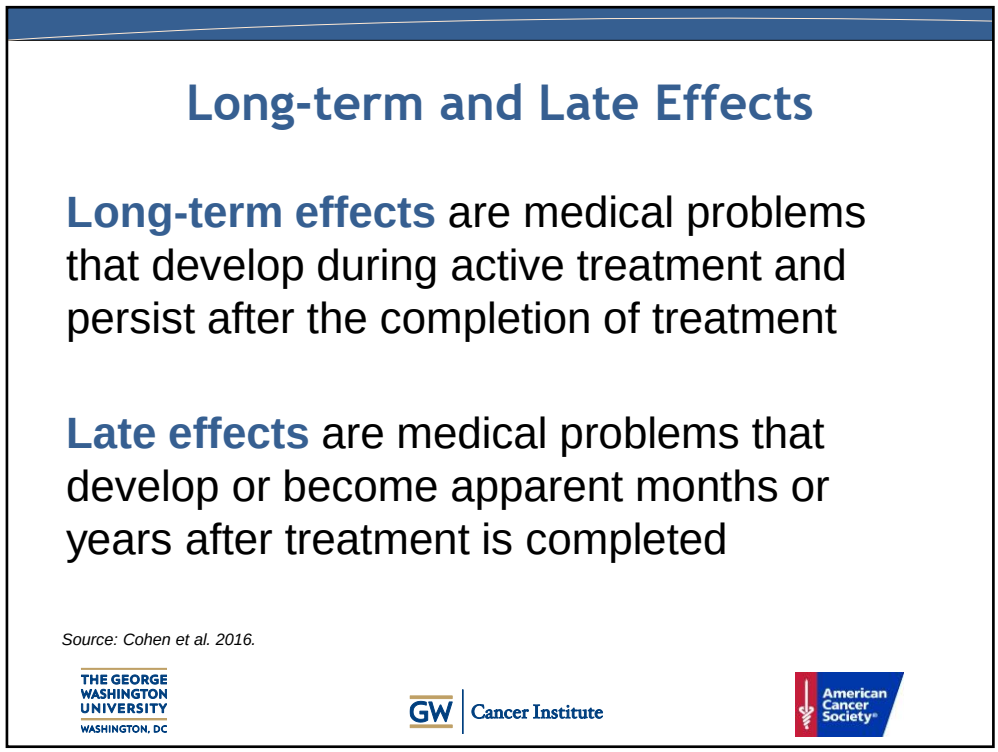

In 2016, there are approximately 436,060 HNC survivors living in the U.S.

HNC survivors account for 3% of all cancer survivors

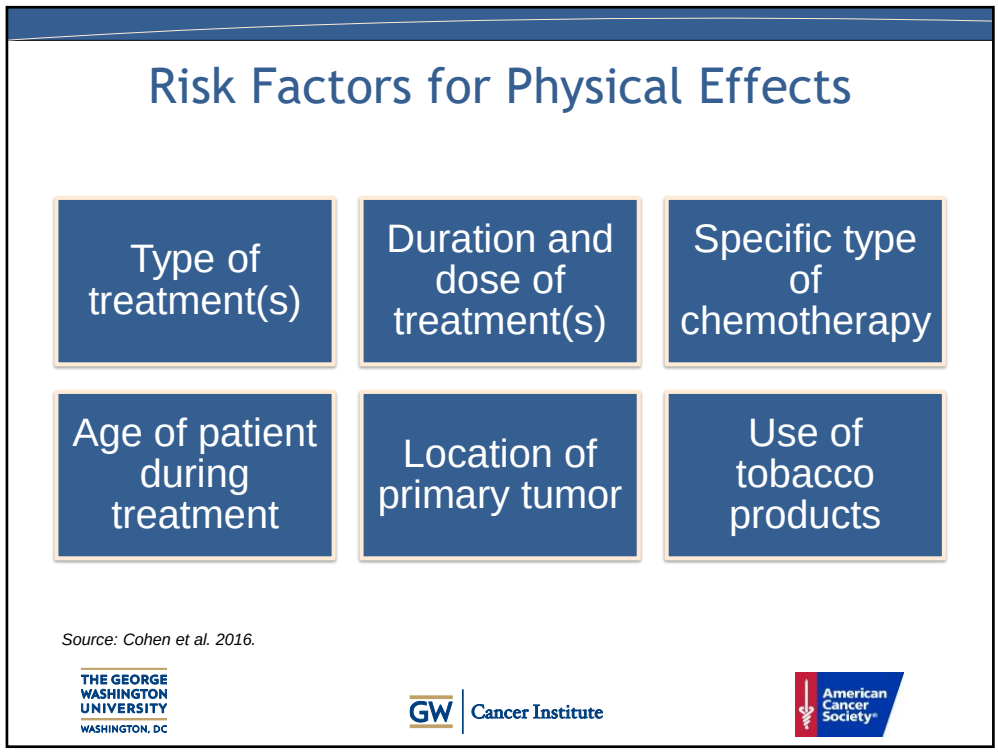
However, long-term survival is becoming more common among HNC survivors. HPV-related HNC has a much better prognosis even with stage IV disease, especially in patients who have never smoked. Some large studies estimate close to 90% cure rates for HPV-related HNC.




In this next section, I will provide an overview of the physical long-term and late effects of head and neck cancer and its treatment by treatment type.




Two terms are often used to describe effects of cancer and its treatment. Long-term effects are medical problems that develop during active treatment and persist after the completion of treatment, whereas late effects are medical problems that develop or become apparent months or years after treatment is completed.




The risk of physical long-term and late effects after therapy is associated with several factors, including:

Type of treatment(s) (surgery, radiation, chemotherapy)

Duration and dose of treatment(s)

Specific type of chemotherapy

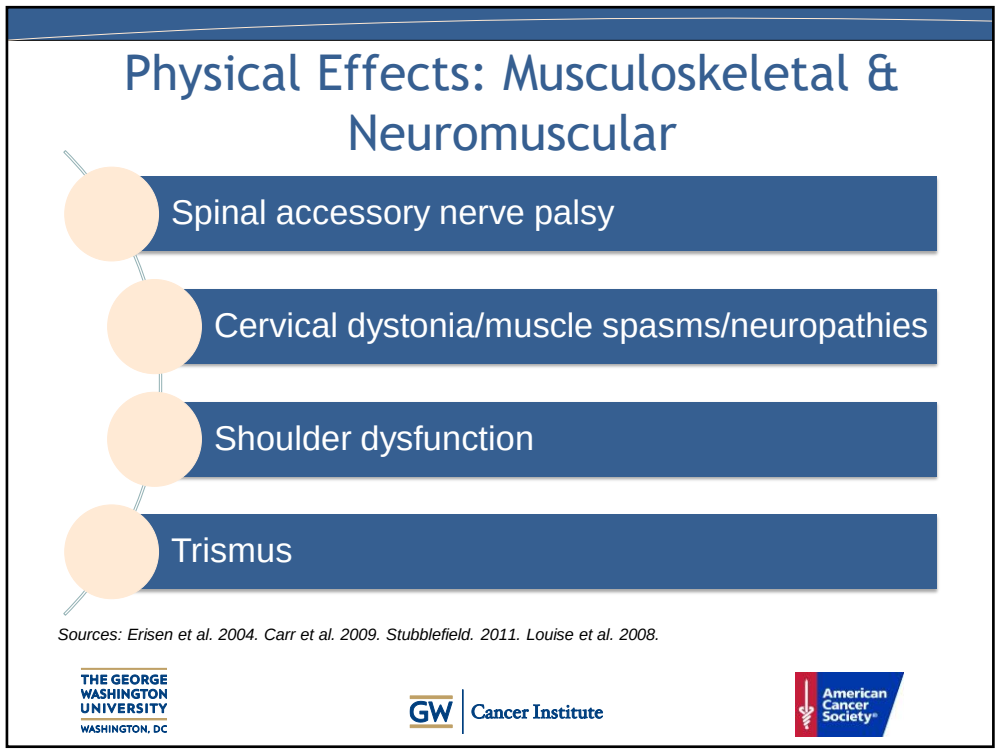
Age of patient during treatment

Location of primary tumor

Use of tobacco products

Primary care clinicians should refer to the patient's cancer treatment summary, if available, for specific drugs and doses.

The treatment of HNC often creates both acute and chronic disability. This can manifest in many ways as we will discuss in the slides to follow.



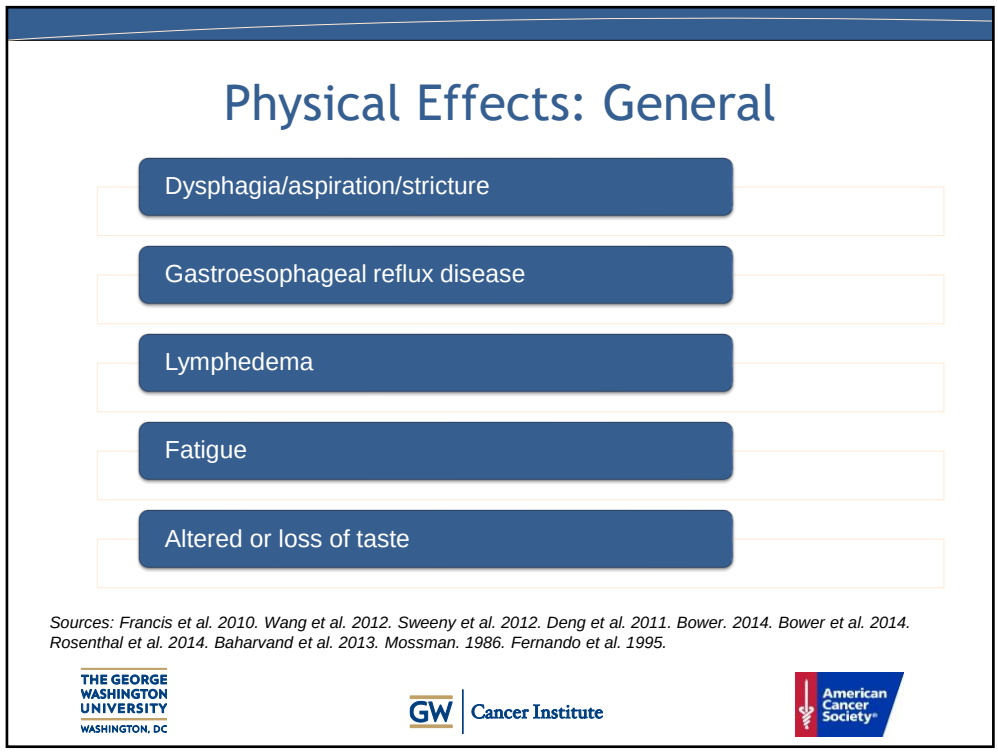

In surgery, neck dissection can disrupt the cervical anatomy and damage the cervical plexus and nerve roots. Radiation can cause progressive fibrosis of the nerve roots and plexus as well as any peripheral nerves and muscles in the radiation field. The result is musculoskeletal and neuromuscular effects.

Spinal accessory nerve palsy often results from damage to the spinal accessory nerve from neck dissection, but can also result from radiation.

Cervical dystonia is classified as painful dystonic spasms of the cervical muscles and can be caused by neck dissection, radiation or both.

Shoulder dysfunction results from damage to the SAN and other neuromuscular structures.

Trismus, or the inability to open the mouth fully, is a common complication, particularly for oral and oropharyngeal cancer survivors and can have a profoundly negative impact on quality of life.




General physical effects of HNC and its treatment include:

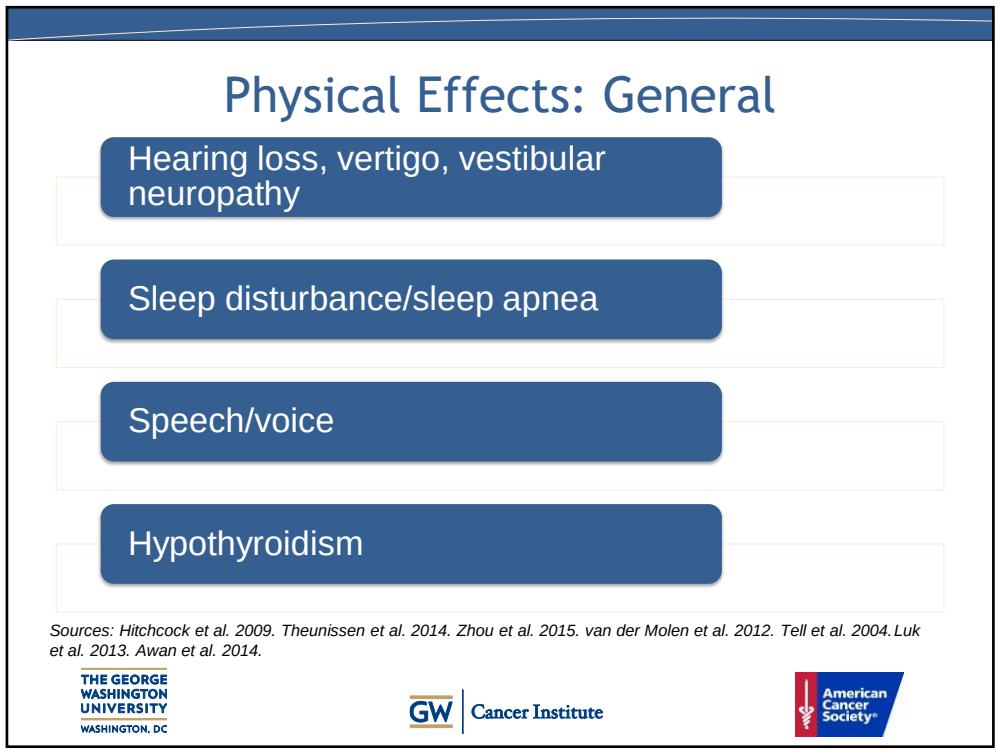
Dysphagia or difficulty swallowing. This condition is frequent among patients who received multimodality treatment for advanced stage HNC. In its severe form, dysphagia can present as aspiration. Dysphagia can be a result of stricture, or the structural narrowing of the pharynx and/or esophagus, and occurs in patients treated with radiotherapy.

GERD is very common in HNC survivors, with compromise of the airway from treatment modalities, strictures of the hypopharynx, dysphagia with silent or apparent aspiration, and swelling of the aerodigestive anatomy. Reflux during the daytime or sleep can worsen these already challenging problems. GERD can also injure the teeth by damaging the enamel.

Lymphedema is a common late effect of the treatment of HNC, but is sometimes seen acutely after surgery or RT. Lymphedema is underdiagnosed due to the subclinical nature of edema, as it may not be as obvious as extremity edema and may develop as a late effect both externally (face, neck, chest) or internally (larynx, pharynx, oral cavity). Lymphedema may result in adverse cosmetic and psychosocial consequences but can also cause pain, musculoskeletal and neurologic dysfunction, infections, breathing or swallowing difficulties, or a variety of other issues.

Cancer-related fatigue is very common among those treated for cancer, especially those who undergo treatment with RT and chemotherapy. Fatigue lasts long after treatment and can significantly interfere with quality of life.

Altered or loss of taste or dysgeusia is dependent on dose and volume of the irradiated tongue and is seen most often in patients with oral or oropharyngeal cancer. It is most pronounced around 2 months after the end of RT, and partial recovery is expected over the course of years. Dysgeusia is a significant burden of taste disturbance early after HN RT with negative effects on quality of life and oral intake in survivorship.




Hearing loss may occur from a history of ototoxic drug exposure, local effects of surgery, or from RT due to persistent swelling of the Eustachian tube.

Obstructive sleep apnea is seemingly in HNC patients. Primary radiation or chemotherapy can create long-term swelling of the tongue and larynx in these patients. Reconstructive techniques especially flaps replacing the posterior tongue can compromise the airway even after a tracheostomy is allowed to close. Radiation fibrosis may also restrict neck range of motion and affect positioning during sleep. Complications include hypoxia, hypertension, cardiac arrhythmias and cardiopulmonary stress. OSA can lead to myocardial infarction, pulmonary hypertension, heart failure and stroke. Resulting sleep deprivation will create excessive fatigue, daytime drowsiness, cognitive difficulties, and slow reaction time, potentially contributing to motor vehicle accidents and falls.

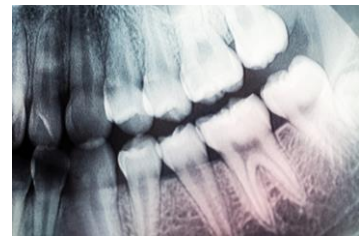
Speech, voice and/or resonance disturbance may alter understandability or acceptability of verbal communication in HNC survivorship. Rarely de novo radiation-associated lower cranial neuropathies may cause delayed speech or voice deterioration in long-term survivors.

In patients whose treatment included RT of the neck, hypothyroidism is a significant and

frequent permanent effect. It can occur as early as 4 weeks post treatment or as late as 10 years following treatment with a median time of 1.8 years. Radiotherapy to both sides of the neck increases the risk of hypothyroidism as does the addition of surgery, or when surgery involves the thyroid.

## Oral Effects

- Caries
- Periodontitis
- Xerostomia
- Osteonecrosis
- Oral infections/candidiasis



*Sources: Epstein et al. 2012. Duke et al. 2005. Epstein et al. 1998. Marques et al. 2004. Epstein, Lunn et al. 1998. Kumar et al. 2011. Friedman et al. 2008.*

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HNC survivors are at increased risk of dental caries secondary to the disruption of salivary flow and composition as well as direct damage to dental structures from treatment (e.g., chemotherapy-induced vomiting).

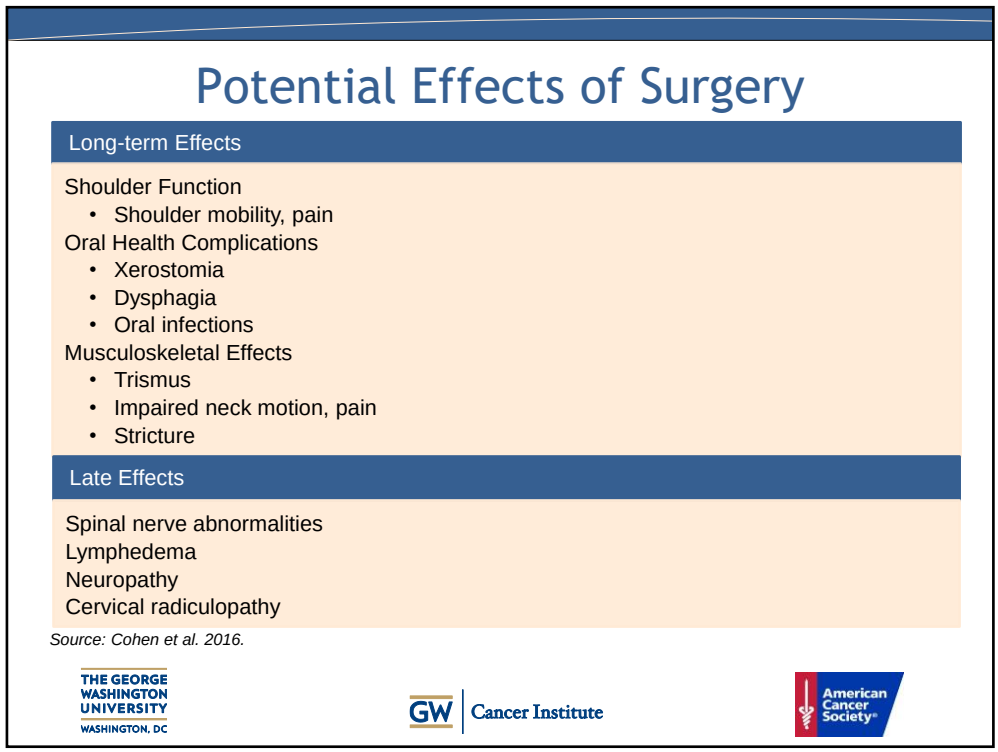
Periodontitis can result in the loss of gingival attachment within the radiation field can lead to subsequent dental infections, loss of teeth and osteonecrosis which can become a systemic health issue. Signs of this condition can go unnoticed by the patient, as it is not usually painful, and signs cannot be readily detected upon visual inspection of the oral cavity. Rapid deterioration of the supporting structures of the teeth is sometimes seen following head and neck RT and may lead to deep periodontal pockets that can subsequently lead to infection or tooth loss. Periodontitis can increase the risk of osteoradionecrosis- loss of jawbone requiring debridement, hyperbaric oxygen treatments and eventually reconstruction.

Due to reduction in salivary flow most patients treated for nasopharyngeal, oral cavity, oropharyngeal and hypopharyngeal tumors will be at risk for xerostomia. Xerostomia can negatively impact QoL, and have catastrophic effects on the dental and oral health and subsequently overall health.

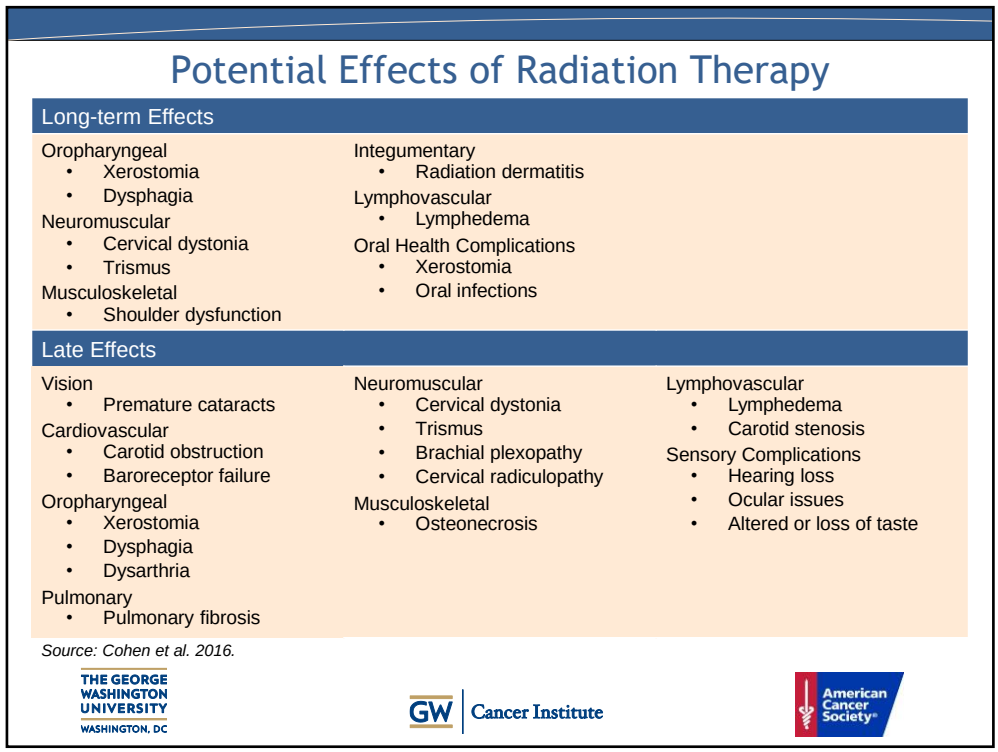
Osteonecrosis of the jaw is rare, may lead to pain, increased infection risk and trismus.

Osteonecrosis usually results from dental complications, lack of proper dental care, and tooth extraction. RT to the oral cavity and salivary glands increases the risk of osteonecrosis, which may lead to pathologic mandible fracture.

Oral infections result as the normal bacterial flora of the mouth is disturbed resulting frequently in fungal overgrowth in the oral and hypopharyngeal areas. Oral infections may be aggravated by preexisting dental and gingival disease and may make eating and swallowing very difficult. Oral candidiasis presents in an erythematous form that is almost invisible upon visual inspection of the oral cavity. Patients complain of a burning or scalding sensation on the tongue and the oral mucosa with little or no clinical manifestation visibly apparent.




Here is a summary table of the potential effects of surgery. Management of many of these symptoms will be discussed in the next presentation; for those not discussed, manage symptoms as you would for those in the general population.




This slide summarizes the potential effects for patients treated with radiation therapy. Management of many of these symptoms will be discussed in the next presentation; for those not discussed, manage symptoms as you would for those in the general population.

# Potential Effects of Chemotherapy

## Long-term Effects

| Neuromuscular | Other Effects |
|---|---|
| • Sensory/motor neuropathy<br>• Sensory ataxia<br>• Gait dysfunction<br>• Vertigo | • Hot flashes/sweats<br>• Weight gain, abdominal obesity<br>• Fatigue/decreased activity<br>• Anemia<br>• Body hair loss<br>• Dry eyes |

## Late Effects

| Neuromuscular | Other |
|---|---|
| • Cardiac abnormality, cardiomyopathy | • Osteoporosis, fractures<br>• Metabolic syndrome<br>• Cardiovascular disease – possible increased risk of myocardial infarction<br>• Diabetes; decreased sensitivity to insulin and oral glycemic agents<br>• Increased cholesterol<br>• Increased fat mass and decreased lean muscle mass/muscle wasting<br>• Venous thromboembolism<br>• Vertigo<br>• Cognitive dysfunction |

*Source: Cohen et al. 2016.*

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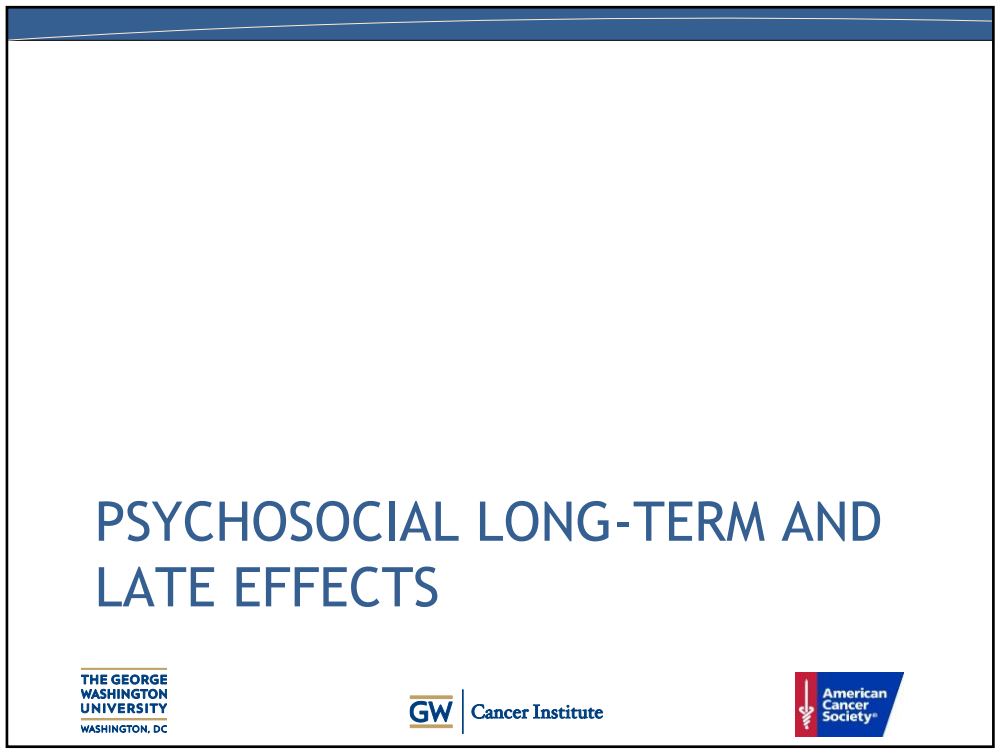
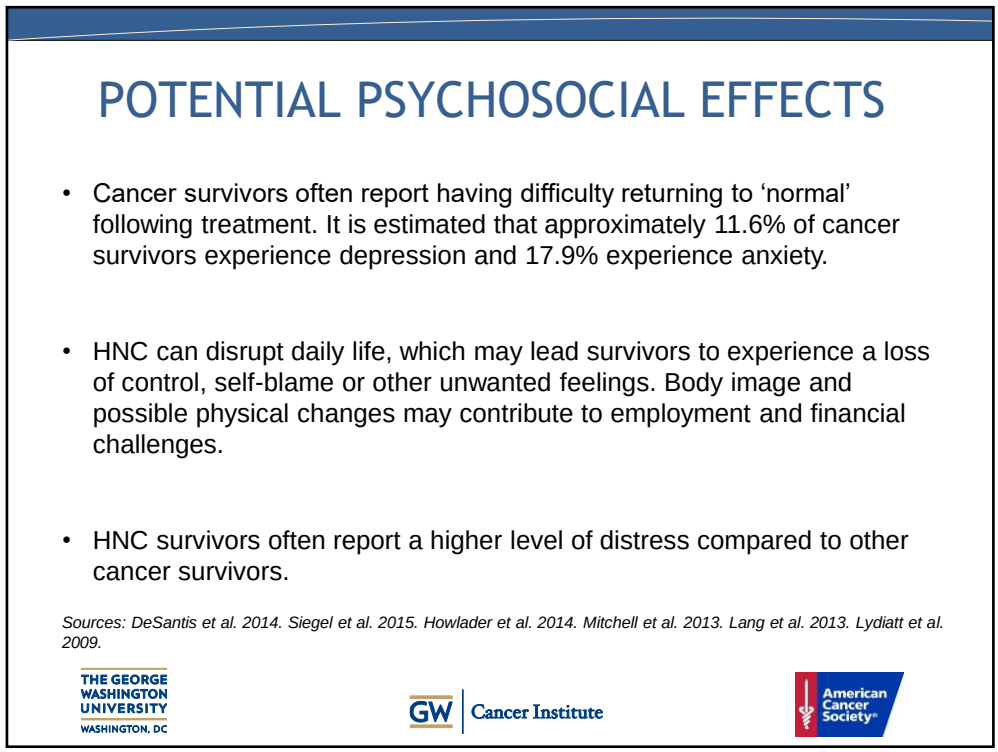
This table provides a summary of the potential effects of chemotherapy. Management of many of these symptoms will be discussed in the next presentation; for those not discussed, manage symptoms as you would for those in the general population.




The next section includes a discussion of the psychosocial long-term and late effects of head and neck cancer and its treatment.




Cancer survivors often report having difficulty returning to 'normal' following treatment. It is estimated that approximately 11.6% of cancer survivors experience depression and 17.9% experience anxiety.

HNC can disrupt daily life, which may lead survivors to experience a loss of control, self-blame or other unwanted feelings. Body image and possible physical changes may contribute to employment and financial challenges.

Furthermore, HNC survivors often report a higher level of distress compared to other cancer survivors.

## Distress


Commonly reported reasons for distress:

- Interpersonal relationships/social disruption
- Interference with activities
- Uncertainty
- Disease and treatment
- Existential stress
- Stigma
- Fear of recurrence

*Sources: Devins et al. 2013. Chuang et al. 2008.*

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HNC survivors commonly report distress in several areas, including:

Interpersonal relationships/social disruption

Interference with activities

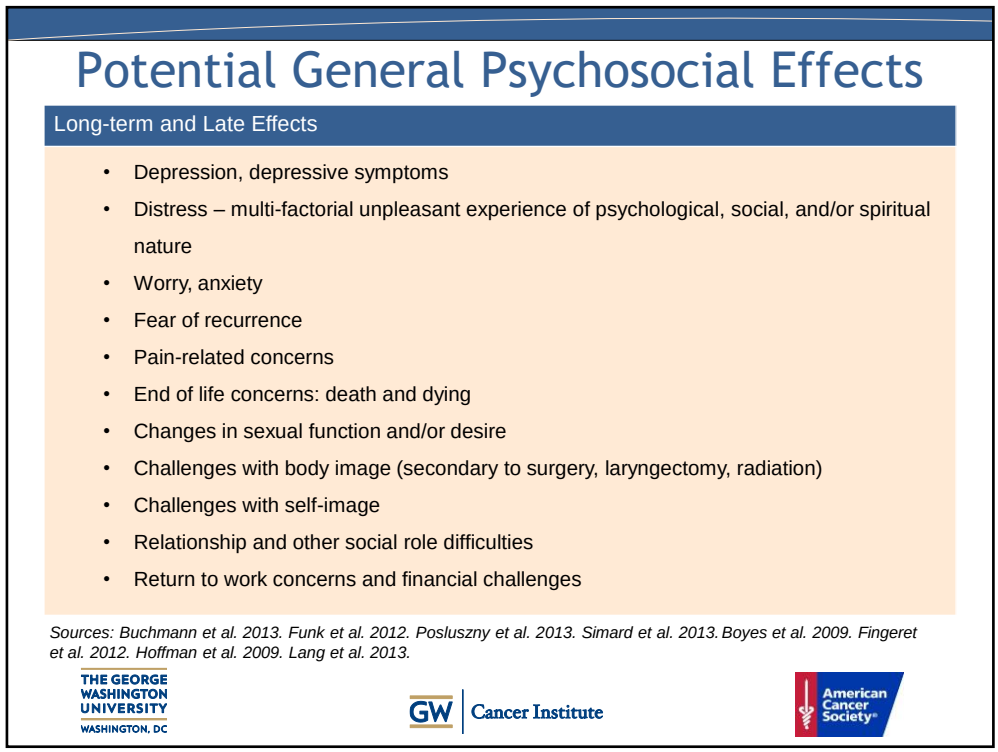
Uncertainty

Disease and treatment

Existential stress

Stigma

Fear of recurrence




This slide summarizes the potential general psychosocial effects of head and neck cancer and its treatment.

# CASE STUDY

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# Case Study

Mr. H is a 47-year-old male and is a survivor of stage II oropharyngeal cancer. His treatment included radiotherapy. One year post treatment, he presents with dry mouth, reduced salivary flow and difficulty swallowing.

While other long-term and late effects are possible for this patient, based on these symptoms alone, for which of these long-term and late effects should Mr. H be evaluated?:

a. Neuropathy
b. Cardiotoxicity
c. Sensory ataxia
d. Dry eyes
e. Periodontitis

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# Case Study: Answer & Brief Discussion

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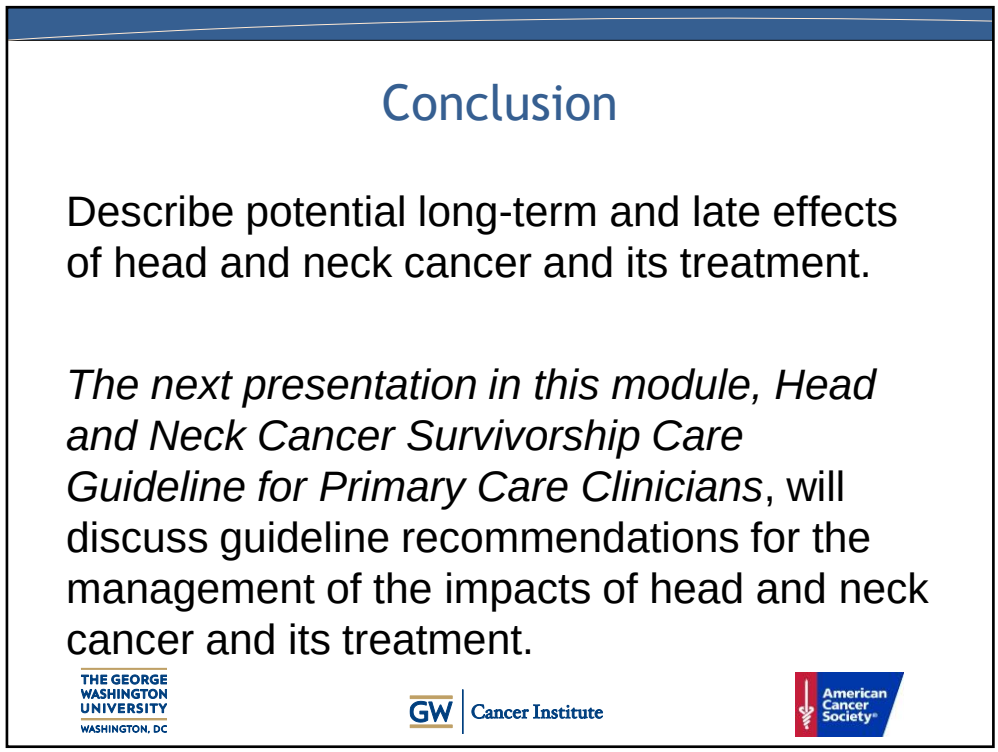


In this lesson, you learned to:

Describe potential long-term and late effects of head and neck cancer and its treatment.

## Acknowledgment

We are grateful for the support of CDC cooperative agreement #5U55DP003054.

Ezra E.W. Cohen, MD

Medical Oncologist, Moores Cancer Center University of California San Diego, La Jolla, CA

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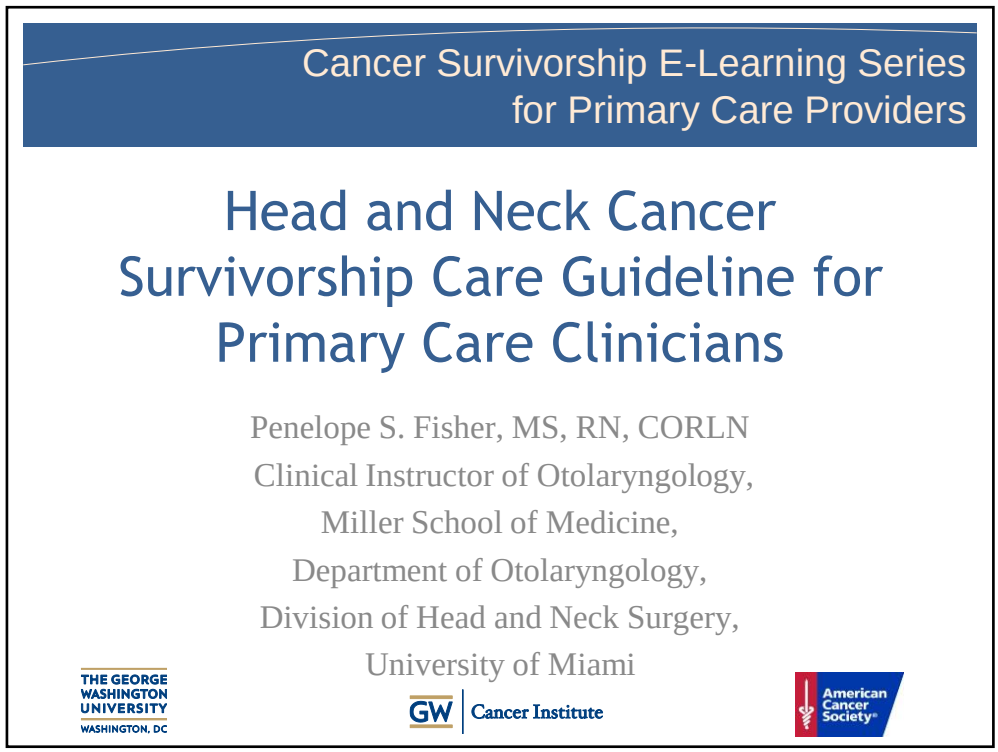
Thank you Dr. Cohen for your presentation and for sharing your expertise on this important topic.

This concludes the webinar, please continue to explore the remaining sections of the cancer survivorship e-learning series for primary care providers.
Thank you.




Hello and welcome to a presentation on: the ACS Head and Neck Cancer Survivorship Care Guideline for Primary Care Clinicians.

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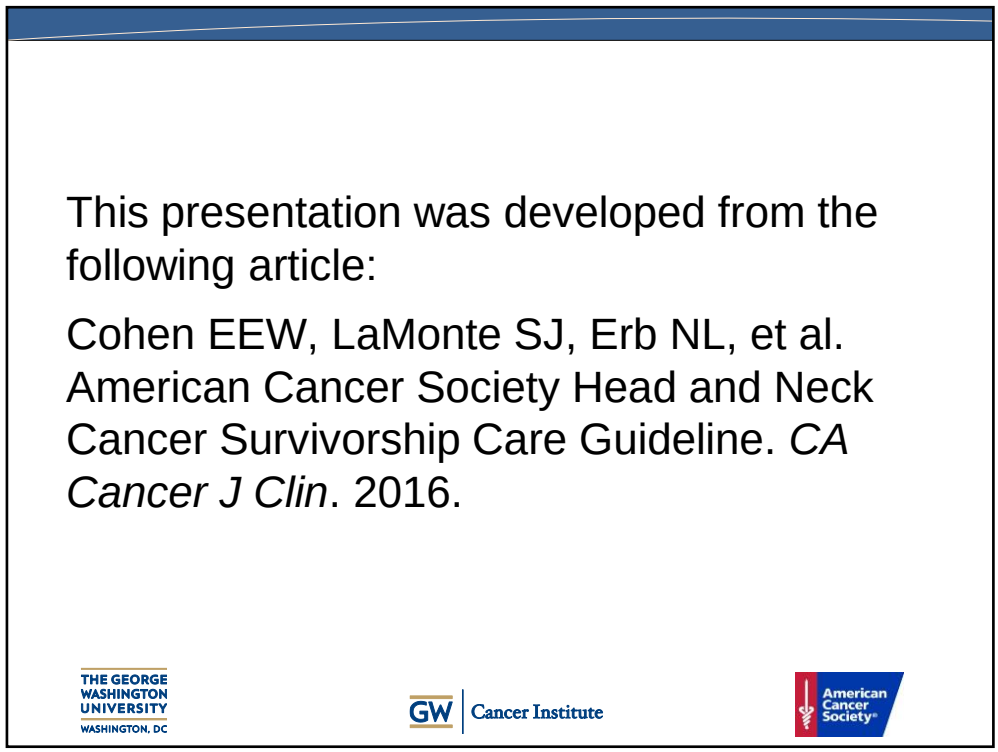
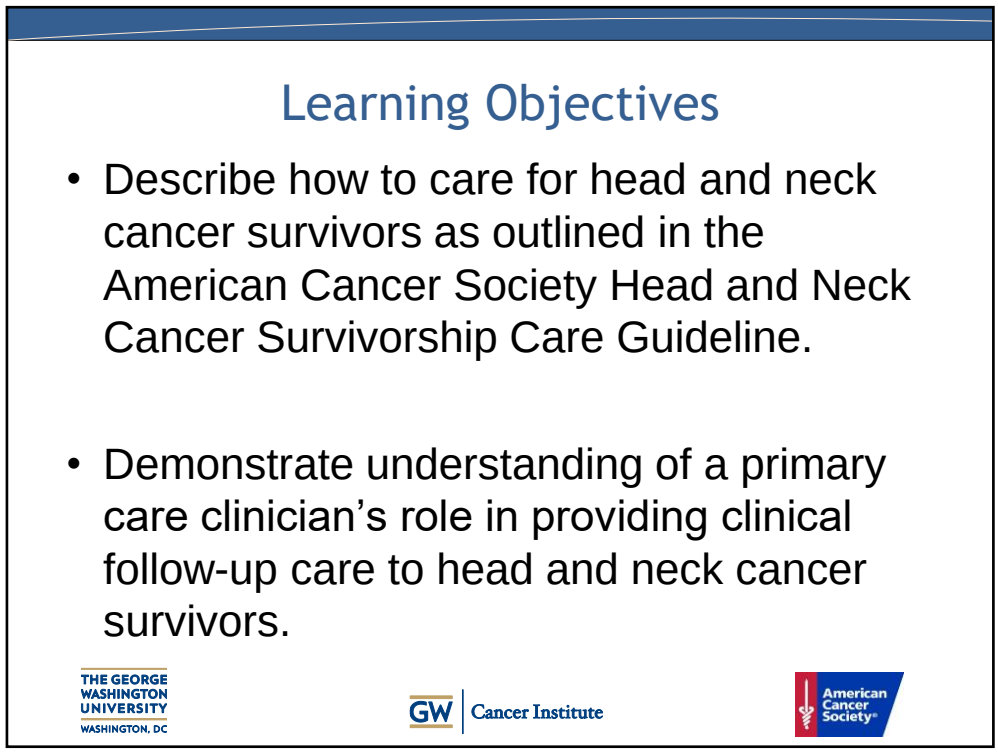



This presentation was developed from the American Cancer Society Head and Neck Cancer Survivorship Care Guideline cited here.

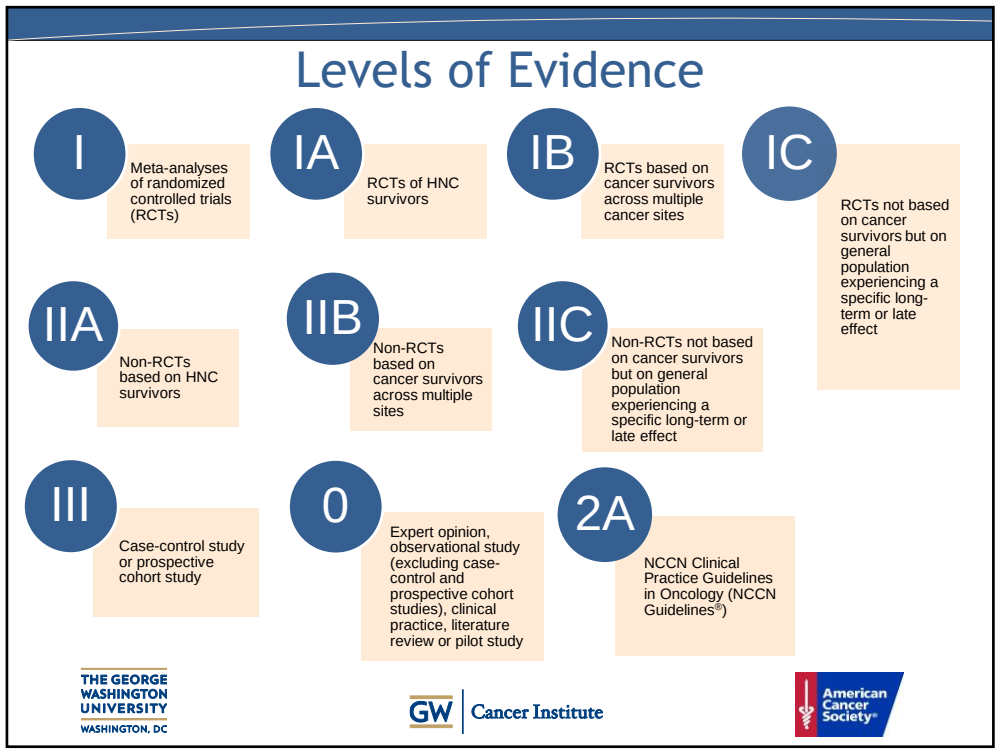
I would like to turn the session over to our presenter: Penelope Fisher, clinical instructor of otolaryngology and a coauthor of the guideline.



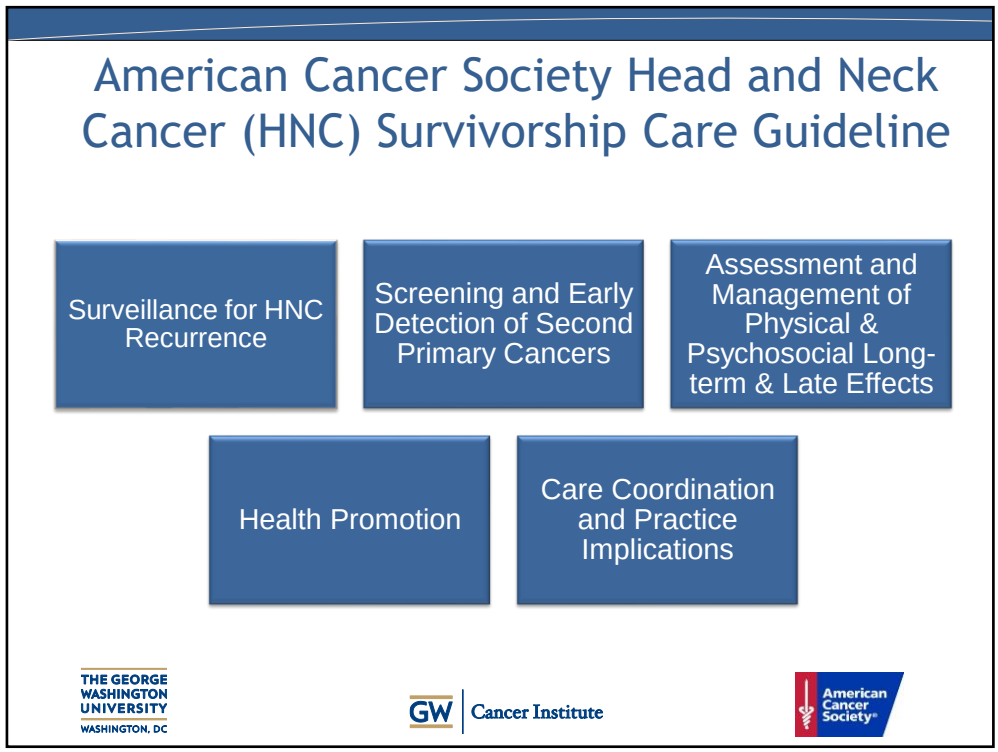

After completing this lesson, you will be able to:

Describe how to care for head and neck cancer survivors as outlined in the new American Cancer Society Head and Neck Cancer Survivorship Care Guideline.

Demonstrate understanding of a primary care clinician's role in providing clinical follow-up care to head and neck cancer survivors.



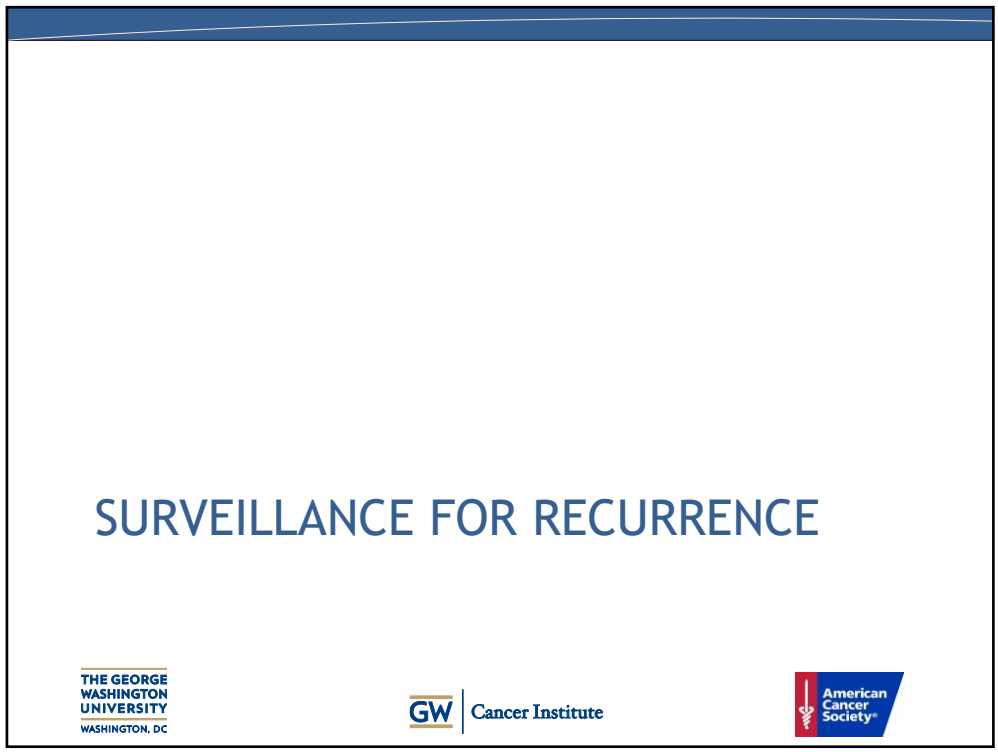

The guideline was developed based on evidence review and assigning levels of evidence ranging from the highest level being one, which is meta-analysis of randomized controlled trials to level 3, case-control study and finally 0, which is based on expert opinion, observational study, clinical practice, literature review or pilot study.




The American Cancer Society Head and Neck Cancer Survivorship Care Guideline provides recommendations to primary care clinicians for the care of head and neck cancer survivors in the following areas:

- Surveillance for Head and Neck Cancer (HNC) Recurrence
- Screening and early detection of second primary cancers
- Assessment and Management of Physical & Psychosocial Long-term & Late Effects of HNC and its treatment
- Health Promotion
- Care Coordination and Practice Implications

And we will discuss each of these.




In this section, we will discuss surveillance for recurrence and recommendations for primary care clinicians to conduct surveillance for recurrence of head and neck cancer in patients who have completed treatment.

# HNC Surveillance Recommendations

2A, 0

**Individualize clinical follow-up care based on age, specific diagnosis and treatment**

**Conduct detailed cancer-related history and physical exam according to schedule based on risk**

- Every 1-3 months for the first year after primary treatment
- Every 2-6 months for the second year
- Every 4-8 months for years 3 – 5
- Annually after 5 years

**Confirm continued follow-up with otolaryngologist or HNC specialist for HN-focused exam**

**Educate about signs and symptoms of local recurrence**

- Refer to HNC specialist if signs and symptoms of local recurrence present

*Sources: Manikantan et al 2009. Pfister et al. 2015. Morton et al. 2004*

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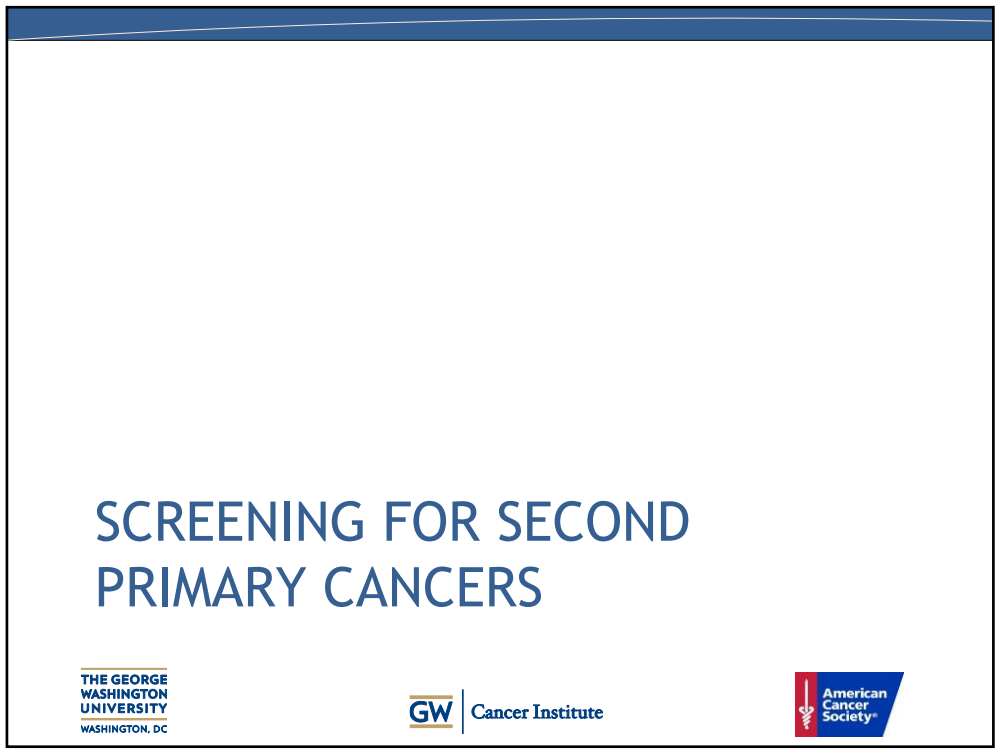
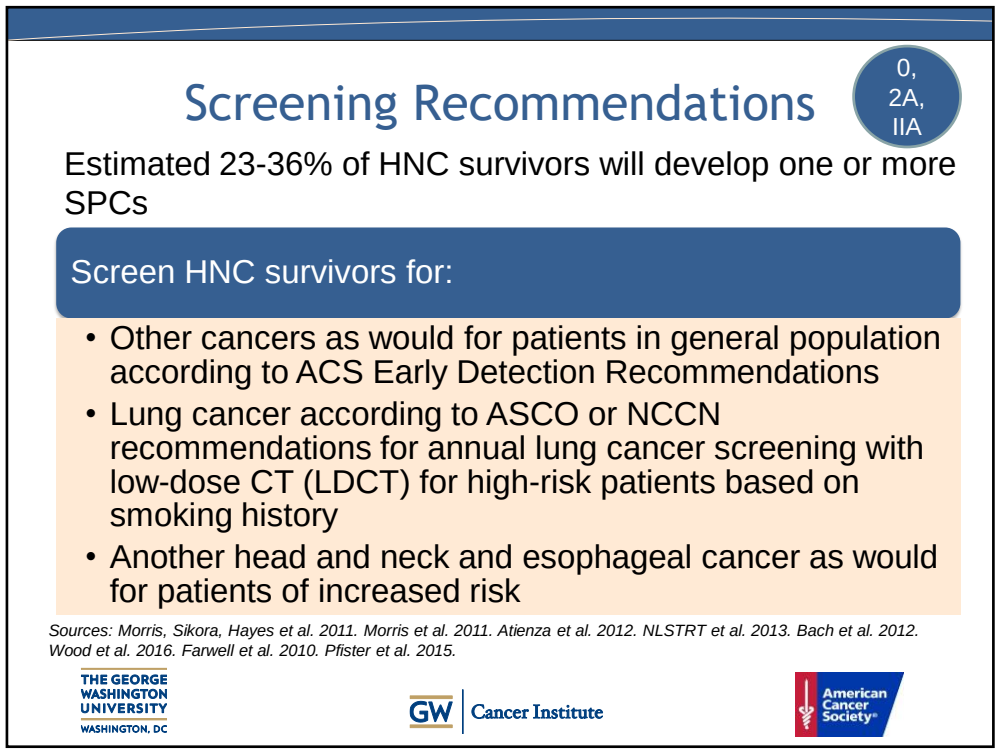



Let's next review the recommendations for screening for second primary cancers in head and neck cancer survivors.




Lung (33% of all SPCs) is the most common site of SPC among HNC survivors, particularly in patients with a history of tobacco exposure. Five percent of HNC survivors will develop a new primary LuC, which is three times higher than the cumulative incidence of SP LuCs for LuC survivors.

Late recurrence or SP HNC (23%) is a leading cause of death in long-term HNC survivors with an increased association with oral cavity and non-HPV-related oropharyngeal cancer.

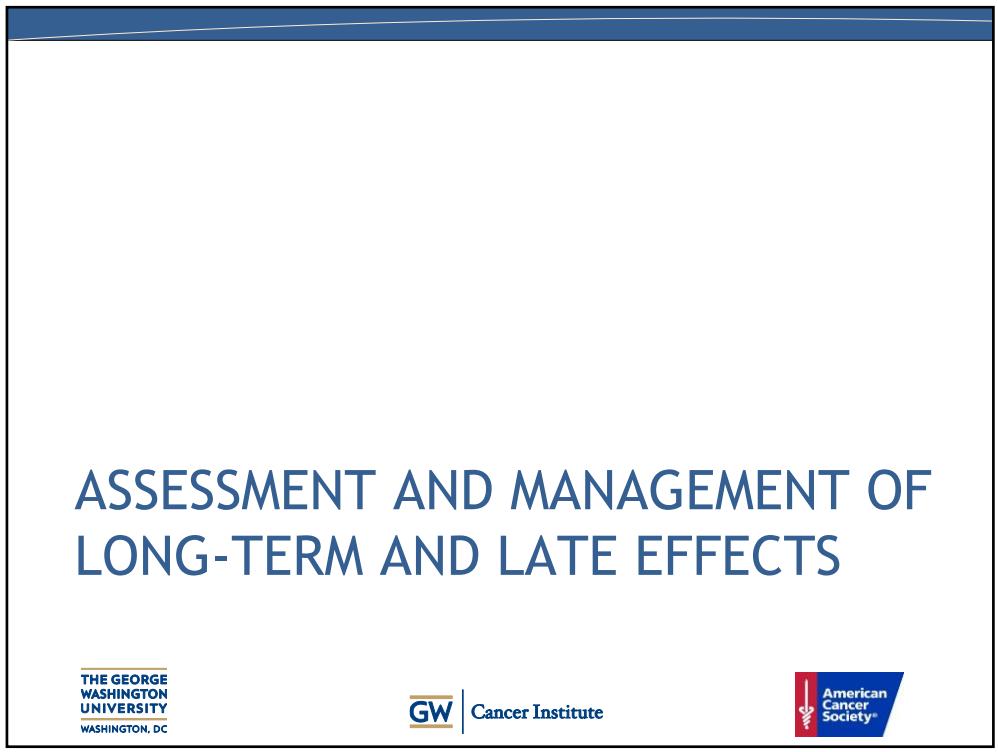
The esophagus (4%) is the third most common site of SPC among HNC survivors and is most commonly associated with oral cavity, oropharyngeal, and hypopharyngeal cancer.

Primary care clinicians should screen head and neck cancer survivors for…

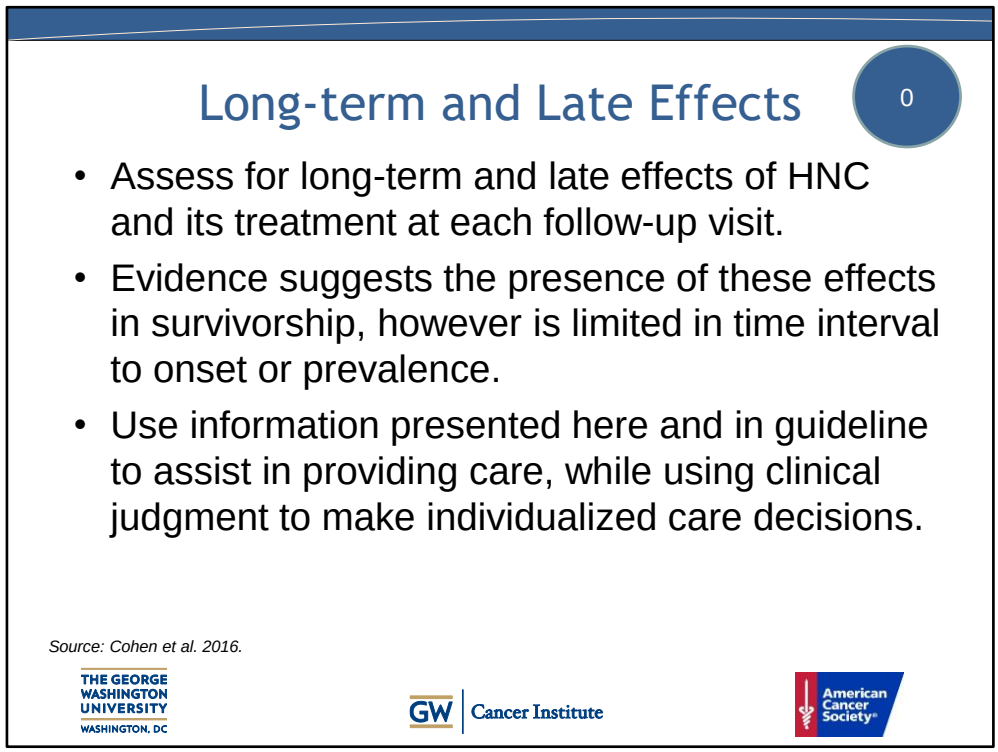
Routine surveillance imaging by barium swallow esophagogram or CT scan of the chest for second primary esophageal cancer is NOT recommended.

Patients with new onset of esophageal dysphagia symptoms following completion of HNC treatment, should have an esophageal evaluation using an esophagoscopy

performed by a head and neck surgeon or gastroenterologist.




Now we will review the recommendations for assessment and management of long-term and late effects.



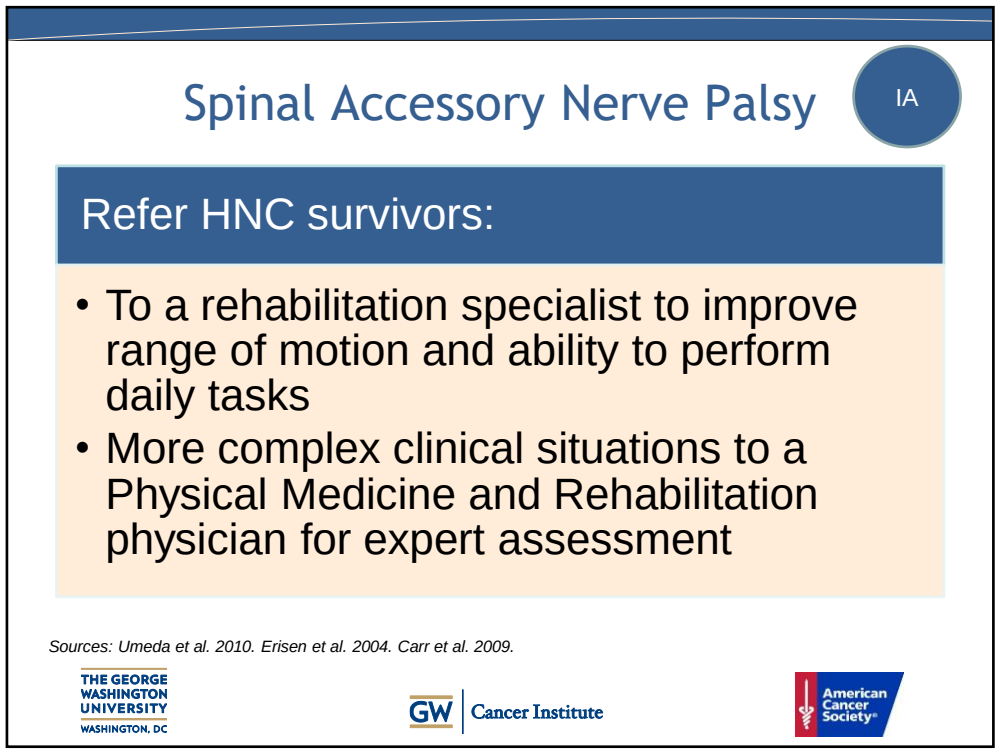

Primary care clinicians should

Assess for long-term and late effects of HNC and its treatment at each follow-up visit.

Evidence suggests the presence of these effects in survivorship, however is limited in time interval to onset or prevalence.

Use information presented here and in guideline to assist in providing care, while using clinical judgment to make individualized care decisions.

# PHYSICAL EFFECTS: MUSCULOSKELETAL AND NEUROMUSCULAR

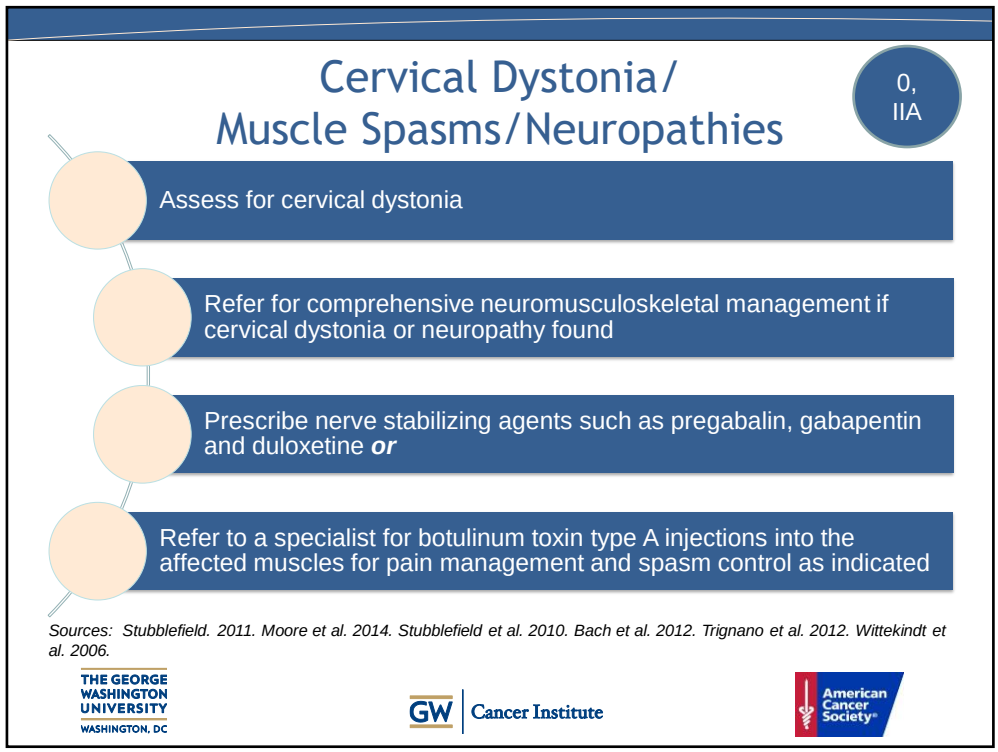



Primary care clinicians should refer HNC survivors

To a rehabilitation specialist to improve range of motion and ability to perform daily tasks

More complex clinical situations to a Physical Medicine and Rehabilitation physician for expert assessment

Damage to the SAN can affect shoulder motion and is a major cause of shoulder dysfunction and pain in HNC survivors, especially those undergoing neck dissection. One study reported upper limb dysfunction as mild in 54% of patients, moderate in 15%, and severe in 8%, whereas only 23% reported no issues.




Primary care clinicians should

Assess for cervical dystonia

Refer for comprehensive neuromusculoskeletal management if cervical dystonia or neuropathy found

Prescribe nerve stabilizing agents such as pregabalin, gabapentin and duloxetine ***or***

Refer to a specialist for botulinum toxin type A injections into the affected muscles for pain management and spasm control as indicated

Painful dystonic spasms of the cervical muscles may be present in some HNC survivors. Cervical dystonia can result from neck dissection and scarring, or from radiation to the neck which causes progressive fibrosis. One study of nasopharyngeal HNC survivors reported 2.3% of HNC survivors experienced neck fibrosis after IMRT and 11.3% after conventional 2-D RT. Another study found 22% had neck fibrosis.

# Shoulder Dysfunction

IIA, IA

- Estimated 70% of HNC survivors experience shoulder pain and dysfunction after neck dissection
- Conduct baseline assessment for shoulder function post treatment and continue to assess for emerging pain or functional impairment
- Refer to a rehabilitation specialist for improvement to pain, disability and range of motion where shoulder morbidity exists

*Sources: McNeely et al. 2004. McNeely et al. 2008. Lauchlan et al. 2011. Carvalho et al. 2012.*

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Estimated 70% of HNC survivors experience shoulder pain and dysfunction after neck dissection

Primary care clinicians should

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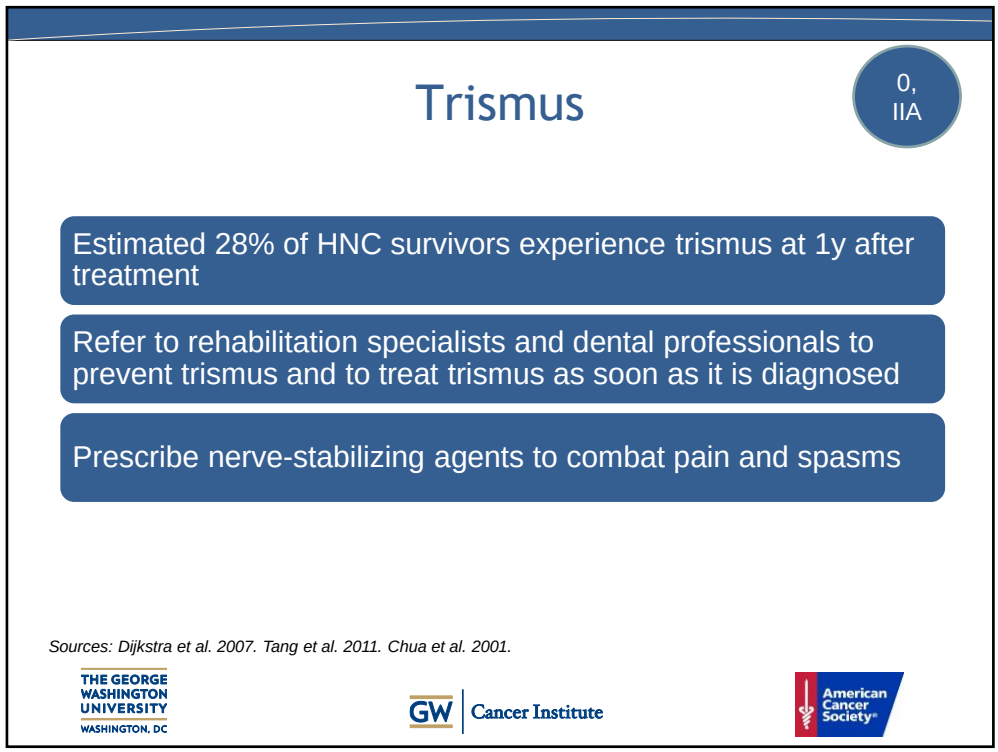
Refer to a rehabilitation specialist for improvement to pain, disability and range of motion where shoulder morbidity exists

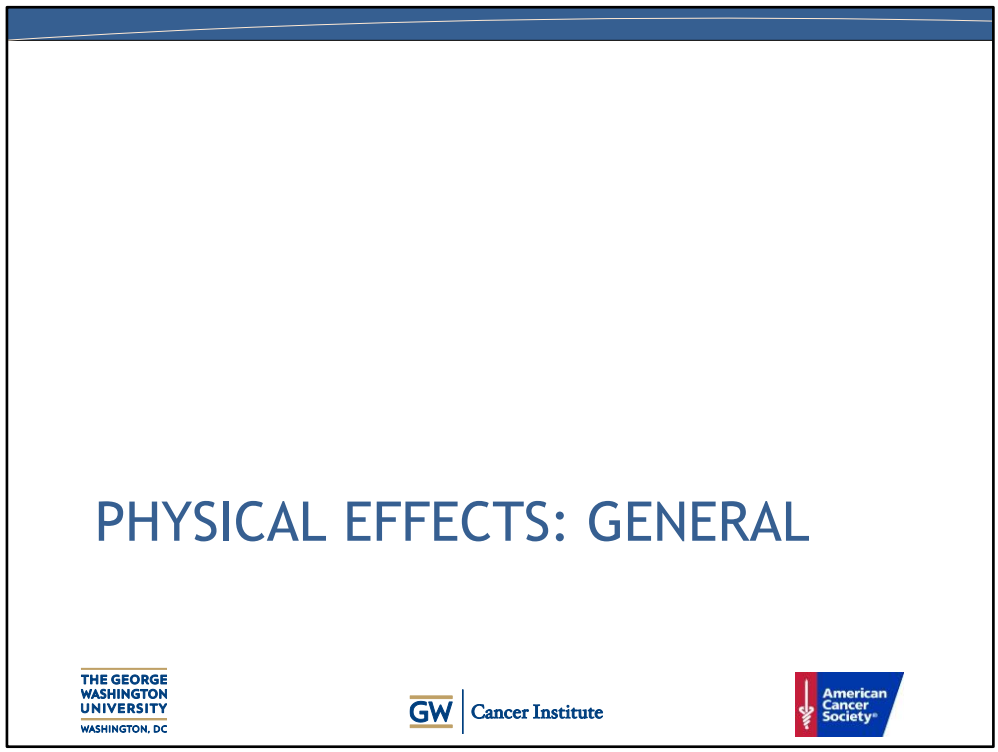



Primary care clinicians should

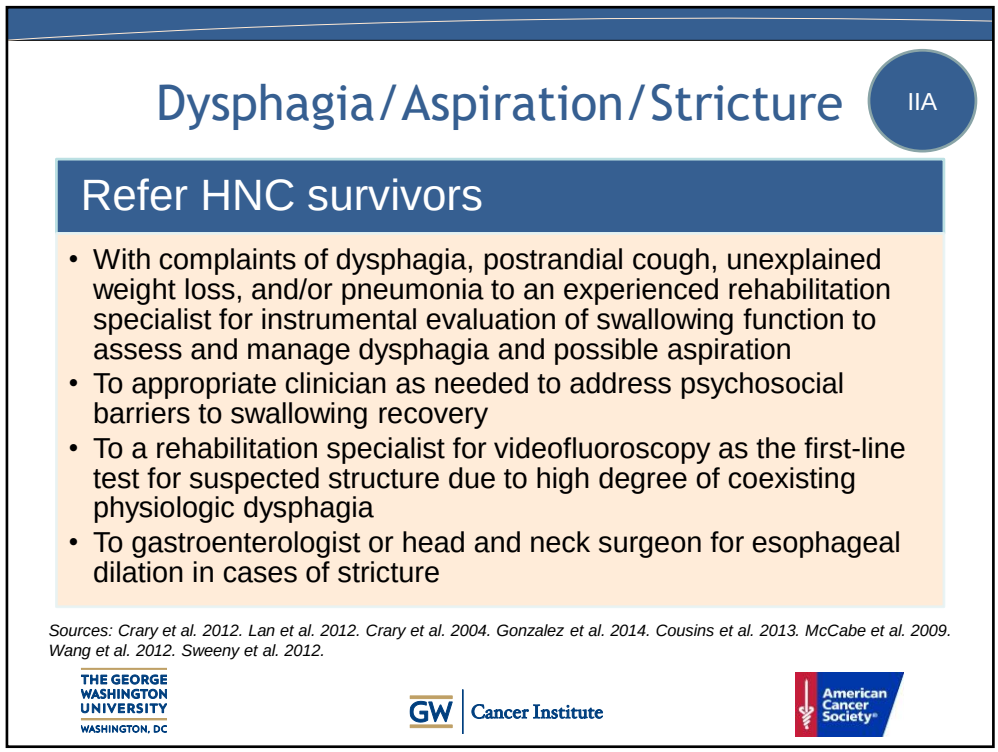
Refer to rehabilitation specialists and dental professionals to prevent trismus and to treat trismus as soon as it is diagnosed

Prescribe nerve-stabilizing agents to combat pain and spasms

One study reported the highest prevalence of trismus (38%) at 6mos after treatment and was associated with tonsillar tumors. Another study reported half of patients (50%) with oral or oropharyngeal cancer developed trismus was strongly associated with clinical T-classification, RT, and type of primary surgery.




The next section will discuss the general physical effects of HNC and its treatment that HNC survivors potentially experience.




Primary care clinicians should

# Refer HNC survivors

With complaints of dysphagia, postrandial cough, unexplained weight loss, and/or pneumonia to an experienced rehabilitation specialist for instrumental evaluation of swallowing function to assess and manage dysphagia and possible aspiration

To appropriate clinician as needed to address psychosocial barriers to swallowing recovery

To a rehabilitation specialist for videofluoroscopy as the first-line test for suspected structure due to high degree of coexisting physiologic dysphagia

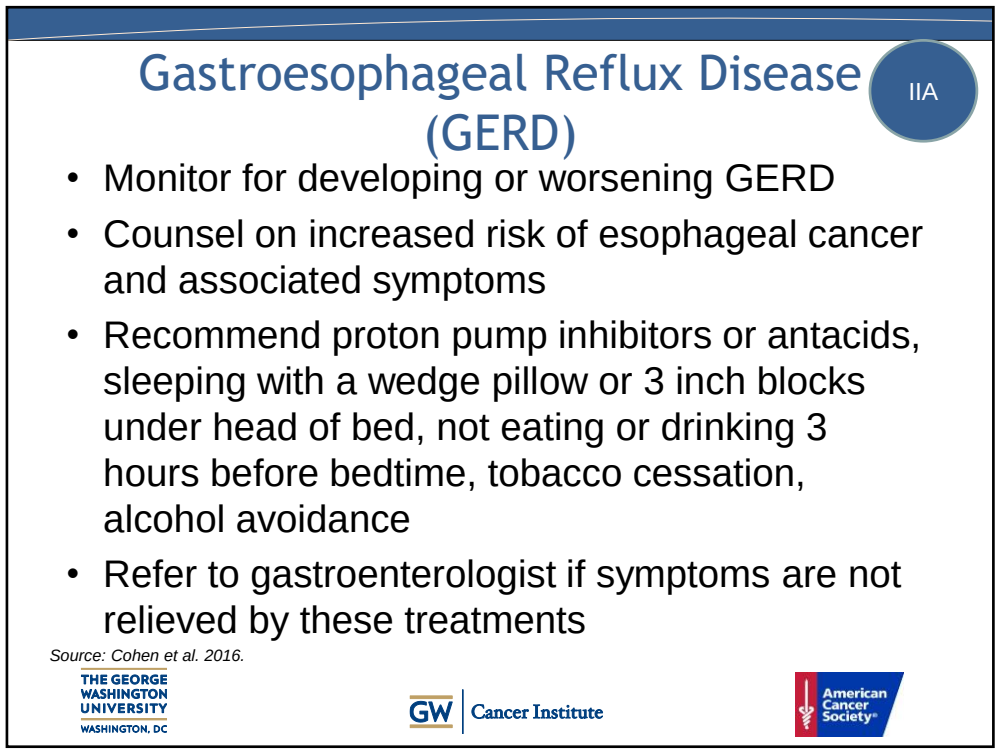
To gastroenterologist or head and neck surgeon for esophageal dilation in cases of stricture

Chronic dysphagia is rare in patients who were treated with small-field radiation or single-modality surgery for early stage (T1-T2 N0) HNC but is common after multimodality treatment for advanced-stage HNC. Even in modern practice with highly conformal RT (eg, IMRT) and less invasive surgical techniques (eg, transoral surgery), it is estimated that almost 50% of patients treated with multimodality therapy for

locoregionally advanced-stage disease experience chronic dysphagia.

Primary care clinicians should be alert to a high risk of subclinical (“silent”) aspiration. More than 50% of chronic aspirators do so silently with no outward cough or symptoms of airway entry and can only be detected and effectively treated using instrumental swallowing studies.

One study reported risk of stricture (structural narrowing) of the pharynx and/or esophagus occurs in 7% of patients treated with HN RT. Higher risk groups include those treated with IMRT (16%) and among patients with total laryngectomy. (19%)




Primary care clinicians should

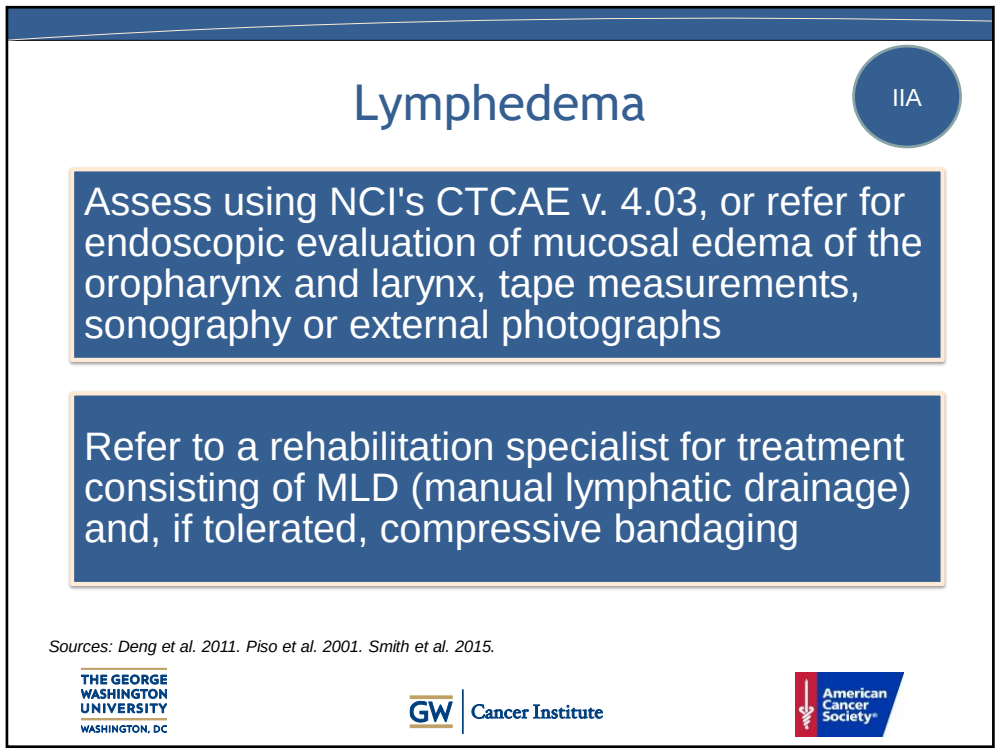
Monitor for developing or worsening GERD

Counsel on increased risk of esophageal cancer and associated symptoms

Recommend proton pump inhibitors or antacids, sleeping with a wedge pillow or 3 inch blocks under head of bed, not eating or drinking 3 hours before bedtime, tobacco cessation, alcohol avoidance

Refer to gastroenterologist if symptoms are not relieved by these treatments

GERD is very common in HNC survivors.



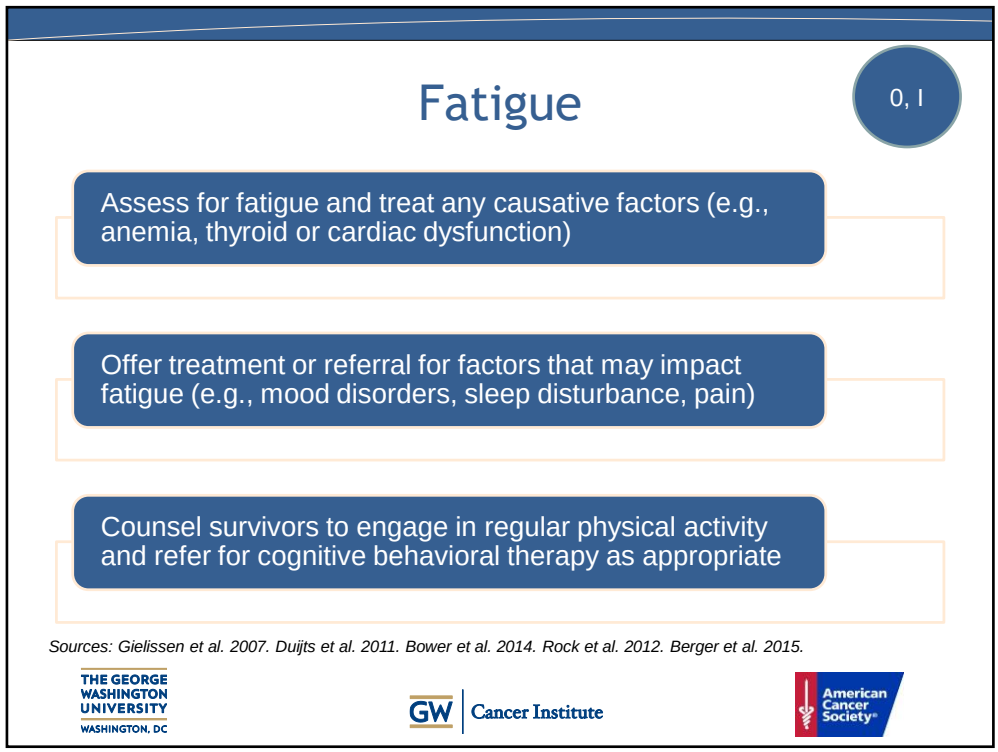

Primary care clinicians should

Assess using NCI's CTCAE (Common Terminology Criteria for Adverse Events) v. 4.03, or refer for endoscopic evaluation of mucosal edema of the oropharynx and larynx, tape measurements, sonography or external photographs

Refer to a rehabilitation specialist for treatment consisting of MLD (manual lymphatic drainage) and, if tolerated, compressive bandaging

One study of HNC patients reported 75% of patients experienced some form of late-effect, secondary lymphedema, of which 9.8% had isolated IL, 39% had isolated EL, and 51% had combined EL/IL.

One study suggested 60% of HNC survivors respond to complete decongestive therapy combining MLD and compression, with no significant adverse events.




Primary care clinicians should

Assess for fatigue and treat any causative factors (e.g., anemia, thyroid or cardiac dysfunction)

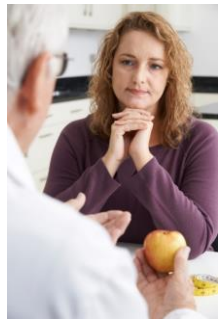
Offer treatment or referral for factors that may impact fatigue (e.g., mood disorders, sleep disturbance, pain)

Counsel survivors to engage in regular physical activity and refer for cognitive behavioral therapy as appropriate

CRF is very common among cancer survivors, especially those treated with RT or chemo.

## Altered or Loss of Taste

IIA



- Refer to a registered dietitian for dietary counseling and assistance in additional seasoning of food, avoiding unpleasant food and expanding dietary options

*Sources: Rosenthal et al. 2014. Baharvand et al. 2013. Mossman. 1986. Fernando et al. 1995.*

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Primary care clinicians should

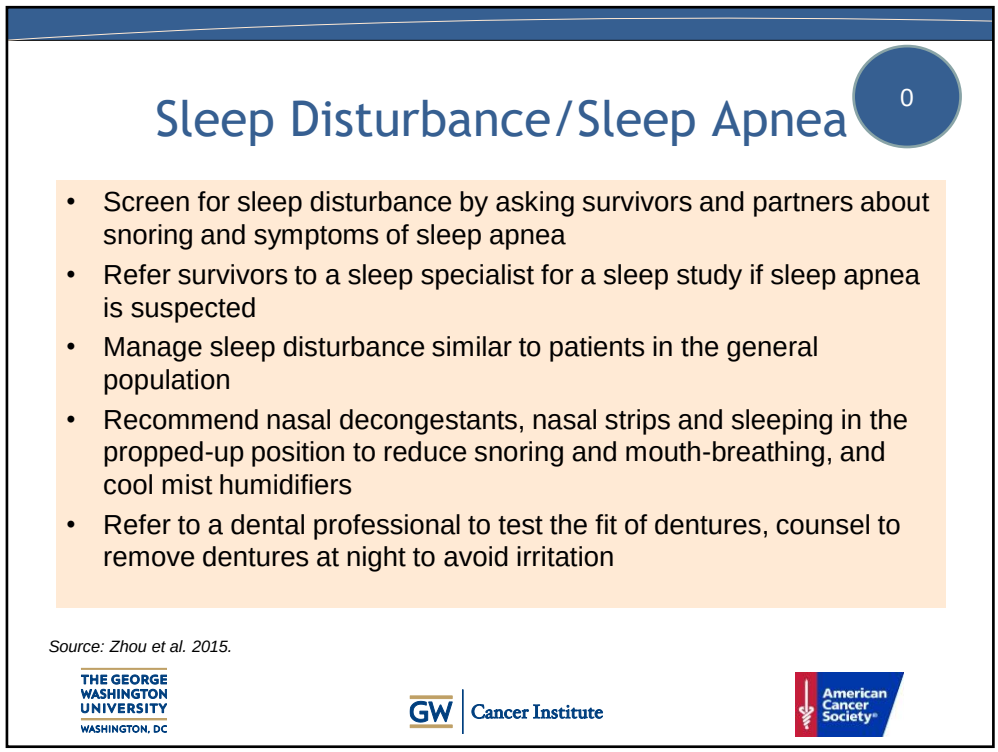
Refer to a registered dietitian for dietary counseling and assistance in additional seasoning of food, avoiding unpleasant food and expanding dietary options

Dysgeusia, or altered taste, is one of the most common and burdensome acute toxicities of HN RT, and is most severe around 2 months after the end of RT and partial recovery is expected over the course of years.


Primary care clinicians should

Refer to appropriate specialists for loss of hearing, vertigo or vestibular neuropathy

HNC survivors with a history of ototoxic drug exposure are at risk for chronic, potentially progressive sensorineural hearing loss




Primary care clinicians should

Screen for sleep disturbance by asking survivors and partners about snoring and symptoms of sleep apnea

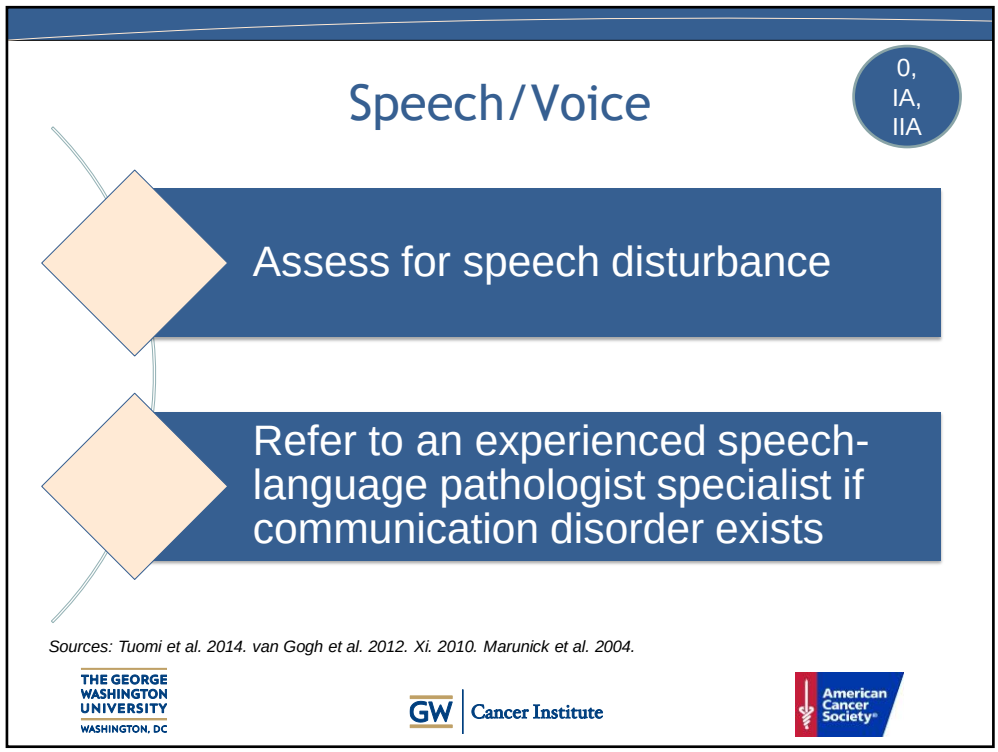
Refer survivors to a sleep specialist for a sleep study if sleep apnea is suspected

Manage sleep disturbance similar to patients in the general population

Recommend nasal decongestants, nasal strips and sleeping in the propped-up position to reduce snoring and mouth-breathing, and cool mist humidifiers

Refer to a dental professional to test the fit of dentures, counsel to remove dentures at night to avoid irritation

OSA appears to be common in HNC survivors.

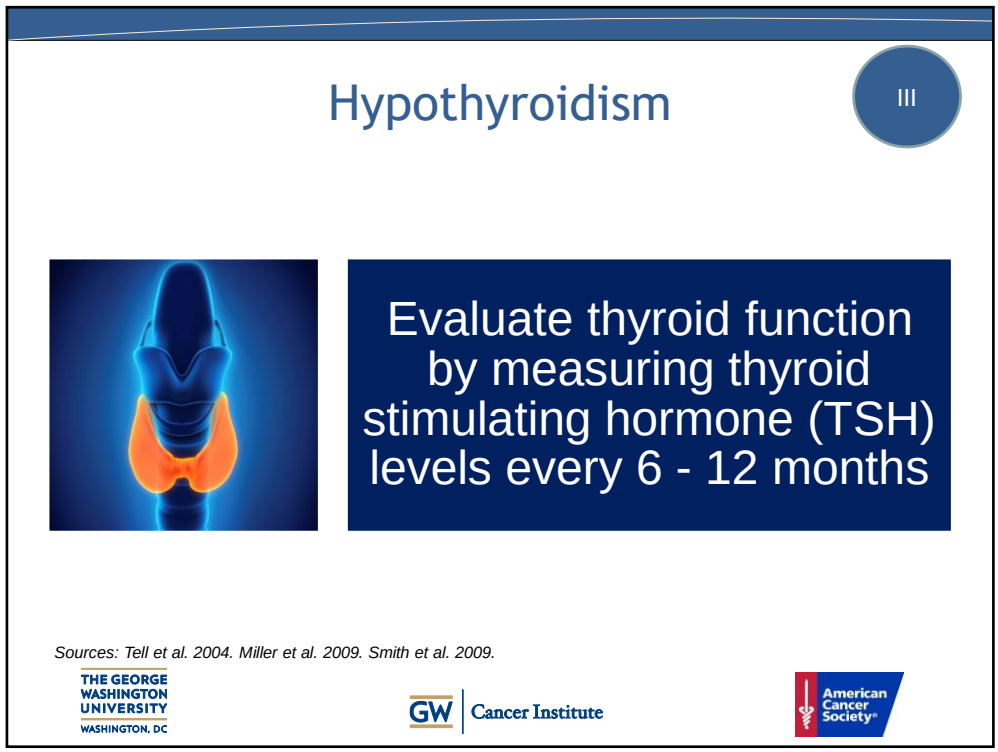



Primary care clinicians should

Assess for speech disturbance

Refer to an experienced speech-language pathologist specialist if communication disorder exists

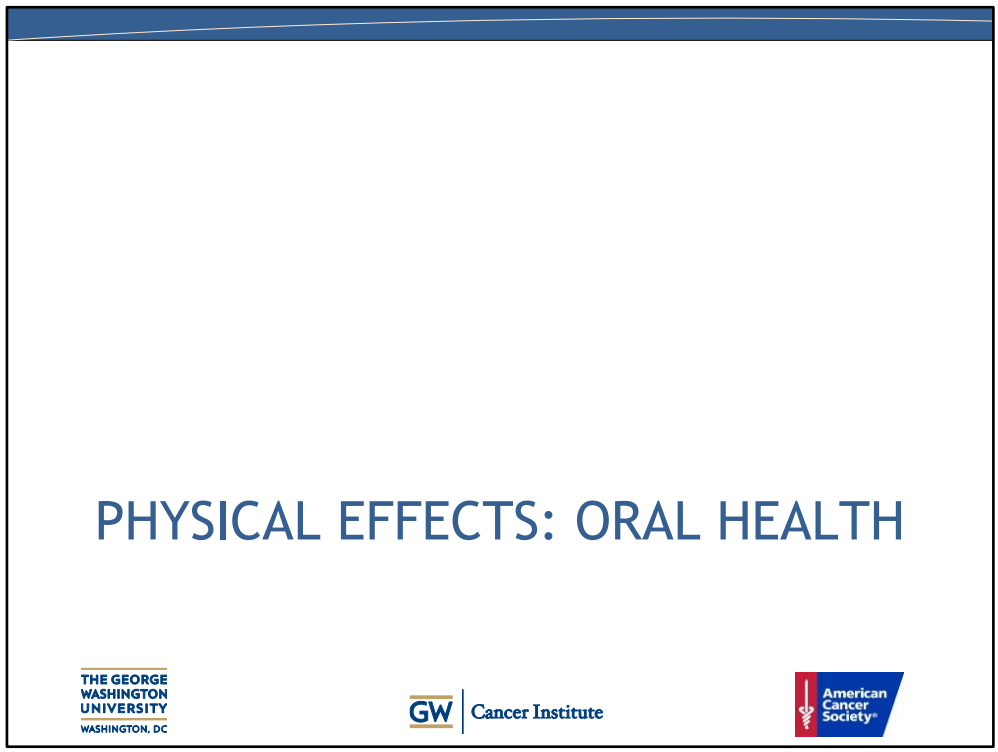
While rare (5%), de novo, radiation-associated, lower cranial neuropathies may cause delayed speech or voice deterioration in long-term survivors.




Primary care clinicians should

Evaluate thyroid function by measuring thyroid stimulating hormone (TSH) levels every 6 - 12 months

In HNC survivors treated with RT of the neck, hypothyroidism is a significant and frequent permanent sequela, occurring as early as 4 weeks and as late as 10y after treatment, occurring on average at close to two years after treatment (20% at 5y; 27-59% in 10y). After surgery prevalence appears comparable to the general population (7% at 5y; 39% at 10y).



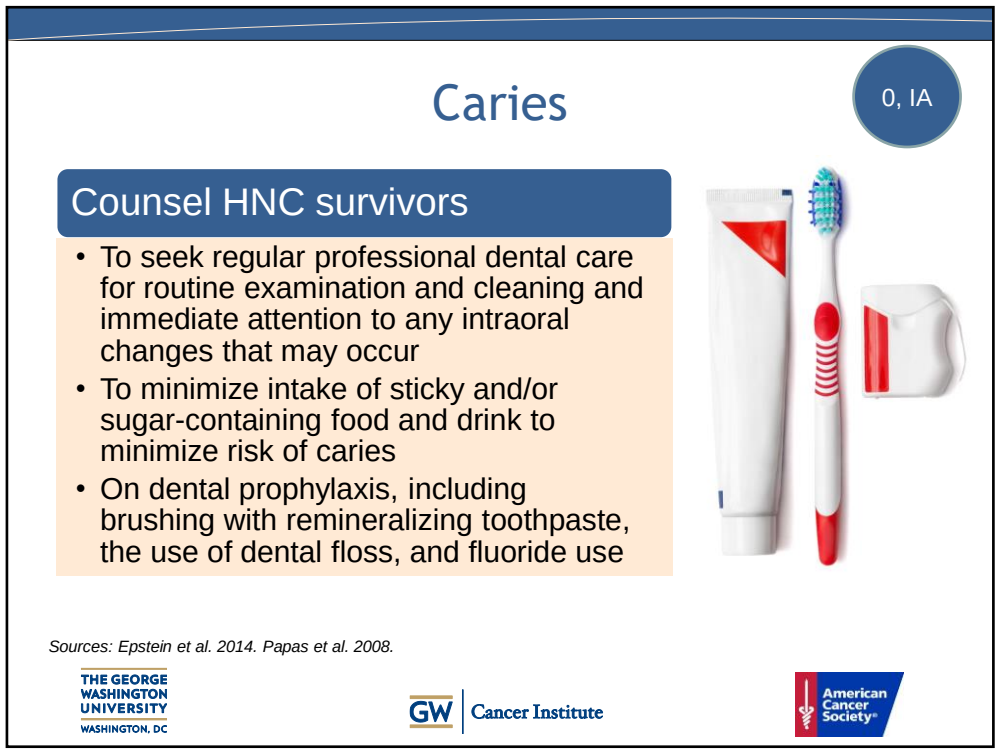

Next, let's discuss the oral effects that HNC survivors may experience post treatment.


Primary care clinicians should

Counsel close follow-up with dental professional and reiterate that proper preventive care can help reduce caries and gingival disease

Counsel to avoid tobacco, alcohol (including mouthwash containing alcohol), spicy or abrasive foods, extreme temperature liquids, sugar-containing chewing gum or sugary soft drinks, and acidic or citric liquids

Refer to a dental professional specializing in the care of oncology patients




Primary care clinicians should

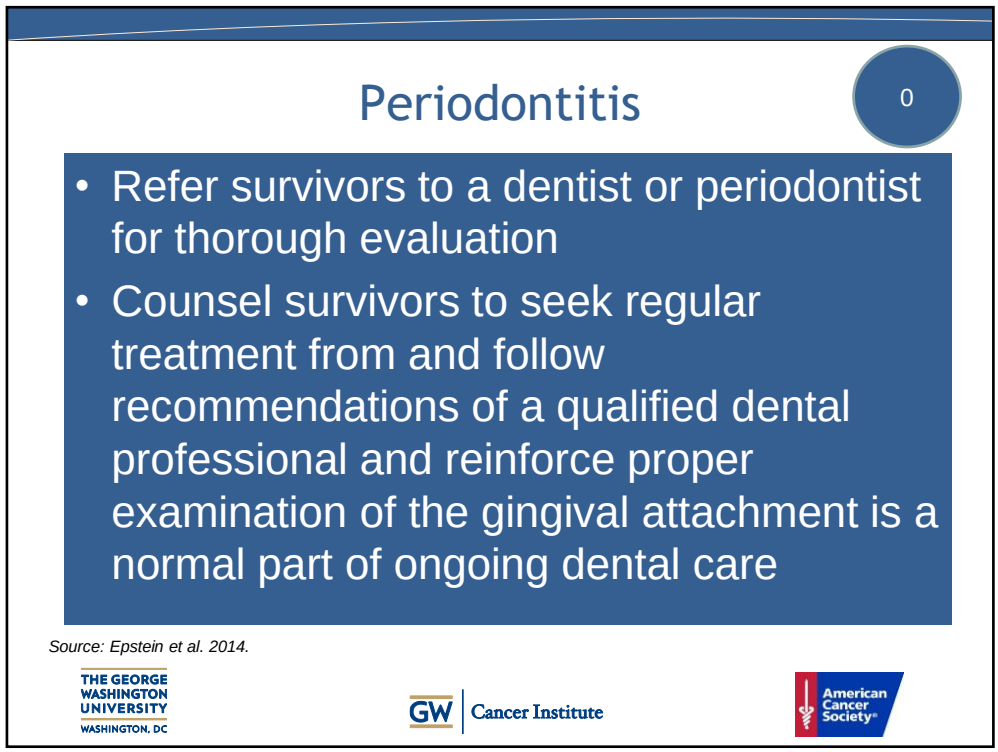
Counsel HNC survivors

To seek regular professional dental care for routine examination and cleaning and immediate attention to any intraoral changes that may occur

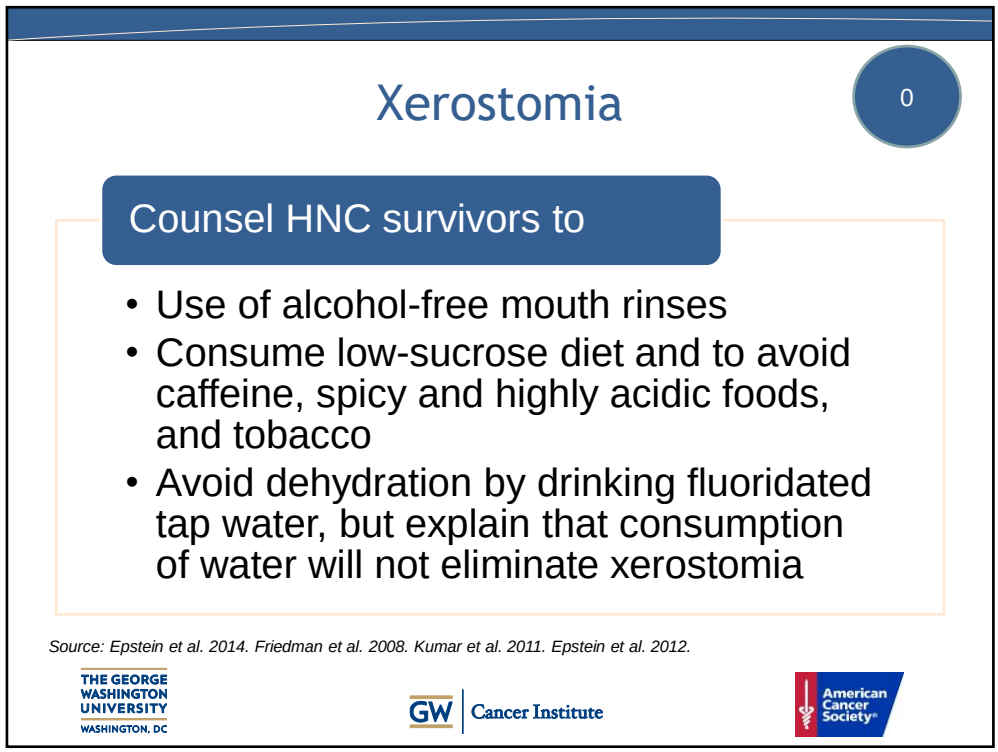
To minimize intake of sticky and/or sugar-containing food and drink to minimize risk of caries

On dental prophylaxis, including brushing with remineralizing toothpaste, the use of dental floss, and fluoride use

HNC survivors are at increased risk of dental caries secondary to disruption of salivary flow and composition as well as damage to dental structures from treatment.




Primary care clinicians should




Primary care clinicians should

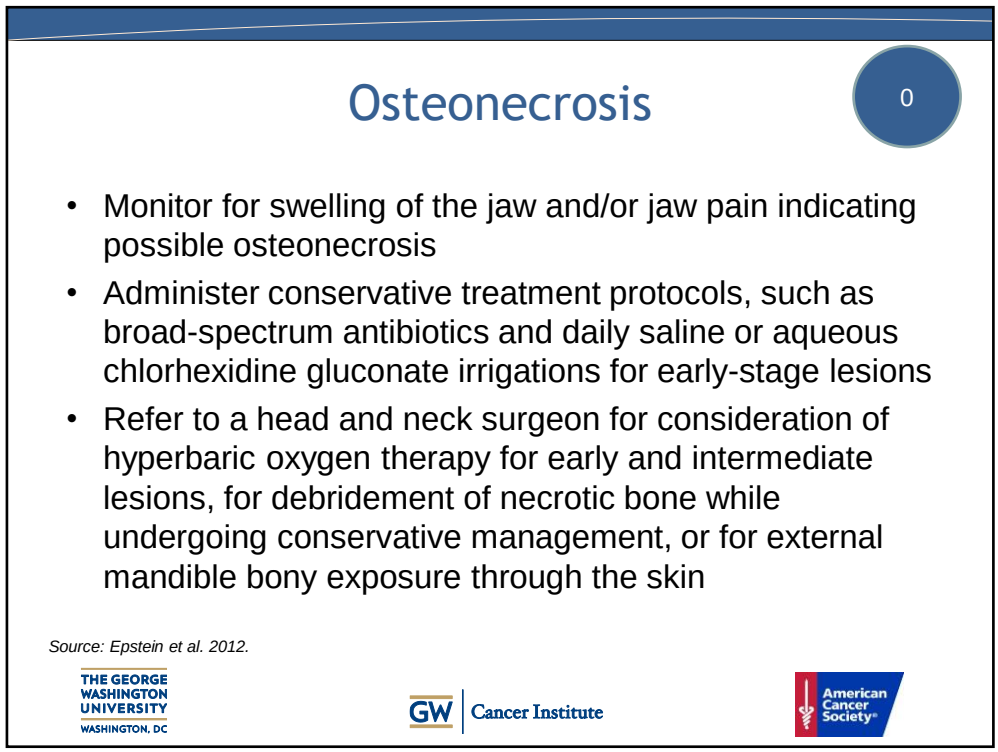
Counsel HNC survivors to

Use of alcohol-free mouth rinses

Consume low-sucrose diet and to avoid caffeine, spicy and highly acidic foods, and tobacco

Avoid dehydration by drinking fluoridated tap water, but explain that consumption of water will not eliminate xerostomia

Xerostomia affects most HNC survivors treated with RT due to reduction in salivary flow. Most HNC survivors treated for nasopharyngeal, oral cavity, oropharyngeal, and hypopharyngeal tumors are at risk of xerostomia.



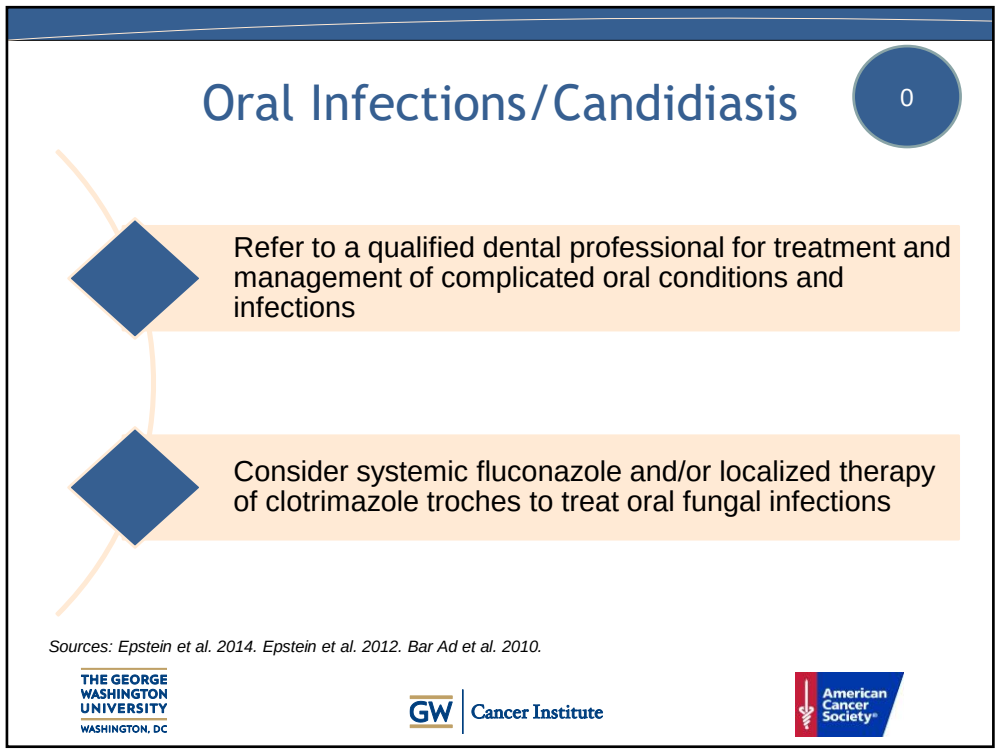

Primary care clinicians should

Monitor for swelling of the jaw and/or jaw pain indicating possible osteonecrosis

Administer conservative treatment protocols, such as broad-spectrum antibiotics and daily saline or aqueous chlorhexidine gluconate irrigations for early-stage lesions

Refer to a head and neck surgeon for consideration of hyperbaric oxygen therapy for early and intermediate lesions, for debridement of necrotic bone while undergoing conservative management, or for external mandible bony exposure through the skin

RT to the oral cavity and salivary glands increases the risk of osteonecrosis.

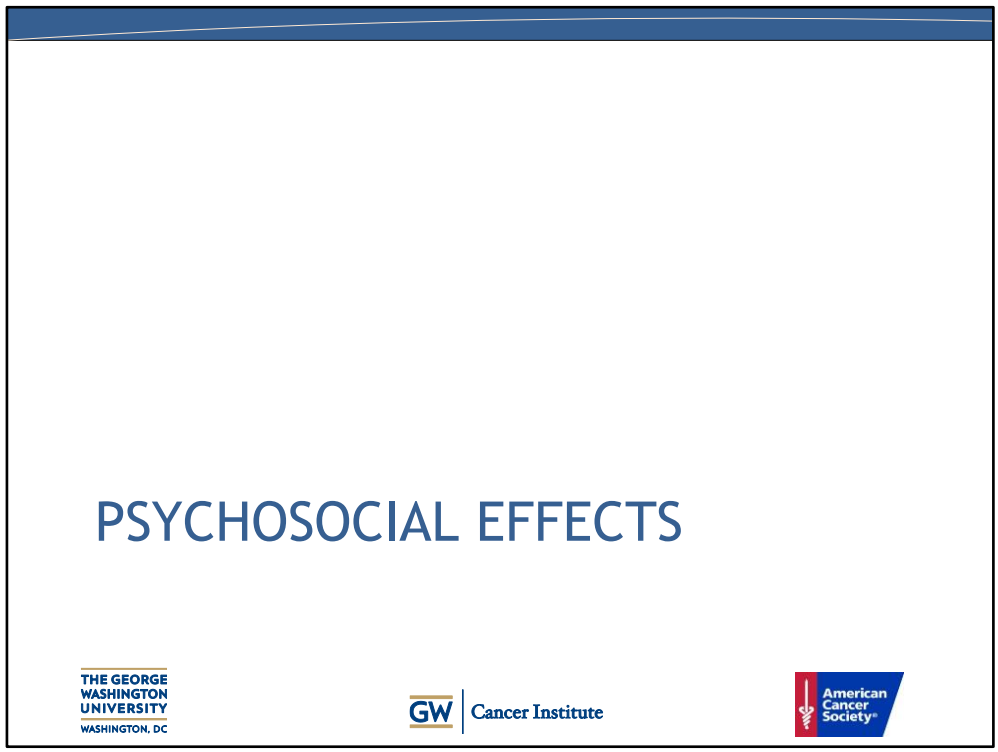



Primary care clinicians should

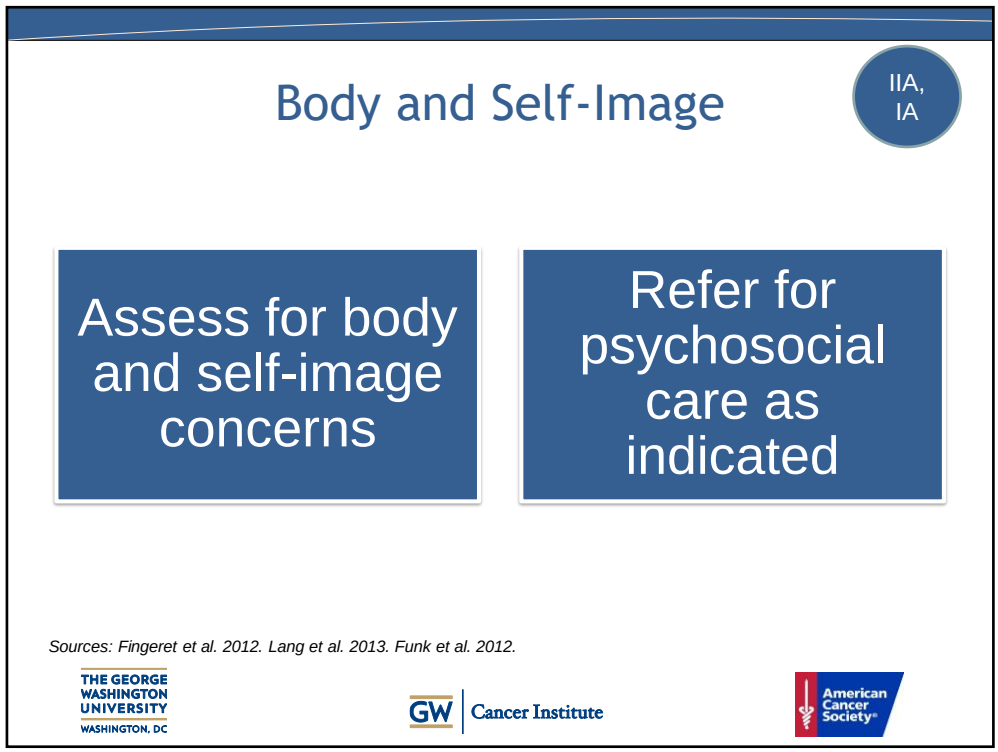
Refer to a qualified dental professional for treatment and management of complicated oral conditions and infections

Consider systemic fluconazole and/or localized therapy of clotrimazole troches to treat oral fungal infections

Many aerobic, anaerobic, and facultative anaerobic Gram-positive and Gram-negative bacteria exist as part of the normal flora of the oral cavity. With treatment-related mucositis and resultant xerostomia, the normal bacteria flora of the mouth is disturbed resulting frequently in fungal overgrowth in the oral and hypopharyngeal areas, which may cause aggravation or recurrence of mucositis after treatment.




Let's discuss assessment and management of psychosocial effects that HNC survivors potentially experience.

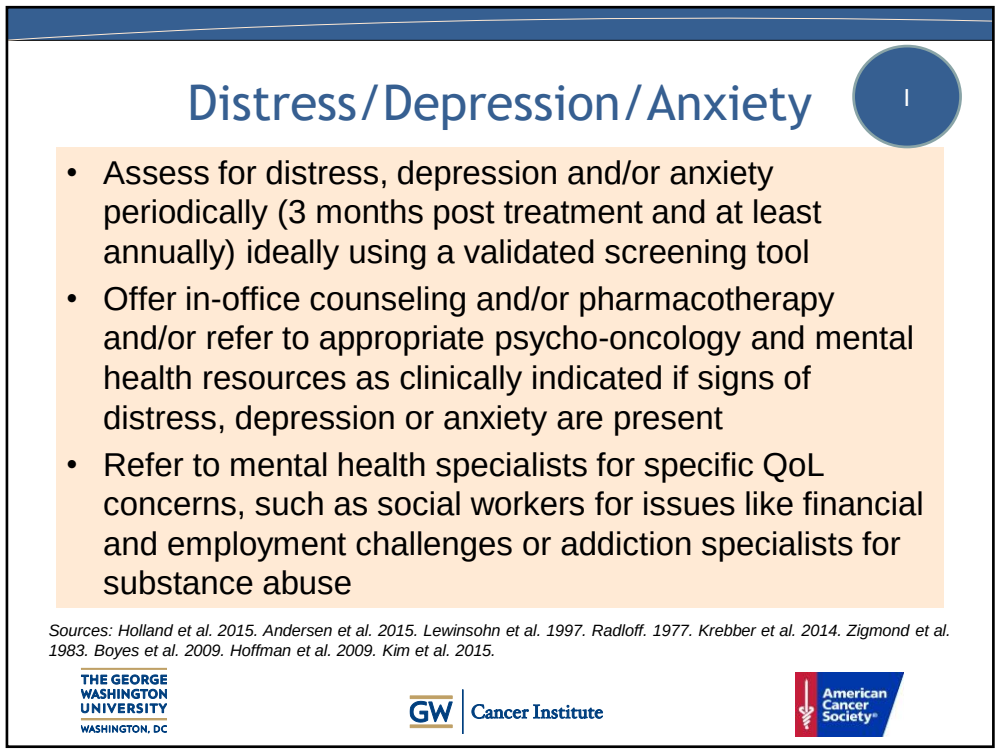



Primary care clinicians should

Assess for body and self-image concerns

Refer for psychosocial care as indicated

Prevalence of body image concerns and diminished self-perception among HNC survivors is high. One study reported 75% of HNC survivors were concerned or embarrassed by body changes after diagnosis, 50% had frequent thoughts about appearance changes, 38% avoided social activities, and 33% had behavioral concerns regarding grooming. Importantly, 69% were dissatisfied with information provided by clinicians related to body image.




Primary care clinicians should

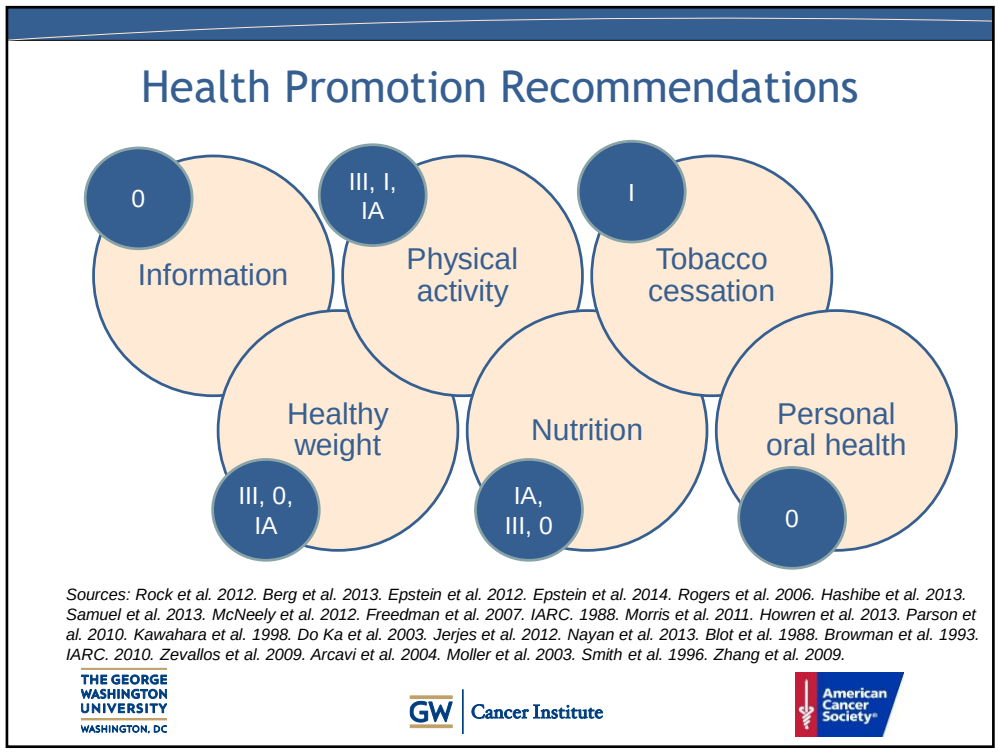
Assess for distress, depression and/or anxiety periodically (3 months post treatment and at least annually) ideally using a validated screening tool

Offer in-office counseling and/or pharmacotherapy and/or refer to appropriate psycho-oncology and mental health resources as clinically indicated if signs of distress, depression or anxiety are present

Refer to mental health specialists for specific QoL concerns, such as social workers for issues like financial and employment challenges or addiction specialists for substance abuse

Among cancer survivors in general, an estimated 18% and 13% of HNC survivors experience anxiety and depression, respectively. One study reported HNC survivors experienced social role disruption at 81% and depressive symptoms at 72%. Another study reported 15 to 50% of HNC survivors experience depressive disorders compared with 15 to 25% of the general population. Still another study reported 75% HNC survivors reported emotional concerns and more than 50% had feelings of worry. Fear of recurrence is a concern among HNC survivors since the risk of recurrence and/or SPC is high at 23-36%.


Let's now review the health promotion recommendations for HNC survivors.




*Information*

Primary care clinicians should

- Assess the information needs of the HNC survivor related to HNC and its treatment, side effects, other health concerns, and available support services

-Provide or refer HNC survivors to appropriate resources to meet identified needs

*Healthy weight*

Primary care clinicians should

-Counsel survivors to achieve and maintain a healthy weight

-Counsel survivors on nutrition strategies to maintain a healthy weight for those at risk for cachexia

-Counsel survivors if overweight or obese to limit consumption of high-calorie foods and beverages and increase physical activity to promote and maintain weight loss

HNC survivors often experience significant, highly visible facial disfigurement and notable treatment-induced problems with eating, swallowing, and breathing. HNC survivors may also experience loss of taste and smell, excessive dry mouth, and other deficits of functioning in the oral cavity. These effects of treatment can be debilitating for patients, as they may negatively impact ability to eat. As a result, HNC survivors may

have difficulty gaining and maintaining a healthy weight. Avoiding wasting should be a primary aim of health promotion with these patients.

*Physical activity*

Few HNC survivors participate in moderate or vigorous exercise, and more than 50% are sedentary.

Primary care clinicians should

Counsel survivors to engage in regular physical activity consistent with the ACS guideline and specifically:

Counsel survivors to avoid inactivity and return to normal daily activities as soon as possible following diagnosis

Counsel survivors to aim for at least 150 minutes of moderate or 75 minutes of vigorous aerobic exercise per week

Counsel survivors to include strength training exercises at least 2 days per week

*Nutrition*

An estimated 75% of all HNCs are related to tobacco and alcohol use. Thus, in addition to encouraging healthful eating, it is especially important to emphasize avoiding tobacco and alcohol. This is especially relevant to HNC survivors due to their substantial risk of SP HNC.

Primary care clinicians should

-Counsel HNC survivors to achieve a dietary pattern that is high in vegetables, fruits and whole gains and low in saturated fats, sufficient in dietary fiber and avoids alcohol consumption

-Refer survivors with nutrition-related challenges to a registered dietician or other specialist

*Tobacco cessation*

One study reported 48% of oral cavity and pharynx cancer deaths are attributable to smoking. Although most HNC survivors will attempt to quit smoking before or during treatment, 14 to 60 will relapse. Continued smoking is associated with increased risk recurrence, SPC, and worse treatment side effects, negatively impacting QoL, morbidity and mortality. In one study, depression is a significant predictor of continued smoking among HNC survivors occurring in 64% of HNC survivors compared to 27% who quit after their cancer diagnosis. Other research supports this with findings that 40% of depressed smokers are less likely to quit than smokers who are not depressed and continued postsurgery cessation has been associated with lower levels of depression among HNC survivors. Primary care clinicians watch for depressive symptoms in HNC survivors.

Primary care clinicians should

Counsel survivors to avoid tobacco products and offer or refer patients to cessation counseling and resources

*Personal oral health*

Primary care clincians should

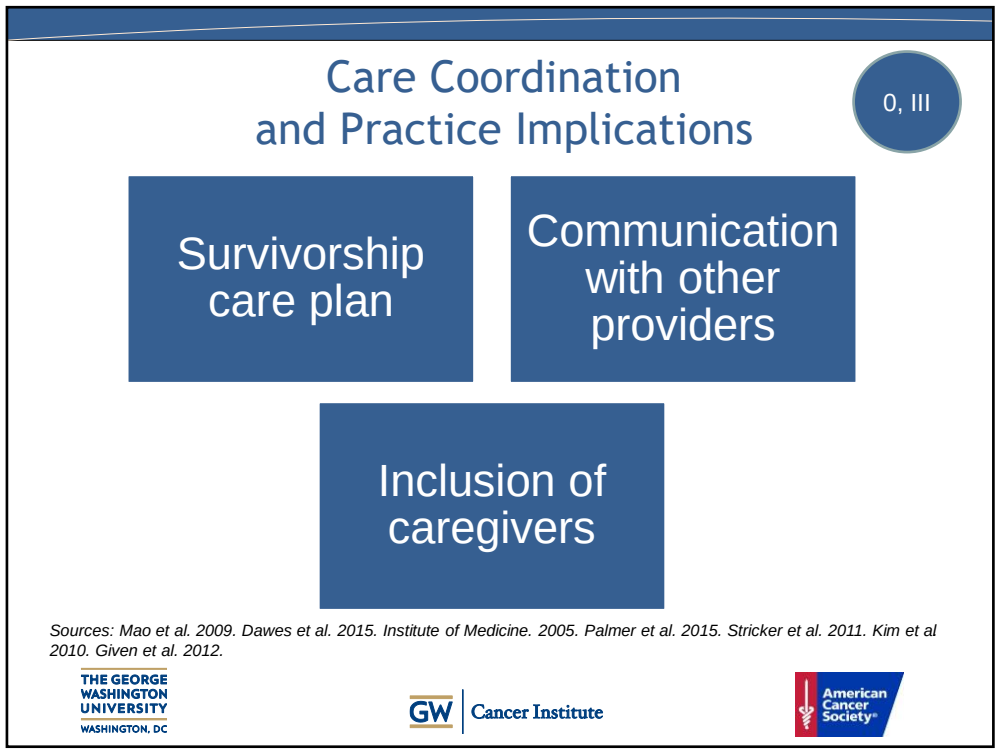
-Counsel to maintain regular dental care including frequent visits to dental professionals, early interventions for dental complications, and meticulous oral hygiene

-Test fit dentures to ensure proper fit, and counsel to remove them at night to avoid irritation

-Counsel that nasal strips can reduce snoring and mouth-breathing, and that room humidifiers and nasal saline sprays can aid sleep as well

-Train survivors to do at-home head and neck self-evaluations and instruct survivors to report any suspicions or concerns immediately


In this next section we will discuss the recommendations for care coordination and practice implications.




*Survivorship care plan*

Primary care clinicians should

-Consult with the oncology team and obtain a treatment summary and SCP

*Communication with other providers*

Primary care clinicians should

-Maintain communication with the oncology team throughout diagnosis, treatment and post treatment care to ensure care is evidence-based and well-coordinated

-Refer to a dentist to provide diagnosis and treatment of dental caries, periodontal disease, and other intraoral conditions including mucositis and oral infections and communicate with the dentist on follow-up recommendations and patient education

-Maintain communication with specialists referred to for management of comorbidities, symptoms and long-term and late effects

*Inclusion of caregivers*

Primary care clinicians should

-Encourage the inclusion of caregivers, spouses or partners in usual HNC survivorship care and support

# CASE STUDY

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# Case Study

Mr. H is  a married, 70 year old Caucasian male now two months out from triple therapy for recurrent Squamous cell cancer of the left ear canal. Mr. H has had reconstruction, but his appearance is noticeably altered. At previous visits Mr. H has expressed concern over body image. At this visit, he also reports reduced neck rotation.

PMH (cancer): Prior to referral, Mr. H underwent surgical resection of ear skin and completed radiation. Within one month patient developed left facial paralysis, neck node and ear pain.

PMH: Liver transplant for cirrhosis; Diabetes; Hypertension; Chronic kidney disease; Hyperlipidemia; GERD; Osteoporosis

Medications include: amlodipine; aspirin; atenolol; bupropion; Insulin; pregablin; omeprazole; multi vitamin; niacin; choline Fenofibrate; ophthalmic; ophthalmic hydroxpropyl cellulose; ophthalmic erythromycin; acetaminophen with codeine

BP: 130/74  BMI: 24.6

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# Case Study Question

During this visit, Mr. H expresses that he continues to feel anxious and would be uncomfortable around others if he returned to the gym. He also states that he would have difficulty working out because he cannot turn his head as easily as he used to. Which of the following interventions will best help Mr. H at this time?

A. Shorten the time interval between his next visit and review pain management strategies

B. Order a psychosocial evaluation and assess for lymphedema

C. Sign his return to work medical leave forms

D. Order a CT scan prior to next visit.

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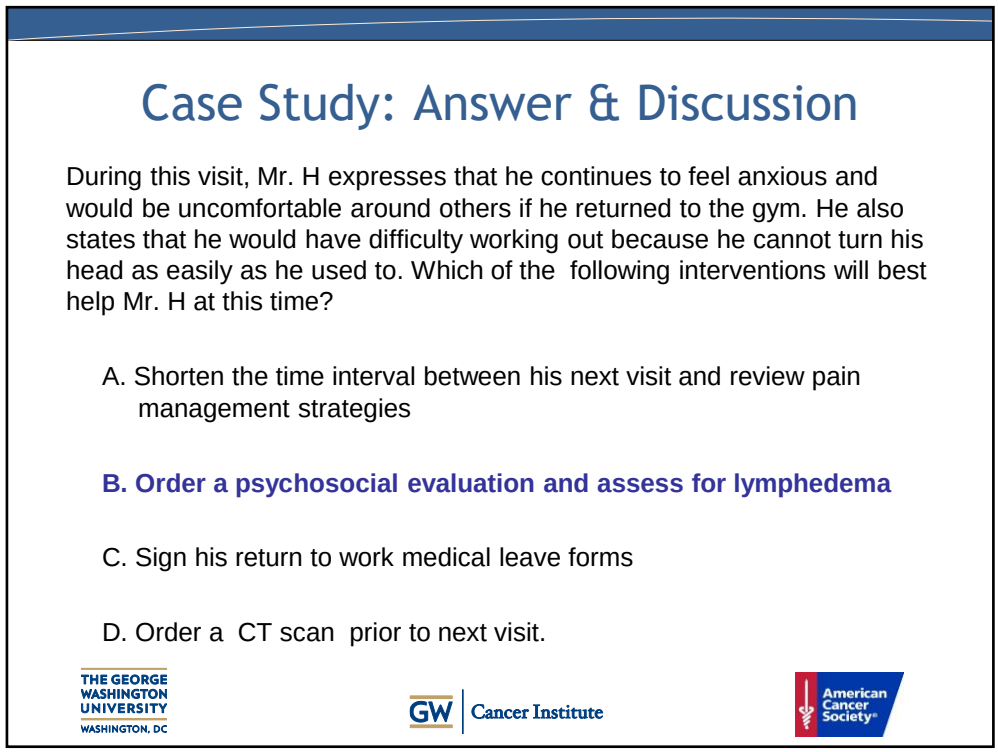


A. Shorten the time interval between his next visit.

( body image concerns, anxiety, depression could increase if unaddressed)

***B. Order a psychosocial evaluation and assess for lymphedema*** (best answer)

C. Sign his return to work medical leave forms

( he stated unconfutable at gym; work could be the same; missing ear, hearing?)

D. Order a CT scan prior to next visit.

patient: NED, Care Coordination and Practice Implications
Recommendations 5.2: PCP maintain communications with oncology team

B. Recommendation 3.21: PCP should assess HNC survivor's body and self –image concerns. Recommendation: 3.213.22 PCP should assess distress, anxiety and depression 3 months post treatment and annually. Psychosocial consult will support measurement of severity using QOL questionnaires; provide strategies for improving QOL and assist with additional therapies.

# Conclusion

In this lesson you learned to:

- Describe how to care for head and neck cancer survivors as outlined in the American Cancer Society Head and Neck Cancer Survivorship Care Guideline.
- Demonstrate understanding of a primary care clinician's role in providing clinical follow-up care to head and neck cancer survivors.

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Thank you Ms. Fisher for your presentation and for sharing your expertise on this important topic.

This concludes the webinar, please continue to explore the remaining sections of the cancer survivorship e-learning series for primary care providers.
Thank you.